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Time-series and cross-sectional momentum investment strategies:

International evidence

A thesis submitted in fulfilment of the requirements for the degree of

Doctor of Philosophy in Finance at The University of Waikato by

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Executive summary

Numerous studies have found that profits that can be realised from following a momentum-based investment strategy of buying recent outperforming stocks (winners) and selling recent underperforming stocks (losers) (Jegadeesh & Titman, 1993, 2001). Momentum strategies have proved to be robust across time, countries and asset classes, leading Fama (1998) to observe that momentum remains the "premier unexplained anomaly". The existence of the momentum abnormal returns continues to challenge the market efficiency theory.

The majority of momentum studies have investigated cross-sectional momentum strategies in which stocks are selected on the basis of their relative performances over some prior period. In a recent study, Moskowitz, Ooi, and Pedersen (2012) introduce a time-series momentum strategy which provides an alternative approach to security selection where stocks are chosen on the basis of their absolute performance over some prior period.

Although previous literature has evaluated momentum strategies in numerous markets settings, by far the bulk of these studies have concentrated on equity markets. Therefore, it is somewhat surprising that we are yet to see a comprehensive study that compares the two types of momentum strategies in this arena. The main objective of this study is to evaluate and compare the performances of the two momentum strategies in the security markets in order to examine validation of the market efficiency theory across international stock markets.

The study addresses the objective in three stages: before-transaction costs performance (raw returns), after-transaction costs performance (net returns) and after-transaction costs performance adjusted for risks (risk-adjusted net returns). A further by-product of our research is that we utilise a large number of implementation alternatives for both momentum

strategies and so provides an insight into the optimal way to implement both time-series and cross-sectional momentum strategies.

Before transaction cost (raw) return:

The first thing that has been found is that the time-series and cross-sectional momentum returns reduce as we increase the cut-offs used when choosing both winning and losing stocks and so increase the number of stocks in the momentum portfolios (i.e. including 32%, 60% and all stocks in either the winner or loser portfolios). The extension of the cut-offs from 32% to 100% results in a reduction in the returns on the momentum portfolios by approximately 50% on average based on the pooled data for the 24 markets. Having established this, we then use the 32% cut-offs over the remainder of our analysis.

The study finds that both time-series and cross-sectional momentum strategies produce significant positive outcomes under numerous implementations in the majority of developed stock markets with the major exceptions being Greece, Israel, Japan, Hong Kong, Portugal, Spain and the US. The time-series momentum strategy outperforms the cross-sectional momentum strategy under optimal implementations conditions in all markets and is statistically significant in half of these markets.

After transaction costs (net) returns, and risk-adjustment net returns:

We find that the transaction costs and standard risk explain most profitability of the timeseries and cross-sectional momentum strategies. In terms of the Fama-French alpha
determined using after-transaction costs return, about 6% on average of the implementations
evaluated produce significant positive risk-adjusted net returns. There are absolutely no
implementations that yield significant positive returns in Austria, France, Germany, Greece,
Hong Kong, Israel, Japan, Norway, Portugal, Singapore, Spain and the US., while less than 5%

of the implementations in Australia, Canada, and Ireland. The findings support that the market efficiency hypothesis still holds across the most markets in our sample and the existence of exploitable investment opportunities is rare.

The study particularly concentrates on the optimal implementations of both the time-series and cross-sectional momentum strategies across the 24 markets. Common characteristics of these optimal implementations for the risk-adjusted net returns are that they combine a formation and a holding period of between 15 and 18 months, a buy-and-hold portfolio construction policy and the use of either a market or inversed-volatility portfolio weighting scheme.

Based on the optimal implementation approach for each market, the overall performance of the two momentum strategies is eroded from 2.09% (raw return) to 1.34% (net return) and to 0.9% (Fama-French alpha) for the time-series momentum strategy, and from 1.43% (raw return) to 0.87% (net return) and finally to 0.51% (Fama-French alpha) for the cross-sectional momentum strategy. At each of the three steps along the way, this study finds that the time-series momentum strategy continues to outperform the cross-sectional momentum strategy; however the magnitude of the superior performance is diluted with an average difference from 0.66% (raw return) to 0.47% (net return) and to 0.39% (Fama-French alpha). In addition, the superior performance of the time-series momentum strategy relative to the cross-sectional momentum strategy comes during periods when the markets have been performing poorly but that this advantage also erodes as we proceed from raw returns to net returns to risk-adjusted net returns.

One possible explanation for the superiority of the time-series momentum strategy is that it forms portfolios of slightly smaller capitalization stocks with a greater spread in past performance between the winner and loser stocks. Both of these features suggest that the

time-series momentum strategy will outperform the cross-sectional momentum strategy. On the other hand, the transaction costs and risk from the time-series momentum strategy are higher than the costs from the cross-sectional momentum strategy which is largely a consequence of time-series momentum strategy selecting smaller and growth stocks, and generating a higher turnover over a market cycle, so it is not surprising that the outperformance of the time-series momentum strategy becomes smaller after adjusting for risk on an after-transaction costs basis.

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exp	ertise	throug	hout the p	oroces	s of a	ccomp	olishing	this th	nesis.				

I am grateful to my parents and family for all of their love, encouragement and praying for my success.

Specially, I am thankful to my wife, Na Wei (Sienna) and my sweet heart, Yueyan Gao (Ella).

Twinkle, twinkle, little star,

How I wonder what you are!

(2 and half years...><...)

I believe I can fly,

I believe I can touch the sky!

All the best!

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Chapter 1 - Introduction

1.1. Introduction

This thesis compares the performances of cross-sectional (Jegadeesh & Titman, 1993) and time-series (Moskowitz et al., 2012) momentum investment strategies across security markets in 24 developed countries (Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the UK and the US) using data from 1992 to 2012.

Numerous studies have found that profits that can be realised from following a trend (momentum)-based investment strategy of buying recent outperforming stocks (winners) and selling recent underperforming stocks (losers) and the return is difficult to explain using the standard risk factors (Jegadeesh & Titman, 1993, 2001). The fact that this momentum strategy has proved robust across time, countries and asset classes has led Fama (1998) to observe that momentum remains the "premier unexplained anomaly". ¹ Therefore, the existence of momentum abnormal returns consistently challenges the market efficiency theory.

The majority of momentum studies have used cross-sectional momentum strategies as the basis for their security selection framework with securities being chosen on the basis of their

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¹ Momentum anomaly indicates that the excess returns from the momentum investment strategies are difficult to be explained by standard risk factors. The momentum strategy has been documented in US stock market (Jegadeesh & Titman, 1993), European stock markets (Bird & Casavecchia, 2006; Rouwenhorst, 1998), emerging stock markets (Hameed & Kusnadi, 2002), international stock markets (Gupta, Locke, & Scrimgeour, 2010), industries (Moskowitz & Grinblatt, 1999), currencies (Menkhoff, Sarno, Schmeling, & Schrimpf, 2012) and futures markets (Asness, Moskowitz, & Pedersen, 2013).

relative performance over some prior period.² In a recent study, Moskowitz et al. (2012) introduce a time-series momentum strategy as an alternative framework for security selection where securities are chosen on the basis of their absolute performance over some prior period. Moskowitz et al. (2012) find that the time-series momentum strategy performs well both in absolute terms and relative to the cross-sectional momentum approach, across futures markets in equity indices, bonds, currencies and commodities. In contrast, Menkhoff et al. (2012) when examining currency markets, find that the cross-sectional momentum strategy outperform the time-series momentum strategy.

Although previous studies have investigated momentum strategies in numerous market settings, by far the bulk of these studies have concentrated on equity markets. Therefore, it is somewhat surprising that we are yet to see a comprehensive study that compares the use of cross-sectional and time-series momentum strategies in this arena. This study contributes to the growing literature in this field by using data drawn from the 24 markets to compare the two momentum strategies under a range of computational implementation where performance is measured using (i) before-transaction costs (raw) returns, (ii) after-transaction costs (net) returns, (iii) net returns adjusted for standard risk.

Momentum is an investment strategy employed by numerous quantitative investors within different asset classes and even by mutual funds managers in general.³ From a practitioner perspective, the empirical results pertaining to the economic viability of momentum strategies are mixed.⁴ This study seeks not only to identify which of the two momentum strategies

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² The cross-sectional stock selection criteria based on recent returns has been investigated broadly across international stock markets (Gupta, Locke, & Scrimgeour, 2013; Rouwenhorst, 1998), industry markets (Moskowitz & Grinblatt, 1999), currency and futures markets (Asness et al., 2013; Moskowitz et al., 2012) as well as the selection criteria on the basis of 52 high stock prices (George & Hwang, 2004).

³ Jegadeesh and Titman (1993) provide motivation for the investigation of momentum strategies with the observation that "the majority of the mutual funds examined by Grinblatt and Titman (1989, 1993) a tendency to buy stocks that have increased in price over the previous quarter."

⁴ Jegadeesh and Titman (1993) find that momentum strategy is profitable after accounting for the transaction cost, whereas Lesmond, Ogden, and Trzcinka (2004) claim that momentum strategy is non-profitable when the transaction costs are taken into account.

offers the best performance, but also to identify whether they can be implemented to generate excess returns after account is taken of transaction costs and risk.

This chapter discusses the background to momentum studies, the essential difference between the time-series and cross-sectional momentum strategies, an overview of this study's research objectives and contributions, and provides an outline of the structure of the remaining chapters.

1.2. Background

1.2.1. Market efficiency

Standard finance theory assumes that rational investors correctly evaluate the probability of every outcome and achieve a rational valuation before buying or selling stocks. An important and major principle of standard finance theory is the Efficient Market Hypothesis (EMH, hereafter). This theory asserts that financial markets are informationally efficient when prices fully reflect all available information. In other words, given the information available at the time that the investment is taking place, excess (abnormal) returns on a risk-adjusted basis cannot be consistently achieved. Fama (1970) identifies three levels of the market efficiency hypothesis: weak, semi-strong and strong.⁵

The weak-form of EMH implies that returns are unpredictable (or follow random walk) and therefore, information about future returns cannot be predicted by the historical series of returns. Although this wisdom gained the acceptance and support of the majority of academics, there has been a growing market inefficiency camp that questions the EMH on the basis of available empirical and conceptual evidence. Jess Livermore (1923, as cited in

⁵ The weak form of the EMH claims that prices already reflect all past publicly available information. The semistrong form of the EMH claims that prices reflect all publicly available information and new public information. The strong form of the EMH claims that prices instantly reflect even hidden or insider information. Lefevre, 2012, p. 54) claims explicitly that "big money was not in the individual fluctuations but in the main movements that is, not in reading the tape, but in sizing up the entire market and its trend."

1.2.2. Cross-sectional momentum strategy

Jegadeesh and Titman (1993) demonstrate a failure of the EMH when they document that stocks that have done well in the past tend to keep doing well, and that those that have done badly tend to keep doing badly. The trend-following trading strategy based on this insight attempts to profit from momentum with little exposure to standard risk factors by buying past winners and selling past losers in anticipation of a continuation of past performance. Fama and French (2012) confirm that profitability from the momentum strategy still survives in most international markets. In addition, the broad consensus regarding the existence of abnormal return continuation means that a momentum factor is commonly included in returngenerating models, most notably in the four-factor model (Carhart, 1997).

To date, the majority of studies have used and extended the Jegadeesh and Titman (1993) cross-sectional momentum strategy as the basis for their security selection criteria with securities being chosen on the basis of their performance over prior period relative to other stocks' historical performance. For example, cross-sectional stock selection criteria based on recent returns have been investigated broadly across international stock markets (Fama & French, 2012; Gupta et al., 2013; Rouwenhorst, 1998), industry markets (Moskowitz & Grinblatt, 1999), and currency and futures markets (Asness et al., 2013; Menkhoff et al., 2012). In addition, the extension of selection criteria on the basis of industry (Moskowitz & Grinblatt, 1999) and 52 week high stock prices (George & Hwang, 2004) has been examined.

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⁶ The four-factor model (Carhart, 1997) is an extension of the Fama-French three-factor model (market, size and value factors) with the additional factor of momentum return.

1.2.3. Time-series momentum strategy

Moskowitz et al. (2012) evaluate the time-series momentum strategy which uses an alternative framework for security selection where securities are chosen on the basis of their absolute performance over some prior period. They report on the performance of a time-series momentum strategy that invests in 59 futures markets across four asset classes. Importantly, the time-series momentum approach does better than the cross-sectional momentum approach and speculators are using the time-series momentum investment strategy to extract profitability from hedgers in the futures market (Moskowitz et al., 2012). Hurst, Ooi, and Pedersen (2012) report that the time-series momentum strategy applied to the futures of equity and bond indices, currencies and commodities has realised a return after fees of in excess of 14% p.a. over the last 110 years with a Sharpe ratio of 1.0. One of the main objectives of this thesis is to determine which one of the two momentum strategies performs better in equity markets.

1.2.4. Rational explanations

1.2.4.1. Data mining

There is considerable literature on what influences momentum effect, or indeed whether it truly exists. One of the concerns always raised in momentum studies when a new investment strategy is documented, is whether it is a one-off or more generalizable phenomenon. Numerous studies provide significant evidence that momentum excess return exists in different markets, time horizons and assets classes. However, the criticism of data mining may be levied at outcomes that are not repeatable using alternative implementation approaches. Fama (1998) observes that various financial anomalies documented in the

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⁷ The differences between the two momentum strategies will be explained in Section 1.3.

literature may disappear if they are tested using an alternative implementation method, such as monthly rebalancing versus buy-and-hold portfolio constructions. Given the conflicting results arising from the change in implementation approaches, further empirical evidence is needed to uncover the difference of momentum returns using different implementation methods.

The momentum strategy of picking stocks in terms of their historical performance, however, involves a number of steps and can be completed in various ways that may influence the performance of the momentum strategies. As with any trend-following investment strategies, the success of momentum strategies depends on security prices trending in both directions. This is best articulated in the momentum life cycle developed by Lee and Swaminathan (2000) which suggests that the prices of securities oscillate around their fair value. The success of any momentum strategies will depend on it being based on implementation rules that are in harmony with the periodicity of the pricing cycles. As momentum trading signals are based on recent pricing movements, they will always be late in identifying winning and losing securities. However, the more successful momentum strategies will be those based on implementation rules that result in identifying winners (losers) early in their up-(down) cycles and reversing these positions in close to an optimum fashion. Thus, considering various implementation approaches to the two momentum strategies are a key focus in the study.

In order to undertake a thorough comparison, this study examines the performances of the two strategies utilising combinations of various implementation rules for stock selection and portfolio construction. As a consequence, this thesis not only seeks to identify which of the two momentum strategies provides the best performance in international equity markets, but also to identify the optimal rules for their implementation. The actual approaches to implementation used in the study will be discussed in Chapter 4.

1.2.4.2. Transaction costs

Transaction costs play an important role in a host of empirical analyses on topics ranging from market efficiency to international market research. It is important for financial scholars and practitioners to understand transaction costs because the net gains to investments are influenced by such costs and market equilibrium returns are likely to be impacted by cross-sectional differences in costs (Roll, 1984).

The data of transaction costs, however, are not readily available, particularly in international markets (Liu, Liu, & Ma, 2011), or where available, they are cumbersome to apply or difficult to acquire. As noticed by Roll (1984),

For the practical investor, the measurement of trading costs is painful but direct. (They appear on his monthly statement of account.) For the empirical researcher, trading cost measurement can itself be costly and subject to considerable error. For example, brokerage commissions are negotiated and thus depend on a number of hard-to-quantify factors such as the size of transaction, the amount of business done by that investor, and the time of day or year. The other blade of trading costs, the bid-ask spread, is perhaps even more fraught with measurement problems. The quoted spread is published for a few markets but the actual trading is done mostly within the quotes (p.1127).

Roll (1984) proposes a mean for measuring transaction costs which can be used in situations where bid and ask data is not available. However, Harris (1990) demonstrate that the Roll approach does not provide a good measure of the transaction costs if the auto-covariance in returns is positive. Author points out that more than half of the stock costs listed on the New York stock exchange (NYSE)/ American stock exchange (AMEX) cannot be estimated using the Roll model due to this problem.

The most direct method of estimating transaction costs is the bid-ask spread plus commission approach, which is the sum of the proportional bid-ask spread from specialist quotes and a representative commission from a brokerage firm if the data is available. However, Lee and Ready (1991) and Petersen and Fialkowski (1994) present evidence that trades are consummated at prices that are inside the bid-ask quotes as the commission schedule of brokers often reflects more than the cost of executing a trade, which may or may not be related to the specific trade. In fact, measuring cost based on the sum of quoted bid-ask spread and commission does not capture all aspects of the transaction costs.

Since the majority of investors would be able to estimate the aggregate trading costs that face them, the literature finds that evaluating the trading costs in terms of investors' behaviour might provide a better means for arriving at a comprehensive measure of the transaction costs. Lesmond, Ogden, and Trzcinka (1999) propose trading cost measurement models, named the LOT model that is based on daily returns. The model extrapolates the transaction costs from the buyer's side in terms of investors' behaviour. The costs estimated from the model include not only bid-ask spread plus commission, but also the taxes, short-selling expenses, liquidity cost and price impact.

In order to answer the question as to how accurate are the estimated transaction costs generated by the transaction costs measure models, Goyenko, Holden, and Trzcinka (2009) compare cost estimates from 12 measure models with the cost estimates that are calculated based on actual data sets (Trade and Quote, and Rule 605 data) in the US markets from 1993 to 2005. Based on the benchmarks of effective and realised spread and price impact, they

⁸Goyenko et al. (2009) examine twelve measures of estimating transaction costs. Nine measures employed in the following studies: Roll (1984)(Roll model), Holden (2009)(Effective tick model and Holden model), Hasbrouck (2009) (Gibbs model), Lesmond et al. (1999) (LOT model, Zero model and Zero2 model), Amihud (2002)(Amihud model) and Pastor and Stambaugh (2001)(Pastor and Stambaugh model). Three new/extended methods are included: Effective Tick2 model, LOT Y-Split model and Amivest Liquidity ratio model.

conclude that the Holden, extended (or new) version of Lesmond et al. (1999) model, named the LOT Y-split model, and the Effective Tick model are more accurate than other measures of capturing transaction costs.

Although momentum strategies may generate positive returns, it is important to assess whether an investment strategy is still profitable after accounting for the transaction costs. Jegadeesh and Titman (1993) assume a conservative one-way transaction cost of 0.5% per trade based on the trade-weighted mean commission and market impact as calculated by Berkowitz, Logue, and Noser (1988). Jegadeesh and Titman (1993) and Rouwenhorst (1998) conclude that cross-sectional momentum profits are still significantly positive when the transaction costs are taken into account.

Lesmond et al. (2004) argue that the method of measuring transaction cost used by Berkowitz et al. (1988) under estimates costs for three reasons. First, they argue that using an NYSE (New York Stock Exchange) trade-weighted measure is inappropriate because momentum strategy is dominated by small, off-NYSE, extreme performer stocks. Second, they point out a single period assessment cannot capture the substantial time-series variations in transaction costs over a long time period. Third, a number of important costs facing investors, such as taxes, short-sale costs and holding period risk are excluded or understated. They estimate transaction costs based on the incidence of zero returns and find that the total costs of implementing a momentum strategy are significantly larger than the profits that they generate. Therefore, they argue, the EMH still holds in the sense that using past information, such as

Trade and Quote data collects intraday transactions data (trades and quotes) for stocks listed in the American stock exchange, the New York stock exchange, the NASDAQ, the National market system and Small Cap issues.

Rule 605 is the Securities and Exchange Commission's Rule 605 (formerly 11Act1-5) in the US market. The rule mandates that stock exchanges, dealers and other market centres provide selected data on selected order executions.

data obtained using a momentum strategy, cannot consistently produce abnormal returns after accounting for appropriately estimated transaction costs.

In contrast, Hanna and Ready (2005) and Li, Brooks, and Miffre (2009) argue that there are ways to implement momentum strategies which reduce the transaction costs and so give rise to profits that are exploitable. The inconsistent findings on momentum profit after the transaction costs indicate the sensitivity of implementation approaches that use a momentum strategy and the importance of utilising an accurate cost measurement model. From a practical perspective, the second objective of this study is to the investigate performances of the two momentum strategies using numerous implementation approaches after accounting for the transaction costs using the LOT Y-split model (Goyenko et al., 2009).

1.2.4.3. Risk factors

The debate on momentum anomalies focus not only on the existence of profitability but also on the explanations of the causes of the momentum phenomenon. Theoretically, returns are correlated with risks, and high returns usually come with high risks in financial markets. However, Jegadeesh and Titman (1993) find the standard risk model, the Capital Asset Pricing Model (CAPM) does not satisfactorily explain the returns from the momentum strategy. Fama and French (1996) claim that the Fama-French three-factor model, that includes market risk, size premium (Small Minus Big) and value premium (High Minus Low), can explain most of financial anomalies but not the momentum returns. The returns from the momentum strategy after standard risk adjustment (the intercept term in the CAPM or three-factor regression model) tends to be significantly positive, which indicates momentum strategies yield positive abnormal returns (or excess returns) (Jegadeesh & Titman, 1993; Moskowitz et al., 2012).

Researchers apply the three factor model to measure the risk-adjusted return attributable to the momentum strategies (e.g. Cooper, Gutierrez, and Hameed (2004); Li et al. (2009); Moskowitz et al. (2012)). This study applies not only the Fama-French three-factor model but the Sharpe ratio to measure and compare the risk-adjusted performance of time-series and cross-sectional momentum strategies based on their after-transaction costs returns. We undertake this analysis in order to determine whether there are exploitable momentum opportunities across our 24 markets after the transaction costs and standard risk factors are taken into account.

1.2.5. Behavioural explanations

Evidence of momentum profits violates one of the principles of the EMH, investor rationality as defined by the axioms of choice (investors' irrationality) and the random walk hypothesis. The violations of standard finance theory and the existence of a number of anomalies that are contrary to the EMH led to the development of prospect theory (Kahneman & Tversky, 1979). Kahneman and Tversky (1979) find that people often make decisions based on their mental frame that are normally inflexible and capricious, and trend may be predictable under herd behaviour. In general, 'rational' individuals may not be rational in reality (Statman, 1999).

The theory of the use of cognitive and emotional factors to understand the investment decisions of investors is called behavioural finance. Behavioural finance recognises the importance of human "emotions" and "spirits" and shows that decisions that are made by investors are influenced by several psychological elements, such as overconfidence, mental accounting, regret aversion, anchoring, herding and so on.

Financial trading activities are driven by human decision-making processes. Irrationalities or biases will lead to mis-pricing of stocks; unless these biases negate each other. Proponents of behavioural finance argue that decision-biases found in the psychological literature manifests themselves in the behaviour of financial market participants. The failure of rational models to completely explain momentum profits has led researchers to turn to behavioural finance for possible explanations of the momentum effect. In essence, behavioural finance refutes the assumption of the rationality of market participants found in standard finance theory. This is based on a considerable body of evidence which shows that investors are irrational and systematically make errors in processing information (Statman, 1999). As Albert Einstein states: "two things are infinite: the universe and human stupidity; and I'm not sure about the universe."

According to the field of behaviour finance, the momentum effect (anomaly) is caused by irrational reactions to information related to stock prices and herding behaviour. Proponents of behavioural finance attribute under- and over-reaction to cognitive biases that influence investors when they interpret information about financial markets. For example, investors may be too slow to draw conclusions when confronted with new or contradictory evidence (a conservative bias), or they may be too quick to assume that a given stock belongs to a particular "ideal type" (mental accounting, representativeness heuristic). The tendency to herd among market participants, such as fund managers, is another possible explanation for the existence of momentum profits (Grinblatt, Titman, & Wermers, 1995; Lakonishok, Shleifer, & Vishny, 1994).

If irrationality exists in the market, investment decisions will be influenced by the ex-ante market conditions, such as whether previous markets have been strong (gain/positive) or weak (loss/negative) (Cooper et al., 2004). Cooper et al. (2004) find that a risk-adjusted return from the cross-sectional momentum strategies in positive market conditions is greater than the same returns from the same strategies in negative market conditions. This study

seeks to validate this finding for the cross-sectional momentum strategies and see if the timeseries momentum strategies in equity markets are robust to that outcome. It does so by examining the performance of both strategies in positive ("up") and negative ("down") markets.

1.3. Time-series momentum strategy v. Cross-sectional momentum strategy

The return of momentum strategy is typically measured by the aggregate of the return from a long position in the winner portfolio consisting of the better performing stocks over some prior periods and a short position in the loser portfolio consisting of the worst performing stocks over the same prior periods.

The essential difference between the time-series and cross-sectional momentum strategies is in the way that each method chooses the stocks to be included in the winner and loser portfolios. With the cross-sectional momentum strategy, all stocks are ranked on the basis of their performance over some pre-defined period and then individual stocks are assigned to portfolios based upon their ranking. For example, the rule might be to include the top 20% of stocks in the winner portfolio and the bottom 20% of stocks in the loser portfolio. With the time-series momentum strategy, stocks are assigned to portfolio on the basis of their absolute returns over some pre-defined periods. For example, the procedure might be to assign to the winner portfolio all stocks that have realised a return greater than 5% during this period and to assign to the losing portfolio all stocks that have realised a return less than -5% during this period.

The cross-sectional and time-series approaches may well result in the same investment recommendation but typically they will differ. Assume we have two stocks with Stock A realising a return of 10% over the last six months while Stock B has realised a return of -2%.

Assume the rule under the cross-sectional momentum strategy is to invest in the better performing of the two stocks in the winner portfolio and the worse performing stock in the loser portfolio. Assume that the rule under the time-series momentum strategy is to include in the winner portfolio any stock that has realised a positive return over the last six months and in the loser portfolio any stock that has realised a negative return over this period. Under this rule, given these stock selection rules, both momentum strategies will include stock A in the winner portfolio and Stock B in the loser portfolio. However, now assume that Stock A returned -1% over the last six months while Stock B still realised -2%. Now, the cross-sectional momentum strategy would still allocate Stock A to the winner portfolio and Stock B to the loser portfolio while the time-series momentum strategy would allocate both stocks to the loser portfolio.

It is typical when using the cross-sectional momentum strategy to set symmetrical cut-offs. For example, the rule might be for the top 20% of stocks to form the winner portfolio and the bottom 20% to form the loser portfolio. As a consequence there are always an equal number of stocks in the two portfolios. In contrast the cut-offs in the time-series momentum strategy are expressed in absolute returns with the outcome being that the number of stocks assigned to the winner and loser portfolios will typically differ. Moskowitz et al. (2012) set a single cut-off of x% (x=0) resulting in all securities with a positive return being assigned to the winner portfolio and all securities with a negative return being assigned to the loser portfolio. In this case it is unlikely that an equal number of securities will be assigned to the two portfolios. If the market has been doing well, then more securities will be assigned to the

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⁹ For markets with a small number of stocks, it may seem that stocks are not eligible to be selected into the winner (or loser) portfolio in some months as historical returns do not exceed the upper/lower levels. In such cases, the study assumes that the winner (or loser) portfolio returns are zero instead of missing for that time period for two reasons. First, the missing value will be initially set up as zero when calculating the momentum returns, which are the winners minus losers. Second, it is difficult to compare time-series and cross-sectional momentum returns over time if one data set is discrete due to the missing value and the other is continuous.

winner portfolio, but equally if the market has been doing poorly, then more securities will be assigned to the loser portfolio.

The above discussion highlights that in the time-series momentum strategy, the number of stocks held in the winner and loser portfolios is likely to vary through the market cycle. Interestingly, Cooper et al. (2004) claim the market contains information about the profitability of momentum strategies, with the strategies performing much better in strong markets than in weak markets. This suggests that the time-series momentum strategy may perform better as it will load up on winning stocks when markets are strong and on losing stocks when markets are weak.

1.4. Research objectives and contribution

The main objective of this study is to evaluate both the absolute and relative performances of time-series and cross-sectional momentum strategies and to provide some insights into why their performances might differ across developed stock markets. We undertake this utilising the full complement of implementation strategies that have been used in studies to date. Further, we base the analysis on the three measures of performance: returns before the transaction costs, returns after the transaction costs and risk-adjusted after-transaction costs returns. As consequence, this thesis identifies the best implementation rules for the momentum strategies and whether these strategies give rise to exploitable investment opportunities.

The existence of profitable momentum strategies is inconsistent with the weak-from of the EMH. Advocates of the EMH argue that the momentum anomaly may well not exist once account is taken of the costs of implementation and the associated risks. One of the objectives of this study to establish whether the weak-form of EMH holds in developed stock markets

by testing the two momentum strategies using different implementation methods when the transaction costs and standard risk factors are taken into account.

A number of detailed research questions will be addressed in this thesis which we believe have not been adequately covered in the existing finance literature:

- 1. How do time-series and cross-sectional momentum strategies perform in terms of (i) before-transaction costs (raw) returns, (ii) after-transaction cost (net) returns and (iii) net returns adjusted for risk?
- 2. Which of cross-sectional and time-series momentum strategies yields the superior investment performance?
- 3. Why does the performance of the two momentum strategies differ?
- 4. Does the absolute and relative performance of the two momentum strategies vary through the market cycle?
- 5. A further by-product of our research is that it provides insights as to the optimal way to implement the momentum strategies.

The study makes a number of important contributions to the literature relating to momentum and delivers empirical information on the profitability of momentum investment in international markets. It extends the study the time-series momentum strategy into equity markets and minimises data-mining bias by presenting results in an international context of 24 stock markets and by testing numerous implementation strategies in each market.

The study is of interest because it tests the viability of both momentum strategies and aims to find an optimal implementation strategy for each equity market. By considering the transaction costs of the two momentum strategies and incorporating risk factors, the empirical results provide further evidence on the market efficiency theory across international stock markets over the last two decades.

1.5. Structure of the thesis

The remainder of this thesis is organised as follows:

Chapter 2 (The momentum anomaly) provides the theoretical framework underpinning this study by synthesising the extant literature on the momentum anomaly.

Chapter 3 (Data) discusses data sources, data collection and data filtering procedures.

Chapter 4 (Momentum trading strategies) explains methods that have been applied to examine the research questions. For example, procedures of the time-series and cross-sectional momentum strategies, transaction cost measurement (discussed in more details in Chapter Seven) and standard risk factors models (discussed in more details in Chapter 8).

Chapter 5 (Comparison of returns between time-series and cross-sectional momentum strategies) focuses on testing the performances of the time-series and cross-sectional momentum strategies in 24 stock markets and on providing a comprehensive comparison of the performances based on the two forms of momentum strategy.

Chapter 6 (Closer examination of time-series and cross-sectional momentum strategies under optimal implementation approach) undertakes a close comparison of returns of the time-series and cross-sectional momentum strategies based on the "optimal" implementation approaches.

Chapter 7 (Time-series and cross-sectional momentum strategies after transaction costs) compares the profitability of the time-series and cross-sectional momentum strategies across 24 markets after accounting for the transaction costs.

Chapter 8 (Time-series and cross-sectional momentum strategies after risk adjustment) examines and compares the Sharpe ratio and Fama-French alpha of the time-series and cross-sectional momentum strategies on after-transaction costs basis.

Chapter 9 (Conclusions) concludes the thesis by synthesising the main findings and discussing their implications.

Chapter 2 – The Momentum anomaly

2.1. Introduction

This chapter synthesises the literature relating to the momentum anomaly. It commences with a discussion of its existence, followed by a discussion of the postulated causes of momentum that have been offered to explain its persistence. Section 2.2 discusses the momentum effect in different financial markets. Section 2.3 outlines the possible explanations and causes of the momentum anomaly, while the conclusions are presented in Section 2.4.

2.2. Momentum in the international market

Momentum investment involves going long stocks that have been rising and going short stocks that have been falling, betting that those patterns will continue. The fact that the return of momentum investment strategy is difficult to explain by means of standard risk factors indicates that this anomaly is the most stubborn challenge to the rationality of financial markets and market efficiency (Jegadeesh & Titman, 1993, 2001). Various explanations have been proposed in the literature and some studies have questioned whether it is an anomaly at all (Lesmond et al., 2004). This chapter summaries the empirical findings relating to the momentum anomaly and discusses the theories postulated to explain its existence and persistence.

2.2.1. Cross-sectional momentum strategies in stock markets

The cross-sectional momentum strategy is first documented in academic literature by Jegadeesh and Titman (1993). The authors examine 16 trading strategies with buying the past J (J = three, six, nine and 12 months) winner stocks, and shorting the past J month loser

stocks and holding the positions of the two portfolios for the next H (H = three, six, nine and 12 months). They find that the momentum strategies yield returns varying between about 0.3% and 1.5% per month in the US market.

Similarly strong momentum patterns have been found not only out of sample time periods in the US stock markets, but also in international markets. Jegadeesh and Titman (2001) extend their momentum study and find that the momentum anomaly beyond the period examined in their initial study. Further evidence of the existence of the momentum anomaly in the US stock markets is provided by Grundy and Martin (2001), Ji (2012), Lee and Swaminathan (2000) and Lewellen (2002).

Literature has investigated whether the cross-sectional momentum strategy is profitable in international markets. Many researchers have found that the profitability of momentum strategies is not confined to the US markets. Rouwenhorst (1998) studies the use of the momentum strategy in 12 European stock markets over the period 1980 - 1995 and finds that a medium-term (six months) momentum strategy generates an excess return of 1% per month. These returns are robust to adjustment for risk and firm size. This study observes a common momentum pattern between the US and European markets that profit is only persistent for almost one-year holding period and is stronger in smaller firms. Further evidence of a strong momentum pattern in developed European markets is presented by Bird and Casavecchia (2006, 2007), Doukas and McKnight (2005), Nijman, Swinkels, and Verbeek (2004) and Pan and Hsueh (2007). Evidence of the momentum in European markets has been presented on an individual country basis for Italy (Mengoli, 2004), Sweden (Parmler & Gonzalez, 2007), Spain (Muga & Santamaría, 2009), Switzerland (Rey & Schmid, 2007), Germany (Glaser & Weber, 2003; Schiereck, De Bondt, & Weber, 1999) and the UK (Aarts & Lehnert, 2005; Galariotis, Holmes, & Ma, 2007; Li et al., 2009; Siganos, 2010).

There is considerable evidence in the literature of significant abnormal returns based on the cross-sectional momentum strategy in many other stock markets. For example, Hou and McKnight (2004) and Kryzanowski and Zhang (1992) provide evidence of significant momentum profits in Canada. Drew, Veeraraghavan, and Ye (2007) report that the abnormal momentum returns vary from 0.3% to 7% per month in Australia. Bettman, Maher, and Sault (2009) also find that momentum return remain significant and positive after controlling for short selling restrictions, liquidity constraints and transaction costs in the Australian stock market. Robust evidence for the continuation of returns is documented in New Zealand by Gunasekarage and Kot (2007).

Compared with westen markets, the evidence of momentum is relatively weak in some Asian stock markets, particularly in East Asian (Griffin, Ji, & Martin, 2005). Hameed and Kusnadi (2002) draw the conclusion that there is weak evidence of a momentum effect in some markets in Asia by presenting small but statistically significant momentum returns in six Pacific Basin stock markets. They find that the profits disappear after adjusting for firm size and turnover. Cheng and Wu (2010) find that the profitability of momentum strategies is insignficant in the Hong Kong market. Du, Huang, and Liao (2009) find that momentum strategy is not a profitable strategy in the Taiwanese stock market.

Studies in the Japanese market do not find evicence that momentum strategies are effective. Liu and Lee (2001) observe momentum strategy in the Japanese market is not profitable as the momentum strategy loses around 0.5% per month. The finding indicates that the momentum pattern reverses in the first month of the holding period among small firms in Japan. Chui, Titman, and Wei (2000) find momentum profits in eight Asian markets, but with the notable exception of markets in Japan and Korea. These authors suggest that the disappearance of the momentum effect may be due to cultural and instituitonal differences

between these countries and western countries. In addition, Fama and French (2012), when studying in international stock markets from 1989 to 2011, report that momentum returns occur everywhere, except in Japan.

2.2.2. Cross-sectional momentum extension

Studies investigating the momentum effect are not confined to stock markets; they have also been conducted in different asset classes. Asness et al. (2013) present the application of momentum strategies to equity indexes, currencies, commodities and bond futures. Menkhoff et al. (2012) examine exchange rates expressed in US dollars for 48 currencies from 1976 to 2010 and find a significant excess returns of up to 10% p.a. with small loadings on risk factors in currency markets.

Even though most studies have used a stock selection framework based on the cross-sectional momentum strategy (Jegadeesh & Titman, 1993), several authors have found alternative stock selection methods to also yield profits. For example, Moskowitz and Grinblatt (1999) find that a momentum strategy applied at the industry level can generate higher returns than one applied at the stock level. George and Hwang (2004) document that a momentum strategy based upon a stocks proximity to its 52-week high/low price outperforms one based upon the stock's recent returns. Bird and Casavecchia (2007) find that momentum profitability is enhanced when portfolios are formed based on the degree of price acceleration of each stock.

2.2.3. Time-series momentum strategy

The studies discussed above all use a cross-sectional based momentum strategy. In the recent literature, Moskowitz et al. (2012) introduce a time-series momentum strategy which uses a different stock selection framework. Stocks (or assets) are selected based on their own

performance rather than this performance relative to that of other stocks (or assets) (Section 1.3 for an explanation of the difference between the two momentum strategies). This section summarises the extant studies on the time-series momentum strategy.

Moskowitz et al. (2012) examine a time-series momentum strategy of taking a long position in securities with recent positive returns and a short position in securities with recent negative returns across 58 futures markets encompassing equity indexes, currencies, commodities and bond. Their study demonstrates the existence of the time-series abnormal returns over the holding periods of one to 12 months, followed by partial reversal over longer horizons. In addition, they observe that speculators extract wealth from hedgers using a time-series momentum strategy in the futures market. Hurst et al. (2012) examine the use of the time-series momentum strategy in the futures market all the way back to 1903 and conclude that this trend-following investment strategy has been consistently profitable with a return after fees of in excess of 14% p.a. over the past 110 years with a Sharpe ratio of 1.0.

Menkhoff et al. (2012) report that over the period from 1976 to 2010, both time-series and cross-sectional strategies are profitable in currency markets after adjusting for transaction costs. However, they find that the average excess return and the Sharpe ratio from the cross-sectional momentum strategy are twice high as those from the time-series momentum strategy. Marshall, Nguyen, and Visaltanachoti (2013) examine the time-series momentum strategy and moving average investment strategy in the US stock market, and point out that the two strategies are most profitable for the largest quintile stocks. However, a moving average strategy produces larger returns, Sharpe ratios and Jensen Alphas than those realised from a time-series momentum strategy.

Previous studies have investigated momentum strategies in numerous market settings but by far the bulk of these studies have concentrated on equity markets. Therefore, it is somewhat surprising that we are yet to see a comprehensive study that compares the use of cross-sectional and time-series momentum strategies in this arena. To my best knowledge, this is the first study provides empirical comparisons between the cross-sectional momentum and time-series momentum strategies in international stock markets.

2.3. Causes of the momentum effect

While the literature generally accepts the existence of a significant momentum effect in financial markets, there is a sizeable debate on its causes. Explanations can be broadly categorised into two camps. One group argues that the momentum anomaly is more apparent than real and can be explained by rational means, such as, model mis-specification (Wang & Wu, 2011), time-varying unsystematic risk (Li, Miffre, Brooks, & O'Sullivan, 2008), and transaction costs (Lesmond et al., 2004). The other group argues that the momentum anomaly is caused by irrational behaviour such as under-reaction (Jegadeesh & Titman, 1993, 2001), over-confidence (Daniel, Hirshleifer, & Subrahmanyam, 1998), individualism (Chui, Titman, & Wei, 2010). This section outlines the main arguments postulated to explain the momentum anomaly.

2.3.1. Rational explanations

Advocates of standard finance theory argue that the apparent momentum anomaly is principally attributable to methodological flaws in research design. Conrad and Kaul (1998) find that momentum profitability results from cross-sectional variations in expected returns, rather than from predictable time-series variations in returns. Their finding indicates that cross-sectional firm-specific risk is a major factor explaining the momentum profit.

For the hypothesis of Conrad and Kaul (1998) to be true, momentum profits would not be reversed in any post-ranking period. Jegadeesh and Titman (1999) show that momentum

profits increase monotonically for approximately one year, followed by four years of decline. The momentum strategy yields an average profit of 1% per month over the first year; however, the momentum gains turn negative over the next four years. Such findings are at odds with Conrad and Kaul (1998) hypothesis and are more consistent with the behavioural explanation that momentum profits will eventually reverse due to under- or over-reaction (Hong & Stein, 1999; Kent, Hirshleifer, & Subrahmanyam, 1998). In addition, Jegadeesh and Titman (2001) argue that Conrad and Kaul (1998) results are driven by small sample biases in their tests and bootstrap experiments, and conclude that the cross-sectional variation component explains little of the momentum profits.

2.3.1.1. Model mis-specification

Fama and French (1996) observe that the unconditional three-factor model cannot capture momentum returns. The three factors in their model proxy for firm-specific risk (beta), firm size risk (the higher risk and lower liquidity of small firms), and firm distress risk (high minus low book-to-market). Grundy and Martin (2001) apply rolling regression of the three-factor model adjusting market conditions based on risk factors and find that risk-adjusted momentum profitability is very close to, or actually higher than, raw returns. Ahn, Conrad, and Dittmar (2003) provide consistent findings that the three-factor model magnifies raw returns.

Wang and Wu (2011), on the other hand, argue that running full-sample time-series Fama-French three-factor regressions, as has been done in some research, is an inappropriate approach in momentum studies as it fails to account for the systematic dynamics of momentum portfolio factor loadings. They argue that using constant factor beta leads to an underestimation of the risk factors which apply to the profitability of momentum. After circumventing the difficulty of beta dynamics modelling in momentum studies, they find that

the three-factor model can explain 40% of the excess returns generated by the momentum strategy (Jegadeesh & Titman, 1993) and almost 100% of the excess returns generated by the style momentum strategy¹⁰.

Moskowitz et al. (2012) apply the three-factor risk model in their study of the time-series momentum strategy and conclude that risk factors explain little about the returns from the time-series momentum strategy in the futures market. Since the majority of momentum studies in stock markets are based on the cross-sectional momentum strategy (Jegadeesh & Titman, 1993), it is important to determine whether the failure of the risk models is a more robust phenomenon when examining the standard risk factors which may affect time-series momentum returns (Moskowitz et al., 2012).

2.3.1.2. *Data mining*

A criticism typically levelled at any study that claims to have unearthed a profitable investment strategy is that the results are due to data mining. Fama (1998) states "splashy results get more attention, and this creates an incentive to find them". If momentum strategies were found to yield large negative abnormal returns, one could draw infer that a contrary strategy would be profitable because it is unlikely that either momentum or contrary strategies would result in excess return of zero.¹¹

The literature provides considerable evidence that momentum profitability is robust across different time horizons, stock markets, assets classes, and implementation strategies. However, prior studies which test the momentum effect have almost all been based on a cross-sectional

¹⁰ The style momentum strategy suggests that investors tend to classify stocks as being small and large, value and growth stocks, and invest on this basis. This is referred to as style investing (Bernstein & organizacija kompozitora Jugoslavije, 1995).

¹¹ Contrarian strategy is the other side of coin of momentum investment strategy. Momentum strategy bets that stocks performing better (worse) in the past will cautiously outperform (underperform) the market in the near future, whereas, contrarian strategy assume that stocks performing better (worse) in the past will underperform (outperform) the market in the future.

momentum strategy. The study contributes to the growing literature on momentum strategies by providing empirical evidence about whether the momentum effect is still robust if one uses the time-series momentum strategy.

2.3.1.3. Transaction costs and short-selling constraints

Momentum strategies involve high portfolio turnover, often of small stocks, and this could result in prohibitive transaction costs. Moreover, momentum profits are generated taking long position in winner stocks and short position in losing stocks but in many markets short selling is prohibited or restricted (Lesmond et al., 2004). For example, according to the Regulatory Guide 192 in the Australia Securities and Investments Commission (ASIC), covered short sales are permitted but naked short sales are prohibited except where ASIC has given relief.

Transaction costs

Lesmond et al. (2004) argue that the significant momentum returns reported in the literature are dependent on an underestimation of transaction costs. They find that in US markets the cross-sectional momentum strategy documented by Jegadeesh and Titman (1993) produces significant profit ranging from 0.45% to 1.30% per month, but, the majority of the gains (ranging from 53% to 70%) are generated by short selling stocks in the loser portfolio. Furthermore, the study characterises such stocks as small, low in price, low in liquidity, high beta (market risk), and off-NYSE stocks. Obviously, the trading costs involved with these stocks are high.

Lesmond et al. (2004) apply four measures to estimate transaction costs and point out that costs exceed the momentum profits in almost all cases. Using their cost measurement model, they find that transaction costs for large stocks generally ranges from 1% to 2% and for small stocks they range from 5% to 9%. They argue that most "profit" found in prior momentum studies would be diluted by high transaction costs if those costs were estimated correctly

(Lesmond et al., 2004). Therefore, according to Lesmond et al. (2004), the EMH is still valid as it is impossible for the momentum strategy to consistently make excess abnormal returns after considering the transaction costs.

The transaction costs could be reduced by using alternative procedures in momentum strategies, for example by increasing holding periods and applying buy-and-holding rather than monthly rebalancing in order to decrease the frequency of turnover of stocks in the portfolio, or by focusing on investing in low transaction-cost stocks. Agyei (2007) reports that momentum strategies with holding periods of more than six months are capable of generating statistically significant after-transaction cost returns, while Li et al. (2009) draw similar conclusions when concentrating on low transaction-cost stocks in the UK stock market. Siganos (2010) demonstrates that small investors can also make profit from momentum investment after accounting for transaction costs by selecting a relatively small number of stocks to form the winner and loser portfolios as well as using a relatively long holding period (more than six months) in order to minimise transaction costs.

The transaction costs measure (LOT model) used in Lesmond et al. (1999) may not be an optimal model to percisely capture the transaction costs. Goyenko et al. (2009) compares the transaction costs estimates measured by different liquidity measurements (including the LOT model) with the transaction costs estimated using actual data in the US markets. They show that the LOT model is not an optimal model for measuring the transaction costs and recommend that the extended version of the LOT model, named LOT Y-split model has more accuracy for inferring the transaction costs.

Short-selling constraints

Short-sale constraints are particularly important in view of the dominant contribution of the loser portfolio to momentum returns in the momentum literature because stocks in loser

portfolios that are supposed to be short-sell according to momentum strategies may not all be able to be sold due to market restriction or other factors. Thus, the "profit" of momentum strategy in the studies may not be "true" profit in reality.

Alexander (2000) points out that momentum studies are biased toward rejecting EMH as such investment ignores short-sale constraints. Jones and Lamont (2002) observe that overpriced shares tend to be expensive to short-sell. Furthermore, Chen, Hong, and Stein (2002) find that the majority of stocks have no short sale interest outstanding at any time and Barber and Odean (2008) find that only 0.29% of individual investors take short-selling positions. Momentum returns are attributed to short-sale loser portfolio, however it constraints prevent arbitrage of excess returns (Ali & Trombley, 2006).

Market resistances such as bid-ask spreads, short-selling constraints and illiquidity are more pronounced in small and emerging markets than in developed markets. DeRoon, Nijman, and Werker (2001) show that anomalous returns in emerging markets cannot be achieved due to short-sale constraints and transaction costs.

In fact, short-sale restrictions do not necessarily prevent momentum investors for generating returns. Griffin et al. (2005) in a study that cover 40 markets find that small momentum traders can still be profitable without taking short positions. Fong, Wong, and Lean (2005) investigate momentum strategies in 24 countries and find that it is only buying stocks in winner portfolios that generate significant abnormal returns after considering the transaction costs. Phua, Chan, Faff, and Hudson (2010) demonstrate that in Australia the continuation of momentum returns is mainly concentrated in past winners.

In sum, there are three main questions about momentum effect in the literature that need to be considered: i) whether momentum strategies under alternative implementations all produce positive after-transaction cost returns, ii) whether the measures of the transaction costs are

appropriate and accurate, and iii) whether short-sale constrains impact momentum performance. From the perspective of investors, it is important to determine the viability of momentum strategies. Therefore, this thesis compares the performance of time-series and cross-sectional momentum strategies under different implementation approaches after considering the transaction costs and short-sale impacts across developed markets.

2.3.2. Behavioural explanations

Behavioural finance provides an alternative view of the market to that is described by standard market theory. Behavioural finance recognises that investors behave irrationally in the market resulting in them making systematic errors in their investment decision making. Their irrationality could be attributed to psychological factors such as greed, fear, regret and overconfidence.

Black (1986) examines the impact of "noise" on financial economics and concludes that trading in financial markets is a consequence of the behaviour of noise traders¹². Markets are inefficient and speculators are able to benefit from these inefficiencies, for example, the irrationality from which investors suffer may push price away from fundamentals and therefore, allow profitable mispricing to survive (Li et al., 2008).

Momentum studies find that momentum profits are short-term (around one year) and profitability reverses in the long - term (around three - five years) (Jegadeesh & Titman, 1993). The behavioural camp argues that this pattern could be caused by investors' underreactions and/ or overreaction (Hong, Lim, & Stein, 1998; Hong & Stein, 1999; Jegadeesh & Titman, 1993). This section discusses the literature that explains the momentum anomaly from a behavioural finance perspective.

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¹² Noise trader is an investor who makes buy and sell decisions without the use of fundamental data.

2.3.2.1. Under-reaction

Under-reaction happens when prices react insufficiently to firm-specific news. This causes positive serial correlation that gradually results in the price adjusting towards its fundamental level. Jegadeesh and Titman (1993) decompose the momentum profitability using Lo and MacKinlay (1990) model and show that the momentum strategy is not explained by systematic risk factors, implying market inefficiency. They find profit reversion in the cross-sectional momentum strategy with approximately half of the profits generated in the first six months dissipating over the subsequent 24 months. They argue that the momentum anomaly can be reasonable explained by delayed price reactions (under-reaction). Jegadeesh and Titman (2001) and Lee and Swaminathan (2000) report consistent results when extending the time-horizon in the US market.

Daniel et al. (1998) show that investors under-react to public information and over-react to private information. Hong and Stein (1999) investigate the relationship between news diffusion and momentum anomalies by assuming two types of investors, news watchers and momentum traders (technical analysts). News watchers intend to trade only based on fundamental information, ignoring past price movements, whereas the momentum traders behave in the opposite manner. Hong and Stein (1999) demonstrates that it is the gradual news diffusion among the news watchers that results in market under-reaction which causes trends in price behaviour and so momentum profits to be profitable. The momentum traders, then extrapolate on the basis of historical prices, and push the prices of past winners (losers) above (below) their fundamental values further by continue to buy winners and sell losers even in the face of contrary information.

2.3.2.2. Overconfidence

Odean and Barber (1999) point out that overconfident traders sell winners prematurely, trade more frequently, hold losers for too long and make bigger losses. Overconfidence misleads investors into believing that they have superior abilities or information. Barberis, Shleifer, and Vishny (1998) posit that investors are overconfident about the value of their private signals and therefore they overact to information. Their study applies the idea of the "representative heuristic", as described by Tversky and Kahneman (1974). According to this idea investors behave as if recent events are typical of the return-generating process without considering the laws of probability. Barberis et al. (1998) argue that investors react too quickly to firm-specific information because of overconfidence, which leads a price to move away from its fundamental level and to correct (reverse) in the long-term.

Daniel et al. (1998) argue that the momentum anomaly may be caused by continuing over-reaction by overconfident investors who put too much weight on their own private news and too little on public information. This tendency is reinforced by self-attribution bias ¹³. Therefore, investors over-react to private information and under-react to public information. Due to self-attribution bias, investors adjust gradually when there is a contradiction between public information and their private beliefs and they continue to overreact if the information confirms their beliefs. Therefore, overconfidence causes an on-going overreaction with share prices moving away from their fundamental level.

Chui et al. (2010) demonstrate that momentum returns are positively correlated to the investor's degree of individuality trait which is positively correlated with overconfidence and self-attribution bias. According to Chui et al. (2010), it is cultural differences that explain the

¹³ As identified by Bem (1965), self-attribution bias refers to the tendency for human to attribute success to their own abilities or to place too much significance on signals that confirm their beliefs, whereas they tend to attribute failure to external factors, such as bad luck.

momentum anomaly across countries. In countries where there are low levels of individuality, as is the case in Asian countries, market participants are less likely to be overconfident biased momentum investors. Cooper et al. (2004) explain momentum returns that are predicted by behavioural models (Barberis et al., 1998; Daniel et al., 1998), and conclude that the momentum effect should be greater when markets have been performing strongly (positively) because of the reduced risk aversion that accompanies profitable wealth and the increased overconfidence. Asem and Tian (2010) find varying levels of momentum profitability under different market conditions.

Although the debate about behavioural explanations for the momentum anomaly is still in progress, there is a general acceptance in the literature of the view that investors' beliefs could influence the momentum effect, and that their behaviour will be impacted on by different ex-ante market conditions (Cooper et al., 2004). Regarding the efficiency on the two momentum strategies, it is important to determine which one of the two momentum strategies (time-series and cross-sectional momentum strategies) produce better performance under different market conditions.

2.4. Conclusion

This chapter synthesises the literature relating to the momentum strategies in the international financial market. In the literature there is no consensus on the optimal implementation rules in the international stock markets. Thus, it is somewhat surprising that we are yet to see a comprehensive study that compares cross-sectional and time-series momentum strategies in stock markets.

Advocates of market efficiency argue that the momentum strategies may not be implementable due to the transaction costs. Therefore, it is important to assess the performances of two momentum strategies using various implementation methods and an

appropriate transaction cost measure. As a consequence, this thesis determines which one of the two strategies produces better outcomes, and what the optimal implementation approaches are across markets in developed countries.

Proponents of behavioural finance suggest that the decisions of market participants are asymmetric and influenced by ex-ante market conditions, such as "up" or "down" markets. In terms of the essential characteristics of the two momentum strategies, somewhat by construction we have already seen that relative number of stocks held in the winner and loser portfolios is likely to vary through the market condition with the time-series momentum strategy whereas these holding will remain constant with the cross-sectional momentum strategy. Thus, it is important to compare the two momentum strategies under different market conditions, as this may provide some insights for why one strategy is better than the other.

Chapter 3 – Data

3.1. Introduction

This chapter outlines the data employed in testing the existence of the momentum effect and the analysis of the two momentum strategies. The quality of the data is always important in any research. The data filtering and cleaning processes are described in this chapter. Section 3.2 presents details of the samples that are used in the analysis. Section 3.3 describes the procedures of data filtering and Section 3.4 concludes the chapter.

Thomson Datastream is used as the primary source of international data because of its comprehensive coverage of time periods and countries. Ince and Porter (2006) report that, "We know of no source comparable to TDS (Thomson Datastream) in terms of number of markets covered and number of securities covered in each market." Gupta et al. (2010) use stock price data from Datastream to investigate momentum profitability across 52 international stock markets and indices. Liu et al. (2011) investigate international momentum profitability by using returns and market capitalisation in 20 major stock markets using data sourced from Datastream. Antoniou, Lam, and Paudyal (2007) find that the profitability of the momentum strategy can be explained by business-cycle variables and behavioural biases when using data sourced from Datastream. Griffin, Ji, and Martin (2003) use Datastream as a data source to analyse the effect of macroeconomic factors on the momentum anomaly in an international context.

3.2. Data retrieved

Datastream provides broad data sources on international markets. Our sample is retrieved from two categories, equities and interest rates in Datastream as this research focuses on the momentum strategies at the stock level from 1990 to 2012. The types of the samples include:

i. adjusted price of each stock in local currency

Both monthly and daily adjusted stock price are retrieved across the 24 countries.

ii. market value of each stock in local currency

We use the market value of each stock as the input for calculating market-value weighted momentum portfolio returns.

iii. book-to-market ratio of each stock in local currency

Book-to-market ratio is calculated as the reverse of the market-to-book value which was retrieved from Datastream. According to Datastream, market-to-book value is defined as the market value of the ordinary (common) equity divided by the balance sheet value of the ordinary (common) equity in the company.

iv. risk-free or equivalent interest rate for each country

Risk-free rates or equivalent interest rates for each country, (e.g. three-month treasury bills for each country) are downloaded from the interest rates in Datastream.

Some countries contain more than one stock exchange market. The historical data of stocks listed in these exchanges may not always be available in Datastream due to low liquidity. Based on the literature, main stock exchanges within a country are investigated in this research. Three main stock markets in the US, the New York Stock Exchange (NYSE), the American Stock Exchange (AMEX) and NASDAQ are used to retrieve data for the US, whereas only the main stock exchange is examined for the remaining countries.

3.3. Data filtering

Simple returns allow for cross-sectional aggregation to estimate the winner and loser portfolio returns in momentum studies. The return for each stock i is calculated as follows:

$$R_{i,t} = \frac{P_{i,t}}{P_{i,t-1}} - 1$$

where $R_{i,t}$ is the simple return for stock i in period t, and $P_{i,t}$ is the adjusted close price for stock i in period t. According to Datastream, adjusted close provides the closing price for the requested month, adjusted for all applicable splits and dividend distributions.

3.3.1. Data problems in Datastream

Although Datastream is widely used source of data in the academic finance domain, a few potential issues exist in the raw data which suggest that the data set cannot be directly used in the analysis. Ince and Porter (2006) emphasise the importance of handling data from Datastream with caution, and report that results may be distorted if potential issues are ignored.

According to the literature, the major issues with data from Datastream are:

- i. problems related to delisted firms
- ii. problems related to non-trading days
- iii. problems primarily related to small stocks, e.g. small-cap stocks
- iv. data recording errors (high spurious returns).

Care has been taken in this study to check for each of the data issues identified in the literature and to implement remedial actions in accordance with previous studies to reduce the impacts of data error. Some bias in the samples may still remain undetected after filtering;

however the risk is low. The process of data filtering undertaken to limit the impacts of above four major data issues is explained subsequently.

3.3.2. Screening for delisted firms

One of the serious issues in Datastream lies in a faulty approach to recording data. Datastream keeps repeating the price of dead stocks as the last valid traded price prior to delisting through to the end of the sample. To give an actual example: the stock price for Minara Resources (130560) remained recorded at the last trading price of \$0.87 on the Australia stock market (ASX) after it was delisted on 26 October 2011.

	MINARA RESOURCES DEAD			
Name	- DELIST.26/10/11			
Date	Datastream Price	Actual Price		
1/06/2011	0.75	0.75		
1/07/2011	0.73	0.73		
1/08/2011	0.69	0.69		
1/09/2011	0.88	0.88		
1/10/2011	0.87	0.87		
1/11/2011	0.87	-		
1/12/2011	0.87	-		
1/01/2012	0.87	-		
1/02/2012	0.87	-		
1/03/2012	0.87	-		
1/04/2012	0.87	-		
1/05/2012	0.87	-		
1/06/2012	0.87	-		
1/07/2012	0.87	-		
1/08/2012	0.87	-		
1/09/2012	0.87	-		
1/10/2012	0.87	-		
1/11/2012	0.87	-		
1/12/2012	0.87	-		

Datastream provides the exact date that firms are delisted from the equity markets for some stocks, as is in the case of Minara Resources (26/10/2011); however, this is not true for all delisted firms. For some stocks, Datastream only records the words Dead, Delisted, or Suspended at the end of the stock name without the exact delisting date. For example, "Macquarie Goodman Indl. Dead - Merger W/503969" in Datastream shows that Macquarie Goodman Industrial (152489) was merged into the Goodman Group (503969) but no actual date for this event is given.

3.3.2.1. Exact date of stock delisting is given

Datastream provides information on the status of each stock, such as active, dead or suspended. Stocks can be easily divided into two categories, active or non-active (dead and suspended) by sorting the status of each stock in the market. If the exact date is given when a stock is delisted or suspended, all observations after this date (or month) are deleted.

3.3.2.2. Exact date of stock delisting is not given

If the exact date for the delisting of a stock is not given, we follow the approach recommended by Ince and Porter (2006) where all observations for a stock are dropped from the end of the sample period back to the first non-zero return. In the following example for Macquarie Goodman Industrial, all zero returns are dropped from the end of the sample period until 1/02/2005 because in that month the return is -0.42% (which is a non-zero return).

MACOHADIE

	MACQUARIE					
NT	GOODMAN INDL.					
Name	DEAD					
	- MERGER	W/503969				
Date	Price	Return				
1/11/2004	2	11.73%				
1/12/2004	2.07	3.50%				
1/01/2005	2.37	14.49%				
1/02/2005	2.36	-0.42%				
1/03/2005	2.36	0.00%				
1/04/2005	2.36	0.00%				
	:					
	:					
1/09/2012	2.36	0.00%				
1/10/2012	2.36	0.00%				
1/11/2012	2.36	0.00%				
1/12/2012	2.36	0.00%				

3.3.3. Screening for non-trading day

This study uses monthly and daily stock data. The issue of non-trading days only appears in the daily data. The stock price remains unchanged over weekends and public holidays because the security market is closed on those days. Datastream usually skips recording on weekends, but public holidays may not be identified or skipped. This is dealt with by dropping the data for any day where in excess of 90% of the stocks record a zero return (Lee, 2011). Although this approach is not as good as manually checking public holidays for each country, this is an efficient method for identifying public holidays.

3.3.4. Screening for small firms

Ince and Porter (2006) find some inconsistencies in the returns reported for the smaller capitalisation stocks. This is dealt with in many studies by excluding all stocks in each country in each period that are below the fifth percentile of stocks by market (Chui et al., 2010; Hong, Lee, & Swaminathan, 2003). Another approach is to use multiple types of portfolio weights, such as market value weighted returns and equal weighted returns. In this study, the monthly return is treated as missing if the market value of a stock is below the fifth percentile of the entire market and the main results for the momentum returns are also presented separately under different portfolio weighting schemes.

3.3.5. Screening for highly spurious returns

A number of recording faults in Datastream show stock prices as suddenly increasing or decreasing when this did not happen. For example, QKL stores (274512) listed on the Nasdaq exchange market, was trading at \$22.89 in March 2000 but increased rapidly to \$206.03 in April 2000. The return is about 800% in a month. The return suddenly reverts to \$0.05 in July 2000. The return becomes -100% in a month. This may be true in the real world but such cases are rare.

One approach to handling this problem is to exclude extreme observations such as those that are above 300% (Ince & Porter, 2006). A problem with this is that it introduces

discontinuities in the data series which can be overcome by winsorising rather than excluding stocks with extreme values. We choose to winsorise both daily and monthly returns with involves determining the returns that lie at the top and bottom percentile in each country and then setting any returns that lie outside this range at the boundary (David McLean, Pontiff, & Watanabe, 2009).

3.4. Conclusion

The quality of data is always important in the research. The literature finds that data records from Datastream contain flaws. Most are faults with delisted firms, and non-trading days, small stocks and high spike returns. Following suggestions in the literature, the data has been carefully and appropriately filtered. The range of monthly and daily raw stock returns for each market before and after data cleaning are reported in Table 3.1.

Table 3.1. Summaries of raw returns before and after filtering

This table reports the maximum and minimum daily and monthly returns before and after data filtering. The data for listed and delisted firm was obtained from Datastream from 1990 to 2012 for each market. Following Ince and Porter (2006), data is filtered for delisted firms, non-trading days and excludes stocks whose market capitalization is in the lowest 5% of all stocks in each month, and then is winsorised the monthly (daily) return for each market.

	Raw mon	thly return	Screened monthly return		Raw daily return		Screened daily return	
Country	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
AUSTRALIA	7900%	-100%	83%	-42%	8467%	-100%	18.23%	-14.89%
AUSTRIA	2705%	-98%	39%	-31%	9886%	-99%	8.34%	-7.80%
BELGIUM	920%	-98%	34%	-26%	904700%	-100%	7.39%	-6.79%
CANADA	74900%	-100%	82%	-41%	211900%	-100%	21.60%	-16.68%
DENMARK	1288%	-100%	38%	-29%	2877%	-100%	8.82%	-8.33%
FINLAND	1043%	-94%	43%	-29%	625%	-94%	10.00%	-8.86%
FRANCE	8433%	-100%	57%	-35%	43423%	-100%	10.00%	-9.59%
GERMANY	312400%	-100%	66%	-42%	312400%	-99%	16.26%	-13.49%
GREECE	1382%	-93%	68%	-36%	1382%	-94%	10.02%	-9.44%
HONGKONG	2977%	-98%	82%	-41%	2957%	-98%	14.26%	-11.12%
IRELAND	14653%	-90%	56%	-39%	13378%	-99%	12.90%	-11.99%
ISRAEL	10727%	-100%	59%	-37%	10727%	-99%	10.03%	-10.00%
ITALY	957%	-100%	39%	-28%	813%	-99%	8.08%	-6.72%
JAPAN	972%	-100%	41%	-28%	597%	-99%	9.35%	-7.78%
NETHERLANDS	1299%	-98%	39%	-31%	675%	-97%	9.08%	-8.18%
NEWZEALAND	30900%	-96%	50%	-33%	17900%	-96%	11.09%	-10.00%
NORWAY	1400%	-99%	52%	-38%	1602%	-89%	12.17%	-10.69%
PORTUGAL	5900%	-98%	65%	-35%	414300%	-100%	10.00%	-9.05%
SINGAPORE	500%	-98%	59%	-33%	10431%	-99%	14.15%	-11.22%
SPAIN	2786%	-100%	38%	-28%	2400%	-100%	7.35%	-6.28%
SWEDEN	11899%	-99%	63%	-40%	11899%	-100%	16.66%	-13.87%
SWITZERLAND	15533%	-99%	31%	-26%	3791%	-99%	7.41%	-6.91%
UK	2495%	-99%	56%	-38%	198825%	-99%	10.01%	-8.86%
US	10284143%	-100%	55%	-36%	10208705%	-100%	12.58%	-10.80%

In total, 34697 eligible stocks listed on the major stock exchange(s) in each country are downloaded from Datastream after removing stocks that failed to meet the certain criteria that have been discussed previously. The remaining stocks include active, dead and suspended firms in order to avoid survivorship bias. Domestic and foreign firms are also included in the sample. A list of major stock exchange(s) in 24 developed countries and the number of stocks within the sample period from 1990 to 2012 are reported in Table 3.2.

Table 3.2. List of 24 developed countries

This table reports major stock exchange market(s) for each developed country. The data with listed and de-listed firm are obtained from Datastream from 1990 to 2012 for each country in order to avoid survivorship bias. The two right-hand columns report the total number of stocks and the number of average monthly stocks in each country after data filtering.

COUNTRY	MAIN STOCK EXCHANGE MARKET(S)	NO. OF STOCKS	AVERAGE MONTHLY STOCKS
AUSTRALIA	AUSTRALIAN	2880	1141
AUSTRIA	VIENNA STOCK EXCHANGE	218	96
BELGIUM	EURONEXT BRUSSELS	335	157
CANADA	TORONTO	3020	1200
DENMARK	COPENHAGEN STOCK EXCHANGE	360	195
FINLAND	HELSINKI	213	106
FRANCE	EURONEXT PARIS	1991	828
GERMANY	FRANKFURT	1450	663
GREECE	ATHENS	415	224
HONGKONG	HONG KONG	1404	715
IRELAND	DUBLIN	131	58
ISRAEL	TEL AVIV	843	475
ITALY	MILAN	543	241
JAPAN	TOKYO STOCK EXCHANGE	2990	2096
NETHERLANDS	EURONEXT AMSTERDAM	304	160
NEWZEALAND	NEW ZEALAND	279	115
NORWAY	OSLO STOCK EXCHANGE	479	165
PORTUGAL	EURONEXT LISBON.	198	92
SINGAPORE	SINGAPORE	792	367
SPAIN	MADRID SIBE	281	145
SWEDEN	STOCKHOLM	906	308
SWITZERLAND	SIX SWISS	412	235
UK	LONDON	4212	1601
US	NYSE, NASDAQ, AMEX	10041	4232

TOTAL 34697

The summaries (mean and standard deviation) of monthly stock returns, market value and book-to-market ratio across the 24 markets are shown in Table 3.3. EW, MV and IVOL indicate equal-weighted, market-weighted and inversed-volatility weighted market indexes

from 1992 to 2012.¹⁴ The time-series and cross-sectional momentum strategies start at 1990; however, we only report the momentum results from 1992 to 2012 in order to have the same time length for numerous momentum strategies with different formation and holding periods.

Table 3.3. Summaries of monthly returns across 24 markets

This table reports the average and the standard deviation of monthly market returns based on equal weight (EW), market weight (MW) and inversed-volatility weight (IVOL), and the average and standard deviations of monthly market value and monthly book-to-market value for each market. Monthly returns, market value and book-to-market ratio are reported in local currencies. Similar to the method employed in Moskowitz et al. (2012), IVOL (3,6,9 and 12) indicate the size of the stock in the portfolio is set to be inversely proportional to its ex-ante volatility over three, six, nine and 12 months, respectively, at each month. Implementations with different formation periods (J = 3, 6, 9 and 12 months) have different length of time periods, e.g. the implementation approach using J = 3 months, the strategy has three months less in the total time period compared with the approach using J = 6 months. In order to compare the strategies across different implementation approaches in the same time term, momentum results are reported from 1992 to 2012 in the study.

	MONTHLY RETURN						MONTHLY	MONTHLY	MONTHLY BOOK-	
COUNTRY	EW	MV	IVOL3	IVOL6	IVOL9	IVOL12	MARKET VALUE	TO-MAF	RKET	
	Mean Std	Mean Std	Mean Std	Mean Std	Mean Std	Mean Std	Mean Std	Mean	Std	
AUSTRALIA	1.33% 5.52%	1.14% 5.22%	0.82% 1.55%	0.88% 1.77%	0.91% 1.84%	0.91% 1.87%	795.16 497.70	0.74	0.21	
AUSTRIA	0.43% 3.45%	1.14% 5.40%	0.31% 1.13%	0.28% 1.17%	0.31% 1.22%	0.32% 1.28%	771.28 374.16	1.48	0.27	
BELGIUM	0.63% 2.94%	1.17% 5.04%	0.61% 2.03%	0.62% 2.29%	0.60% 2.38%	0.63% 2.48%	1581.74 924.82	1.24	0.57	
CANADA	1.69% 5.47%	1.81% 4.57%	0.72% 3.16%	0.81% 3.38%	0.82% 3.44%	0.81% 3.50%	874.93 468.99	0.88	0.26	
DENMARK	0.59% 3.91%	1.55% 4.85%	0.57% 2.92%	0.57% 3.05%	0.60% 3.27%	0.59% 3.31%	3509.55 1984.30	0.90	0.19	
FINLAND	1.19% 5.77%	1.85% 8.52%	1.10% 4.95%	1.14% 5.15%	1.17% 5.21%	1.19% 5.23%	1049.72 541.44	0.73	0.26	
FRANCE	0.96% 3.99%	1.43% 5.01%	0.43% 1.49%	0.41% 2.11%	0.51% 2.28%	0.56% 2.47%	1365.10 336.04	0.81	0.19	
GERMANY	0.42% 4.31%	1.33% 5.31%	0.28% 2.02%	0.34% 2.38%	0.31% 2.59%	0.35% 2.70%	1182.44 350.02	1.71	1.16	
GREECE	1.07% 9.85%	1.39% 9.45%	0.91% 8.50%	0.82% 8.62%	0.93% 8.85%	0.94% 8.95%	2205.63 2992.13	1.03	0.63	
HONGKONG	1.38% 8.38%	1.98% 7.75%	1.02% 5.90%	1.23% 6.19%	1.28% 6.48%	1.41% 6.60%	7220.63 3236.50	1.41	0.41	
IRELAND	1.02% 5.78%	1.61% 6.05%	1.02% 4.41%	0.88% 4.58%	0.80% 4.73%	0.80% 4.77%	827.88 523.89	0.92	0.55	
ISRAEL	1.19% 6.73%	1.67% 6.47%	0.93% 5.56%	0.91% 5.83%	0.89% 5.92%	0.87% 5.99%	1443.25 3154.75	1.14	8.73	
ITALY	0.33% 5.73%	1.35% 6.89%	0.27% 4.58%	0.35% 4.81%	0.37% 5.01%	0.38% 5.10%	53971.55 80471.27	0.91	0.25	
JAPAN	0.27% 5.82%	0.71% 5.43%	0.03% 4.74%	0.12% 4.93%	0.16% 5.01%	0.18% 5.07%	168479.61 35707.23	0.99	0.34	
NETHERLANDS	0.72% 4.77%	1.33% 5.18%	0.73% 3.66%	0.77% 3.95%	0.80% 4.00%	0.82% 4.08%	2609.86 1139.69	0.96	0.34	
NEWZEALAND	1.05% 3.87%	1.47% 4.13%	1.55% 6.03%	1.00% 3.30%	0.97% 3.35%	0.98% 3.39%	386.18 57.50	0.84	0.15	
NORWAY	1.22% 5.95%	1.91% 6.33%	1.05% 4.36%	1.06% 4.69%	1.04% 4.84%	1.06% 4.94%	4335.38 2709.93	0.95	0.35	
PORTUGAL	0.78% 3.98%	1.26% 6.36%	0.83% 1.05%	0.69% 1.30%	0.54% 1.55%	0.56% 1.82%	1181.20 606.4	1.30	0.31	
SINGAPORE	1.10% 8.11%	1.36% 6.02%	0.93% 6.25%	0.91% 6.73%	0.98% 6.87%	0.96% 7.00%	1205.81 328.57	1.06	0.33	
SPAIN	0.71% 4.77%	1.06% 5.57%	0.63% 3.05%	0.69% 3.31%	0.66% 3.41%	0.71% 3.44%	4280.14 2242.08	0.80	0.19	
SWEDEN	1.15% 6.35%	1.92% 6.78%	1.04% 4.96%	1.12% 5.16%	1.17% 5.24%	1.18% 5.29%	5979.49 2114.60	0.92	0.77	
SWITZERLAND	0.79% 3.86%	1.19% 4.36%	0.80% 2.41%	0.77% 2.65%	0.77% 2.74%	0.79% 2.78%	3534.89 1515.28	1.24	0.37	
UK	0.66% 4.62%	1.39% 4.29%	0.24% 2.87%	0.43% 3.17%	0.49% 3.31%	0.61% 3.55%	814.17 275.46	0.73	0.21	
US	1.52% 5.36%	1.65% 4.60%	1.05% 4.09%	0.99% 3.99%	1.03% 4.00%	1.02% 4.00%	2671.34 1139.90	0.62	0.13	

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 $^{^{14}}$ The approaches of calculating three weighting schemes will be explained in Section 4.3.2.

Chapter 4 – Momentum trading strategies

4.1. Introduction

The primary aim of this research is to compare before-transaction cost (raw) returns, after-transaction cost (net) returns and risk-adjusted net returns obtained using time-series and cross-sectional momentum strategies under various implementation approaches across the 24 markets. The more successful momentum strategies will be those based on implementation methods that result in identifying winners (and losers) early in their up - (and down -) cycles and reversing these positions in close to an optimum fashion.

The question as to what implementation rules will produce the best outcome is purely an empirical one. This chapter sets out the various implementation procedures and portfolio formation algorithms that are used to examine the cross-sectional momentum strategy, which selects stocks based on their relative performance, and the time-series momentum strategy which selects stocks based on their absolute performance. Section 4.2 explains the cross-sectional and time-series momentum strategies. Section 4.3 discusses the implementation approaches that are used in each strategy. Section 4.4 briefly explains the model used to calculate transaction cost (see Section 7.3 for more details) and the standard risk-adjusted model utilised (see Sections 8.2 and 8.3 for more details), and section 4.5 concludes the chapter.

4.2. Momentum strategies

4.2.1. Cross-sectional momentum strategy

To examine the cross-sectional momentum strategy returns, this research follows Jegadeesh and Titman (1993) approach which involves ranking stocks on the basis of their performance

over the last J months and then identifying as winners those stocks that rank in the top x% of the distribution, and as losers those stocks that rank in the bottom x%. One value for x that is examined in this study is 50% which results in all stocks being designated as either the winners or the losers. This cut-off would suggest that past performance provides a good signal for future performance across the whole range of performance outcomes. Dating back to the original study of Jegadeesh and Titman (1993), the strength of the information signal has been shown to degrade as one proceeds down the rankings. In order to account for this, this study also examines the situations where the cut-off (x%) is set at 16%, at 30% and at 50%.

The procedures of the cross-sectional momentum strategy can be divided into five steps, and the implementations will be explained in Section 4.3.

Step 1 – Stock selection (formation periods): At the end of each month t if using month rebalancing or at the end of each holding period t+H (H is the holding period) if using buyand-hold, all eligible stocks are ranked based on their J-month (J = three, six, nine and 12 months) formation returns which are average returns over the last J months (t-J to t-1).

Step 2 – Stock selection (cut off points): The winner portfolio then contains the top x% of stocks and the loser portfolio contains the bottom x% according to different cut-offs, for which x% equals 16%, 30% and 50%, respectively.

Step 3 – Portfolio weighting schemes: The returns of winner and loser portfolios are calculated using different portfolio weighting schemes, such as equal weight, market weight and inversed-volatility weight.

Step 4 – Holding periods: Winner and loser portfolios are held for H-months (H = three, six, nine and 12 months). If there is no gap between the formation and holding periods, the

holding periods for winners and losers are from t to t+H-1 months, whereas, holding periods are from t+1 to t+H months if using implementation with one-month gap between the formation and holding periods. Monthly momentum return is then generated by buying the winners and selling the losers at the end of each month.

Two types of portfolio constructions, buy-and-hold (Step 5a) and monthly rebalancing (Step 5b) are examined in the study.

Step 5(a) – **Portfolio constructions (buy-and-hold)**: For buy-and-hold, the procedures from 1 to 4 are repeated and rolled forward *at the end of holding period* to produce new winner, loser and momentum portfolios at the end of each month.

Step 5(b) – **Portfolio constructions (monthly rebalancing)**: For monthly rebalancing, the procedures from 1 to 4 are repeated and rolled forward *at the end of each month* to produce new winner and loser portfolios.

4.2.2. Time-series momentum strategy

For the time-series momentum strategy, the cut-off for identifying winners and losers is an absolute/pre-determined level of returns. Moskowitz et al. (2012) use a method where all stocks that realise a positive (greater than zero) past return were identified as winners and those that realise a negative (smaller than zero) return were identified as losers. Another similar method that is used with time-series momentum strategy is to set the cut-off as the market return over the formation period. For example, if the market return is 2%, then all stocks that return more than 2% would be classified as winners and all those that return less than 2% would be classified as losers. Of course, the two rules discussed to date for the time-series momentum strategy result in every stock in the investment universe being classified as either a winner or a loser portfolio. In order to match the situation where the cut-offs under

the cross-sectional momentum are set at 16% (30%), the study sets symmetric upper and lower cut-offs for the time-series momentum strategy which result on average in 32% (60%) of the investment stocks being classified as either winners or losers when measured across the whole sample period.

The time-series momentum strategy procedure can be classified into the same five steps as the cross-sectional momentum strategy except for the procedure of stock selection, which is the second step. The alternative procedures when using pre-determined cut-off(s) in step two for the time-series momentum strategy are: using a single cut-off (step 2a) and double cut-offs (steps 2b and 2c) in order to make comparisons between with the cross-sectional momentum strategy and investing in whole samples or partial samples (32% and 60%).¹⁵

Step 2 (a) – **Stock selection** (**single cut-off point**): For a single cut-off, stocks are included in the winner portfolio if formation returns are above x% and the loser portfolio is they are below x%. Moskowitz et al. (2012) use the single cut-off level when x% is zero. An alternative single cut-off is based on the market index over the holding period where winners are stocks that outperform the market index and loser stocks are those that underperform. Under both methods, all stocks are included in either the winner or loser portfolio.

Step 2 (b) – Stock selection (in-sample upper and lower cut-off points): We first estimate the returns for each stock over the formations periods, named formation return and then calculate the mean and standard deviation of these returns over the whole sample period. Assuming these returns are normal distributed, we determine the cut-offs that will result in the required number of stocks being allocated to either winner or loser portfolios across the

 $^{^{15}}$ The details of determining upper and lower cut-offs for each market in practices are discussed in Appendix 1.

whole sample period. For example, if the number of stocks required is 32%, then the cut-offs would be set at plus and minus one standard deviation from the mean.¹⁶

Step 2 (c) – Stock selection (out-of-sample upper and lower cut-off points): Rather than using the entire sample period to determine the cut-offs and then applying them each time portfolio is formed, we set the cut-offs by using the mean plus and minus one standard deviation based on the sample where return of each stock over the formation period at each period. Although out-of-sample method leads the upper and lower levels to *vary* over different time periods, the total number of stocks (i.e. number of stocks in winner and loser portfolios) in the time-series momentum strategy across the whole testing period is similar with that using in-sample method with investing in approximately one-third of the sample.

4.3. Momentum implementation approaches

Lee and Swaminathan (2000) suggest that the prices of securities oscillate around their fair values. The success of any momentum strategy will depend on it being based on implementation rules that are in harmony with the periodicity of the pricing cycles. As momentum investment signals are based on recent pricing movements, they will always be late in identifying winning and losing securities. The more successful momentum strategies will be those based on implementation rules that results in identifying winners and losers early in their up or down cycle and reversing these positions in close to an optimum fashion.

One of the important objectives of this thesis is to provide some insights into the optimal implementation rules in the international market and to demonstrate over a particular sample period how they might vary both across markets and across time. This section explains the

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¹⁶ If the formation return over the whole sample period is not normal distributed, we then set upper (lower) level at x% standard deviation above (below) the mean in order that the total number of stocks in the time-series momentum strategy matches (or closes to) the total number of stocks selected in the cross-sectional momentum strategy.

implementation strategies that are examined in the study. The two strategies with different implementation approaches are discussed below in terms of the contribution they make to the two parts of the investment process: stock selection and portfolio structure, followed by specified examples of both strategies.

4.3.1. Stock selection

Stock selection involves identifying the stocks in which to invest or short-sell. For both momentum strategies, stock selection has the following components:

Specifying the prior period over which to measure stock returns (the formation period)

The important consideration in marking this decision is to use a period long enough to identify true trends in markets but not so long as to generate trade signals that are too late in a stock's cycle. Jegadeesh and Titman (1993) apply three, six, nine and 12 months as formation periods in cross-sectional momentum studies, and report the strategy yields optimal return when the formation and holding periods are both set at six months. However, Moskowitz et al. (2012) claim the time-series momentum time period is optimal when the formation period is set 12 months. This study examines four formation points (J) of three, six, nine and 12 months.

Specifying the cut-off rule that identifies stocks as being winners or losers

Cross-sectional momentum strategy

In the cross-sectional momentum strategy, applying the cut-off rule involves ranking stocks on the basis of their performance over the last J months and then identifying as winners those stocks that rank in the top x% of the distribution, and as losers those stocks that rank in the bottom x%. Values for x that are examined are 16%, 30% and 50%. (See Section 4.2.1)

Time-series momentum strategy

Under the time-series momentum strategy, the cut-offs for identifying winners and losers are using use either one or two cut-off numbers. The procedures for finding those cut-offs are explained in Section 4.2.2 above.

4.3.2. Portfolio constructions

The portfolio construction decisions involve determining each time the portfolios are rebalanced, the weights allocated to the winners and the losers in their respective portfolios. There are three separate decisions that are considered here that in combination determine the weightings of stocks in both the winner and loser portfolios:

The holding period

This is a rule common to both momentum strategies that determines the length of time we hold a stock once it is included in either the winner or the loser portfolio. For example, if the holding period is six months, then a stock will be sold six months after it was acquired. As mentioned earlier, the implementation rules have to produce portfolios that are in harmony with the periodicity of the oscillations of the typical stock. In other words, the aggregate of the formation and holding periods should approximate the periodicity of the upward and downward cycles for the typical stock.

For the momentum strategy, studies find that the momentum return may be the product of investors' irrationality in the medium horizon and the irrationality may be corrected in the long run. Chui et al. (2010) and Jegadeesh and Titman (2001) observe that momentum profitability is driven by slow information diffusion that may lead to under-reaction and persistence in returns. The initial under-reaction may be followed by an over-reaction that expands the drift in momentum returns that will be corrected over the long run.

The question of what an optimal holding period is across different markets is an empirical one. Momentum profitability will disappear if a longer holding period is used. On the other hand, transaction costs will be increased if portfolio trading occurs frequently due to a short holding period. Following Jegadeesh and Titman (1993), this research examines holding periods (H) of three, six, nine and 12 months.

The period for portfolio rebalancing

One portfolio rebalancing strategy examined is a buy-and-hold strategy where the portfolio is rebalanced at the end of each holding period (BHAR). For example, if the holding period is six months then the portfolio is rebalanced every six months with the portfolio acquired six months ago being sold and replaced by a new portfolio. The alternative approach is to rebalance the portfolio every month irrespective of the holding period for the stocks (CAR). If the holding period (H) is six months, then with monthly rebalancing, the portfolio holding acquired six months previously will be replaced with new holdings, which means that approximately one-sixth of the portfolio will be turned over each month.

In the context of momentum studies, Moskowitz et al. (2012) examine the time-series momentum strategy with a monthly rebalancing procedure, whereas Jegadeesh and Titman (1993) consider these two strategies for rebalancing and find monthly rebalancing to be superior.

A further matter to take into account is the role that the bid-ask spread plays in explaining momentum. It is quite possible that stocks that have performed well (poorly) over the formation period are near the top (bottom) of the bid-ask spread. This being the case, short-term future performance in particular may be eroded by prices moving back towards the midpoint of the bid-ask spread. This raises the possibility that better performance might be realised by delaying trading for a short time after a stock has been identified as a winner or a

loser. This study also looks at buy-and-hold strategies and monthly rebalancing where trading is delayed by one month. This means that in total the study considers four rebalancing strategies: BHAR (0), BHAR (1), CAR (0) and CAR (1)¹⁷.

The determination of the weights assigned to stocks

Once it is determined what stocks to include in a portfolio, it is then necessary to allocate portions of the total funds invested to each of the stocks. The two most common methods for doing this in the academic literature are: to equally weight each stock (EW) or to apportion funds to stocks based on the market weight of the stock's equity (MW). An important difference between these two methods is that by equally weighting them, the portfolio holdings are made more skewed towards stock in smaller companies. A third method of weighting stocks is to base the proportion of funds allocated to each stock on the inverse of the volatility of the returns of the stocks to be included in each portfolio (IVOL).

The use of equal weights and market weights have been commonly used in many other studies with IVOL being similar to the method employed in Moskowitz et al. (2012). This method tilts the portfolios towards lower volatility stocks and so produces investment portfolios with lower risk.

The IVOL return is estimated as:

$$R_{p,t} = \frac{\sum_{i=1}^{N} R_{i,t} * 1/\sigma_{i,t}}{\sum_{i=1}^{N} 1/\sigma_{i,t}}$$

1

¹⁷ BHAR is buy-and-hold portfolio construction; CAR is monthly-rebalancing portfolio construction. '0' indicates no gaps between formation and holding periods. '1' indicates one-month gap between the formation and holding periods. Technical examples regarding implementing the momentum strategies are shown in the Appendix 2.

where $R_{p,t}$ is the return of the winner (loser) portfolio at time t, N is the number of stocks in the winner (loser) portfolio, $R_{i,t}$ is the monthly stock return at time t in the winner (loser) portfolio, and $\sigma_{i,t}$ is the monthly stock standard deviation based on its past daily returns r.

$$\sigma_i(t,D)^2 = \frac{1}{D-1} \sum_{a=1}^{D} (r_{i,t-a} - \overline{r_i})^2$$
 2

where $\overline{r_i} = \frac{1}{D} \sum_{a=1}^{D} r_{i,t-a}$, D is the total number of trading days over the last J (J = 3, 6, 9 and 12) months.

The literature lacks consensus on the optimum implementation strategies in international markets. Therefore, it is surprising that we are yet to see a comprehensive study that compares cross-sectional and time-series momentum strategies in this arena. As a consequence by investigating the two strategies under alternative implementations, this study seeks to find which one offers the best performance, and to identify the optimal rules for their implementation across developed stock markets.

4.4. Transaction cost and risk measurements

In order to determine whether the time-series and cross-sectional momentum strategies are profitable and, which strategy produces the superior profits, this study assesses the profitability of these two strategies after accounting for transaction costs and standard risk factors. Lesmond et al. (1999, 2004) apply what they refer to as the LOT model to infer that trading costs from the buyer's and seller's perspective. The transaction cost estimates from the LOT model include not only the percentage of bid-ask quote spread, but also the

percentage of the effective spread, the percentage price impact, and the percentage realised spread. ¹⁸

Goyenko et al. (2009) compare the results from numerous cost measures widely employed in the literature using real data from the US markets, and conclude that amended version, named the LOT Y-split model, is more accurate that the original model for capturing the transaction costs. Therefore, this study applies the LOT Y-split model to estimate transaction costs based on daily stock returns. These transaction costs estimate will then be used to calculate after-transaction costs (net) monthly returns for the time-series and cross-sectional momentum strategies across all implementation approaches.

Finally, the Fama-French three-factor model will be applied to these net returns to capture standard risk-adjusted returns for the two momentum strategies. A second risk-adjusted procedure that we will apply is to use the new returns as the basis for calculating the Sharpe ratio. The methods of transaction cost measurement and risk-adjustment will be discussed and explained in Chapter 7 and Chapter 8, respectively.

4.5. Conclusion

This chapter explains the procedures for the implementation of the time-series and cross-sectional momentum strategies that are investigated in this thesis. A summary of all of the implementation strategies to be examined are set out in Table 4.1. Overall, 960 time-series and 576 cross-sectional implementation approaches are examined in each stock market.¹⁹

¹⁸ The Bid-ask spread is the difference between the prices quoted for sale (bid price) and purchase (ask price). The effective spread is the actual difference between bid and ask price incorporating the direction of price movements. The realized spread is the difference between average bid and ask price over a period of time. Price impact refers to the correlation between an incoming order (to sale or to purchase) and the subsequent price changes.

¹⁹ For the time-series momentum strategy, the study uses four types of formation, and five types of cut-off selection: single cut-off point (0% and market index), double cut-off points (in-sample – selecting cut-offs for investing approx.32% or 60% of sample) and double cut-off (out-of-sample), four types of portfolio

Table 4.1. Cross-sectional and time-series momentum strategies: summary of implementation options

	Stock selection criteria		Cross-sectional momentum	Time-series momentum		
	Formation periods		J = 3, 6, 9 and 12 months			
	Cut-off	Invest in whole sample	Winner and loser portfolios each contain top and bottom 50% of stocks in the entire market	An absolute cut off point of winner and loser portfolios is a x% return (x is zero or market index).		
	Point(s)	Invest in approx. 32% (60%) of sample	Winner and loser portfolios each contain top and bottom 16% (30%) of stocks in the entire market	Winner and loser portfolios each contain stocks above the pre-defined upper level and below the pre-defined lower level. ²⁰		
	Portfolio weights		Equal weight (EW) Market value weight (MW) Inversed-volatility weight (IVOL)			
Portfolio structure	Holding periods		H = 3, 6, 9 and 12 months			
	Portfolio construction ²¹		CAR(0) and CAR(1) BHAR(0) and BHAR(1)			

constructions, three types of weighting schemes and four types of holding periods. For the cross-sectional momentum strategy, the study applies four types of formation, three types of cut-off selection: winner/loser portfolio contains top/bottom 16%, 30% and 50% stocks in the entire market, four types of portfolio constructions, three types of weighting schemes and four types of holding periods.

For out-of-sample upper and lower cut-off points, we set the cut-off points at each time period using plus and minus one standard deviation from the mean based on the sample where the returns for each stock over the formation periods.

²⁰ For in-sample upper and lower cut-off points, we first estimate the returns for each stock over the formation period, and then calculate the mean and standard deviation of these returns over the whole sample period. We set the cut-off points at plus and minus one standard deviation from the mean. It will result in the 32% of stocks being allocated to either winner or loser portfolios across the whole sample period.

²¹ To be consistent with Fama (1998), BHAR indicates momentum return has been calculated by buy-and hold construction and CAR indicates momentum return has been calculated by monthly rebalancing construction. BHAR (0)/BARH (1) present BHAR with zero-/one- month gap between formation and holding periods.

Chapter 5 – Comparison of returns between time-series and cross-sectional momentum strategies

5.1. Introduction

In this chapter we report and discuss the performance of the time-series and cross-sectional momentum strategies across stock markets in 24 developed countries. The chapter is organised as follows. Sections 5.2 and 5.3 present the returns pertaining to the time-series and cross-sectional momentum strategies under the different implementation approaches discussed in Chapter 4. Section 5.4 compares the performances of the two momentum strategies when using an optimal implementation approach. Conclusions are drawn in Section 5.5.

5.2. Returns of time-series momentum strategies

In Table 5.1 contained in Appendix 3, we report the average monthly returns for 16 (J x H) time-series momentum strategies across the 24 stock markets along with an indication of whether the returns are significant at the 1%, 5% and 10% levels and associated Newey-West t-statistics (in italics) 22 . The strategy used is to form a long portfolio consisting of the identified winning stocks and a short portfolio consisting of the identified losing stocks with the average monthly returns reported being the difference between the monthly returns on the two portfolios. The results all relate to an implementation in which the cut-offs for selecting the stocks to be included in the cross-sectional momentum portfolios were set at 16%. 23

²² Newey-West t-statistics were calculated in order to determine the significance of the average monthly returns.

²³ The average time-series monthly (in-sample) returns using the cut-offs at the 30%, 50% levels and the time-series (out-of-sample) monthly returns using the cut-offs at the 16% level were also calculated. As one would expect these cut-offs produced inferior results to the situation where a 16% cut-off was used. Hence, in the interests of space the results with cut-offs 30% and 50% are reported in the Appendix 6, 8 and 9.

In order to determine the cut-offs for the time-series momentum strategy for each market, as discussed in Chapter 4, the matrix of the formation returns for all stocks across the entire sample period in each market is generated and the cut-offs are then at x% standard deviation above, and x% standard deviation below, the mean. ²⁴ For example, the cut-offs set for Australia are 5.99% for the upper bound and -4.14% for the lower band, resulting in all stocks in each period realising returns of 5.99% and above being classified as winning stocks, and stocks realising -4.14% and below being classified as a losing stocks. ²⁵ Panels A, B and C of Table 5.1 present the monthly time-series momentum strategies when the portfolio weights are based on EW, MW and IVOL, respectively.

5.2.1. Returns of time-series momentum strategies

Table 5.2 provides an analysis of the returns realised under the numerous implementations of the time-series momentum strategy across the 24 markets. We report that 94% of the implementations considered yield positive returns of which 61% are significant. In contrast, none of the 6% of implementations that yield negative returns prove to be significant. Therefore, there is overwhelming evidence to suggest that over our sample period the time-series momentum strategy provides the basis for a very good investment strategy. However, the extent of their success varied across the markets with there not being a single implementation that yields a negative return in Canada, Denmark, Germany, Sweden and the UK. At the other end of the scale, in excess of 20% of the implementation examined yield negative returns in Greece, Israel and Spain.

²⁴ This is an effective "in-sample" means of calculating the cut-offs as they are based on the mean and standard deviations of the returns of the stocks in our universe over the entire sample period. We also determine and apply cut-offs determined "out-of-sample" by setting new cut-offs for each calendar year based on the history of stock returns realised in the past period. When applying these "out-of-sample" cut-offs, we obtain results almost identical to those reported in this paper. The results of "out-of-sample" time-series momentum are reported in the appendix 11.

²⁵ The "in-sample" cut-offs of time-series momentum strategy across 24 markets are attached in Appendix 4 when investing 32% stocks and showed in Appendix 5 when investing 60% stocks.

Chart 5.1 reports the average monthly return of time-series momentum strategies calculated across the 192 implementation approaches. The average returns range from 0.28% per month in Spain to 1.5% per month in Sweden with the average return across the 24 markets being in 0.91% per month. The markets that outperform this average by in excess of 25% are Canada, Denmark, the Netherlands, New Zealand, Sweden and the UK. In contrast, in Greece, Israel, Japan, Norway, Spain and the US, the average monthly return generated across the implementation strategies realise a return less than half the average monthly return across all markets.

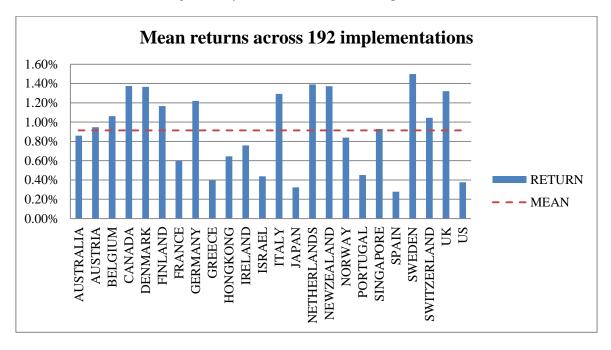
Table 5.2. Numbers of implementations yield positive/negative time-series momentum returns

This table reports the numbers of implementations that yield positive and negative average monthly time-series momentum returns for each market. The SIGNIFICANT column indicates the aggregate numbers of implementations that generate average monthly returns at the 1%, 5%, or 10% significant level, whereas the NON-SIGNIFICANT column indicates the numbers of strategies that produce average monthly returns over the 10% significance level.

			POSI	ITIVE		NEGATIVE					
	IMPLEMENTATION APPROACHES	SIGNIFICANT	PERCENTAGE	NON SIGNIFICANT	PERCENTAGE	SIGNIFICANT	PERCENTAGE	NON SIGNIFICANT	PERCENTAGE		
AUSTRALIA	192	125	65%	54	28%	0	0%	13	7%		
AUSTRIA	192	138	72%	52	27%	0	0%	2	1%		
BELGIUM	192	170	89%	21	11%	0	0%	1	1%		
CANADA	192	178	93%	14	7%	0	0%	0	0%		
DENMARK	192	183	95%	9	5%	0	0%	0	0%		
FINLAND	192	139	72%	51	27%	0	0%	2	1%		
FRANCE	192	114	59%	66	34%	0	0%	12	6%		
GERMANY	192	179	93%	13	7%	0	0%	0	0%		
GREECE	192	15	8%	121	63%	0	0%	56	29%		
HONGKONG	192	74	39%	101	53%	0	0%	17	9%		
IRELAND	192	53	28%	116	60%	0	0%	23	12%		
ISRAEL	192	54	28%	84	44%	2	1%	52	27%		
ITALY	192	168	88%	23	12%	0	0%	1	1%		
JAPAN	192	13	7%	174	91%	0	0%	5	3%		
NETHERLANDS	192	169	88%	22	11%	0	0%	1	1%		
NEWZEALAND	192	167	87%	23	12%	0	0%	2	1%		
NORWAY	192	87	45%	104	54%	0	0%	1	1%		
PORTUGAL	192	27	14%	134	70%	1	1%	30	16%		
SINGAPORE	192	135	70%	50	26%	0	0%	7	4%		
SPAIN	192	39	20%	113	59%	1	1%	39	20%		
SWEDEN	192	169	88%	23	12%	0	0%	0	0%		
SWITZERLAND	192	172	90%	19	10%	0	0%	1	1%		
UK	192	186	97%	6	3%	0	0%	0	0%		
US	192	68	35%	111	58%	0	0%	13	7%		
POOLED SAMPLE	192	118	61%	63	33%	0	0%	12	6%		

Chart 5.1 Average time-series momentum returns across implementations for each market

This chart reports the pooled average monthly returns for 192 time-series momentum strategies for each market. The dashed line shows the average monthly returns across the 24 developed markets.



5.2.2. The weighting methods

Table 5.3 reports the pooled returns (t-statistics in italic) of average time-series momentum monthly returns for each market when implementations are using equal weights (EW), market weights (MW) and inverse volatility weights (IVOL). The implementations using MW produce the greatest outcomes in ten markets, whereas other two weighting schemes yield the highest returns in seven markets each. Over all markets, the average return for MW proves slightly superior with an average monthly return of 0.96%, compared to 0.94% for IVOL, and 0.84% for EW. All three weighting schemes produce relatively poor returns in Greece, Japan and the US.

Table 5.3. Time-series momentum return based on three weights

This table reports the pooled average monthly time-series momentum returns using equal weight (EW), market weight (MW) and inversed volatility weight (IVOL) for each market. T-statistics are reported in *italics*. The highest return is highlighted in green and the lowest return is marked in red.

	EW		MW		IVOL	
AUSTRALIA	0.27%	6.9961	1.53%	22.1688	0.78%	16.5708
AUSTRIA	1.05%	27.6351	0.74%	14.3792	1.05%	31.2568
BELGIUM	1.13%	34.6241	0.95%	20.9260	1.10%	26.2520
CANADA	0.95%	22.3287	1.88%	27.8333	1.29%	24.3764
DENMARK	1.44%	42.2548	1.28%	29.7733	1.38%	37.7092
FINLAND	0.94%	19.6530	1.55%	23.7333	1.01%	21.7778
FRANCE	0.76%	22.3039	0.23%	7.3412	0.81%	20.2468
GERMANY	1.09%	33.8434	1.31%	29.6823	1.26%	35.7024
GREECE	0.36%	4.7452	0.37%	5.2758	0.46%	5.8896
HONGKONG	0.33%	7.1432	1.07%	18.9594	0.54%	10.6977
IRELAND	0.56%	7.3645	1.07%	10.4331	0.64%	8.3217
ISRAEL	0.08%	1.8824	1.06%	13.6355	0.17%	3.3812
ITALY	1.35%	27.2860	1.27%	20.3594	1.25%	27.2933
JAPAN	0.23%	12.7582	0.48%	21.0948	0.26%	15.8305
NETHERLANDS	1.63%	42.3633	0.97%	19.2116	1.58%	34.3010
NEWZEALAND	1.28%	22.2580	1.30%	16.1999	1.54%	23.4382
NORWAY	0.83%	16.4406	0.79%	17.8877	0.89%	18.3339
PORTUGAL	0.24%	4.2879	0.63%	8.6450	0.48%	7.9924
SINGAPORE	0.83%	20.5356	0.86%	17.0309	1.09%	27.2685
SPAIN	0.48%	12.5638	-0.03%	-0.4602	0.38%	9.3087
SWEDEN	1.53%	25.2874	1.30%	23.1607	1.67%	26.8186
SWITZERLAND	1.24%	28.2021	0.79%	18.2514	1.10%	27.4184
UK	1.38%	37.5991	1.07%	26.3088	1.51%	39.1080
US	0.29%	9.8281	0.51%	20.5771	0.33%	14.9429
POOLED SAMPLE	0.84%	8.7100	0.96%	10.4588	0.94%	10.1932

5.2.3. The formation (J) and holding periods (H):

The main consideration when setting the formation and holding periods in a particular market is for them to be in synchronised with the typical periodicity of a stock's pricing cycle in that market. Table 5.4 summarises the pooled average monthly time-series momentum returns (t-statistics in italics) across different implementations for each market when formation (J) and holding (H) periods are three, six, nine and 12 months, respectively.

The findings as reported in Table 5.4 suggest that the best combination for most markets (17 of the 24 markets) would involve a three-month holding period in combination with either a nine-month or 12-month formation period. For Finland, Japan, Singapore and Spain, the optimal formation period remains in the range of nine to 12 months but the holding period is

slightly longer at about six months. Portugal has the highest average return under time-series momentum strategies when the holding period is nine months.

These results suggest that the best aggregation of formation and holding periods should be somewhere between 12 months and 15 months. A particular consideration in setting the formation period is to have it long enough to avoid false signals but not too long to cause undue delays in introducing stocks into the portfolio and foregoing significant potential returns as a result. The findings would appear to confirm that it is best to be conservative when identifying momentum stocks by having a relatively long formation period. In contrast in almost all cases, a three-month holding period tends to prove optimum with a monotonic reduction in performance when this holding period is extended.

Table 5.4. Time-series momentum return based on formation (J) and holding (H) periods

This table reports the pooled average monthly time-series momentum returns based on the formation J (J = three, six, nine and 12 months) and the holding H (H = three, six, nine and 12 months) for each market. T-statistics are reported in *italics*. The highest return is highlighted in green and the lowest return is highlighted in red.

AUSTRALIA	H = 3	H = 6	H = 9	H = 12	AUSTRIA	H = 3	H = 6	H = 9	H = 12	BELGIUM	H = 3	H = 6	H = 9	H = 12
J = 3	1.05%	0.77%	0.76%	0.56%	J = 3	0.99%	0.85%	0.97%	0.73%	J = 3	0.96%	0.82%	0.68%	0.83%
	5.9342	5.6020	5.0801	4.3057		6.7767	12.5687	12.1980	21.8169	-	15.5818	11.4521	7.7414	11.0912
J = 6	1.40%	1.21%	0.78%	0.43%	J = 6	1.14%	1.06%	0.95%	0.94%	J = 6	1.25%	0.93%	0.94%	0.98%
	7.0928	5.5065	4.1974	2.7010		17.7278	26.1388	13.2265	12.3804		15.0667	8.3430	16.6619	24.7499
J = 9	1.60%	1.23%	0.89%	0.69%	J = 9	1.33%	1.17%	0.97%	0.96%	J = 9	1.22%	1.41%	1.12%	1.07%
	6.7033	5.7195	6.1504	4.2910		24.8356	13.9602	17.7388	11.7234		12.9760	27.1462	22.8543	17.0064
J = 12	1.05%	0.73%	0.37%	0.25%	J = 12	1.18%	0.90%	0.79%	0.24%	J = 12	1.54%	1.37%	1.02%	0.85%
	5.4970	4.0555	2.6264	1.8751		11.0208	8.5752	8.0069	1.8049		26.8299	34.3446	8.9230	12.6828
CANADA	H = 3	H = 6	H = 9	H = 12	DENMARK		H = 6	H = 9	H = 12	FINLAND	H = 3	H = 6	H = 9	H = 12
J = 3	1.38%	1.07%	1.20%	0.89%	J = 3	1.20%	1.16%	0.88%	1.02%	J = 3	0.94%	0.50%	1.14%	1.05%
	12.9881	13.7176	12.9416	11.1342		18.0055	26.0158	7.9399	26.7201		18.3463	3.6389	9.4005	8.5323
J = 6	1.81%	1.69%	1.63%	0.90%	J = 6	1.56%	1.49%	1.30%	1.36%	J = 6	1.27%	1.44%	0.98%	1.03%
	15.8552	11.0352	8.4043	6.7418		44.2394	30.3792	19.2892	23.0971		17.5733	12.6545	5.1514	7.9129
J = 9	2.13%	1.72%	1.39%	0.93%	J = 9	1.80%	1.66%	1.47%	1.20%	J = 9	1.45%	1.36%	1.07%	0.68%
	13.2250	12.9908	9.0221	8.3490		40.9754	39.1501	43.1542	29.8647		20.8114	13.2262	10.5799	5.4375
J = 12	1.84%	1.48%	1.13%	0.79%	J = 12	1.62%	1.66%	1.22%	1.26%	J = 12	1.66%	1.69%	1.20%	1.22%
	13.1257	7.7201	8.3121	5.7916		29.9081	34.5808	12.8336	29.8162		20.9808	9.6237	9.0007	6.3971
FRANCE	H = 3	H = 6	H = 9	H = 12	GERMANY	H = 3	H = 6	H = 9	H = 12	GREECE	H = 3	H = 6	H = 9	H = 12
J = 3	0.21%	0.38%	0.51%	0.37%	J = 3	1.34%	1.23%	1.22%	0.80%	J = 3	0.63%	0.88%	0.47%	0.69%
	1.5374	5.7924	7.0387	5.8703		22.0693	16.6752	13.2057	11.0741		8.1918	4.6121	3.5739	2.9283
J = 6	0.63%	0.61%	0.58%	0.49%	J = 6	1.30%	1.43%	1.22%	1.00%	J = 6	0.89%	0.68%	0.31%	-0.02%
	4.9082	6.3188	3.8954	6.8029		30.5845	25.0652	21.4726	15.4131		6.8667	5.2489	5.9264	-0.4860
J = 9	0.81%	0.78%	0.78%	0.67%	J = 9	1.63%	1.46%	1.02%	1.06%	J = 9	0.73%	0.70%	-0.10%	0.60%
	5.5311	6.3956	8.8028	11.8284		42.8603	21.8040	10.7132	18.4611		3.7419	4.2799	-1.8682	2.7888
J = 12	0.73%	0.78%	0.74%	0.53%	J = 12	1.55%	1.25%	1.18%	0.85%	J = 12	0.39%	-0.24%	0.13%	-0.41%
	4.1172	7.3481	9.9476	7.2748		25.9078	18.4993	14.2533	11.6656		3.7972	-2.5757	1.0605	-4.5258
HONGKONG	H = 3	H = 6	H = 9	H = 12	IRELAND	H = 3	H = 6	H = 9	H = 12	ISRAEL	H = 3	H = 6	H = 9	H = 12
J = 3	0.75%	0.70%	0.39%	0.36%	J = 3	0.65%	-0.29%	-0.20%	0.36%	J = 3	-0.10%	-0.13%	-0.05%	-0.12%
	5.4405	4.4519	3.6799	3.7556		4.4732	-1.1782	-1.0524	3.9462		-1.2505	-1.4443	-0.4036	-1.4401
J = 6	1.36%	1.05%	0.67%	0.38%	J = 6	0.56%	0.92%	0.12%	1.44%	J = 6	0.56%	0.46%	0.15%	0.29%
	10.7792	13.1766	8.3599	4.1462		3.0317	4.7725	0.4946	4.8406		3.1948	2.2896	1.0677	2.1521
J = 9	1.15%	0.71%	0.65%	0.42%	J = 9	0.95%	1.05%	1.26%	0.93%	J = 9	0.67%	0.63%	0.47%	0.67%
	8.4735	5.4460	5.6553	3.5254		11.4091	22.8281	11.2009	11.5604		2.8686	3.1082	2.9368	3.3111
J = 12	0.78%	0.56%	0.31%	0.08%	J = 12	1.53%	1.06%	1.07%	0.73%	J = 12	1.09%	1.08%	0.61%	0.73%
	4.6552	4.0142	2.6212	0.5404			18.7598				6.4676	6.8226	5.0314	3.5045
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ITALY	H = 3	H = 6	H = 9	H = 12	JAPAN	H = 3	H = 6	H = 9	H = 12	NETHERLANDS		H = 6	H = 9	H = 12
J = 3	1.09%	0.68%	1.04%	0.82%	J = 3	0.31%	0.21%	0.24%	0.43%	J = 3	1.66%	1.25%	0.91%	1.36%
	13.0417		14.8987			7.8190	5.6869	5.9479	4.2647			12.1146	7.0082	15.4132
J = 6	1.42%	1.32%	1.22%	0.74%	J = 6	0.35%	0.34%	0.34%	0.40%	J = 6	1.41%	1.36%	1.28%	1.50%
			16.8939			7.1064	5.3253	10.5459	5.3784		9.5285	11.0256	11.7475	8.8433
J = 9	1.66%	1.59%	1.51%	1.19%	J = 9	0.37%	0.47%	0.32%	0.22%	J = 9	1.86%	1.78%	1.34%	1.33%
			33.5872				11.9041	13.1587	4.2489			12.2666	10.6445	12.9602
J = 12	1.82%	1.80%	1.42%	1.35%	J = 12	0.46%	0.36%	0.21%	0.13%	J = 12	1.51%	1.60%	1.20%	0.92%
	37.2283	23.3430	25.7823	13.6365		15.4887	7.4684	4.7112	2.5056		15.0842	14.3260	10.6767	6.1273
NEWZEALAN		H = 6	H = 9	H = 12	NORWAY	H = 3	H = 6	H = 9	H = 12	PORTUGAL	H = 3	H = 6	H = 9	H = 12
J = 3	1.49%	1.06%	0.87%	0.45%	J = 3	0.69%	1.00%	0.67%	0.58%	J = 3	0.18%	0.80%	0.82%	0.72%
			11.9405				11.1221	5.7153	6.0985		1.1809	7.1342	6.0655	5.6568
J = 6	1.97%	1.40%	1.10%	0.95%	J = 6	1.01%	0.97%	0.72%	0.79%	J = 6	0.72%	0.91%	0.98%	0.76%
			10.0954			10.2526	16.0362	7.9671	10.0221		4.1636	5.6924	6.3444	4.7088
J = 9	1.87%	1.44%	1.50%	1.11%	J = 9	1.31%	0.98%	0.73%	0.46%	J = 9	-0.01%	0.45%	0.48%	0.35%
			34.0677			8.1046	16.0942	19.3718	5.6366		-0.1178	5.6586	4.4426	5.6898
J = 12	2.28%	1.86%	1.44%	1.16%	J = 12	1.19%	1.08%	0.68%	0.57%	J = 12	0.06%	-0.03%	0.14%	-0.08%
	22.5480	13.5227	17.3451	30.2964		12.8206	9.0846	8.7367	4.5967		0.5625	-0.3692	2.1721	-1.0008
SINGAPORE	H = 3	H = 6	H = 9	H = 12	SPAIN	H = 3	H = 6	H = 9	H = 12	SWEDEN	H = 3	H = 6	H = 9	H = 12
J = 3	0.99%	0.98%	1.05%	0.40%	J = 3	0.03%	-0.17%	0.27%	0.41%	J = 3	1.13%	1.25%	0.99%	0.89%
	12.7695		27.9637			0.4553	-1.0501	3.9666	7.7828				17.1060	9.9696
J = 6	1.15%	1.02%	1.03%	0.71%	J = 6	-0.15%	0.06%	0.43%	0.08%	J = 6	2.00%	1.73%	1.35%	1.16%
			13.7946			-1.4250	0.4192	4.1625	0.7001		31.6441		18.6574	21.6374
J = 9	1.16%	0.99%	0.86%	0.43%	J = 9	0.11%	0.32%	0.60%	0.24%	J = 9	2.17%	1.83%	1.50%	0.92%
			10.3989			0.5900	2.9931	7.2942	3.5527		21.5157	18.6958	24.6766	9.3367
J = 12	1.13%	1.19%	1.04%	0.74%	J = 12	0.59%	0.76%	0.45%	0.41%	J = 12	2.15%	1.76%	1.58%	1.58%
	21.8321	15.98//	12.1285	8.6827		6.1235	7.6673	5.8814	14.2098		14.8210	18.3267	18.9082	10.8100
SWITZERLAN	D H = 3	H = 6	H = 9	H = 12	UK	11 2	11 6	11 0	H = 12	US	H = 3	H = 6	11 0	H = 12
J = 3	0.76%	0.98%	0.66%	1.03%	J = 3	H = 3 1.16%	H = 6 1.23%	H = 9 1.08%	1.09%	J=3	0.26%	0.49%	H = 9 0.25%	0.29%
J = S					J = 3					J = 3				
	7.2147	15.3196		10.6901		7.9914	15.6721	11.0522	26.4864		5.0511	8.4356	5.4919	8.5172
J = 6	1.28%	1.36%	0.86%	0.99%	J = 6	1.56%	1.40%	1.23%	1.19%	J = 6	0.53%	0.48%	0.39%	0.27%
		15.8269		11.2797		11.6769	14.2682		28.7418		12.5713		6.9323	5.0274
J = 9	1.43%	1.39%	1.00%	0.77%	J = 9	1.66%	1.65%	1.44%	1.14%	J = 9	0.68%	0.60%	0.40%	0.19%
T 12			8.3505		T 10			34.9239	26.6439			16.1101	8.1891	3.4034
J = 12	1.51%	1.15%	0.75%	0.77%	J = 12	1.70%	1.47%	1.23%	0.92%	J = 12	0.50%	0.35%	0.25%	0.09%
	31.8450	28.6809	12.5575	13.0448		12.9621	16.3989	24.8527	14.1191		15.6661	6.7397	3.7214	1.0709

5.2.4. The rebalancing methods:

Table 5.5 reports the pooled average returns of time-series momentum strategies under different implementation approaches using four rebalancing methods: CAR (0), BHAR (0), CAR (1), and BHAR (1). There is little difference between the returns realised under the four approaches nor is there any evidence to support the superiority of implementations involving lagging portfolio acquisition by a month. Looking at performance on a market-by-market basis, CAR (0) is the best performing generating the highest returns in 12 markets with BHAR (0) being the next best with five markets. In terms of the average returns across the 24 markets, the strategies involve using CAR (0) and CAR (1) yield 0.93% and 0.92% per month, whereas using BHAR (0) and BHAR (1) produce 0.92% and 0.89% per month.

Despite Jegadeesh and Titman (1993) suggesting the superiority of monthly rebalancing and the utilisation of a one-month lag, we find differences of only few basis points between the investment outcomes across all four methods and so see little reason to favour one over the others.

Table 5.5. Time-series momentum return based on portfolio constructions

This table reports the pooled average monthly time-series momentum returns based on four rebalancing methods: monthly-rebalancing with zero gap (CAR (0)), monthly-rebalancing with 1-month gap (CAR (1)), buy-and-hold with zero gap (BHAR (0)), and buy-and-hold with 1-month gap (BHAR (1)). T-statistics are reported in *italics*. The highest return is highlighted in green and the lowest return is highlighted in red.

	CA	R (0)	CA	R (1)	BHA	AR (0)	BHA	AR (1)
AUSTRALIA	0.96%	9.8928	0.92%	9.9801	0.83%	8.3174	0.73%	7.5825
AUSTRIA	0.98%	23.6070	0.96%	20.9950	0.96%	16.3530	0.90%	14.4926
BELGIUM	1.13%	32.5487	1.13%	29.1885	0.99%	16.7125	1.00%	19.3390
CANADA	1.42%	19.0625	1.36%	18.0069	1.40%	14.2535	1.32%	14.7031
DENMARK	1.44%	49.3548	1.41%	43.2048	1.25%	22.5371	1.36%	26.3513
FINLAND	1.21%	20.1596	1.20%	19.5272	1.13%	12.9204	1.13%	13.7626
FRANCE	0.54%	10.0216	0.72%	16.0317	0.48%	7.9730	0.65%	11.7681
GERMANY	1.26%	32.1995	1.23%	28.6094	1.22%	24.5469	1.17%	23.7623
GREECE	0.15%	3.5603	0.12%	2.6475	0.57%	6.0343	0.75%	7.0552
HONGKONG	0.78%	11.4652	0.65%	8.8019	0.72%	9.5388	0.43%	6.1402
IRELAND	0.84%	14.0122	0.83%	15.5630	0.73%	5.0734	0.63%	4.9339
ISRAEL	0.33%	4.3098	0.39%	5.3157	0.50%	4.6901	0.54%	4.8229
ITALY	1.45%	30.0403	1.41%	32.9050	1.17%	15.6672	1.14%	18.1901
JAPAN	0.26%	13.9653	0.28%	12.0013	0.42%	14.8662	0.33%	10.5679
NETHERLANDS	1.42%	26.6903	1.29%	24.8728	1.49%	19.7965	1.36%	16.5201
NEWZEALAND	1.54%	24.2346	1.38%	25.0574	1.40%	14.3759	1.18%	12.8381
NORWAY	0.80%	21.8733	0.74%	15.4617	0.92%	12.8146	0.90%	15.7309
PORTUGAL	0.21%	4.7798	0.44%	12.0386	0.47%	5.2444	0.69%	6.7606
SINGAPORE	1.05%	33.8020	0.98%	27.4378	0.92%	14.8131	0.76%	11.4605
SPAIN	0.35%	6.9314	0.38%	10.2233	0.19%	2.1557	0.20%	3.5377
SWEDEN	1.54%	26.0457	1.52%	24.2078	1.40%	18.0049	1.53%	17.9888
SWITZERLAND	1.04%	20.0429	0.99%	20.8679	1.09%	17.5848	1.06%	17.0588
UK	1.32%	24.4876	1.29%	31.3181	1.37%	23.3649	1.31%	24.1997
US	0.37%	13.1790	0.40%	11.1489	0.40%	13.1828	0.33%	9.4651
POOLED SAMPLE	0.93%	9.8703	0.92%	10.7287	0.92%	11.6773	0.89%	11.7039

5.3. Returns of cross-sectional momentum strategies

Table 5.6 in Appendix 3 reports the average monthly returns and associated Newey-West t-statistics from 16 (J x H) cross-sectional momentum strategies across 24 markets. The specific strategy used was to form a long portfolio consisting of the identified winning stocks and a short portfolio consisting of the identified losing stocks with the average monthly returns being the difference between the monthly returns on the two portfolios. The reported results all relate to an implementation where the cut-offs are set at 16%. In each rebalancing period the top 16% were identified as winning stocks and the bottom 16% as losing stocks. The study reports in Panels A, B and C of Table 5.6 the monthly cross-sectional returns when the portfolio weights are based on EW, MW and IVOL, respectively.

5.3.1. Returns of cross-sectional momentum strategies

Table 5.7 summarises the numbers of cross-sectional momentum strategies that yield positive and negative returns across the 24 markets. As is the case with the time-series momentum strategy, the analysis establishes that there are many implementations of the cross-sectional momentum strategy in the majority of markets that would have yielded excellent investment outcomes over the sample period from 1992 to 2012.

We find that 88% across all of the markets generated positive returns with more than half of them producing significant positive returns. Consistent with our findings for the time-series momentum strategy, only a very few cross-sectional momentum strategy yields significant positive in Greece, Japan and the US. On a more positive note, there are seven markets where in excess of 80% of the implementations yield significant positive returns.

Table 5.7. Numbers of implementations yield positive/negative cross-sectional momentum returns

This table reports the numbers of implementations yielding positive and negative average monthly cross-sectional momentum returns for each market. The SIGNIFICANT column indicates the aggregate numbers of implementations that generate average monthly returns at the 1%, 5%, or 10% significance level, whereas the NON-SIGNIFICANT column indicates the numbers of strategies producing average monthly returns over 10% significance level.

			POSI	TIVE		NEGATIVE					
	IMPLEMENTATION APPROACHES	SIGNIFICANT	PERCENTAGE	NON SIGNIFICANT	PERCENTAGE	SIGNIFICANT	PERCENTAGE	NON SIGNIFICANT	PERCENTAGI		
AUSTRALIA	192	102	53%	73	38%	0	0%	17	9%		
AUSTRIA	192	118	61%	67	35%	0	0%	7	4%		
BELGIUM	192	168	88%	22	11%	0	0%	2	1%		
CANADA	192	143	74%	47	24%	0	0%	2	1%		
DENMARK	192	183	95%	9	5%	0	0%	0	0%		
FINLAND	192	154	80%	38	20%	0	0%	0	0%		
FRANCE	192	94	49%	73	38%	0	0%	25	13%		
GERMANY	192	171	89%	20	10%	0	0%	1	1%		
GREECE	192	6	3%	142	74%	0	0%	44	23%		
HONGKONG	192	17	9%	89	46%	9	5%	77	40%		
IRELAND	192	39	20%	124	65%	0	0%	29	15%		
ISRAEL	192	25	13%	102	53%	1	1%	64	33%		
ITALY	192	172	90%	20	10%	0	0%	0	0%		
JAPAN	192	0	0%	36	19%	1	1%	155	81%		
NETHERLANDS	192	125	65%	56	29%	0	0%	11	6%		
NEWZEALAND	192	177	92%	14	7%	0	0%	1	1%		
NORWAY	192	145	76%	47	24%	0	0%	0	0%		
PORTUGAL	192	33	17%	150	78%	1	1%	8	4%		
SINGAPORE	192	36	19%	138	72%	0	0%	18	9%		
SPAIN	192	128	67%	55	29%	0	0%	9	5%		
SWEDEN	192	125	65%	53	28%	0	0%	14	7%		
SWITZERLAND	192	156	81%	36	19%	0	0%	0	0%		
UK	192	136	71%	54	28%	0	0%	2	1%		
US	192	2	1%	131	68%	0	0%	59	31%		
POOLED SAMPLE	192	102	53%	67	35%	1	0%	23	12%		

Chart 5.2. Summaries of cross-sectional momentum return across markets

This chart reports the pooled average monthly returns for 192 cross-sectional momentum strategies for each market. The dashed line shows the average monthly returns across the 24 developed markets.

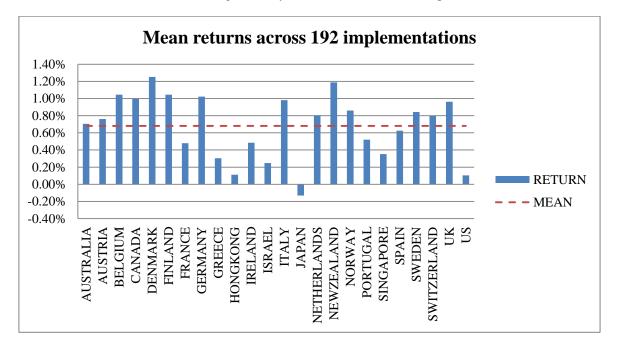


Chart 5.2 reports the average monthly cross-sectional momentum returns across 192 implementation approaches for each market. Compared with the pooled return from the average time-series momentum monthly returns across the 24 markets, the pooled return of the average cross-sectional momentum monthly returns is lower by approximately 0.23% per month, 0.91% per month compared to 0.68% per month. The cross-sectional momentum returns range from -0.13% per month in Japan to 1.25% per month in Denmark. In general, the performance of time-series momentum strategy seems to be better than the performance of cross-sectional momentum strategy over the testing period. In Section 5.4 and the next chapter, a closer analysis will be undertaken to compare the relative performances of the two momentum strategies.

5.3.2. The weighting methods

Table 5.8 outlines the average monthly returns (t-statistics in italics) of all implementations of cross-sectional momentum strategies for each of the three different portfolio weighting schemes: equal weight (EW), market weight (MW) and inverse volatility (IVOL) weight.

Based on the findings summarised in Table 5.3, we conclude that MW provides the best investment outcomes and EW produces the worst outcomes in the case of time-series momentum strategy. Similarly for cross-sectional momentum strategy, MW yields the highest returns of the three, in ten markets, whereas the strategies using IVOL and EW produce the highest returns in eight and six markets, respectively. However, we obtain a slightly different picture when we look at the average returns across the 24 markets with IVOL yielding the highest return of 0.74% per month, compared with the performances using EW (0.66% per month) and MW (0.65% per month).

Table 5.8. Cross-sectional momentum return based on three weights

This table reports the pooled average monthly cross-sectional momentum returns for each market using equal weight (EW), market weight (MW) and inversed volatility weight (IVOL) for each market. T-statistics are reported in *italics*. The highest return is highlighted in green and the lowest return is highlighted in red.

	****				*****	
	EW		MW		IVOL	
AUSTRALIA	0.25%	7.0778	1.15%	19.6631	0.71%	15.3687
AUSTRIA	0.90%	27.0270	0.42%	10.4853	0.96%	27.8379
BELGIUM	1.17%	31.7460	0.85%	16.2799	1.12%	26.6987
CANADA	0.66%	17.9078	1.40%	26.2589	0.93%	21.3127
DENMARK	1.30%	35.2329	1.16%	30.6922	1.30%	34.3466
FINLAND	0.82%	24.3617	1.45%	31.8624	0.87%	25.3838
FRANCE	0.65%	18.6061	0.21%	6.3814	0.58%	12.7077
GERMANY	0.92%	28.7380	1.09%	28.9323	1.06%	24.9748
GREECE	0.11%	2.4722	0.56%	10.0614	0.23%	4.7895
HONGKONG	-0.13%	-3.4014	0.48%	9.9660	-0.02%	-0.3273
IRELAND	0.51%	11.7774	0.30%	3.4392	0.65%	13.4941
ISRAEL	-0.04%	-1.9781	0.74%	14.8199	0.04%	1.3800
ITALY	1.04%	38.5665	0.94%	23.2819	0.96%	37.8547
JAPAN	-0.16%	-7.9805	-0.08%	-3.6968	-0.15%	-8.0806
NETHERLANDS	1.18%	40.9944	0.16%	6.3412	1.07%	36.1738
NEWZEALAND	1.20%	27.4084	1.03%	23.2423	1.34%	28.9816
NORWAY	0.83%	23.8389	0.89%	17.7318	0.87%	22.9060
PORTUGAL	0.29%	8.4966	0.61%	15.9200	0.66%	20.2409
SINGAPORE	0.39%	11.7226	0.20%	6.9797	0.46%	13.8557
SPAIN	0.72%	26.9760	0.37%	6.6461	0.78%	23.8108
SWEDEN	1.04%	25.9284	0.41%	6.5307	1.08%	26.1557
SWITZERLAND	0.94%	35.7678	0.57%	18.8627	0.88%	32.1360
UK	1.15%	31.5340	0.51%	15.6855	1.24%	32.9874
US	0.04%	1.5237	0.23%	7.5748	0.04%	1.6700
POOLED SAMPLE	0.66%	6.9674	0.65%	7.6915	0.74%	8.3433

5.3.3. The formation (J) and holding periods (H)

Table 5.9 reports the pooled average monthly returns of cross-sectional momentum strategies across implementations when using formation periods (J = three, six, nine and 12 months) and holding periods (H = three, six, nine and 12 months). As is the case with the time-series momentum strategy for short formation periods, returns tend to increase as the holding period is increased while for longer formation periods the returns tend to decrease as the holding period is lengthened. The optimum aggregate of the formation and holding periods for cross-sectional momentum strategy would appear to lie in the range of 12 to 15 months, typically involving a longer formation period combined with a short holding period.

Table 5.9. Cross-sectional momentum return based on formation (J) and holding (H) periods

This table reports the pooled average monthly cross-sectional momentum returns based on the formation J (J = three, six, nine and 12 months) and the holding H (H = three, six, nine and 12 months) for each market. T-statistics are reported in *italics*. The highest return is highlighted in green and the lowest return is highlighted in red.

AUSTRALIA	H = 3	H = 6	H = 9	H = 12	AUSTRIA	H = 3	H = 6	H = 9	H = 12	BELGIUM	H = 3	H = 6	H = 9	H = 12
J = 3	0.91%	0.90%	0.63%	0.49%	J = 3	0.53%	0.43%	0.50%	0.37%	J = 3	0.71%	0.69%	0.51%	0.66%
	6.9360	7.9105	6.0427	5.0801		4.3507	6.1579	7.6269	4.7060		10.0026	15.8035	4.3970	15.0085
J = 6	1.28%	1.01%	0.57%	0.40%	J = 6	0.94%	0.81%	0.80%	0.81%	J = 6	1.24%	1.30%	1.19%	1.03%
	9.3466	7.3891	5.0164	4.3521		16.3269	9.6797	10.9821	11.0050		48.4851	55.1252	52.2443	25.3196
J = 9	1.19%	0.94%	0.62%	0.33%	J = 9	1.18%	1.09%	0.93%	0.79%	J = 9	1.40%	1.45%	1.25%	0.96%
	9.1481	8.1931	7.0807	3.9713		22.8059	14.6062	13.2057	9.7769		25.6207	27.1855	24.6837	15.8503
J = 12	1.04%	0.64%	0.21%	0.14%	J = 12	1.05%	0.88%	0.64%	0.44%	J = 12	1.42%	1.19%	1.07%	0.65%
	8.5427	5.6659	2.5303	1.7145		12.2709	11.9866	7.1680	6.7964		18.5751	16.9922	16.2602	7.9778
CANADA	H = 3	H = 6	H = 9	H = 12	DENMARK	H = 3	H = 6	H = 9	H = 12	FINLAND	H = 3	H = 6	H = 9	H = 12
J = 3	1.11%	0.78%	0.98%	0.70%	J = 3	1.07%	1.01%	0.92%	1.00%	J = 3	0.87%	0.74%	1.09%	0.66%
	11.9262	8.1938	10.7682	9.7521		32.0631	31.4990	25.7083	33.3667		10.8357	8.7919	11.2028	8.4516
J = 6	1.31%	1.27%	1.15%	0.85%	J = 6	1.55%	1.34%	1.21%	1.24%	J = 6	1.16%	1.20%	1.27%	1.12%
	11.9273	12.2178	9.6581	9.8551		53.4558	38.0526	21.0360	32.1581		28.9135	22.4621	9.4986	12.7501
J = 9	1.55%	1.28%	1.03%	0.65%	J = 9	1.64%	1.42%	1.36%	0.93%	J = 9	1.36%	1.29%	0.98%	0.81%
	13.3334	12.4891	9.5000	8.7431		37.9899	26.1463	46.1512	12.5205		26.9858	9.6486	9.0164	6.2772
J = 12	1.35%	1.00%	0.66%	0.29%	J = 12	1.72%	1.50%	1.24%	0.88%	J = 12	1.19%	1.09%	1.04%	0.86%
	20.7952	10.5010	8.7599	3.7335		31.1574	47.3614	38.3905	19.3193		18.7792	11.1854	7.2098	7.4442
FRANCE	H = 3	H = 6	H = 9	H = 12	GERMANY	H = 3	H = 6	H = 9	H = 12	GREECE	H = 3	H = 6	H = 9	H = 12
J = 3	0.00%	0.17%	0.38%	0.17%	J = 3	0.92%	0.80%	0.90%	0.55%	J = 3	0.47%	0.70%	0.30%	0.63%
	0.0388	2.2949	6.4584	1.5502		15.8514	16.3116	21.4451	5.4974		6.3870	8.6790	7.5508	5.3485
J = 6	0.49%	0.59%	0.49%	0.52%	J = 6	1.28%	1.30%	1.16%	0.98%	J = 6	0.72%	0.61%	0.35%	0.31%
	5.1808	8.4576	6.2249	10.6797		47.1035	24.2726	31.7484	19.5888		8.5056	8.6522	6.4295	5.2626
J = 9	0.55%	0.54%	0.64%	0.45%	J = 9	1.41%	1.22%	1.03%	0.78%	J = 9	0.65%	0.41%	0.14%	-0.13%
	4.6202	5.2534	7.3898	7.3524		40.1617	29.1006	31.3215	14.6400		7.9576	9.8289	1.7797	-1.9744
J = 12	0.78%	0.73%	0.66%	0.49%	J = 12	1.37%	1.11%	0.89%	0.67%	J = 12	0.32%	0.01%	-0.15%	-0.50%
	9.8976	14.4880	14.4560	15.8630		27.6324	31.4911	22.5728	18.2025	-	4.6887	0.0966	-2.5650	-4.7078
										-				
HONGKONG	H = 3	H = 6	H = 9	H = 12	IRELAND	H = 3	H = 6	H = 9	H = 12	ISRAEL	H = 3	H = 6	H = 9	H = 12
J = 3	0.45%	0.33%	0.14%	0.02%	J = 3	0.79%	0.03%	-0.12%	0.22%	J = 3	0.13%	0.13%	0.12%	-0.09%
	4.7204	4.0372	1.6641	0.3175		10.9420	0.1534	-0.7510	1.8429		1.4583	1.3676	1.0286	-0.9938
J = 6	0.70%	0.56%	0.23%	-0.07%	J = 6	0.81%	0.75%	0.19%	1.03%	J = 6	0.54%	0.46%	0.19%	0.23%
	7.0324	7.1028	2.6216	-1.0381		11.0702	13.5397	1.5140	6.1426		4.0424	3.9673	2.2794	2.5304
J = 9	0.38%	0.15%	-0.02%	-0.31%	J = 9	0.50%	0.48%	0.63%	0.60%	J = 9	0.59%	0.37%	0.25%	0.27%
	4.6260	1.8203	-0.2686	-4.1031		6.0039	4.9666	11.3208	7.1305		3.5862	2.9574	2.1151	1.7087
J = 12	0.05%	-0.03%	-0.41%	-0.39%	J = 12	0.62%	0.55%	0.56%	0.12%	J = 12	0.43%	0.29%	0.10%	-0.08%
	0.5576	-0.3158	-5.3534	-3.8271		5.2385	5.0709	5.9003	1.8762		4.9088	4.2246	1.2663	-0.8934

ITALY	H = 3	H = 6	H = 9	H = 12	JAPAN	H = 3	H = 6	H = 9	H = 12	NETHERLANDS		H = 6	H = 9	H = 12
J = 3	0.67%	0.72%	0.96%	0.80%	J = 3	-0.13%	-0.09%	-0.11%	0.10%	J = 3	0.78%	0.56%	0.60%	0.48%
			16.8526			-7.2342	-2.7264	-2.7569	3.3798		8.4623	4.3011	5.0855	6.0047
J = 6	0.97%	1.00%	0.95%	0.89%	J = 6	-0.23%	-0.25%	-0.06%	0.04%	J = 6	0.90%	0.90%	0.83%	0.92%
			19.9670			-8.1455	-5.9756	-3.2345	0.9364		5.5055	5.6740	7.3755	9.2298
J = 9	1.27%	1.13%	1.07%	0.73%	J = 9	-0.16%	-0.03%	-0.03%	-0.14%	J = 9	1.01%	0.87%	0.96%	0.76%
			34.1419	9.3346		-5.4185	-1.4321	-0.9276	-4.1379		6.0647	5.8620	7.9672	6.3594
J = 12	1.29%	1.19%	1.13%	0.92%	J = 12	-0.10%	-0.24%	-0.34%	-0.33%	J = 12	1.01%	0.85%	0.78%	0.68%
	51.0183	36.4751	20.1533	14.9821		-6.6767	-7.8987	-9.5213	###########		6.0815	5.8812	6.0408	5.9551
NEWZEALANI		H = 6	H = 9	H = 12	NORWAY	H = 3	H = 6	H = 9	H = 12	PORTUGAL	H = 3	H = 6	H = 9	H = 12
J = 3	1.43%	1.27%	0.85%	0.67%	J = 3	0.48%	0.59%	0.69%	0.66%	J = 3	0.35%	0.64%	0.47%	0.56%
		21.3443		8.3034		6.8566	10.6968	21.8899	17.0072		1.8511	7.3472	6.7758	9.8539
J = 6	1.61%	1.34%	1.18%	0.80%	J = 6	0.86%	1.05%	1.00%	1.00%	J = 6	0.44%	0.61%	0.59%	0.53%
			41.8747						11.0724		4.3972	8.6763	11.4428	10.7702
J = 9	1.63%	1.38%	1.20%	0.95%	J = 9	1.34%	1.24%	0.86%	0.88%	J = 9	0.64%	0.67%	0.66%	0.57%
			25.4640			34.1085	30.9659	23.2041	8.3631		7.8742	11.1110	8.2174	9.3493
J = 12	1.52%	1.30%	0.96%	0.92%	J = 12	1.11%	0.85%	0.74%	0.40%	J = 12	0.53%	0.44%	0.33%	0.29%
	31.7747	34.5610	34.1224	19.6719	-	29.6617	21.1224	16.8373	6.0689	-	6.3620	8.2570	5.6803	7.8094
GDIG L DODE	11 0	** *	TT C	II 10	CDADI	11 0	11 /	11 6	11 12	CHIEDEN		***	TT 6	II 10
SINGAPORE	H = 3	H = 6	H = 9	H = 12	SPAIN	H = 3	H = 6	H = 9	H = 12	SWEDEN	H = 3	H = 6	H = 9	H = 12
J = 3	0.38%	0.32%	0.52%	0.27%	J = 3	0.29%	0.11%	0.46%	0.39%	J = 3	1.30%	0.84%	0.88%	0.47%
	5.9424	4.1549	11.1560			3.4726	1.0531	7.0106	4.5494	- T	31.5132	9.4480	19.4332	4.1696
J = 6	0.77%	0.57%	0.30%	0.33%	J = 6	0.41%	0.63%	0.66%	0.58%	J = 6	1.39%	1.21%	0.97%	0.65%
T 0	14.4273		7.8079	6.1057		3.6851	7.2245	10.5160	30.4137		19.9050	18.6556	15.4698	9.9279
J = 9	0.56%	0.34%	0.34%	-0.06%	J = 9	0.77%	0.81%	0.76%	0.56%	J = 9	1.27%	0.96%	0.71%	0.38%
T 12	9.0129	7.4125	6.3295	-1.2649	T 10	6.8289	8.4178	10.0197	8.7195	T 12	11.9433	8.1598	6.7428	3.6598
J = 12	0.47%	0.35%	0.09%	0.09%	J = 12	0.94%	0.95%	0.95%	0.72%	J = 12	0.98%	0.74%	0.35%	0.40%
	16.9570	7.4281	2.3991	1.8554		19.2331	32.3799	27.7039	16.7559		6.1599	5.2449	2.5968	4.1976
SWITZERLANI	D H=3	H = 6	H = 9	H = 12	UK	H = 3	H = 6	H = 9	H = 12	US	H = 3	H = 6	H = 9	H = 12
J=3	0.71%	0.61%	0.56%	0.59%	J=3	H = 3 0.83%	0.77%	0.78%	H = 12 0.66%	$\frac{US}{J=3}$	-0.15%	0.01%	0.03%	H = 12 0.08%
J = 3	0.71% 8.4884	8.5015	9.4969	11.4969	J = 3	5.2228	6.7662	7.9404	8.4176	J = 3	-0.15% -3.4788	0.01%	0.03%	3.1341
J = 6	0.92%	0.93%	0.72%	0.86%	J = 6	1.20%	1.06%	0.97%	1.00%	J = 6	0.16%	0.3134	0.3943	0.23%
$\mathbf{j} = 0$					$\mathbf{j} = \mathbf{o}$					$\mathbf{J} = \mathbf{O}$				
	0.99%		13.2361 0.84%			8.0072	9.9636	13.5759	15.7913	J = 9	4.9414	14.0014 0.25%	0.6623	3.7955
J = 9		0.88%		0.58%	J = 9	1.30%	1.21%	1.05%	0.77%	J = 9	0.37%		0.20%	-0.03%
J = 12			18.3691 0.78%		T 10		17.0312	17.0691	13.2262	J = 12	10.5975	5.3245	3.8220 -0.03%	-0.6271
J = 12	1.10%	1.06%		0.60%	J = 12	1.29%	1.11%	0.85%	0.56%	J = 12	0.17%	0.15%		-0.15%
	15.959/	20.3406	21.1082	19.8226	-	9.5131	12.2849	12.2450	9.0614		4.6774	3.0666	-0.6345	-2.3630

5.3.4. The rebalancing methods

Table 5.10 below shows average cross-sectional momentum returns based on four types of portfolio constructions: CAR (0), BHAR (0), CAR (1), and BHAR (1). The cross-sectional momentum strategies using CAR (0) produce the best outcome in 12 markets as compared with using BHAR (1) that yields the greatest return in only two markets. However, average returns for the four methods across the 24 markets are very similar with CAR (0) and CAR (1) yielding 0.71% per month and 0.69% per month, and for BHAR (0) and BHAR (1) yielding 0.69% per month and 0.63% per month. Again it would appear that there is little reason for favouring one rebalancing method over the others.

Table 5.10. Cross-sectional momentum return based on portfolio constructions

This table reports the pooled average monthly cross-sectional momentum returns based on four rebalancing methods: monthly-rebalancing with zero gap (CAR (0)), monthly-rebalancing with one-month gap (CAR (1)), buy-and-hold with zero gap (BHAR (0)), and buy-and-hold with one-month gap (BHAR (1)). T-statistics are reported in *italics*. The highest return is highlighted in green and the lowest return is highlighted in red.

	CA	R (0)	CA	R (1)	BHA	AR (0)	BHA	AR (1)
AUSTRALIA	0.76%	10.3534	0.72%	9.9358	0.70%	8.7297	0.63%	7.9395
AUSTRIA	0.82%	17.6583	0.76%	14.5969	0.76%	13.1667	0.70%	11.5878
BELGIUM	1.06%	23.5119	1.06%	22.3689	1.05%	15.9384	1.02%	17.1942
CANADA	1.09%	16.1903	1.02%	14.3255	0.98%	14.5523	0.90%	13.5202
DENMARK	1.35%	36.3750	1.28%	33.1283	1.19%	24.8015	1.18%	24.8415
FINLAND	1.08%	20.6948	1.07%	18.4582	1.02%	14.5816	1.01%	16.4649
FRANCE	0.46%	9.7012	0.60%	14.5988	0.38%	6.3942	0.47%	8.7864
GERMANY	1.06%	28.1905	1.03%	27.1077	1.05%	18.9098	0.95%	21.5367
GREECE	0.30%	6.7751	0.27%	6.0312	0.34%	4.2846	0.31%	3.8392
HONGKONG	0.21%	3.3986	0.13%	1.9467	0.15%	2.3046	-0.05%	-0.8449
IRELAND	0.60%	17.9627	0.53%	12.5493	0.51%	4.8921	0.30%	3.4005
ISRAEL	0.24%	4.0226	0.23%	3.9726	0.23%	3.2832	0.28%	3.8627
ITALY	1.00%	28.4487	1.02%	34.3066	0.96%	24.1993	0.94%	22.4729
JAPAN	-0.17%	-11.8703	-0.10%	-5.9294	-0.08%	-2.9609	-0.18%	-5.4467
NETHERLANDS	0.86%	12.4616	0.82%	11.8242	0.83%	10.7581	0.71%	8.8704
NEWZEALAND	1.25%	30.4919	1.15%	26.6534	1.25%	20.7591	1.11%	16.2939
NORWAY	0.83%	20.0567	0.77%	18.0157	0.94%	17.7793	0.90%	17.8584
PORTUGAL	0.46%	9.6943	0.54%	17.2247	0.50%	9.5121	0.58%	11.0675
SINGAPORE	0.35%	10.0186	0.30%	7.5608	0.41%	10.7302	0.35%	7.6080
SPAIN	0.66%	16.3123	0.68%	18.3078	0.59%	8.1034	0.57%	10.2238
SWEDEN	0.89%	14.6839	0.82%	12.3780	0.87%	11.0390	0.80%	9.8037
SWITZERLAND	0.83%	24.1481	0.78%	24.5525	0.85%	17.5328	0.72%	17.2430
UK	1.05%	16.6634	0.97%	17.9141	0.97%	14.5151	0.86%	13.7392
US	0.11%	3.9741	0.14%	4.2658	0.12%	3.3049	0.04%	1.1454
POOLED SAMPLE	0.71%	8.8670	0.69%	9.1702	0.69%	9.2340	0.63%	8.3009

5.4. Time-series and cross-sectional momentum strategies under optimal implementations

The two conclusions that can be drawn from the analysis to date are that with the exception of the markets in Greece, Hong Kong, Israel, Japan, Spain and the US, both forms of momentum seem to realise significant positive returns, and there are a number of similarities in the optimal implementation procedures in most of markets. This section addresses the question of whether one or the other of the investment strategies is preferable with respect to investment outcomes. Table 5.11 below compares the returns of the time-series (TSM) and cross-sectional (CSM) momentum strategies for what we refer to as optimal implementations. The optimum implementation for each market is chosen by aggregating the returns for time-series and cross-sectional momentum strategies under each implementation and then choosing the one for which this aggregate return is greatest. ²⁶

In Panel A of Table 5.11 below, the outcomes are presented where the cut-offs for both types of momentum are set to include on average approximately 32% of the stocks in the investment universe in either the winner or the loser portfolios (i.e. the same strategies reported in Tables 5.1 and 5.6). Columns three to five set out the characteristics of the optimum implementations for each market. For all but the markets in Greece, Ireland, Israel and Japan, the optimum implementation involves a long formation period and a short holding period. The weighting scheme involves using market weights in 11 of the markets and using inversed-volatility weight in ten of the markets. Equal weights are used in the Netherlands, Spain and Switzerland. Finally, a mixture of portfolio construction techniques are used with the most common being the use of a buy-and-hold construction with no lag (BHAR (0)).

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²⁶ Although the implementations chosen do represent a slight compromise on that which is optimum for one or other of the two momentum strategies, the difference in returns are no more than a few basis points and so a comparison between the optimum implementations for each strategy does not lead to change to any of the conclusions in this study.

The most important thing that can be seen from Panel A of Table 5.11 is that the time-series momentum strategy outperforms the cross-sectional momentum strategy in all 24 markets, with the extent of the outperformance varying from 0.16% per month in Belgium to 1.44% per month in Sweden. This superior performance proves to be significant in 13 of the 24 markets. One piece of additional information that is contained in Panel A of Table 5.11 that provides several valuable insights are the returns on the winner and loser constituent parts of the overall strategy. These are best analysed by measuring the contribution of the winner and loser portfolios, each relative to the market return for the weighting scheme used in the optimum portfolio.

Panel B of Table 5.11 reports the percentage contribution of the winner and loser portfolios to the performances of each of the momentum strategies. The contributions of winner (or loser) portfolios in momentum strategies are calculated as the difference of returns between winner (or loser) portfolios and market index, divided by the momentum return. In the case of timeseries momentum strategies it can be seen that it is the short position in the loser portfolio that contributes the most to superior performance in 19 markets with the exceptions being Australia, Austria, France, New Zealand, Norway, Spain and Switzerland. Indeed, in Greece, Italy and Japan the short portfolio contributes in excess of 100% of the performance of the momentum strategy, meaning that the long portfolio actually detracts from the performance. In Hong Kong, Ireland, Israel, Portugal and the US, the contribution of the short position is in excess of 80%. For the cross-sectional momentum strategy, it is the short portfolio that makes the greatest contribution in all of the markets except Austria, France and Norway, with this influence being greatest in Hong Kong, Italy, Japan and Portugal (where in both cases the contribution is far in excess of 100%) and in Finland, Ireland, Israel and the US. One particular point that can be taken out of this analysis is that the poor performance of momentum in Hong Kong, Ireland, Israel, Italy, Japan, Portugal and the US is almost entirely due to the extremely poor performance of the long positions in the winning stocks. This is consistent with the finding that in 17 of the 24 markets it is the short portfolio that makes the major contribution to the performances of the two momentum strategies.

Table 5.11. Monthly returns of time-series and cross-sectional momentum strategies

Panel A. Optimal time-series momentum strategy v. cross-sectional momentum strategy

Panel A reports "optimal" implementations, average monthly returns of losers (L), winners (W), momentum (W-L) portfolios for time-series (TSM) and cross-sectional (CSM) momentum strategies and the return difference between TSM and CSM for each market from 1992 to 2012. The Newey–West adjusted t-statistics are reported below the returns. Based on the momentum returns from Table 5.1 and Table 5.6, the optimum implementation for each market is chosen by aggregating the returns for time-series and cross-sectional momentum under each implementation and then choosing the one for which this aggregate return is greatest.

AUSTRIA 12x3 IVOL CAR(1) -0.60% 1.19% 1.75% 2.06% 1.37% 1.63% 2.04% 1.86% 1.57% 2.75% 2.76% 0.18% 2.04% 1.86% 1.20% 1.	0.90%
AUSTRIA 12x3 IVOL CAR(0) -0.36% 1.21% 1.57% -0.26% 1.14% 1.40% -0.7921 3.6148 3.2864 -0.6044 3.6849 3.2544	
AUSTRIA 12x3 IVOL CAR(0) -0.36% 1.21% 1.57% -0.26% 1.14% 1.40% -0.7921 3.6148 3.2864 -0.6044 3.6849 3.2544 -0.6044 3.684 3.2544 -0.6044 3.684 3.2544 -0.60	1.7601
DENMARK 9x3 IVOL BHAR(1) -0.75% 1.30% 2.30% -0.604% 1.95% 1.21% 1.72% 1.21% 1.72% 1.21% 1.72% 1.21% 1.21% 1.21% 1.21% 1.21% 1.21% 1.21% 1.21% 1.21% 1.21% 1.21% 1.21% 1.21% 1.21% 1.21% 1.21% 1.21% 1.21% 1.22% 1.21% 1.22%	1.7691
BELGIUM 12x3 IVOL CAR(1) -0.60% 1.19% 1.79% -0.26% 1.37% 1.63% -1.5769 3.7349 4.7535 -0.7303 4.5639 5.5522 (CANADA 9x3 MW BHAR(0) -0.08% 3.04% 3.13% 0.31% 2.37% 2.06% -0.1362 5.0350 4.9893 0.4288 3.8698 2.6762 (DENMARK 9x3 IVOL BHAR(1) -0.75% 1.30% 2.00% -0.53% 1.21% 1.74% -1.5065 3.2469 5.3728 -1.1272 3.5026 6.1658 (FINLAND 12x6 MW BHAR(0) 0.01% 3.00% 2.85% 0.24% 1.95% 1.72% 0.0136 4.4379 3.4246 0.3644 2.6068 2.2456	0.18%
-1.5769 3.7349 4.7535 -0.7303 4.5639 5.5522 CANADA 9x3 MW BHAR(0) -0.08% 3.04% 3.13% 0.31% 2.37% 2.06% -0.1362 5.0350 4.9893 0.4288 3.8698 2.6762 DENMARK 9x3 IVOL BHAR(1) -0.75% 1.30% 2.00% -0.53% 1.21% 1.74% -1.5065 3.2469 5.3728 -1.1272 3.5026 6.1658 FINLAND 12x6 MW BHAR(0) 0.01% 3.00% 2.85% 0.24% 1.95% 1.72% 0.0136 4.4379 3.4246 0.3644 2.6068 2.2456	0.6624
CANADA 9x3 MW BHAR(0) -0.08% 3.04% 3.13% 0.31% 2.37% 2.06% DENMARK 9x3 IVOL BHAR(1) -0.75% 1.30% 2.00% -0.53% 1.21% 1.74% -1.5065 3.2469 5.3728 -1.1272 3.5026 6.1658 FINLAND 12x6 MW BHAR(0) 0.01% 3.00% 2.85% 0.24% 1.95% 1.72% 0.0136 4.4379 3.4246 0.3644 2.6068 2.2456	0.16%
-0.1362 5.0350 4.9893 0.4288 3.8698 2.6762	0.6623
DENMARK 9x3 IVOL BHAR(1) -0.75% 1.30% 2.00% -0.53% 1.21% 1.74% -1.5065 3.2469 5.3728 -1.1272 3.5026 6.1658 FINLAND 12x6 MW BHAR(0) 0.01% 3.00% 2.85% 0.24% 1.95% 1.72% 0.0136 4.4379 3.4246 0.3644 2.6068 2.2456	1.07%
FINLAND 12x6 MW BHAR(0) 0.01% 3.00% 2.85% 0.24% 1.95% 1.72% 0.0136 4.4379 3.4246 0.3644 2.6068 2.2456	2.0930
FINLAND 12x6 MW BHAR(0) 0.01% 3.00% 2.85% 0.24% 1.95% 1.72% 0.0136 4.4379 3.4246 0.3644 2.6068 2.2456	0.26%
0.0136 4.4379 3.4246	0.9736
	1.13%
EDINGE 0.2 HIGH CLD(1) 0.000 1.200 1.200 0.150	1.7965
FRANCE 9x3 IVOL CAR(1) -0.09% 1.34% 1.43% 0.15% 1.26% 1.11%	0.33%
-0.2374 4.1846 5.7471	2.2335
GERMANY 12x3 IVOL CAR(0) -0.79% 1.05% 1.85% -0.53% 1.09% 1.62%	0.23%
-1.5746 3.2953 5.4797 -1.0736 3.5006 4.6976	1.1029
GREECE 3x12 MW BHAR(1) -0.47% 1.31% 1.71% 0.32% 1.70% 1.38%	0.34%
-0.5044 1.5279 2.1623	0.4394
HONGKONG 6x3 MW BHAR(0) 0.16% 2.37% 2.21% 0.47% 1.81% 1.34%	0.87%
0.2313 3.0693 3.5306	1.7110
IRELAND 6x12 MW BHAR(0) -1.32% 2.26% 3.52% -0.29% 2.07% 2.36%	1.16%
-1.3281 2.7749 3.3624 -0.3519 2.6551 2.3081	1.9764
ISRAEL 9x12 MW BHAR(0) 0.02% 2.04% 2.02% 0.05% 1.70% 1.66%	0.36%
0.0287 3.0400 3.0968	0.7018
ITALY 12x6 MW BHAR(0) -1.10% 1.16% 2.26% -0.04% 1.34% 1.38%	0.88%
-1.9857 1.9312 3.6685 -0.0632 2.5517 2.7298	1.6389
JAPAN 3x12 MW BHAR(0) -0.71% 0.38% 1.09% 0.06% 0.31% 0.24%	0.84%
-1.5012 0.7806 2.9597	3.7901
NETHERLANDS 9x3 EW BHAR(1) -0.99% 1.42% 2.40% -0.32% 1.26% 1.58%	0.81%
-1.7333 2.6473 5.9269 -0.6239 2.7629 4.6630	2.2939
NEWZEALAND 12x3 IVOL BHAR(0) -0.18% 2.67% 2.82% -0.01% 1.72% 1.73%	1.09%
-0.4835 4.1578 4.2515 -0.0263 5.3411 4.9700	1.9447
NORWAY 9x3 IVOL BHAR(0) 0.22% 2.29% 2.07% 0.41% 1.98% 1.57%	0.50%
0.2767 3.6524 3.4647	0.7758
PORTUGAL 6x6 MW BHAR(1) -0.60% 1.50% 2.08% -0.49% 0.40% 0.89%	1.19%
-0.8703 2.3051 2.5529 -0.7313 0.7001 1.3249	1.6662
SINGAPORE 9x3 IVOL BHAR(0) -0.19% 1.46% 1.64% 0.47% 1.34% 0.87%	0.77%
-0.2631 2.5188 3.1500	2.5193
SPAIN 12x6 EW BHAR(0) 0.05% 1.48% 1.29% 0.11% 1.11% 1.00%	0.30%
0.0746 3.3626 2.7071 0.2110 2.6306 2.9540	0.7719
SWEDEN 12x3 IVOL BHAR(1) -0.81% 2.02% 2.81% 0.27% 1.64% 1.37%	1.44%
-1.1073 3.7870 5.3410 0.3928 3.1837 2.8084	3.7071
SWITZERLAND 12x3 EW CAR(0) -0.06% 1.69% 1.75% 0.14% 1.45% 1.32%	0.44%
-0.1311 3.8289 5.2722	1.4036
UK 12x3 IVOL CAR(0) -0.54% 1.61% 2.15% -0.33% 1.52% 1.85%	0.30%
-1.1833 4.2870 8.8272 -0.6954 4.0934 5.8716	
US 9x3 MW CAR(1) 0.89% 1.76% 0.87% 1.07% 1.72% 0.64%	0.23%
2.2596 3.6822 2.3207 2.4051 3.8955 1.5217	1.1047

Panel B. Percentage of contribution from winner and loser portfolios

Panel B reports the market returns which are calculated using the weighting scheme for the optimal portfolio, and the percentage of contribution to time-series (TSM) and cross-sectional (CSM) momentum profits from loser (L) and winner (W) portfolio for each market. The contributions of winner (loser) portfolios in momentum profit are calculated by dividing the difference between the average monthly return between each of the winner (loser) portfolios and market indexes by the average monthly return for the momentum strategy.

		TS	SM		С	SM
	MARKET INDEX	L	W	I	,	W
AUSTRALIA	1.14%	42%	58%	51	%	49%
AUSTRIA	0.32%	43%	57%	41	%	59%
BELGIUM	0.63%	69%	31%	55	%	45%
CANADA	1.81%	61%	39%	73	%	27%
DENMARK	0.60%	68%	35%	65	%	35%
FINLAND	1.85%	65%	40%	94	%	6%
FRANCE	0.51%	42%	58%	32	%	68%
GERMANY	0.35%	62%	38%	54	%	46%
GREECE	1.39%	109%	-5%	78	%	22%
HONGKONG	1.98%	82%	18%	113	%	-13%
IRELAND	1.61%	83%	18%	81	%	19%
ISRAEL	1.67%	82%	18%	98	%	2%
ITALY	1.35%	108%	-8%	101	%	-1%
JAPAN	0.71%	130%	-30%	265	%	-165%
NETHERLANDS	0.72%	72%	29%	66	%	34%
NEWZEALAND	0.98%	41%	60%	57	%	43%
NORWAY	1.04%	40%	60%	40	%	60%
PORTUGAL	1.26%	89%	11%	197	%	-97%
SINGAPORE	0.98%	71%	30%	59	%	41%
SPAIN	0.71%	51%	60%	60	%	40%
SWEDEN	1.18%	71%	30%	66	%	34%
SWITZERLAND	0.79%	49%	51%	50	%	50%
UK	0.61%	53%	47%	51	%	49%
US	1.65%	87%	13%	90	%	10%

Table 5.12 examines implementations for both time-series and cross-section momentum strategies when the cut-offs are extended to include more than the 32% of stocks included in either the winner and loser portfolios. In Panel B, the table reports the results when extending the cut-offs to include 60% of the stocks while Panels C and D report the results when extending the cut-offs so as to include all of the stocks in the stock universe in either the winner or loser portfolios.²⁷

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²⁷ The results of cross-sectional momentum strategies with investing 60% stocks are shown in Appendix 7 and the results with investing all of the stocks in the stock universe are presented in Appendix 10. The results of

The first thing that is observed is that in every market the average monthly returns of the two momentum strategies consistently decline as the cut-offs are extended. Comparing the scenarios in which 32% of stocks and 100% of stocks are invested, the pooled returns across the 24 markets dropped down approximately 50% from 2.09% per month to around 0.89% per month for the time-series momentum strategy and from 1.43% per month to around 0.85% per month for the cross-sectional momentum strategy.

This provides clear evidence that the strongest information that past stock performance provides with respect to future performance is concentrated in the tail of the distribution in the market. One observation that is relevant to future analysis is that when using the time-series momentum strategy in which all stocks are included in one of the winner or loser portfolios, performance is better when the cut-off is set to zero rather than set to equal the market return for the period. When using the market return there will be an approximately equal number of stocks included in the winner and the loser portfolios for each period whereas this number will be highly variable when the cut-off is set to zero because there will be considerably more winning than losing stocks when markets are performing particularly well and considerably more losing stocks when the markets are performing poorly. Therefore, using a zero cut-off introduces a timing element into the time-series momentum strategy which is something that should be examined in future analysis.

With the original cut-offs, the time-series momentum strategy outperforms the cross-sectional momentum strategy in all markets, with this superior performance being significant in 13 of the 24 markets. This superior performance of time-series momentum strategy is eroded when the cut-off points are widened. As the cut-offs are extended to include 60% of stocks in one or other portfolio, the performance of time-series momentum strategy in the pooled sample is

reduced by 30% from 2.09% to 1.45% on average across all of the markets. It is no longer the case that the time-series momentum strategy outperforms in all markets with their now being evidence that the cross-sectional momentum strategy realises the superior return in Israel, Spain and Belgium. Further, there are now only nine markets in which the time-series momentum strategy significantly outperforms (at the 10% confidence level) and this reduces to seven markets with a zero cut-off where all stocks are included in either the winner or loser portfolio.

The other aspects of Table 5.12 that will be briefly considered are how the characteristics of the optimum portfolios change when the cut-offs are extended. The combinations of formation and holding periods are fairly stable. 13 out of the 24 markets remain unchanged portfolio rebalancing using CAR (0), CAR (1), BHAR (0), or BHAR (1), and 18 out of the 24 markets use the same portfolio weights when investment is extended from 32% to 60% of the market. The most unstable aspect is the portfolio weights. In the majority of markets, with the original cut-offs, the optimum implementations involved using market weights. As the cut-off points are extended, there is a movement away from market weights with inverse volatility weights being used in the majority of markets. There is no pattern to what happens to the optimum method for portfolio construction as the cut-offs are extended.

Table 5.12. Monthly returns of time-series and cross-sectional momentum strategies with extended cut-offs

This table reports the "optimal" implementation approaches, average monthly returns of time-series (TSM) and cross-sectional (CSM) momentum strategies and the return differences between TSM and CSM under different investing scales for each market from 1992 to 2012. Newey – West adjusted t-statistics are reported in the table. For each investing scale, we chose the optimum implementation for each market by aggregating the returns for time-series and cross-sectional momentum strategies under each implementation and then choosing the one for which this aggregate return was greatest. Panel A reports the momentum returns when investing approximately one-third of the market, Panel B reports the momentum returns when investing 60% stocks of the market, Panels C and D report the momentum returns when investing all stocks of the market. For the TSM in Panel C, we implemented a single cut-off, as does the study in Moskowitz et al. (2012). Any stocks with a positive (negative) average return over J (J = 3, 6, 9 and 12 months) goes into the winner (loser) portfolio. For the TSM in Panel D, the winner (loser) portfolio contains stocks with average returns over J months above (below) the contemporaneous market index. The momentum returns are estimated by buying the winners and selling the losers.

Panel A. TSM (in sample) VS. CSM (winner = 16%, loser = 16%)

	JxH	Weight	Construction	TSM	t-stats	CSM	t-stats	TSM - CSM	t-stats
AUSTRALIA	9x3	MW	BHAR(0)	2.76%	6.5381	1.86%	3.0971	0.90%	1.7691
AUSTRIA	12x3	IVOL	CAR(0)	1.57%	3.2864	1.40%	3.2544	0.18%	0.6624
BELGIUM	12x3	IVOL	CAR(1)	1.79%	4.7535	1.63%	5.5522	0.16%	0.6623
CANADA	9x3	MW	BHAR(0)	3.13%	4.9893	2.06%	2.6762	1.07%	2.0930
DENMARK	9x3	IVOL	BHAR(1)	2.00%	5.3728	1.74%	6.1658	0.26%	0.9736
FINLAND	12x6	MW	BHAR(0)	2.85%	3.4246	1.72%	2.2456	1.13%	1.7965
FRANCE	9x3	IVOL	CAR(1)	1.43%	5.7471	1.11%	3.3571	0.33%	2.2335
GERMANY	12x3	IVOL	CAR(0)	1.85%	5.4797	1.62%	4.6976	0.23%	1.1029
GREECE	3x12	MW	BHAR(1)	1.71%	2.1623	1.38%	1.5022	0.34%	0.4394
HONGKONG	6x3	MW	BHAR(0)	2.21%	3.5306	1.34%	2.5864	0.87%	1.7110
IRELAND	6x12	MW	BHAR(0)	3.52%	3.3624	2.36%	2.3081	1.16%	1.9764
ISRAEL	9x12	MW	BHAR(0)	2.02%	3.0968	1.66%	3.0009	0.36%	0.7018
ITALY	12x6	MW	BHAR(0)	2.26%	3.6685	1.38%	2.7298	0.88%	1.6389
JAPAN	3x12	MW	BHAR(0)	1.09%	2.9597	0.24%	0.7032	0.84%	3.7901
NETHERLANDS	9x3	EW	BHAR(1)	2.40%	5.9269	1.58%	4.6630	0.81%	2.2939
NEWZEALAND	12x3	IVOL	BHAR(0)	2.82%	4.2515	1.73%	4.9700	1.09%	1.9447
NORWAY	9x3	IVOL	BHAR(0)	2.07%	3.4647	1.57%	3.4499	0.50%	0.7758
PORTUGAL	6x6	MW	BHAR(1)	2.08%	2.5529	0.89%	1.3249	1.19%	1.6662
SINGAPORE	9x3	IVOL	BHAR(0)	1.64%	3.1500	0.87%	1.7954	0.77%	2.5193
SPAIN	12x6	EW	BHAR(0)	1.29%	2.7071	1.00%	2.9540	0.30%	0.7719
SWEDEN	12x3	IVOL	BHAR(1)	2.81%	5.3410	1.37%	2.8084	1.44%	3.7071
SWITZERLAND	12x3	EW	CAR(0)	1.75%	5.2722	1.32%	3.8830	0.44%	1.4036
UK	12x3	IVOL	CAR(0)	2.15%	8.8272	1.85%	5.8716	0.30%	1.8107
US	9x3	MW	CAR(1)	0.87%	2.3207	0.64%	1.5217	0.23%	1.1047
POOLED SAMPL	E			2.09%	4.2577	1.43%	3.2133	0.66%	1.6479

Panel B. TSM (in sample) VS. CSM (winner = 30%, loser = 30%)

	JxH	Weight	Construction	TSM	t-stats	CSM	t-stats	DIFFERENCE (TSM - CSM)	t-stats
AUSTRALIA	12x3	IVOL	BHAR(0)	1.49%	5.9765	1.47%	3.5198	0.01%	0.0278
AUSTRIA	9x3	IVOL	CAR(0)	1.23%	4.4292	1.22%	3.3864	0.01%	0.0291
BELGIUM	12x3	EW	CAR(1)	1.17%	4.8514	1.20%	4.8604	-0.03%	-0.2459
CANADA	9x3	MW	BHAR(0)	1.76%	4.0245	1.59%	2.8840	0.17%	0.5472
DENMARK	12x3	EW	CAR(0)	1.55%	6.5408	1.41%	6.3178	0.14%	1.0073
FINLAND	3x9	MW	BHAR(1)	1.97%	3.0162	1.85%	2.9527	0.12%	0.3090
FRANCE	12x3	IVOL	BHAR(1)	1.35%	5.5845	0.64%	1.9401	0.72%	3.1123
GERMANY	12x3	IVOL	CAR(0)	1.44%	6.1749	1.30%	4.1556	0.14%	0.8388
GREECE	12x3	MW	BHAR(1)	1.73%	2.1655	1.59%	2.0095	0.15%	0.2316
HONGKONG	6x3	MW	BHAR(0)	1.44%	3.3168	0.74%	1.6769	0.70%	2.1044
IRELAND	6x12	MW	BHAR(0)	1.94%	2.5283	1.41%	1.9847	0.53%	0.9645
ISRAEL	6x12	MW	BHAR(0)	1.22%	2.3948	1.49%	3.8614	-0.27%	-0.5531
ITALY	12x3	EW	CAR(0)	1.62%	5.9448	0.98%	3.7944	0.64%	4.0932
JAPAN	6x12	EW	BHAR(0)	0.46%	2.2885	0.16%	0.7794	0.30%	2.4285
NETHERLANDS	12x3	EW	CAR(0)	1.57%	5.2098	1.29%	4.3956	0.28%	1.4267
NEWZEALAND	3x3	IVOL	BHAR(0)	1.72%	2.9026	1.68%	2.9398	0.04%	0.3371
NORWAY	12x3	IVOL	BHAR(1)	1.32%	3.5351	0.89%	2.4690	0.44%	1.3036
PORTUGAL	6x6	MW	BHAR(1)	2.01%	3.3998	0.94%	1.6965	1.07%	2.3145
SINGAPORE	6x3	IVOL	CAR(0)	1.37%	5.1164	0.66%	1.9811	0.71%	3.5528
SPAIN	12x3	IVOL	CAR(0)	0.84%	2.5212	0.99%	3.2281	-0.16%	-0.5957
SWEDEN	12x3	IVOL	BHAR(0)	1.78%	4.9016	1.12%	2.7531	0.66%	2.6598
SWITZERLAND	12x3	EW	BHAR(0)	1.31%	5.9279	1.06%	3.6809	0.26%	1.2764
UK	12x3	IVOL	CAR(0)	1.64%	8.9879	1.38%	5.2118	0.27%	1.6962
US	9x3	MW	BHAR(1)	0.77%	2.6923	0.34%	1.0055	0.43%	2.7335
POOLED SAMPL	E			1.45%	4.3513	1.14%	3.0618	0.31%	1.3167

Panel C. TSM (cut-off = 0%) VS. CSM (winner = 50%, loser = 50%)

	JxH	Weight	Construction	TSM	t-stats	CSM	t-stats	DIFFERENCE (TSM - CSM)	t-stats
AUSTRALIA	3x12	IVOL	BHAR(1)	1.31%	2.7638	0.83%	1.6783	0.48%	1.5184
AUSTRIA	9x3	EW	BHAR(1)	0.96%	3.8673	0.86%	3.5588	0.10%	0.9731
BELGIUM	9x3	EW	CAR(1)	0.90%	5.3114	0.82%	4.8117	0.08%	1.1228
CANADA	12x3	EW	CAR(0)	0.83%	4.0641	0.82%	3.4910	0.01%	0.0784
DENMARK	12x3	EW	CAR(0)	1.14%	6.6052	0.98%	6.4132	0.16%	1.7166
FINLAND	12x12	MW	BHAR(1)	1.80%	3.2129	1.38%	2.7719	0.43%	1.2030
FRANCE	12x3	IVOL	BHAR(1)	0.98%	3.9281	0.45%	1.5420	0.53%	1.8338
GERMANY	12x3	IVOL	CAR(0)	0.93%	4.7073	0.82%	3.3275	0.11%	0.5870
GREECE	3x12	MW	BHAR(1)	0.79%	1.1283	1.18%	1.9159	-0.39%	-0.5811
HONGKONG	6x3	IVOL	CAR(0)	1.05%	4.4679	0.60%	2.1420	0.45%	2.3205
IRELAND	12x3	MW	BHAR(0)	1.65%	2.6271	1.27%	2.0611	0.38%	0.7853
ISRAEL	6x3	IVOL	BHAR(1)	0.26%	1.2895	0.06%	0.3069	0.20%	0.9197
ITALY	3x9	MW	BHAR(1)	1.33%	4.3059	1.00%	3.0444	0.33%	1.6561
JAPAN	3x12	EW	BHAR(1)	0.19%	1.3435	0.13%	0.9329	0.07%	1.2577
NETHERLANDS	12x3	EW	CAR(0)	1.08%	5.0515	0.83%	4.0209	0.25%	2.1905
NEWZEALAND	3x3	IVOL	BHAR(0)	1.31%	2.3438	1.25%	2.2595	0.05%	0.5910
NORWAY	12x3	IVOL	BHAR(0)	0.72%	2.8733	0.63%	2.5174	0.09%	0.4312
PORTUGAL	3x3	MW	BHAR(1)	1.10%	2.4701	1.10%	2.9808	0.00%	0.0044
SINGAPORE	6x3	EW	CAR(1)	0.82%	4.5846	0.44%	2.0999	0.38%	3.5462
SPAIN	3x3	IVOL	CAR(0)	0.51%	3.5024	0.55%	3.2186	-0.04%	-0.2802
SWEDEN	12x3	EW	BHAR(1)	0.99%	3.6693	0.75%	2.7783	0.23%	1.7456
SWITZERLAND	12x3	EW	BHAR(0)	0.82%	4.2894	0.71%	3.4010	0.11%	0.9813
UK	12x3	EW	CAR(0)	1.09%	6.3166	0.99%	5.2613	0.10%	1.4027
US	3x6	IVOL	BHAR(0)	0.61%	1.7509	0.61%	1.7511	0.00%	0.0127
POOLED SAMPLE	<u> </u>		•	0.97%	3.6031	0.79%	2.8453	0.17%	1.0840

Panel C. TSM (cut-off = market index) VS. CSM (winner = 50%, loser = 50%)

	JxH	Weight	Construction	TSM	t-stats	CSM	t-stats	DIFFERENCE (TSM - CSM)	t-stats
AUSTRALIA	9x9	IVOL	BHAR(0)	1.05%	2.3747	0.75%	1.6800	0.31%	1.9123
AUSTRIA	9x3	IVOL	CAR(0)	1.14%	3.7571	0.95%	3.2755	0.19%	1.5868
BELGIUM	9x3	EW	CAR(1)	0.89%	4.9433	0.82%	4.8117	0.07%	1.3747
CANADA	6x12	IVOL	BHAR(0)	0.90%	3.0657	0.90%	3.2743	0.00%	-0.0411
DENMARK	12x3	EW	BHAR(0)	0.94%	5.1368	1.01%	6.4064	-0.07%	-0.6802
FINLAND	6x12	MW	BHAR(0)	1.93%	3.5932	1.59%	2.9374	0.34%	0.9686
FRANCE	9x12	IVOL	BHAR(0)	0.86%	2.1570	1.08%	2.7778	-0.22%	-0.5410
GERMANY	12x3	IVOL	CAR(0)	0.83%	3.2706	0.82%	3.3275	0.01%	0.0878
GREECE	3x3	MW	BHAR(0)	0.53%	1.2075	1.21%	2.0349	-0.68%	-1.3644
HONGKONG	6x3	IVOL	BHAR(0)	0.74%	2.1637	0.53%	1.5575	0.21%	1.0707
IRELAND	6x3	MW	CAR(0)	1.09%	2.3036	1.14%	2.2723	-0.05%	-0.2571
ISRAEL	9x3	MW	CAR(1)	0.99%	2.4038	0.87%	2.1286	0.13%	0.2522
ITALY	12x3	EW	CAR(0)	0.84%	4.2448	0.69%	3.9493	0.14%	1.7969
JAPAN	3x12	EW	BHAR(1)	0.04%	0.2798	0.13%	0.9329	-0.08%	-1.8138
NETHERLANDS	12x3	EW	CAR(0)	0.83%	3.7853	0.83%	4.0209	0.00%	0.0917
NEWZEALAND	3x3	IVOL	BHAR(0)	1.31%	2.3506	1.25%	2.2595	0.05%	0.4926
NORWAY	9x3	EW	BHAR(1)	0.65%	2.8133	0.62%	2.9445	0.03%	0.3400
PORTUGAL	6x6	IVOL	BHAR(1)	1.38%	2.9737	0.82%	1.9433	0.57%	1.9956
SINGAPORE	6x6	IVOL	BHAR(1)	0.46%	2.4828	0.50%	2.4073	-0.04%	-0.3349
SPAIN	9x3	IVOL	CAR(1)	0.69%	3.1387	0.70%	3.1227	-0.01%	-0.0874
SWEDEN	3x9	IVOL	BHAR(1)	0.86%	2.3668	0.94%	2.5404	-0.07%	-0.9841
SWITZERLAND	12x3	EW	BHAR(0)	0.78%	3.4627	0.71%	3.4010	0.07%	1.0529
UK	12x3	EW	CAR(0)	1.03%	5.7300	0.99%	5.2613	0.04%	0.9285
US	3x6	IVOL	BHAR(0)	0.58%	1.5707	0.61%	1.7511	-0.03%	-0.2328
POOLED SAMPLE			•	0.89%	2.9823	0.85%	2.9591	0.04%	0.3173

5.5. Conclusion

Academic papers on the cross-sectional momentum strategy have been published for over 20 years, whereas the time-series momentum strategy is a relatively recent phenomenon. This chapter has focused on evaluating and comparing the performance of the two momentum strategies across the 24 developed security markets. The essential difference between the two momentum strategies is in the way that they choose stocks to be included in the winner and loser portfolios. The time-series momentum strategy chooses stocks based upon their recent absolute performance while the cross-sectional momentum strategy chooses stocks based on their recent relative performance.

This chapter provides comprehensive comparisons of the performances of the two momentum strategies in international stock markets applying 192 approaches to implementation and three different cut-offs. The first thing that has been found is that momentum returns reduce as the number of stocks in momentum portfolios are increasing. With the extension of the cut-offs to increase the number of stocks in the momentum portfolio from 32% to the whole sample, the return of the momentum strategies fall by approximately 50%.

This study mainly focuses on comparisons between a cross-sectional momentum strategy with cut-offs of 16% and a time-series momentum strategy in which symmetric cut-offs are set so that the comparisons involve (almost) the same number of stocks under both momentum strategies. Over the last two decades, both time-series and cross-sectional momentum strategies have been significantly profitable under numerous implementations in the majority of developed stock markets with the major exceptions being Greece, Israel, Japan, Hong Kong, Portugal, Spain and the US. Very few of the implementations that have

been examined for these two momentum strategies yield significant negative returns over the testing period.

The underpinning of momentum strategies is that stocks trend in both directions which suggest that they cycle between being overvalued and undervalued (Barberis et al., 1998; Hong et al., 1998). The best implementation strategies are those that produce stock holdings (i.e. stock purchases and sales) that are most in tune with these cycles. The study evaluates numerous different implementations across the 24 markets and finds that the optimal combination for the formation and holding periods most commonly aggregated to between 12 and 15 months. This suggests that the up and down cycles for the typical stock lie in this range. In most markets, it proves better to take a conservative approach by utilising a long formation period and a relative short holding period. Other implementation options examined included the weighting scheme with market weights performing the best in most markets, and rebalancing strategies where the four examine had minimum impact on performance.

Across almost all implementations, the time-series momentum strategy is found to outperform the cross-sectional momentum strategy. Based on the optimal implementations for both types of momentum strategies with selecting 32% of stocks in the two strategies, the superiority of the time-series momentum is statistically significant in 13 markets: Australia (0.90% per month), Canada (1.07% per month), Finland (1.13% per month), France (0.33% per month), Hong Kong (0.87% per month), Ireland (1.16% per month), Japan (0.84% per month), the Netherlands (0.81% per month), New Zealand (1.09% per month), Portugal (1.19% per month), Singapore (0.77% per month), Sweden (1.44% per month) and the UK (0.30% per month), and economically significant for the remaining countries, at around 0.66% per month on average. The best implementations of the time-series momentum strategy perform better than the best cross-sectional momentum strategy. In the next chapter, we examine more

closely why it is that the time-series momentum strategy outperforms the cross-sectional momentum strategy.

Chapter 6 – Closer examination of time-series and cross-sectional momentum under optimal implementation approach

6.1. Introduction

In Chapter 5, the study finds that the time-series momentum strategy outperforms the cross-sectional strategy under "optimal" implementations across the 24 markets from 1992 to 2012. In order to gain some insights into why this might be the case, this chapter further investigates and compares the two momentum strategies under the optimal implementations identified in Table 5.11. Section 6.2 applies regression analysis to test the momentum return from each strategy in isolation from the other. Section 6.3 takes a closer snapshot of basic portfolio characteristics of the two strategies, Section 6.4 compares performance of the two momentum strategies under different market conditions, and performances of the stocks included in the time-series and cross-sectional portfolios. Conclusions are drawn in Section 6.5.

6.2. The performance of individual time-series and cross-sectional momentum stocks

The characteristic of the two momentum strategies considered is the performance of the individual stocks included in the winner and loser portfolios. Following the procedure of George and Hwang (2004) based on Fama and MacBeth (1973) cross-sectional regression, the study runs the following regression:

$$R_{it} = b_{0jt} + b_{1jt} Ln(Size)_{i,t-1} + b_{2jt} CSH_{i,t} + b_{3jt} CSL_{i,t} + b_{4jt} TSH_{i,t} + b_{5jt} TSL_{i,t} + e_{i,t}$$

where Rit is the return on stock i in month t; Ln (Size) is the market capitalisation of stock i at time, t-1; CSHit is a dummy that equals one if stock i is in the cross-sectional momentum winner portfolio in month t; CSLit is a dummy that equals one if stock i is in the cross-sectional momentum loser portfolio in month t; TSHit is a dummy that equals one if stock i is in the time-series momentum winner portfolio in month t; TSLit is a dummy that equals one if stock i is in the time-series momentum loser portfolio in month t. The constant, b_{0jt}, is the average monthly return of a portfolio consisting of stocks that do not appear in either the winner or loser portfolios that has hedged out the effect of size, while coefficient attached to each of the other variables reflects the incremental return attached to that type of stock. For example the coefficient, b1_{jt} represents the return in excess of bo_{jt} that can be earned on the average stock invested included in a cross-sectional momentum loser portfolio. The other coefficients have similar interpretations.

It should be emphasised that the findings only relate to the average performance of the stocks held in the portfolio and not to the performance of the portfolios themselves. The findings would only reflect the performance of the portfolios if an equal weight was assigned to each of the stocks included in the portfolio which is not the case in any of our optimum portfolios. Therefore, the findings reflect the contribution to the performance of the stock selection embedded in the momentum strategies but not the contribution of the portfolio construction.

Table 6.1 reports the coefficient estimates from the regression analysis based on optimal implementation approaches of two momentum strategies for all 24 markets. ²⁸ The first thing to observe is that stock selection under both the time-series and cross-sectional momentum strategies add value in that TSH - TSL and CSH - CSL are positive in all markets, except in Ireland where the coefficient for the cross-sectional momentum strategy is not positive.

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²⁸ As explained in the previous paragraph, the limitation of this regression analysis is that it only reports equal weighted portfolios, and therefore the results of the regression focus on optimal implementation approaches which exclude portfolio weight.

In the case of time-series momentum strategy, the difference (TSH - TSL) is significant in all markets with the exceptions of Greece, Italy, Japan, Norway, Portugal and Singapore, while in the case of cross-sectional momentum this outperformance is significant in 14 out of 24 markets. The last column in the table shows the difference between time-series and cross-sectional momentum strategies (TSM - CSM). Based on this analysis, the time-series momentum strategy is superior to the cross-sectional momentum strategy in 16 of the markets with the exceptions being Belgium, France, Germany, Greece, Italy, Japan, Norway and Singapore.

The findings show that in general both momentum strategies produce positive returns, with time-series momentum strategy being the better of the two. However in the results reported in Table 6.1, the returns are not as strong as those reported in Table 5.11. This shows that the time-series momentum strategy is superior in all markets and its advantage is significant in 13 markets. As suggested previously, the performance reported in Table 6.1 only reflects the stock selection element of the momentum strategies while those reported in Table 5.11 also encompass the value added by portfolio construction.

Table 6.1. Regression analysis

Based on an optimal implementation for each market from Table 5.11, this table reports the comparisons between time-series (TSM) and cross-sectional (CSM) momentum strategies by using a regression model for 1992 to 2012. The Newey–West adjusted t-statistics are reported below the coefficients for each market. Following the procedure of George and Hwang (2004), we run the cross-sectional regression, $R_{it} = b_{0jt} + b_{1jt} Ln(SIZE)_{i,t-1} + b_{2jt} CSH_{it} + b_{3jt} CSL_{it} + b_{4jt} TSH_{it} + b_{5it} TSL_{it} + e_{it}$, where Rit is the return on stock i in month t; Ln (Size) is the market capitalisation of stock i at time, t-1; CSHit is a dummy that equals one if stock i is in the cross-sectional momentum winner portfolio in month t; CSLit is a dummy that equals one if stock i is in the time-series momentum winner portfolio in month t; TSLit is a dummy that equals one if stock i is in the time-series momentum loser portfolio in month t. The constant, $b_{0j}t$, is the average monthly return of a portfolio consisting of stocks that do not appear in either the winner or loser portfolios that have hedged out the effect of size, while the coefficient attached to each of the other variables reflects the incremental return attached to that type of stock. The difference of coefficients between TSH (CSH) and TSL (CSL) dummies represent the return of time-series (cross-sectional) momentum strategy after controlling for other explanatory variables. The last column in the table shows the return difference between time-series and cross-sectional momentum strategies.

	INTERCEPT	T I M/CIZE)	TSH	TSL	TSH-TSL	CSH	CSL	CSH CSI	TSM - CSM
AUSTRALIA	2.16%	-0.28%	0.16%	-0.38%	0.54%	0.11%	-0.29%	0.40%	0.13%
AUSTRALIA									
ATTOMPTA	3.5108	-4.0975	0.7190	-1.6507	1.7547	0.5217	-1.2086	1.2800	0.2643
AUSTRIA	0.13%	0.04%	0.54%	-0.48%	1.01%	0.22%	-0.32%	0.54%	0.48%
	0.5078	0.6962	2.5345	-1.4357	2.7084	1.3683	-1.5442	1.9021	1.0979
BELGIUM	0.58%	0.01%	0.08%	-0.65%	0.73%	0.50%	-0.63%	1.13%	-0.40%
	3.2368	0.2327	0.4948	-2.6299	2.2797	3.7875	-3.2500	4.5700	-1.0044
CANADA	3.02%	-0.38%	0.81%	-0.54%	1.36%	-0.05%	-0.28%	0.23%	1.12%
	4.8737	-5.8566	2.8043	-2.5526	4.0170	-0.1777	-0.9336	0.5128	1.6993
DENMARK	0.53%	0.00%	0.72%	-0.58%	1.30%	0.26%	-0.59%	0.85%	0.45%
	1.4049	0.0261	2.9333	-1.8625	3.3683	1.7455	-2.2060	2.6499	0.7912
FINLAND	1.59%	-0.08%	0.88%	-0.26%	1.14%	-0.12%	-0.51%	0.39%	0.75%
	2.8623	-1.2394	2.5337	-0.6454	2.0613	-0.4784	-1.8844	0.9416	0.9782
FRANCE	1.13%	-0.06%	0.26%	-0.21%	0.47%	0.21%	-0.64%	0.86%	-0.38%
	3.6626	-1.7131	2.3510	-1.1467	2.1558	1.7175	-3.3963	3.4712	-1.1839
GERMANY	0.30%	0.01%	-0.02%	-0.57%	0.56%	0.50%	-0.62%	1.12%	-0.56%
	0.8182	0.2182	-0.1039	-2.2611	1.9468	2.9859	-3.3338	4.2946	-1.4621
GREECE	1.74%	-0.20%	-0.26%	-0.31%	0.06%	0.53%	-0.48%	1.01%	-0.95%
	1.3042	-1.4265	-0.8129	-1.0352	0.1394	2.6387	-1.9528	2.9642	-1.4876
HONGKONG	3.15%	-0.27%	-0.01%	-0.84%	0.84%	0.23%	-0.34%	0.57%	0.26%
	2.8421	-2.5444	-0.0282	-2.5200	1.9562	0.8975	-1.4733	1.4398	0.4148
IRELAND	1.83%	-0.15%	1.08%	-1.65%	2.73%	-0.52%	-0.16%	-0.36%	3.09%
	2.7142	-1.9075	1.7829	-2.7683	3.3709	-1.1407	-0.2633	-0.5121	2.2774
ISRAEL	1.83%	-0.16%	0.30%	-0.52%	0.81%	-0.11%	-0.20%	0.09%	0.72%
	2.8714	-2.3818	1.1338	-1.6885	2.2171	-0.4762	-1.1065	0.3174	1.3263
ITALY	0.14%	0.02%	0.14%	-0.29%	0.43%	0.45%	-0.81%	1.26%	-0.83%
	0.2881	0.6370	0.5505	-0.7494	0.9656	2.3639	-2.9626	3.6397	-1.2668
JAPAN	1.36%	-0.11%	-0.19%	-0.21%	0.02%	0.15%	-0.14%	0.29%	-0.27%
37117111	1.3801	-1.7007	-1.3029	-1.5506	0.0907	1.2143	-1.0251	1.4787	-0.9635
NETHERLANDS	0.55%	0.04%	0.19%	-1.06%	1.26%	0.47%	-0.64%	1.11%	0.15%
TETTIERE ITOS	1.3733	1.0333	0.6553	-3.4139	3.3356	2.1977	-2.8840	3.2439	0.2488
NEWZEALAND	1.04%	-0.04%	1.13%	-0.70%	1.83%	0.35%	-0.21%	0.57%	1.27%
NEWZEALAND	2.4823	-0.5912	2.3505	-1.9094	3.0472	1.0297	-0.5078	1.0386	1.2487
NORWAY	1.67%	-0.11%	0.88%	0.00%	0.88%	0.88%	-0.36%	1.24%	-0.36%
NOKWAI	2.6215	-1.7511	1.8893	-0.0025	1.2945	2.9913	-0.9608	2.6254	-0.3617
PORTUGAL	1.32%	-0.15%	-0.28%	-0.76%	0.48%	0.45%	0.20%	0.25%	0.23%
FORTUGAL	4.6750	-0.15%	-0.26%	-1.6214	0.7531	1.4440	0.4539	0.4227	0.23%
SINGAPORE	1.69%	-0.14%	0.06%	-0.26%	0.7331	0.25%	-0.51%	0.75%	-0.43%
SINGAPORE									
SPAIN	1.7763	-1.5978	0.2182	-1.0791	0.8210	1.2001	-1.9756	1.9542	-0.9260 0.43%
SPAIN	0.84%	-0.02%	0.50%	-0.36%	0.86%	0.11%	-0.32%	0.43%	
CWEDEN	1.7785	-0.3636	1.9841	-0.9272	1.8101	0.5983	-1.1925	1.2944	0.6205
SWEDEN	1.36%	-0.05%	0.56%	-1.47%	2.03%	0.12%	-0.50%	0.62%	1.41%
an market to the	1.7787	-0.7103	2.4640	-3.5811	4.1814	0.4737	-1.7919	1.4902	1.9946
SWITZERLAND	0.75%	0.00%	0.57%	-0.45%	1.01%	0.43%	-0.39%	0.82%	0.19%
	2.4152	0.0449	2.3802	-1.9839	3.6521	3.2176	-2.2894	3.4199	0.4952
UK	0.35%	0.04%	0.56%	-0.55%	1.11%	0.58%	-0.30%	0.88%	0.23%
	0.8790	0.9412	4.8350	-3.5133	6.5043	3.3687	-1.8080	3.1691	0.6959
US	2.58%	-0.22%	0.29%	-0.19%	0.48%	0.21%	-0.09%	0.30%	0.18%
	5.8286	-5.4747	1.8937	-1.5014	2.5519	1.5447	-0.4918	1.3247	0.6702

6.3. Basic characteristics of time-series and cross-sectional portfolios

To further investigate why the time-series momentum strategy outperforms the cross-sectional momentum strategy, Table 6.2 presents information on the size, book-to-market and momentum characteristics of the two momentum strategies, which are best evaluated by comparing them with the average values over the sample period reported in Table 3.3 in Chapter 3. It should be emphasised that the results of these three characteristics from winner and loser portfolios reported in Table 6.2 are likely to be biased towards larger stocks or low volatility stocks, when the optimal portfolio weighting scheme uses market weight or inversed volatility weight.

With respect to size (in local currency), the stocks included in momentum portfolios are much smaller than the average stocks in the sample, with the loser portfolios consisting of stocks in even much smaller companies than is the case with the winner portfolios in 17 markets. Although the remaining seven countries, Austria, Belgium, Denmark, Finland, Germany, Greece and Sweden, present a similar pattern in which the loser portfolio contains smaller stocks, the winner portfolio stocks are larger than the average stocks in the sample. Finally, the most interesting findings are that in about 20 markets, the time-series momentum portfolios (both winner and loser) consist of stocks in smaller companies than those contained in cross-sectional momentum portfolios.

The three largest spreads of book-to-market ratio between time-series winner and loser portfolio are in Belgium with a spread of 2.21, in Germany with a spread of 2.30 and in Israel with a spread of 0.90. The three largest spreads of the ratios between cross-sectional winners and losers are shown in the same three markets, with spreads of 1.425, 1.83 and 1.89, respectively. The winners are higher than the losers in 22 of 24 markets for time-series

momentum strategy and all markets for cross-sectional momentum strategy. Hence the loser stocks are more like value stocks than is the case with the winners for the two momentum strategies. In addition, the book-to-market spread between the winner and the loser in the time-series momentum strategy is wider than the one in the cross-sectional momentum strategy in 16 markets.

Finally, as would be expected the loser portfolios for both momentum strategies consist of stocks that have been performing extremely poorly over the previous six months, and winner portfolios consist of stocks that have performed extremely well. However, the spread in this performance is slightly larger for the time-series momentum portfolios.

In summary, the loser portfolios consist of small cap and more value stocks that have been performing poorly in recent months. The winner portfolios consist of slightly larger (but still small) and more growth stocks whose recent performance has been very good and so it is not surprising that both time-series and cross-sectional momentum strategies perform so well. The major distinction between the portfolio characteristics of the two types of momentum strategies are that the typical time-series momentum portfolios consist of slightly smaller and growth stocks with greater spreads in past performance than the cross-sectional portfolios. Both of these features suggest that the time-series momentum strategy will outperform the cross-sectional momentum strategy.

Table 6.2. Basic Characteristics of Optimal Time-Series and Cross-Sectional Momentum

This table displays the average monthly market value (MV), book-to-market (B/M) ratio and ex ante returns (returns over the last six months) of stocks being selected in loser and winner portfolios of time-series (TSM) and cross-sectional (CSM) momentum strategies based on "optimal" implementation approaches from Table 5.11 for each market.

	TSM								CSM						
	М	MV		B/M ratio		Return over last 6 months		MV		B/M ratio		Return over last 6 months			
	Loser	Winner	Loser	Winner	Loser	Winner	Loser	Winner	Loser '	Winner	Loser	Winner			
AUSTRALIA	72.66	268.74	0.48	0.53	-6.56%	9.79%	263.40	476.18	0.79	0.51	-6.04%	9.46%			
AUSTRIA	322.45	1269.17	1.10	0.91	-3.90%	4.34%	353.20	946.41	1.43	1.09	-3.53%	4.18%			
BELGIUM	492.18	2706.10	2.93	0.74	-3.29%	4.01%	617.22	2419.96	2.16	0.72	-3.03%	3.91%			
CANADA	202.29	578.39	1.06	0.64	-5.95%	10.13%	303.40	661.08	1.21	0.61	-5.80%	10.12%			
DENMARK	1777.93	6341.44	0.99	0.68	-4.55%	5.61%	1853.03	6094.82	0.99	0.70	-4.18%	5.24%			
FINLAND	633.56	2554.76	0.90	0.48	-3.99%	5.58%	729.38	2225.25	0.85	0.51	-3.14%	5.10%			
FRANCE	548.94	1226.26	0.88	0.65	-4.88%	6.23%	582.84	1248.64	0.90	0.65	-4.59%	6.16%			
GERMANY	243.35	1627.88	3.44	1.14	-5.70%	5.63%	280.77	1484.50	2.97	1.14	-5.05%	5.44%			
GREECE	240.11	2808.42	1.28	0.91	-11.48%	14.82%	786.85	5071.72	1.11	0.92	-8.69%	12.92%			
HONGKONG	1613.29	4487.89	1.50	0.94	-6.38%	10.51%	2784.85	6685.21	1.57	1.01	-5.54%	9.41%			
IRELAND	359.96	694.42	1.67	0.71	-4.04%	7.65%	426.61	689.72	1.74	0.63	-3.92%	8.03%			
ISRAEL	175.41	385.33	0.91	1.81	-5.58%	7.12%	374.23	618.26	3.35	1.46	-4.79%	6.65%			
ITALY	15001.24	158131.14	1.54	0.72	-4.02%	4.52%	15999.25	164496.67	1.09	0.73	-3.45%	4.07%			
JAPAN	120627.24	148494.96	0.91	0.82	-4.25%	6.03%	157861.38	161095.19	0.96	0.86	-3.87%	5.02%			
NETHERLANDS	706.49	2216.26	1.09	0.58	-4.74%	5.46%	953.15	2672.05	1.11	0.78	-4.22%	5.21%			
NEWZEALAND	156.62	343.64	1.05	0.69	-4.03%	5.84%	165.89	352.01	1.03	0.67	-3.69%	5.61%			
NORWAY	1082.09	4214.57	1.05	0.61	-5.36%	7.41%	1277.06	3999.24	1.19	0.65	-4.82%	7.03%			
PORTUGAL	709.60	1422.73	1.37	1.34	-5.79%	8.28%	679.12	1446.84	1.66	1.16	-5.43%	7.62%			
SINGAPORE	379.17	878.03	1.17	0.72	-4.60%	7.40%	761.87	1290.33	1.24	0.77	-3.69%	6.28%			
SPAIN	1800.53	3260.22	0.81	0.61	-3.97%	4.42%	2885.15	3706.77	0.88	0.67	-3.07%	4.30%			
SWEDEN	1028.02	6458.43	1.25	0.53	-6.15%	6.53%	1667.15	7580.89	1.21	0.61	-4.80%	6.36%			
SWITZERLAND	1369.29	3182.26	1.17	0.91	-3.09%	4.47%	2044.45	3283.52	1.43	0.93	-2.72%	4.26%			
UK	146.32	567.62	0.80	0.53	-5.62%	6.20%	189.10	648.34	0.92	0.54	-5.37%	6.08%			
US	1135.56	1919.62	0.74	0.45	-4.53%	7.74%	1389.24	2035.15	0.75	0.46	-4.27%	7.53%			

6.4. Time-series and cross-sectional momentum strategies in "up" and "down" markets

6.4.1. Market conditions based on ex-ante market returns

Cooper et al. (2004) find that momentum profitability depends critically on the state of the market, with the momentum strategies in periods following positive markets ("up" markets) yielding better performance than momentum strategies in periods following negative markets ("down" market). In order to see whether this finding applies to our sample for both the timeseries and cross-sectional momentum strategies, the study evaluates the performances of the optimal implementations in both up and down markets. Following the method employed by Cooper et al. (2004), an up month is defined as one in which the market index has risen over

the previous 12 months and a down market is defined as one in which the market index has fallen.²⁹

Table 6.3 reports the optimal time-series and cross-sectional momentum returns following "up" and "down" states of the markets over the sample period. Consistent with Cooper et al. (2004), we find that the investment outcomes using the two momentum strategies in the periods when market gains (i.e. up markets) outperform the outcomes when market losses (i.e. down markets). The performance for the time-series momentum strategy in up markets is much stronger than it is in down markets in 17 of 24 markets, while for the cross-sectional momentum strategy the performance in up markets is stronger in 19 markets. The weak performance of the two momentum strategies in up markets is evident in Germany, Israel, Japan and Spain. In Norway and Switzerland, it is only with time-series momentum strategies that the performance is better in down markets than in up markets. Sweden is the only case where it is only the cross-sectional momentum strategy that performs better in down markets than in up markets.

When comparing the returns of the two momentum strategies under up and down markets, it is found that the time-series momentum strategy outperforms the cross-sectional momentum strategy in either up or down periods in 20 of the 24 markets. In Denmark and Italy, time-series momentum strategy only outperforms in up markets whereas in Greece and Norway it only outperforms in down periods. In addition, the outperformance of times-series momentum strategy in up markets is small than the outperformance in down markets and so the superior performance of time-series momentum strategy is largely explained by the relatively poor performance of cross-sectional momentum strategy in down markets. The

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²⁹The study also used the previous three- and six- month past performances of the relevant indexes to define up and down markets. One thing this did achieve was to increase the number of down months but the major findings remained unchanged to those reported here.

average outperformance of the time-series momentum strategy across the 24 markets in up market is around 0.57% per month whereas the average outperformance is around 1.16% per month in down market.

In order to provide an insight into why there are differences between the performances of time-series and cross-sectional momentum strategies (especially in down markets), the study provides details in Table 6.4 of the average number of stocks included in the portfolios formed by applying the two types of momentum under both up and down markets. The results show that under the time-series momentum strategy there are many more winners than losers in up markets and a lot more losers than winners in down markets (with, of course, the same number of winners and losers for cross-sectional momentum under both markets). This should come as no surprise as the time-series momentum strategy with fixed cut-offs will designate fewer stocks as losers when markets are doing well and fewer stocks as winners when markets are performing poorly. The consequence is that cross-sectional momentum will (i) go further down the rankings when choosing losing stocks in strong markets, and may even include stocks as losers that are actually doing quite well in absolute terms (and which will therefore be excluded from the loser portfolio for time-series-momentum), and (ii) go further down the rankings when choosing winning stocks in weak markets, and may even include stocks as winners that are actually doing quite poorly in absolute terms (and which will therefore be excluded from the winner portfolio for time series momentum). If momentum is picking up on trends, then it is not surprising that the time series momentum strategy should do better as its stock selection is based on stronger signals than the crosssectional momentum strategy.

Table 6.3. Comparison between optimal time-series and cross-sectional momentum following "up" and "down" market states

The second column in this table shows the aggregate numbers of months when the market is up (or down) for each market. The next three columns show the optimal implementation for each market from Table 5.11. Based on the optimal implementation for each market, this table reports the time-series (TSM) and cross-sectional (CSM) winner, loser and momentum returns following "up" and "down" states of market during the 252 months from 1992 to 2012 in the three right-hand columns. Following the method employed in Cooper et al. (2004), we defined an "up" month as one in which the market index has risen over the previous 12 months and a "down" market as one in which the market index has fallen over the previous 12 months. Newey–West adjusted t-statistics are reported below the returns in the table.

"UP" MARKETS	NO. OF MONTHS	IMP	OPTIM. LEMENT		TSM		CSM		DIFFERENCE
		JxH	Weight	Construction	L W W	V - L L	W	W - L	TSM - CSM
AUSTRALIA	202	9x3	MW	BHAR(0)	-0.47% 2.60% 3.0	.07% -0.40%	2.27%	2.67%	0.40%
					-0.7604 4.8700 6.4	.4333 -0.6305	4.3420	4.9709	1.0678
AUSTRIA	184	12x3	IVOL	CAR(0)	-0.02% 1.51% 1	.53% 0.06%	1.51%	1.45%	0.08%
					-0.0422 3.9101 2.9	.9598 0.1583	3.8472	3.4970	0.2469
BELGIUM	191	12x3	IVOL	CAR(1)	-0.36% 1.72% 2.0	.08% -0.03%	1.93%	1.96%	0.12%
					-0.9785 5.3574 5.0	.0030 -0.1200	6.7744	8.1823	0.3956
CANADA	230	9x3	MW	BHAR(0)	-0.31% 3.17% 3.4	.48% -0.27%	2.57%	2.84%	0.64%
					-0.5073 5.2437 5.2	2124 -0.4422	4.2380	4.3211	1.7385
DENMARK	197	9x3	IVOL	BHAR(1)	-0.54% 1.75% 2.5	.26% -0.32%	1.58%	1.90%	0.36%
					-1.0321 4.8732 6.	.1292 -0.7600	4.5878	7.1315	1.3023
FINLAND	181	12x6	MW	BHAR(0)	0.29% 3.70% 3.4	.47% 0.62%	2.81%	2.19%	1.28%
					0.3038 4.9236 3.4	4862 0.9969	3.7160	2.6237	1.7429
FRANCE	194	9x3	IVOL	CAR(1)	0.24% 1.80% 1	.56% 0.52%	1.70%	1.18%	0.38%
					0.7238 5.1134 7.4		4.5515		2.8028
GERMANY	190	12x3	IVOL	CAR(0)	-0.45% 1.36% 1.3	.80% -0.16%	1.37%	1.53%	0.27%
					-0.9553 4.2095 5.9		3.9127		1.1772
GREECE	154	3x12	MW	BHAR(1)	-0.42% 2.25% 2.3		3.44%	3.09%	-0.52%
	_				-0.4141 1.8143 2.3		2.4358	2.7924	-0.4900
HONGKONG	204	6x3	MW	BHAR(0)	-0.09% 2.43% 2.	.53% 0.14%	1.89%	1.75%	0.78%
					-0.1345 2.7495 4.1		2.5137		1.3357
IRELAND	212	6x12	MW	BHAR(0)	-1.22% 2.64% 3.			2.87%	0.91%
					-1.2183 3.5537 3.3		3.2137		1.3987
ISRAEL	199	9x12	MW	BHAR(0)	-0.11% 1.63% 1.		1.50%	1.33%	0.41%
					-0.1536 2.4760 2.3		2.3262		0.8187
ITALY	172	12x6	MW	BHAR(0)	-1.08% 1.96% 3.0		2.06%	1.45%	1.60%
					-1.8368 3.0914 4.2		3.3445		2.6689
JAPAN	146	3x12	MW	BHAR(0)	-0.88% 0.18% 1.0		0.12%		1.10%
					-1.9605 0.2984 2.1			-0.0804	3.6659
NETHERLANDS	202	9x3	EW	BHAR(1)	-0.92% 1.76% 2.			1.83%	0.85%
					-1.6072 3.8504 6.4		3.6731		2.5862
NEWZEALAND	232	12x3	IVOL	BHAR(0)	-0.12% 2.74% 2.5		1.90%	1.85%	1.02%
NORWAN	105		****	DYLLD (0)	-0.3318 4.2154 4.0		5.9377		1.7247
NORWAY	196	9x3	IVOL	BHAR(0)	0.37% 2.25% 1.3		2.50%		-0.17%
DODTUGAL	177		1.637	DILAB(1)	0.4221 3.3185 2.8		4.0495		-0.2460
PORTUGAL	177	6x6	MW	BHAR(1)	-0.49% 2.46% 2.5		1.31%	1.64%	1.30%
CINICADORE	100	0.2	IVOI	DILAD(C)	-0.6621 3.5187 3.3		2.0489		1.6491
SINGAPORE	189	9x3	IVOL	BHAR(0)	-0.42% 1.83% 2.3		1.70%	1.60%	0.62%
CDAIN	167	12-6	D337	DIIAD(0)	-0.6465 2.9917 4.0		2.9659		1.8618
SPAIN	167	12x6	EW	BHAR(0)	0.90% 1.81% 1.0		1.73%	0.98%	0.02%
CWEDEN	106	122	IVOI	DHAD(1)	1.0334 3.3517 1.0		3.3352		0.0344
SWEDEN	196	12x3	IVOL	BHAR(1)	-0.48% 2.58% 3.0		2.15%		1.81%
SWITZERLAND	105	12x3	EW	CAR(0)	-0.6108 4.6975 5.5 0.29% 1.91% 1.0		3.8602 1.92%		4.1503 0.19%
SWIIZEKLAND	195	12X3	EW	CAK(0)					
UK	214	12-2	IVOI	CAP(0)	0.6489 4.5773 5.		1.73%		0.7371
UK	214	12x3	IVOL	CAR(0)	-0.43% 1.77% 2.3		1.73%		0.20%
TIC	226	02	MW	CAR(1)	-1.1063 5.3822 9.3		4.8108		1.4112
US	226	9x3	MW	CAR(1)	0.89% 2.02% 1.	.13% 0.90%	1.94%	1.04%	0.09%

	MONTHS	IMPLEME	NTATION	TSM			CSM		DIFFERENCE
		JxH Weight	Construction	L W	W - L	L	W	W - L	TSM - CSM
AUSTRALIA	50	9x3 MW	BHAR(0)	1.83% 3.37%	1.54%	2.52%	1.13%	-1.39%	2.93%
				1.3417 2.1038	1.6020	1.1641	0.9516	-0.7472	1.4870
AUSTRIA	68	12x3 IVOL	CAR(0)	-1.28% 0.41%	1.69%	-1.10%	0.15%	1.25%	0.44%
				-1.3214 0.7349	1.5545	-0.9212	0.6340	1.1463	0.9831
BELGIUM	61	12x3 IVOL	CAR(1)	-1.36% -0.47%	0.89%	-0.99%	-0.39%	0.60%	0.29%
				-1.5253 -0.8311	1.1782	-0.9178	-0.8283	0.7613	0.7627
CANADA	22	9x3 MW	BHAR(0)	2.23% 1.73%	-0.50%	6.45%	0.35%	-6.09%	5.59%
				0.9056 1.0813	-0.2975	1.5159	0.1837	-1.5577	1.6206
DENMARK	55	9x3 IVOL	BHAR(1)	-1.49% -0.45%	1.08%	-1.28%	-0.11%	1.16%	-0.09%
				-1.2973 -0.3735	1.1403	-0.9272	-0.1412	1.3413	-0.1288
FINLAND	71	12x6 MW	BHAR(0)	-0.56% 0.85%	1.26%	-0.75%	-0.24%	0.51%	0.76%
				-0.3683 0.8662	0.8416	-0.4827	-0.1631	0.3094	0.5628
FRANCE	58	9x3 IVOL	CAR(1)	-1.20% -0.20%	1.00%	-1.06%	-0.20%	0.86%	0.14%
			_	-1.0667 -0.4385	1.2428	-0.7437	-0.4049	0.7582	0.3360
GERMANY	62	12x3 IVOL	CAR(0)	-1.87% 0.11%	1.98%		0.23%	1.89%	0.09%
				-1.5355 0.1797	2.1631	-1.1627	0.4952	1.6673	0.1964
GREECE	98	3x12 MW	BHAR(1)	-0.54% -0.17%	0.36%	0.27%	-1.05%	-1.31%	1.67%
				-0.3334 -0.1696	0.3555	0.1577	-1.4588	-0.9801	1.7655
HONGKONG	48	6x3 MW	BHAR(0)	1.26% 2.12%	0.86%	1.87%	1.48%	-0.39%	1.25%
				0.6398 1.1339				-0.2838	0.8701
IRELAND	40	6x12 MW	BHAR(0)	-1.82% 0.28%	2.10%	0.77%	0.41%	-0.36%	2.46%
				-0.6004 0.0917		_		-0.1326	1.9394
ISRAEL	53	9x12 MW	BHAR(0)	0.49% 3.54%	3.05%	-0.40%	2.48%	2.88%	0.17%
				0.3001 2.0298		-0.1955		1.7675	0.1236
ITALY	80	12x6 MW	BHAR(0)	-1.12% -0.56%	0.57%	-1.44%		1.23%	-0.66%
*****	105	2 12 2 777	DYY (D (0)	-0.9944 -0.4829		-1.1665			-0.6341
JAPAN	106	3x12 MW	BHAR(0)	-0.46% 0.65%	1.12%	-0.07%	0.57%	0.63%	0.49%
NEW YEAR AND G		0.2 5777	DYVI D (1)	-0.5957 0.8890		-0.0756		1.1039	1.7824
NETHERLANDS	50	9x3 EW	BHAR(1)	-1.29% -0.04%	1.25%	-0.97%		0.57%	0.69%
NEW/ZEAL AND	20	12.2.17/01	DIIAD(0)	-0.8663 -0.0217		-0.5435			0.5786
NEWZEALAND	20	12x3 IVOL	BHAR(0)	-0.82% 1.76%	2.31%	-0.74%		0.37%	1.94%
NODWAY	<i>EC</i>	9x3 IVOL	DIIAD(0)	-0.6179 0.7256		-0.4684			1.2907
NORWAY	56	9X3 IVOL	BHAR(0)	-0.28% 2.42%	2.70%	0.31%	0.14%	-0.17%	2.87%
PORTUGAL	75	6x6 MW	BHAR(1)	-0.1985 1.6117 -0.84% -0.78%	0.06%		-1.75%	-0.1448	2.1536 0.93%
FORTUGAL	13	OXO IVI W	BHAK(1)	-0.6756 -0.6517					
SINGAPORE	63	9x3 IVOL	BHAR(0)	0.46% 0.36%	-0.11%	-0.6096 1.58%		-1.33%	0.7529
SINGALOKE	0.5	9X3 IVOL	BIIAK(0)	0.2678 0.3102				-0.8559	1.7549
SPAIN	85	12x6 EW	BHAR(0)	-1.32% 0.69%	1.87%	_	-0.12%	1.03%	0.84%
SIAIIV	65	12/0 E **	DIIAK(0)	-1.4047 1.0406		-1.13%			2.1693
SWEDEN	56	12x3 IVOL	BHAR(1)	-1.93% 0.06%	1.99%		-0.2248		0.14%
DALEDER	50	12A3 IVOL	DIII IK(1)	-1.2162 0.0433		-1.0575			0.1778
SWITZERLAND	57	12x3 EW	CAR(0)	-1.27% 0.92%	2.19%	-1.0575		0.90%	1.29%
STILLER	51	12.0 111	C/11(0)	-1.1036 0.7597		-0.7521			1.2561
UK	38	12x3 IVOL	CAR(0)	-1.12% 0.70%	1.83%	-0.7521		0.98%	0.85%
O.I.	30	12.00 11 OE	C/11(0)	-0.6695 0.5040		-0.3194			1.1998
US	26	9x3 MW	CAR(1)		-1.33%		-0.20%		1.49%
- ~	-0	, III II	O(1)	0.4578 -0.2351				-1.5157	1.3635

Table 6.4. Distribution of number of stocks in optimal time-series and cross-sectional strategies

The second column in this table shows the optimal implementation for each market from Table 5.11. Based on the optimal implementation for each market, this table reports the average monthly number of stocks in time-series (TSM) and cross-sectional (CSM) winner and loser portfolios in the testing period from 1992 to 2012 and in the period when the market is following "up" and "down". Following the method employed in Cooper et al. (2004), we defined an "up" month as one in which the market index has risen over the previous 12 months and a "down" market as one in which the market index has fallen over the previous 12 months.

No. of stock	ks					Time-series	momentum				(Cross-section	nal momentur	n	
Country	Opti	imal implen	nentation	1992	-2012	"Up" :	market	'Down	'market	1992	-2012	"Up" :	market	"Down	' market
	JxH	Weight	Construction	Loser	Winner	Loser	Winner	Loser	Winner	Loser	Winner	Loser	Winner	Loser	Winner
AUSTRA	9x3	MW	BHAR(0)	178	176	140	198	330	88	178	178	177	177	184	184
AUSTRIA	12x3	IVOL	CAR(0)	16	16	10	20	29	5	15	15	15	15	14	14
BELGIUN	12x3	IVOL	CAR(1)	22	24	16	28	41	12	24	24	24	24	26	26
CANADA	9x3	MW	BHAR(0)	185	190	160	202	439	67	188	188	188	188	191	191
DENMAR	9x3	IVOL	BHAR(1)	32	33	21	40	67	10	31	31	31	31	31	31
FINLANI	12x6	MW	BHAR(0)	20	19	13	23	35	7	17	17	17	17	17	17
FRANCE	9x3	IVOL	CAR(1)	127	134	83	156	277	59	131	131	128	128	139	139
GERMAN	12x3	IVOL	CAR(0)	105	106	61	127	239	40	104	104	100	100	117	117
GREECE	3x12	MW	BHAR(1)	46	33	33	44	62	17	37	37	37	37	38	38
HONGKC	6x3	MW	BHAR(0)	120	115	82	130	282	50	118	118	116	116	126	126
IRELANI	6x12	MW	BHAR(0)	6	13	5	14	10	10	9	9	9	9	9	9
ISRAEL	9x12	MW	BHAR(0)	72	84	49	99	155	30	76	76	74	74	84	84
ITALY	12x6	MW	BHAR(0)	37	35	19	46	75	12	37	37	36	36	39	39
JAPAN	3x12	MW	BHAR(0)	290	410	175	515	448	266	350	350	350	350	349	349
NETHERI	9x3	EW	BHAR(1)	25	28	17	33	54	6	25	25	26	26	23	23
NEWZEA	12x3	IVOL	BHAR(0)	17	18	15	19	46	6	17	17	17	17	20	20
NORWA!	9x3	IVOL	BHAR(0)	27	26	16	32	64	6	25	25	25	25	27	27
PORTUG.	6x6	MW	BHAR(1)	16	16	13	19	22	7	14	14	15	15	13	13
SINGAPC	9x3	IVOL	BHAR(0)	63	59	39	74	132	13	59	59	59	59	57	57
SPAIN	12x6	EW	BHAR(0)	25	27	18	34	38	11	23	23	22	22	23	23
SWEDEN	12x3	IVOL	BHAR(1)	47	48	28	57	111	16	46	46	43	43	53	53
SWITZER	12x3	EW	CAR(0)	34	39	18	48	88	7	37	37	36	36	39	39
UK	12x3	IVOL	CAR(0)	243	242	185	270	570	83	242	242	240	240	250	250
US	9x3	MW	CAR(1)	666	673	576	708	1446	363	669	669	668	668	674	674

6.4.2. Market conditions based on contemporaneous market index

In order to examine how the optimal implementation of the two momentum strategies perform under different financial conditions, Chart 6.1 plots the annualised returns of timeseries (TSM) and cross-sectional (CSM) momentum strategies from 1992 to 2012. The light-grey shade indicates that the years when the annualised market index is non-positive.

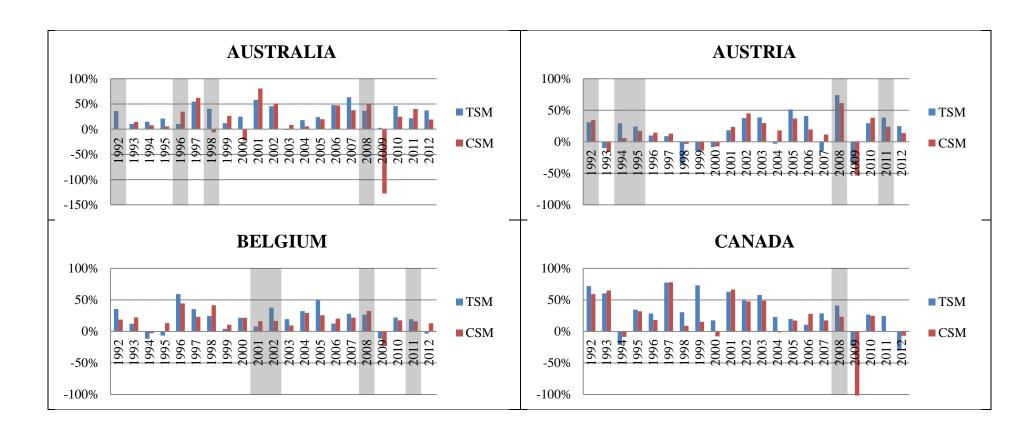
During the subprime crisis (i.e. 2007-2009), the two momentum strategies performed poorly and yielded negative returns in most of the developed markets during 2009 with the exception being Ireland and Sweden. The cross-sectional momentum strategy produces losses in excess

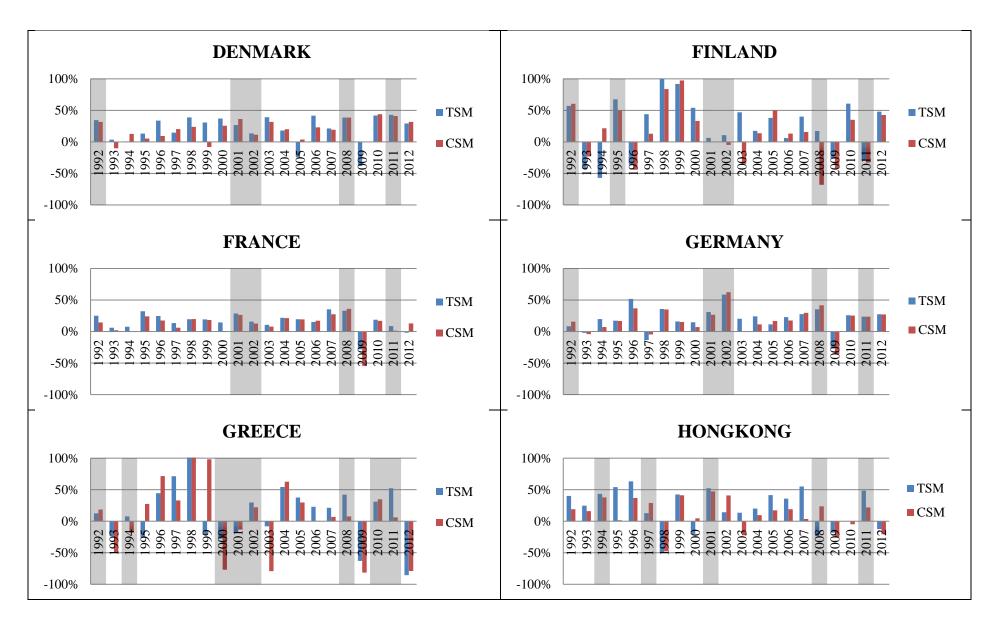
³⁰ Annualised returns in charts are based on continuously compounded return which is calculated by $\sum_{1}^{12} LN(1 + simple\ return\ of\ momentum_t)$.

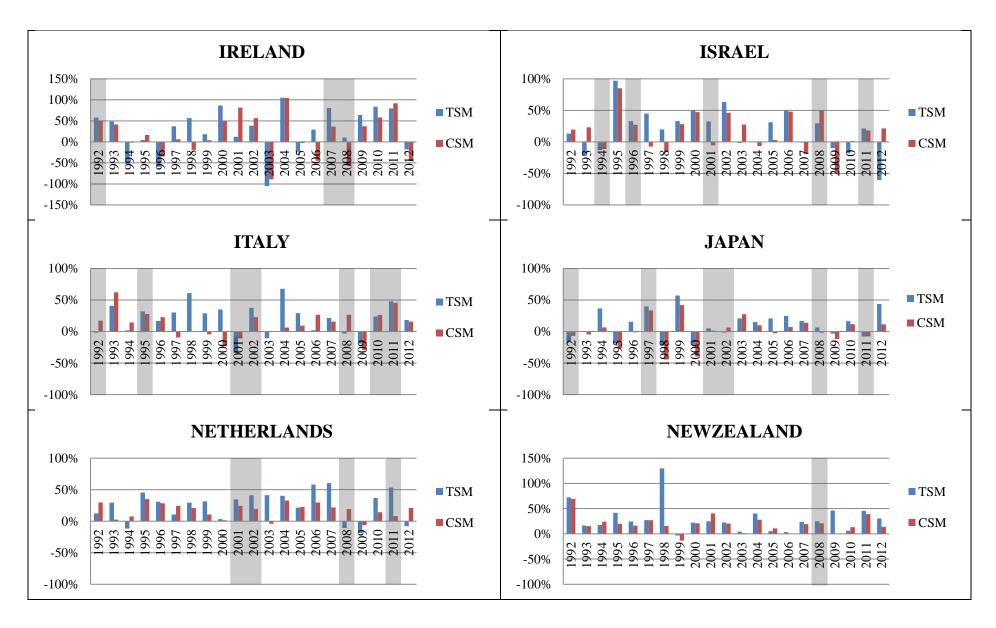
of 50% in ten out of the 24 markets during 2009, with these losses being greatest in Australia, Canada and Singapore. Time-series momentum strategy produces comparatively better outcomes in most markets during 2009 with the exception being Singapore. It is also noteworthy that in the year after the Asian financial crisis (i.e.1997 – 1998), that both momentum strategies perform poorly in the Asian markets (Hong Kong, Singapore and Japan). Daniel and Moskowitz (2013) find that poor momentum patterns are predictable with momentum strategies typically realising poor performance at market "turning points" following large market declines. This study finds evidence to support this proposition as there are many instances under both momentum strategies where extreme losses are suffered during periods when markets turn up after market corrections.

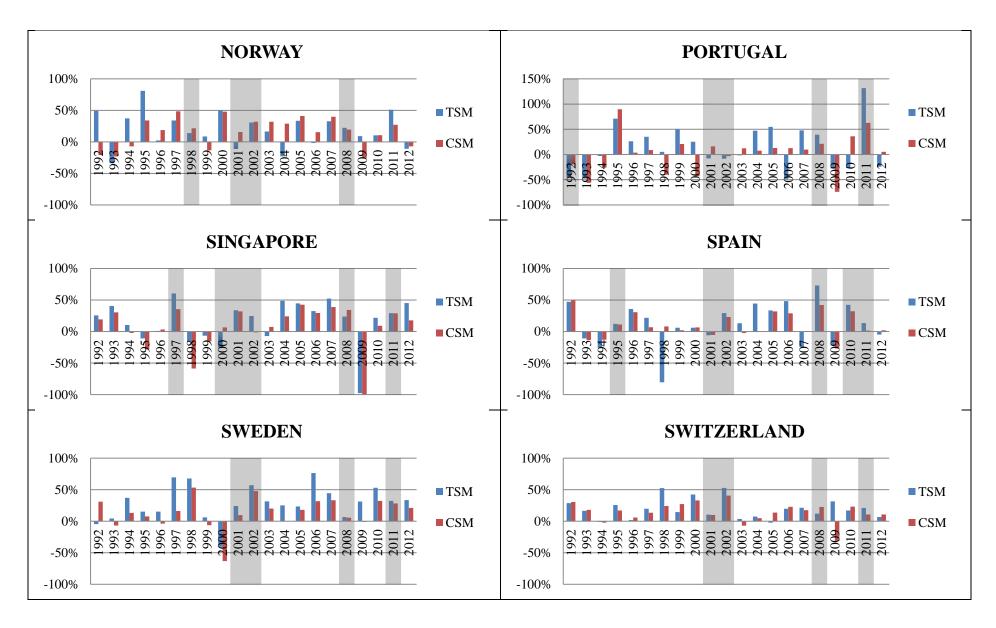
Chart 6.1. Annual returns of time-series and cross-sectional momentum strategies

Based on the optimal implementation for each market in Table 5.11, this chart shows the annualised time-series (TSM) and cross-sectional (CSM) momentum returns from 1992 to 2012. The light-grey shade in chart indicates the contemporaneous annualized market index is non-positive.











6.5. Conclusion

The superiority of the time-series momentum strategy over the cross-sectional momentum strategy is evident in all markets and this superiority is statistically significant in 13 of the 24 markets. The focus of this chapter is on investigating the reasons for why time-series momentum strategy has proven to be the superior strategy.

The major difference between the two approaches is in the way that they choose stocks to be included in the winner and loser portfolios. Time-series momentum strategy choses more winning stocks when markets are strong and less losing stocks when markets are weak. It results in the time-series momentum strategy choosing stocks that are smaller and which enjoy a wider spread in their past returns than is the case for the cross-sectional momentum strategy. Moreover, it leads to the time-series momentum stocks outperforming the cross-sectional momentum stocks.

The findings suggest that this outperformance is largely restricted to periods when markets are performing poorly which are periods when the cross-sectional momentum strategy is likely to select stocks to be included in the winner portfolios which have performed quite poorly during the formation periods. Consistent with Daniel and Moskowitz (2013), we find that both momentum strategies perform poorly in periods when markets turn up after experiencing a large decline.

Chapter 7 – Time-series and cross-sectional momentum strategies after transaction costs

7.1. Introduction

Chapters 5 and 6 compare returns of the time-series and cross-sectional momentum strategies under numerous implementation approaches across 24 markets without accounting for the transaction costs. Based on investing 32% stocks in the market, our findings suggest that the time-series momentum strategy under 94% implementations and the cross-sectional momentum strategy under 88% implementations produce positive outcomes. The time-series momentum strategy outperforms the cross-sectional momentum strategy under optimal implementations across the 24 markets with the outperformance being significant in 13 markets. In order to examine whether the apparent profitability of these strategies is both indicative of market inefficiency and is exploitable by investors, in this chapter we will repeat some of the previous analysis but on an after-transaction costs basis.

The remainder of this chapter is organised as follows. Section 7.2 discusses prior literature on the impact of transaction costs on the performance of the momentum strategies. Section 7.3 considers alternative means for measuring transaction costs. Sections 7.4 and 7.5 present the after-transaction costs returns for the time-series and cross-sectional momentum strategies under the same implementation approaches which were first discussed in Chapter 4. Section 7.6 compares the performances of the two momentum strategies under optimal implementation approaches. In Section 7.7 we examine the performance the two momentum strategies under different market conditions. Section 7.8 compares the two strategies after considering short-sale constrains. Conclusions are drawn in Section 7.9.

7.2. The viability of momentum strategies

Although the momentum anomaly has been discussed and investigated over the last two decades, the literature still has not reached consensus on whether the momentum strategies are profitable. A study by Jegadeesh and Titman (1993) based on work undertaken by Berkowitz et al. (1988) assume a cost of 0.5% per trade when calculating the after-transaction costs returns in their examination of cross-sectional momentum strategy. They conclude that their momentum trading strategy still yields around 9% per annum in the US market after accounting for transaction costs.

Lesmond et al. (2004), however, argue that the after transaction costs returns reported in the literature fail to consider several issues relating to the calculation of transaction costs. First, Lesmond et al. (2004) argue that it is inappropriate to assume a single transaction cost for all stocks because these costs exhibit substantial cross-sectional variation (Keim & Madhavan, 1997). Second, they argue that the cost estimated over one period is unable to capture the time-series variations in trading costs over another period (Lesmond et al., 1999). Third, they point out that most measurements of transaction costs from the extant literature, such as the use of bid-ask spread plus commissions, fail to account for other costs faced by investors, such as price impact costs, taxes, short-sale costs and immediacy costs.

In order to overcome these deficiencies, Lesmond et al. (1999) propose a model (LOT) which indirectly calculates investors' transaction costs, and claim that these estimates have an accuracy of more than 85% when measuring the overall costs from the buyer's side. They find that the profitability of the cross-sectional momentum strategy disappears once the

³¹ According to Lesmond et al. (1999), the estimated transaction costs from the LOT model have an 85% correlation coefficient with the most commonly used estimate of transaction costs, the bid-ask spread plus commissions. Regressions for the spread plus commissions on the estimated costs have an aggregated R² of 88%.

transaction costs are included. Thus Lesmond et al. (2004) argue that there is no reason to resort to risks or other explanations in order to explain the momentum anomaly.

Starting with Jegadeesh and Titman (1993), the momentum profit has been calculated as the aggregate of a long portfolio of winners and a short portfolio of losers. However, market regulations restrict the investors from shorting some or all of the losing stocks in the short portfolio. Alexander (2000) and Lesmond et al. (2004) argue that momentum studies are biased toward rejecting the EMH as much of the strategy might not be implementable. The importance of this becomes apparent when one realises that the majority of the profits are attributed to the poor performance of the loser portfolios (Ali & Trombley, 2006). This suggests that the profitability of the momentum strategy highlighted in numerous studies may well be illusory and so momentum may not provide the challenge to the EMH that many would have us believe.

In contrast, Li et al. (2009) argue that the solo use of a six-month holding period in the study of Lesmond et al. (2004) may not provide a full picture of the profitability of the cross-sectional momentum strategy. They show that the transaction costs are reduced by extending the holding period, for example when using a 12-month holding period instead of a six-month period, and that the momentum strategy remains profitable after using a longer holding period. Moreover, Li et al. (2008) point out that the profitability of momentum strategies is sensitive to alternative implementation approaches used, such as buy-and-hold vs. monthly-rebalancing. In addition, the short-sale restriction does not necessarily prevent a continuation of momentum profits. Griffin et al. (2005) show that momentum traders can still be profitable when they only take long positions of the winner portfolios across 40 countries when ignoring transaction costs. Fong et al. (2005) investigate the momentum strategy in 24

countries and point out that only buying stocks in the winner portfolio generates significant abnormal returns after accounting for transaction costs.

To date, the debate about the viability of momentum strategies in the literature has focused on two questions: (i) whether the momentum strategies remain profitable after applying appropriate transaction cost measurement and implementation approaches, and (ii) whether the momentum strategies remain profitable when only buying stocks in the winner portfolio if short-selling is either not allowed or severely restricted in the market. Therefore, this chapter re-examines the time-series and cross-sectional momentum strategies using numerous implementations and compares the performances of the two momentum strategies when the transaction costs and short-sale constraints are taken into account.

7.3. Stock transaction costs measurement

7.3.1. Assumptions of LOT model

this section starts with discussing the LOT model. According to Lesmond et al. (1999, 2004), the LOT model indirectly infers the transaction costs based on investors' behaviour. This model assumes that investors rationally assess the (potential) transaction costs which they will face from their investments, such as the bid-ask spread, applicable commissions, price impact costs, taxes, short-sale costs and immediacy costs, before making trading decisions. Investors rationally start trading if the value of investment after transaction costs is profitable. The LOT model infers monthly transaction costs for each stock through the incidence of zero daily returns over a given period, such as over the last one calendar year used in their study. The basic hypothesis of the LOT model is that a zero return, on average, is observed if the transaction costs threshold is not exceeded. In other words, zero-return is observed if

Since the LOT Y-split model is the amended version of Lesmond et al. (1999) (LOT) model,

investors do not trade because the trading is not profitable after accounting for the transaction costs.

This implies that zero returns result from the effects of costs on marginal traders, who may be informed or uninformed. For informed traders, if the value of the public-plus-private information is insufficient to exceed the costs of trading, then these marginal investors will either reduce their desired trades or even refrain from trading. Under these circumstances, there will be no price movement from the previous day. For most liquidity traders, if the need for liquidity is sufficiently low and the transaction costs sufficiently high, again they will not trade, which again leads to a zero return. However, some liquidity traders may trade regardless of transaction costs and the resulting returns may be non-zero. The LOT model assumes that the value of their trades is idiosyncratic and over time the average returns resulting from their trades will be zero.

7.3.2. Calculations of the LOT model

This measurement is based on the limited dependent variable (LDV) model to estimate the frequency of zero returns in order to infer the transaction costs of buying α_2 and selling α_1 . In the presence of transaction costs, the marginal informed traders will trade only if the value of information exceeds trading costs.

Lesmond et al. (1999) estimate true return R_{jt}^* on the basis of the standard market model.³² Let R_{jt}^* be the true returns such that,

$$R_{jt}^* = \beta_j R_{mt} + \varepsilon_{jt}$$

³² Since the intercept term in the risk model normally captures the misspecification in the market index and not the transaction costs, Lesmond et al. (1999) use the risk model without the intercept term.

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where β_j is the sensitivity of stock j to the market return R_{mt} on day t, and the error term ε_{jt} indicates a public information shock on day t. This model assumes that ε_{jt} is normally distributed with a mean zero and variance σ_j^2 .

Let R_{jt} be measured returns from daily prices on stocks, where j denotes the stock j and t is the trading day. The measured daily return will be non-zero only if the true stock returns from market model exceed the transaction costs.

The relationship between the measured return R_{jt} and true return R_{jt}^* can be shown as

$$R_{it} = R_{it}^* - \alpha_{1i} if R_{it}^* < \alpha_{1i}$$
 (1)

$$R_{jt} = 0 \text{ if } \alpha_{1j} < R_{jt}^* < \alpha_{2j}$$
 (0)

$$R_{it} = R_{it}^* - \alpha_{2i} \text{ if } R_{it}^* > \alpha_{2i}$$
 (2)

where α_{1j} is the threshold level below which the marginal investors will want to sell if given negative information about stock j. Similarly, α_{2j} is the threshold above which the marginal investors will want to buy given positive information about stock j. If the true return is not low enough or high enough to exceed two thresholds levels, the investors will decide not to trade, which causes a zero return. The two threshold levels measure the percentage transaction costs of selling stock j and buying stock j, respectively. Therefore, the proportional round-trip transaction cost of stock j at time t for a competitive marginal investor is the difference between the percentage buying and selling costs,

$$COST_i = \alpha_{2i} - \alpha_{1i}$$
 2

To determine two threshold levels, α_{1j} and α_{2j} , Lesmond et al. (1999) develop the following maximum likelihood function to estimate the four parameters α_{1j} , α_{2j} , β_j , σ_j of the LOT model:

$$\begin{split} \mathsf{L}(\alpha_{1j},\alpha_{2j},\beta_{j},\sigma_{j}\big|R_{jt},R_{mt}) \\ &= \prod_{1} \frac{1}{\sigma_{j}} n \left[\frac{R_{jt} + \alpha_{1j} - \beta_{j} R_{mt}}{\sigma_{j}} \right] \\ &\times \prod_{0} \left[N \left(\frac{\alpha_{2j} - \beta_{j} R_{mt}}{\sigma_{j}} \right) - N \left(\frac{\alpha_{1j} - \beta_{j} R_{mt}}{\sigma_{j}} \right) \right] \\ &\times \prod_{2} \frac{1}{\sigma_{j}} n \left[\frac{R_{jt} + \alpha_{2j} - \beta_{j} R_{mt}}{\sigma_{j}} \right] \end{split}$$

S.T. $\alpha_{1i} \leq 0, \alpha_{2i} \geq 0, \beta_i \geq 0, \sigma_i \geq 0$

where N(.) is the cumulative normal distribution and n(.) is the normal distribution.

By giving the relationship between measured return R_{jt} and true return R_{jt}^* , the LOT model is using an optimisation method to find the maximum measured return R_{jt} (return after transaction costs) by estimating four parameters α_{1j} , α_{2j} , β_j , σ_j . The critical parameters that we are interested in are α_{1j} and α_{2j} , which are potential transaction costs for selling and buying, respectively. ³³

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3

³³ Round-trip transaction costs are estimated as a percentage of the price for each stock in each calendar year. As in Liu et al. (2011), stocks have at least 30% nonzero returns in a calendar year are included in the model. The starting values for the estimated parameters α_{1j} , α_{2j} , β_j and σ_j are 0.01, 0.01, 1, and 0.1, respectively. If the procedure fails to converge, the starting values change to 0.1, 0.1, 1, and 0.1, and re-estimate.

7.3.3. LOT – Y split model

Goyenko et al. (2009) point out that the definitions of the three regions in the LOT model influence the quality of the estimates. By matching the information of effective and realised spread, and price impact, they show that assigning daily returns into three regions based on stock return itself (R_{jt}) rather than combining with market return (R_{mt}) will be more accurate for measuring the transaction costs. That is, the returns on the day will be in the region of zero when $R_{jt} = 0$, returns on the day will be in the region of one when $R_{jt} > 0$, and returns on the day will be in the region of 2 when $R_{jt} < 0$, and therefore, the model is named as the LOT Y-split model.

This study estimates the transaction costs of individual stock following the method employed in Goyenko et al. (2009) and seeks to find whether the two momentum strategies are still profitable across 24 developed markets over last two decades. To my best knowledge, this is the first study to test the two momentum profits after including the transaction costs by using the LOT Y-split measurement model.

7.4. The profitability of time-series momentum strategies

Table 7.1 in Appendix 3 reports the average monthly time-series momentum returns after accounting for the transaction costs for each of the implementations as set out in Table 4.1. The specific time-series momentum strategy is to form a long portfolio consisting of the identified winning stocks and a short portfolio consisting of the identified losing stocks with the monthly returns reported being the difference between the monthly before-transaction costs returns for the winner and loser portfolios. The results all relate to an implementation in which the cut-offs for selecting the stocks to be included in the cross-sectional momentum portfolios were set at 16%.

The after-transaction cost returns for the time-series momentum strategy is then calculated by subtracting the aggregate transaction costs of the winner and loser portfolios from the momentum before-cost (raw) returns reported in Table 5.1. We estimate the transaction costs based on actual turnover, which assumes that investors only close out the positions if stocks no longer remain in the same winner (or loser) portfolio in the subsequent period.³⁴

Panels A, B and C of Table 7.1 present the monthly after-transaction cost (net) return of timeseries momentum strategies when the portfolio weights are based on EW, MW and IVOL, respectively.

7.4.1. Profitability of time-series momentum strategies

Table 7.2 provides a summary of the number of time-series momentum strategies from the 192 implementations that yield positive and negative (net) returns after the transaction costs. Based on the pooled sample for the 24 markets, we find that with the introduction of transaction costs that the number of profitable implementations falls from 94% to 66% with those being significant falling to 27% from 61%. The time-series momentum strategy produces a good investment outcome in some markets with there being no instance of an implementation that yields a significant negative net return in Austria, Belgium, Finland, Italy, Netherlands and New Zealand. More than half of the implementations still yield significant positive net returns in Belgium, Denmark, Italy, the Netherlands, New Zealand, Switzerland and the UK, whereas a smaller number of implementations show significant profitability in the remaining markets.

Chart 7.1 shows the average monthly before-cost (raw) returns and net returns of the timeseries momentum strategies across the 192 implementations analysed for each market. After

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³⁴ The percentage of monthly transaction cost for each stock is estimated by the LOT-Y model (Goyenko et al., 2009).

accounting for the transaction costs, the average monthly net returns across the 24 markets drop 74% to 0.24% per month from 0.91%. The pooled average monthly transaction cost is around 0.68% per month with it being highest in Canada (1.18% per month), Australia (1.14% per month) and Hong Kong (1.10% per month). The time-series momentum strategy produces more than 0.5% per month in after-cost returns in nine markets, with the highest being 0.85% per month in Italy. We see that the time-series momentum strategy is generally not profitable in nine markets, Australia, France, Greece, Hong Kong, Israel, Japan, Portugal, Spain and the US after taking the transaction costs into account.

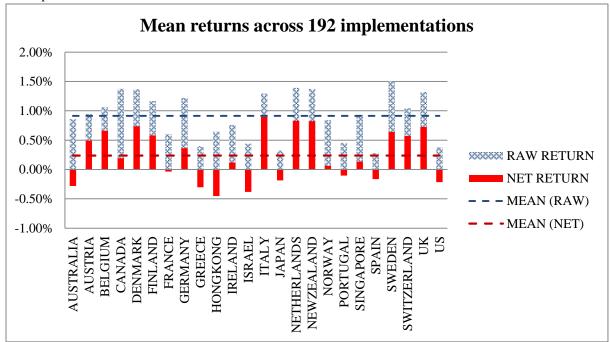
Table 7.2. Numbers of implementations yield positive/negative time-series momentum returns after transaction costs

This table reports the numbers of implementations that yield positive and negative average monthly returns after the transaction cost time-series momentum returns for each market. The SIGNIFICANT column indicates the aggregate numbers of implementations that generate average monthly returns at the 1%, 5%, or 10% significant levels, whereas the NON-SIGNIFICANT column indicates the numbers of strategies that produce average monthly returns over 10% significance level.

			POSI	TIVE			NEGA	ATIVE	
	IMPLEMENTATION APPROACHES	SIGNIFICANT	PERCENTAGE	NON SIGNIFICANT	PERCENTAGE	SIGNIFICANT	PERCENTAGE	NON SIGNIFICANT	PERCENTAGE
AUSTRALIA	192	23	12%	44	23%	73	38%	52	27%
AUSTRIA	192	53	28%	120	63%	0	0%	19	10%
BELGIUM	192	111	58%	71	37%	0	0%	10	5%
CANADA	192	36	19%	81	42%	16	8%	59	31%
DENMARK	192	127	66%	53	28%	1	1%	11	6%
FINLAND	192	39	20%	126	66%	0	0%	27	14%
FRANCE	192	32	17%	74	39%	24	13%	62	32%
GERMANY	192	45	23%	117	61%	6	3%	24	13%
GREECE	192	4	2%	43	22%	4	2%	141	73%
HONGKONG	192	0	0%	45	23%	51	27%	96	50%
IRELAND	192	6	3%	121	63%	17	9%	48	25%
ISRAEL	192	5	3%	53	28%	80	42%	54	28%
ITALY	192	139	72%	45	23%	0	0%	8	4%
JAPAN	192	2	1%	47	24%	30	16%	113	59%
NETHERLANDS	192	121	63%	62	32%	0	0%	9	5%
NEWZEALAND	192	127	66%	54	28%	0	0%	11	6%
NORWAY	192	4	2%	116	60%	9	5%	63	33%
PORTUGAL	192	4	2%	74	39%	12	6%	102	53%
SINGAPORE	192	9	5%	125	65%	1	1%	57	30%
SPAIN	192	5	3%	90	47%	30	16%	67	35%
SWEDEN	192	73	38%	101	53%	3	2%	15	8%
SWITZERLAND	192	122	64%	55	29%	2	1%	13	7%
UK	192	146	76%	38	20%	2	1%	6	3%
US	192	0	0%	44	23%	33	17%	115	60%
POOLED SAMPLE	192	51	27%	75	39%	16	9%	49	26%

Chart 7.1. Average time-series momentum returns across implementations for each market

This chart reports the pooled average monthly before/after transaction cost returns for 192 time-series momentum strategies for each market. The dashed line shows the average monthly returns across the 24 developed markets.



7.4.2. The weighting method

Within each market, Table 7.3 reports the average monthly raw and net returns of the time-series momentum strategies across the 24 markets using equal weights (EW), market weights (MW) and inverse volatility weights (IVOL), respectively. The pooled average net gain of the time-series momentum strategies across the 24 markets are reduced by the transaction costs, to 0.13% per month from 0.71% using EW, to 0.32% per month from 0.64% using MW and to 0.26% per month from 0.68% using IVOL. The costs of the three weighting schemes in the majority of markets are below 1% per month, with the exceptions in Australia at 1.15% per month, Canada at 1.2% per month and Hong Kong at 1.1% per month. The time-series

momentum strategy incurs a loss in ten, three and eight of the 24 markets when using EW, MW and IVOL, respectively.

Compared with investment outcomes based on raw returns, investment outcomes on the basis of highest average monthly net returns remain largely unchanged across each of the three weighting schemes with exceptions being in Austria and Netherland. Time-series momentum strategies with MW sill produce the best investment results after accounting for the transaction costs. It is MW that yields the highest profits in Australia, Canada, Hong Kong, Ireland, Israel, Japan, Portugal and the US. Although some weighting schemes yield positive profits in Hong Kong, Japan, Norway, Portugal, Singapore and the US, those gains are all relatively small, below 0.1% per month. Finally, all three methods produce negative average profits in Greece.

Table 7.3. Time-series momentum profit based on three weights

This table reports the pooled average monthly after transaction cost time-series momentum returns using equal weight (EW), market weight (MW) and inversed volatility weight (IVOL) for each market. T-statistics are reported in *italic*. The raw return column reports the time-series momentum before transaction costs from Table 5.3. The net return column reports the time-series momentum before transaction costs. The highest return is highlighted in green and the lowest return is marked in red.

			Raw	returns					Net i	returns		
	EW		MW		IVOL		EW		MW		IVOL	
AUSTRALIA	0.27%	6.9961	1.53%	22.1688	0.78%	16.5708	-0.90%	-18.0191	0.41%	7.1437	-0.36%	-6.2765
AUSTRIA	1.05%	27.6351	0.74%	14.3792	1.05%	31.2568	0.58%	17.9456	0.30%	5.8163	0.59%	17.3029
BELGIUM	1.13%	34.6241	0.95%	20.9260	1.10%	26.2520	0.71%	21.7033	0.57%	11.9328	0.70%	15.5559
CANADA	0.95%	22.3287	1.88%	27.8333	1.29%	24.3764	-0.35%	-5.6476	0.83%	11.8354	0.10%	1.8149
DENMARK	1.44%	42.2548	1.28%	29.7733	1.38%	37.7092	0.77%	17.6884	0.70%	15.1891	0.74%	15.4999
FINLAND	0.94%	19.6530	1.55%	23.7333	1.01%	21.7778	0.32%	6.4403	1.00%	12.5262	0.42%	8.5733
FRANCE	0.76%	22.3039	0.23%	7.3412	0.81%	20.2468	0.10%	1.9028	-0.38%	-6.3077	0.17%	3.1044
GERMANY	1.09%	33.8434	1.31%	29.6823	1.26%	35.7024	0.19%	4.6121	0.48%	9.1781	0.42%	8.6304
GREECE	0.36%	4.7452	0.37%	5.2758	0.46%	5.8896	-0.36%	-5.1516	-0.32%	-3.8910	-0.23%	-3.2715
HONGKONG	0.33%	7.1432	1.07%	18.9594	0.54%	10.6977	-0.84%	-13.7584	0.06%	1.0690	-0.58%	-10.2857
IRELAND	0.56%	7.3645	1.07%	10.4331	0.64%	8.3217	-0.09%	-1.0184	0.45%	4.2387	0.00%	0.0265
ISRAEL	0.08%	1.8824	1.06%	13.6355	0.17%	3.3812	-0.76%	-10.6143	0.26%	2.8421	-0.65%	-9.6330
ITALY	1.35%	27.2860	1.27%	20.3594	1.25%	27.2933	0.94%	19.1266	0.89%	13.4450	0.87%	19.0354
JAPAN	0.23%	12.7582	0.48%	21.0948	0.26%	15.8305	-0.32%	-8.7427	0.03%	0.8400	-0.26%	-8.1519
NETHERLANDS	1.63%	42.3633	0.97%	19.2116	1.58%	34.3010	1.02%	28.0566	0.43%	8.2804	1.03%	22.6014
NEWZEALAND	1.28%	22.2580	1.30%	16.1999	1.54%	23.4382	0.73%	13.3591	0.75%	10.9314	0.99%	18.0265
NORWAY	0.83%	16.4406	0.79%	17.8877	0.89%	18.3339	0.00%	0.0580	0.08%	1.2178	0.11%	2.2544
PORTUGAL	0.24%	4.2879	0.63%	8.6450	0.48%	7.9924	-0.33%	-4.4417	0.10%	1.2145	-0.08%	-1.1561
SINGAPORE	0.83%	20.5356	0.86%	17.0309	1.09%	27.2685	0.00%	-0.0331	0.12%	1.9532	0.29%	5.6727
SPAIN	0.48%	12.5638	-0.03%	-0.4602	0.38%	9.3087	0.02%	0.4295	-0.46%	-6.2491	-0.05%	-0.8456
SWEDEN	1.53%	25.2874	1.30%	23.1607	1.67%	26.8186	0.56%	9.2177	0.55%	8.8760	0.79%	11.9081
SWITZERLAND	1.24%	28.2021	0.79%	18.2514	1.10%	27.4184	0.75%	18.7330	0.35%	7.4548	0.63%	15.3612
UK	1.38%	37.5991	1.07%	26.3088	1.51%	39.1080	0.77%	26.2999	0.48%	8.0770	0.93%	27.5502
US	0.29%	9.8281	0.51%	20.5771	0.33%	14.9429	-0.38%	-11.7275	0.01%	0.1407	-0.27%	-7.6495
POOLED SAMPLE	0.84%	8.7100	0.96%	10.4588	0.94%	10.1932	0.13%	1.1064	0.32%	4.0254	0.26%	2.5218

7.4.3. The formation (J) and holding period (H)

Li et al. (2009) point out that the cost of the momentum strategy could be reduced when using alternative implementation approaches, such as an extended holding period. Table 7.4 reports the pooled average monthly net returns across 16 time-series momentum strategies when the formation period J (J = three, six, nine and 12 months) and the holding period H (H = three, six, nine and 12 months) are calculated for each market.

Before accounting for the transaction costs, this study finds that the time-series momentum strategy that tends to yield the highest returns infers a momentum investment cycle (i.e. sum of formation and holding periods) of between 12 and 15 months. After considering the trading costs, the findings would appear to confirm that in most markets the high returns from implementations using a short holding period are heavily diluted by high transaction costs. Therefore, it appears that except in Sweden, the highest net return for each market increase to an aggregate of between 15 and 18 months for the combination of the formation and holding periods. Compared with the before-transaction costs performance of the time-series momentum strategy, the formation period remains unchanged in 13 markets, whereas the best holding period of the time-series momentum portfolios extend by three months in half of our sample.

Table 7.4. Time-series momentum profitability based on formation (J) and holding (H) period

This table reports the pooled average monthly after-transaction cost time-series momentum returns based on the formation J (J = three, six, nine and 12 months) and the holding H (H = three, six, nine and 12 months) for each market. T-statistics is reported in *italics*. The highest return is highlighted in green and the lowest return is highlighted in red.

AUSTRALIA	H = 3	H = 6	H = 9	H = 12	AUSTRIA	H = 3	H = 6	H = 9	H = 12	BELGIUM	H = 3	H = 6	H = 9	H = 12
J = 3	-1.46%	-0.48%	-0.06%	-0.05%	J = 3	0.00%	0.35%	0.63%	0.47%	J = 3	0.08%	0.38%	0.38%	0.61%
	-7.9783	-3.3070	-0.3884	-0.3876		-0.0109	5.9072	8.7153	16.2224		1.2925	5.3803	4.3826	8.2705
J = 6	-0.63%	-0.03%	-0.11%	-0.19%	J = 6	0.31%	0.55%	0.62%	0.69%	J = 6	0.54%	0.49%	0.64%	0.77%
	-3.4056	-0.1491	-0.5565	-1.1870		5.2454	14.1136	9.1598	9.9086		7.0737	4.6315	11.0121	22.6595
J = 9	-0.15%	0.12%	0.08%	0.04%	J = 9	0.63%	0.72%	0.65%	0.71%	J = 9	0.60%	1.02%	0.84%	0.86%
	-0.6637	0.5454	0.5261	0.2399		11.5512	8.8138	12.9371	9.4959		6.5065	20.7176	18.4746	14.7939
J = 12	-0.53%	-0.29%	-0.37%	-0.38%	J = 12	0.57%	0.51%	0.48%	-0.01%	J = 12	0.97%	1.01%	0.75%	0.62%
	-2.8999	-1.6022	-2.6451	-2.8284		5.3532	4.9995	5.1588	-0.0516		17.1067	25.9060	6.9531	9.0931
CANADA	H = 3	H = 6	H = 9	H = 12	DENMARK	H = 3	H = 6	H = 9	H = 12	FINLAND	H = 3	H = 6	H = 9	H = 12
J = 3	-1.24%	-0.25%	0.34%	0.25%	J = 3	-0.18%	0.47%	0.42%	0.69%	J = 3	-0.38%	-0.16%	0.71%	0.73%
	-7.0286	-2.1802	2.9692	2.6891		-2.9075	10.9912	4.1260	19.0203		-8.2566	-1.1420	5.8618	5.9719
J = 6	-0.33%	0.36%	0.75%	0.25%	J = 6	0.41%	0.78%	0.85%	1.02%	J = 6	0.20%	0.80%	0.58%	0.71%
	-2.1374	1.9416	3.5951	1.7395		9.7418	18.8609	14.3613	18.7515		2.6028	6.6669	3.1078	5.5082
J = 9	0.34%	0.59%	0.54%	0.28%	J = 9	0.82%	1.04%	1.02%	0.87%	J = 9	0.53%	0.79%	0.67%	0.36%
	1.8746	3.7632	3.1333	2.2317		18.5167	25.0615	37.9143	24.0465		7.0400	7.2607	6.5007	2.8453
J = 12	0.24%	0.45%	0.35%	0.14%	J = 12	0.75%	1.10%	0.80%	0.92%	J = 12	0.83%	1.19%	0.82%	0.93%
	1.5913	2.1845	2.3292	0.9190	-	14.2310	24.7736	8.5319	19.2453	-	10.1820	6.8432	6.1948	4.9820
ED LIVED	** 0		** 0		GERLA LA L			** 0		an en an	** 0		** 0	
FRANCE	H = 3	H = 6	H = 9	H = 12	GERMANY	H = 3	H = 6	H = 9	H = 12	GREECE	H = 3	H = 6	H = 9	H = 12
J = 3	-1.20%	-0.31%	0.04%	0.04%	J = 3	-0.56%	0.30%	0.60%	0.35%	J = 3	-0.88%	0.13%	-0.03%	0.33%
	-9.9325	-5.2279	0.7048	0.6032		-8.5011	3.6739	6.5349	4.7439		-12.0113	0.7162	-0.1916	1.4301
J = 6	-0.51%	-0.09%	0.12%	0.16%	J = 6	-0.26%	0.48%	0.62%	0.55%	J = 6	-0.42%	-0.09%	-0.21%	-0.42%
	-4.4676	-1.0614	0.8355	2.3402		-5.1292	7.7608	9.8201	8.1974	J = 9	-3.1458	-0.7173	-3.7417	-10.7442
J = 9	-0.18%	0.17%	0.34%	0.33%	J = 9	0.26%	0.63%	0.42%	0.60%	J = 9	-0.45%	0.03%	-0.59%	0.26%
J = 12	-1.2910 -0.16%	0.22%	4.1168 0.32%	6.2925 0.19%	J = 12	6.2532 0.33%	8.4085 0.49%	4.5038 0.61%	10.4444 0.39%	J = 12	-2.3450	-0.1582 -0.85%	-11.3163 -0.29%	-0.75%
J = 12		2.1883	0.32% 4.7118	0.19% 2.7404	J = 12		6.7225		5.1786	J = 12	-0.61%	-0.83% -9.3719	-0.29% -2.3459	-0.75% -8.0689
	-0.9110	2.1003	4./110	2.7404		4.7888	0.7223	7.0969	3.1780	-	-5.8949	-9.5/19	-2.3439	-0.0009
HONGKONG	H = 3	H = 6	H = 9	H = 12	IRELAND	H = 3	H = 6	H = 9	H = 12	ISRAEL	H = 3	H = 6	H = 9	H = 12
J = 3	-1.64%	-0.47%	-0.39%	-0.20%	J = 3	-0.77%	-0.99%	-0.71%	0.03%	J = 3	-1.89%	-1.03%	-0.64%	-0.58%
	-9.1805	-2.7241	-3.2166	-1.9579		-5.1455	-4.1620	-3.5755	0.3254		-21.3660	-11.1605	-4.9115	-6.9758
J = 6	-0.63%	-0.13%	-0.12%	-0.20%	J = 6	-0.60%	0.22%	-0.35%	1.10%	J = 6	-0.90%	-0.41%	-0.46%	-0.14%
	-4.3829	-1.4356	-1.2714	-2.1756		-3.3933	1.1500	-1.5263	3.8663		-5.1189	-2.0359	-3.2548	-1.0060
J = 9	-0.61%	-0.37%	-0.12%	-0.17%	J = 9	-0.03%	0.44%	0.83%	0.60%	J = 9	-0.61%	-0.18%	-0.13%	0.23%
	-4.1134	-2.5787	-0.9314	-1.3612		-0.4190	9.6198	7.3114	7.1116		-2.7073	-0.8917	-0.8432	1.1865
J = 12	-0.83%	-0.43%	-0.41%	-0.50%	J = 12	0.63%	0.51%	0.63%	0.38%	J = 12	-0.08%	0.34%	0.07%	0.28%
	-4.7092	-2.9057	-3.2735	-3.2000		13.4290	10.0419	6.4002	5.6050		-0.4633	2.1617	0.5461	1.4344
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ITALY	H = 3	H = 6	H = 9	H = 12	JAPAN	H = 3	H = 6	H = 9	H = 12	NETHERLANDS	H = 3	H = 6	H = 9	H = 12
J = 3	0.20%	0.25%	0.76%	0.62%	J = 3	-0.78%	-0.33%	-0.11%	0.16%	J = 3	0.44%	0.63%	0.51%	1.06%
-	2.6325	1.9137	11.2385	7.7001		-11.6133	-7.1695	-2.5064	1.6538	-	10.1233	6.8155	4.3182	13.2773
J = 6	0.70%	0.90%	0.94%	0.55%	J = 6	-0.60%	-0.21%	-0.01%	0.14%	J = 6	0.39%	0.74%	0.87%	1.20%
	12.8644	12.4577	13.9034	5.0403		-8.4494	-2.7362	-0.2582	1.9302		2.9300	6.7626	8.8355	7.6141
J = 9	1.02%	1.22%	1.24%	0.99%	J = 9	-0.47%	-0.03%	-0.03%	-0.04%	J = 9	0.95%	1.22%	0.94%	1.04%
	18.4005	14.8222	27.7202	17.0267		-10.1853	-0.6312	-1.0378	-0.7632		7.3076	9.0729	8.0153	11.0450
J = 12	1.23%	1.45%	1.18%	1.14%	J = 12	-0.30%	-0.10%	-0.12%	-0.14%	J = 12	0.71%	1.11%	0.83%	0.63%
	27.0716	18.5373	21.1748	11.8280		-7.8669	-1.7486	-2.3297	-2.4175		6.5994	10.3563	7.9222	4.3626
NEWZEALAND	H = 3	H = 6	H = 9	H = 12	NORWAY	H = 3	H = 6	H = 9	H = 12	PORTUGAL	H = 3	H = 6	H = 9	H = 12
J = 3	0.28%	0.46%	0.46%	0.13%	J = 3	-0.98%	0.17%	0.12%	0.17%	J = 3	-1.04%	0.19%	0.41%	0.40%
	2.3582	4.7224	6.4481	1.0815		-19.0720	2.1690	1.0159	1.8396		-6.9376	1.7571	3.0897	3.2354
J = 6	1.03%	0.81%	0.68%	0.65%	J = 6	-0.39%	0.16%	0.15%	0.38%	J = 6	-0.25%	0.29%	0.56%	0.44%
	10.0621	7.4170	6.1921	7.3920		-4.7347	2.5038	1.5449	4.8833		-1.5365	1.8868	3.8117	2.9464
J = 9	1.03%	0.91%	1.10%	0.81%	J = 9	0.05%	0.23%	0.18%	0.04%	J = 9	-0.86%	-0.08%	0.07%	0.06%
	12.4162	6.5803	26.1739	8.1427		0.3649	4.2369	4.8261	0.5215		-7.3875	-0.9828	0.6672	0.9613
J = 12	1.52%	1.36%	1.08%	0.86%	J = 12	0.05%	0.37%	0.16%	0.16%	J = 12	-0.73%	-0.54%	-0.22%	-0.38%
	16.5453	10.5506	13.2894	22.9332		0.5175	3.3480	2.1479	1.3816		-6.8175	-6.2534	-3.4863	-4.5529
SINGAPORE	H = 3	H = 6	H = 9	H = 12	SPAIN	H = 3	H = 6	H = 9	H = 12	SWEDEN	H = 3	H = 6	H = 9	H = 12
J = 3	-0.74%	0.12%	0.48%	-0.01%	J = 3	-0.96%	-0.67%	-0.04%	0.19%	J = 3	-0.76%	0.31%	0.37%	0.41%
	-11.5409	0.8924	11.6136	-0.0916		-17.3127	-4.2119	-0.6409	3.7103		-11.4066	5.9584	6.7977	5.0969
J = 6	-0.27%	0.17%	0.47%	0.30%	J = 6	-0.97%	-0.42%	0.12%	-0.14%	J = 6	0.38%	0.76%	0.70%	0.71%
	-3.9946	2.6242	6.2512	7.2862		-9.9055	-3.0033	1.1554	-1.2166		6.3737	16.5188	8.3757	11.0686
J = 9	-0.13%	0.21%	0.30%	0.00%	J = 9	-0.60%	-0.10%	0.31%	0.00%	J = 9	0.81%	1.01%	0.91%	0.50%
	-1.3432	2.4933	3.6679	-0.0231		-3.3472	-1.0183	3.9882	0.0191		11.1468	12.6877	16.9510	5.4547
J = 12	-0.02%	0.45%	0.52%	0.31%	J = 12	-0.06%	0.39%	0.17%	0.19%	J = 12	0.93%	1.00%	1.04%	1.14%
	-0.4091	6.6782	6.2240	3.6366		-0.5903	4.0581	2.3935	7.1071		7.6261	12.3651	14.4620	8.5938
					_									
SWITZERLAND	H = 3	H = 6	H = 9	H = 12	UK	H = 3	H = 6	H = 9	H = 12	US	H = 3	H = 6	H = 9	H = 12
J = 3	-0.25%	0.46%	0.33%	0.78%	J = 3	-0.12%	0.59%	0.65%	0.77%	J = 3	-1.05%	-0.16%	-0.18%	-0.04%
	-2.8121	8.9121	4.9206	8.9224		-0.9514	8.7402	7.3254	20.2146		-15.8985	-2.3560	-4.0567	-0.9213
J = 6	0.44%	0.86%	0.53%	0.75%	J = 6	0.49%	0.75%	0.79%	0.87%	J = 6	-0.52%	-0.17%	-0.05%	-0.05%
	4.6352	11.7588	4.3487	9.4370		3.6942	8.3831	16.5416	22.4663		-8.9181	-2.9969	-0.7224	-0.8716
J = 9	0.65%	0.93%	0.68%	0.52%	J = 9	0.71%	1.07%	1.01%	0.81%	J = 9	-0.23%	0.03%	-0.02%	-0.12%
	6.0603	11.1716	6.1589	11.5744		5.8151	17.8370	23.5126	18.0795		-5.4627	0.6564	-0.4034	-1.8383
J = 12		0.73%	0.44%	0.53%	J = 12	0.86%	0.94%	0.83%	0.59%	J = 12				-0.24%
					· -	6.0939				•				-2.7551
		11.1716	6.1589	11.5744		5.8151 0.86%	17.8370	23.5126	0.81% 18.0795		-0.23%			_

7.4.4. The rebalancing methods

Table 7.5 reports the pooled raw and net returns of the time-series momentum strategy under different implementation approaches according to four rebalancing methods: CAR (0), BHAR (0), CAR (1), and BHAR (1). The investment outcomes of highest average monthly net returns are unchanged across each of the four rebalancing methods. The average net return on the basis of pooled samples across the 24 markets reduces to 0.27% per month from 0.93% per month for CAR (0) and to 0.25% per month from 0.92% per month for CAR (1), and declines to 0.23% per month from 0.92% per month and to 0.20% per month from 0.89% per month for BHAR (0) and BHAR (1), respectively. The study finds only a few basis points difference between after-transaction costs returns across all four methods, however the implementation involving CAR (0) still produces the highest net return in the time-series momentum strategy.

Table 7.5. Time-series momentum profit based on portfolio constructions

This table reports the pooled average monthly after transaction cost time-series momentum returns based on four rebalancing methods: monthly-rebalancing with zero gap (CAR (0)), monthly-rebalancing with 1-month gap (CAR (1)), buy-and-hold with zero gap (BHAR (0)), and buy-and-hold with 1-month gap (BHAR (1)). T-statistics are reported in *italics*. The highest return is highlighted in green and the lowest return is marked in red.

_				Raw	return							Net r	eturn			
	CA	R (0)	CA	R (1)	BHA	AR (0)	BHA	AR (1)	CA	R (0)	CA	R (1)	BHA	AR (0)	BHA	AR (1)
AUSTRALIA	0.96%	9.8928	0.92%	9.9801	0.83%	8.3174	0.73%	7.5825	-0.15%	-1.4153	-0.20%	-2.1353	-0.29%	-2.8326	-0.48%	-5.2320
AUSTRIA	0.98%	23.6070	0.96%	20.9950	0.96%	16.3530	0.90%	14.4926	0.53%	11.1067	0.52%	12.6301	0.49%	8.3018	0.43%	8.2307
BELGIUM	1.13%	32.5487	1.13%	29.1885	0.99%	16.7125	1.00%	19.3390	0.73%	18.5876	0.74%	21.8512	0.58%	9.1704	0.59%	11.1638
CANADA	1.42%	19.0625	1.36%	18.0069	1.40%	14.2535	1.32%	14.7031	0.27%	2.7559	0.20%	2.2382	0.19%	1.6255	0.11%	1.0919
DENMARK	1.44%	49.3548	1.41%	43.2048	1.25%	22.5371	1.36%	26.3513	0.81%	17.6499	0.79%	19.0611	0.62%	9.6968	0.73%	13.4082
FINLAND	1.21%	20.1596	1.20%	19.5272	1.13%	12.9204	1.13%	13.7626	0.64%	9.0653	0.62%	9.2143	0.53%	5.3445	0.54%	5.9104
FRANCE	0.54%	10.0216	0.72%	16.0317	0.48%	7.9730	0.65%	11.7681	-0.08%	-1.0238	0.10%	1.7332	-0.16%	-1.9129	0.01%	0.0872
GERMANY	1.26%	32.1995	1.23%	28.6094	1.22%	24.5469	1.17%	23.7623	0.43%	7.4465	0.40%	8.2491	0.34%	4.9802	0.28%	5.2851
GREECE	0.15%	3.5603	0.12%	2.6475	0.57%	6.0343	0.75%	7.0552	-0.55%	-14.0178	-0.58%	-14.7273	-0.14%	-1.4546	0.07%	0.7213
HONGKONG	0.78%	11.4652	0.65%	8.8019	0.72%	9.5388	0.43%	6.1402	-0.28%	-3.8473	-0.42%	-5.5437	-0.40%	-4.5363	-0.70%	-7.8241
IRELAND	0.84%	14.0122	0.83%	15.5630	0.73%	5.0734	0.63%	4.9339	0.21%	2.7708	0.20%	2.8851	0.10%	0.6596	-0.03%	-0.1914
ISRAEL	0.33%	4.3098	0.39%	5.3157	0.50%	4.6901	0.54%	4.8229	-0.49%	-5.0297	-0.43%	-4.9528	-0.31%	-2.5127	-0.30%	-2.2979
ITALY	1.45%	30.0403	1.41%	32.9050	1.17%	15.6672	1.14%	18.1901	1.07%	20.2051	1.03%	23.4831	0.76%	10.6797	0.73%	11.4414
JAPAN	0.26%	13.9653	0.28%	12.0013	0.42%	14.8662	0.33%	10.5679	-0.23%	-5.8836	-0.22%	-5.5569	-0.10%	-1.9267	-0.18%	-3.7156
NETHERLANDS	1.42%	26.6903	1.29%	24.8728	1.49%	19.7965	1.36%	16.5201	0.88%	18.3519	0.74%	16.1750	0.92%	11.8137	0.78%	9.4840
NEWZEALAND	1.54%	24.2346	1.38%	25.0574	1.40%	14.3759	1.18%	12.8381	0.99%	18.9440	0.83%	20.7324	0.84%	9.4608	0.63%	7.6779
NORWAY	0.80%	21.8733	0.74%	15.4617	0.92%	12.8146	0.90%	15.7309	0.03%	0.6153	-0.03%	-0.4805	0.14%	1.6607	0.11%	2.0521
PORTUGAL	0.21%	4.7798	0.44%	12.0386	0.47%	5.2444	0.69%	6.7606	-0.33%	-4.7830	-0.11%	-2.2702	-0.10%	-0.9586	0.13%	1.2150
SINGAPORE	1.05%	33.8020	0.98%	27.4378	0.92%	14.8131	0.76%	11.4605	0.27%	5.4899	0.20%	4.7360	0.11%	1.7253	-0.05%	-0.6055
SPAIN	0.35%	6.9314	0.38%	10.2233	0.19%	2.1557	0.20%	3.5377	-0.08%	-1.1273	-0.05%	-0.7959	-0.27%	-2.7307	-0.25%	-3.4595
SWEDEN	1.54%	26.0457	1.52%	24.2078	1.40%	18.0049	1.53%	17.9888	0.69%	9.9658	0.68%	12.5329	0.53%	6.0340	0.65%	7.8548
SWITZERLAND	1.04%	20.0429	0.99%	20.8679	1.09%	17.5848	1.06%	17.0588	0.58%	11.3903	0.53%	14.8430	0.61%	8.8404	0.58%	9.8957
UK	1.32%	24.4876	1.29%	31.3181	1.37%	23.3649	1.31%	24.1997	0.74%	11.5749	0.70%	15.3958	0.77%	11.6282	0.70%	14.7812
US	0.37%	13.1790	0.40%	11.1489	0.40%	13.1828	0.33%	9.4651	-0.21%	-4.2073	-0.18%	-3.9484	-0.20%	-3.8912	-0.27%	-6.7462
POOLED SAMPLE	0.93%	9.8703	0.92%	10.7287	0.92%	11.6773	0.89%	11.7039	0.27%	2.6646	0.25%	2.6658	0.23%	2.6932	0.20%	2.2669

7.5. The profitability of cross-sectional momentum strategies

Table 7.6 in Appendix 3 reports the average monthly cross-sectional momentum net returns for each of the implementations as set out in Table 4.1. The reported profits all relate to an implementation where the cut-offs are set at 16%. In each rebalancing period the top 16% are identified as winning stocks and the bottom 16% as losing stocks. The specific strategy used it to form a long portfolio consisting of the identified winning stocks and a short portfolio consisting of the identified losing stocks with the average monthly returns being the difference between the monthly returns of the two portfolios. The cross-sectional momentum net returns, then, are estimated the returns from buying winners and selling losers subtract trading costs of both portfolios in each month. As for the time-series momentum strategy, we assume that momentum investors close out the positions of stocks in the winner or loser portfolio when they no longer remain in the same portfolio in the subsequent period.

The data in Panels A, B and C of Table 7.6 show the average monthly cross-sectional momentum returns after the transaction costs when the portfolio weights are based on EW, MW and IVOL, respectively.

7.5.1. Profitability of cross-sectional momentum strategies

Table 7.7 summarises the number of implementations that produce positive and negative net returns for the cross-sectional momentum strategy across the 24 markets. When pooling all of the 24 markets, the number of implementations yield positive net returns declines by 29%, to 59% from 88%, of which 23% of the total implementations prove to be significantly profitable compared with 53% that are significant before accounting for the transaction costs.

Based on the average monthly net returns across the 192 implementations, in excess of 50% of the implementations examined yield significant positive net returns in Belgium, Denmark,

Italy, Netherlands, New Zealand and the UK. None of the implementations in the cross-sectional momentum strategies yields significant negative profitability in Belgium, Denmark, Italy, New Zealand and Sweden in contrast to none of the implementations being significant positive profitability in Australia, Greece, Hong Kong, Japan, Portugal, Singapore and the US markets.

Chart 7.2 shows the average net returns of the cross-sectional momentum strategy across all of the implementations for each of the markets. With the introduction of transaction costs, these average monthly returns drop by 75%, to 0.17% per month from 0.7%. The average transaction costs of implementing 192 cross-sectional momentum strategies are higher than 1% per month in six markets, Hong Kong (1.49%), Japan (1.22%), Israel (1.09%), the US (1.09%), Australia (1.02%) and Singapore (1%).

This average for the cross-sectional momentum strategy realises a loss in ten markets, with the highest loss of -0.8% per month occurring in the Hong Kong market. In contrast, the cross-sectional momentum strategies in Belgium, Denmark, Italy and New Zealand produce the highest average after-transaction costs returns of around 0.6% per month. Comparing the after-transaction costs performance of the time-series and cross-sectional momentum strategies, overall the time-series momentum strategy still outperforms by 0.07% per month, 0.24% per month as compared to 0.17% per month for the cross-sectional momentum strategy.

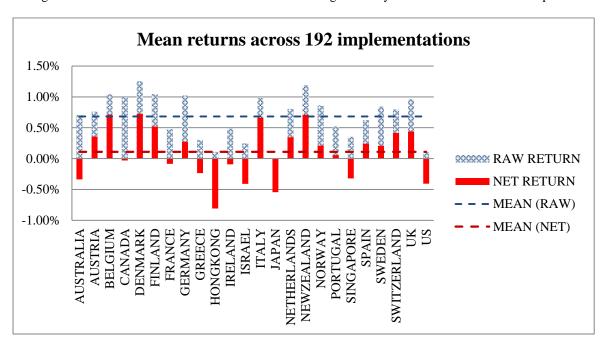
Table 7.7. Numbers of implementations yield positive/negative cross-sectional momentum returns after transaction costs

This table reports the numbers of implementations that yield positive and negative average monthly after-transaction cost cross-sectional momentum returns for each market. The SIGNIFICANT column indicates the aggregate numbers of implementations that generate average monthly returns at the 1%, 5%, or 10% significance level, whereas the NON-SIGNIFICANT column indicates the numbers of strategies that produce average monthly returns over 10% significance level.

			POSI	TIVE			NEGA	ATIVE	
	IMPLEMENTATION APPROACHES	SIGNIFICANT	PERCENTAGE	NON SIGNIFICANT	PERCENTAGE	SIGNIFICANT	PERCENTAGE	NON SIGNIFICANT	PERCENTAGE
AUSTRALIA	192	0	0%	48	25%	66	34%	78	41%
AUSTRIA	192	67	35%	87	45%	3	2%	35	18%
BELGIUM	192	122	64%	59	31%	0	0%	11	6%
CANADA	192	10	5%	87	45%	21	11%	74	39%
DENMARK	192	145	76%	35	18%	0	0%	12	6%
FINLAND	192	52	27%	124	65%	2	1%	14	7%
FRANCE	192	4	2%	102	53%	25	13%	61	32%
GERMANY	192	28	15%	131	68%	13	7%	20	10%
GREECE	192	0	0%	47	24%	11	6%	134	70%
HONGKONG	192	0	0%	6	3%	120	63%	66	34%
IRELAND	192	6	3%	87	45%	9	5%	90	47%
ISRAEL	192	2	1%	42	22%	98	51%	50	26%
ITALY	192	134	70%	50	26%	0	0%	8	4%
JAPAN	192	0	0%	5	3%	95	49%	92	48%
NETHERLANDS	192	97	51%	36	19%	3	2%	56	29%
NEWZEALAND	192	126	66%	60	31%	0	0%	6	3%
NORWAY	192	12	6%	136	71%	11	6%	33	17%
PORTUGAL	192	0	0%	123	64%	10	5%	59	31%
SINGAPORE	192	0	0%	21	11%	15	8%	156	81%
SPAIN	192	53	28%	92	48%	10	5%	37	19%
SWEDEN	192	9	5%	135	70%	0	0%	48	25%
SWITZERLAND	192	78	41%	94	49%	2	1%	18	9%
UK	192	103	54%	57	30%	4	2%	28	15%
US	192	0	0%	17	9%	56	29%	119	62%
POOLED SAMPLE	192	44	23%	70	36%	24	12%	54	28%

Chart 7.2. Average cross-sectional momentum returns across implementations for each market

This chart reports the pooled average monthly after-transaction costs returns for 192 cross-sectional momentum strategies for each market. The dashed line shows the average monthly returns across the 24 developed markets.



7.5.2. The weighting method

Table 7.8 outlines the average monthly raw and net returns of the cross-sectional momentum strategies using the three different portfolio weights: equal weights (EW), market weights (MW) and inverse volatility weights (IVOL), respectively.

In Table 5.8 we observe that the cross-sectional momentum strategies using MW produce the highest returns in ten markets, the strategies using IVOL and EW generate greatest returns in eight and six markets, respectively. The findings with respect to the best investment outcomes reported for each of the weighting methods for the cross-sectional momentum strategy remain the same as those previously identified on the basis of raw returns in all the markets.

In terms of the pooled returns across the 24 markets, the average monthly net return of implementing cross-sectional momentum strategies falls by 0.58% to 0.08% per month using EW, reduces by 0.55% to 0.10% per month using MW and decreases by 0.59% to 0.15% per month using IVOL. The investment outcome with IVOL consistently proves to be the best for implementing the cross-sectional momentum strategy.

Based on the average monthly net returns under different weighting schemes as reported in Tables 7.3 and 7.8, the pooled performances of time-series and cross-sectional momentum becomes poorly when implementing both momentum strategies use EW as compared to the outcomes using the other two weighting schemes. Both momentum strategies consistently yield superior investment outcomes for Belgium, Denmark, Italy, and Switzerland when using EW, for Australia, Canada, Finland, Germany and Israel when using MW, and for Austria, New Zealand, Sweden and the UK when using IVOL. However, neither of the two momentum strategies produces positive returns in Hong Kong, Japan, Singapore and the US.

Compared to the costs of the three weighting schemes in the time-series momentum strategies, the costs of the cross-sectional momentum strategies are lower by around 0.1% per month on average. Australia, Canada and Hong Kong still remain the markets with the highest monthly transaction costs of around 1% per month.

Table 7.8. Cross-sectional momentum profit based on three weights

This table reports the pooled average monthly after transaction cost cross-sectional momentum returns using equal weight (EW), market weight (MW) and inversed volatility weight (IVOL) for each market. T-statistics are reported in *italics*. The raw return column reports the time-series momentum before the transaction costs from Table 5.8. The transaction cost column reports the pooled average monthly costs of winner and loser portfolios using EW, MW and IVOL. The highest return is highlighted in green and the lowest return is marked in red.

			Raw	return					Net	return		
	EW		MW		IVOL		EW		MW		IVOL	
AUSTRALIA	0.25%	7.0778	1.15%	19.6631	0.71%	15.3687	-0.72%	-18.1059	0.13%	3.0705	-0.42%	-7.4048
AUSTRIA	0.90%	27.0270	0.42%	10.4853	0.96%	27.8379	0.51%	14.5196	0.01%	0.3256	0.55%	13.8478
BELGIUM	1.17%	31.7460	0.85%	16.2799	1.12%	26.6987	0.84%	21.2993	0.52%	9.5454	0.77%	17.0556
CANADA	0.66%	17.9078	1.40%	26.2589	0.93%	21.3127	-0.43%	-7.6464	0.45%	8.3609	-0.10%	-1.9166
DENMARK	1.30%	35.2329	1.16%	30.6922	1.30%	34.3466	0.76%	18.1742	0.68%	15.8893	0.74%	17.5555
FINLAND	0.82%	24.3617	1.45%	31.8624	0.87%	25.3838	0.29%	7.8866	0.94%	14.9787	0.33%	8.7524
FRANCE	0.65%	18.6061	0.21%	6.3814	0.58%	12.7077	0.09%	1.8550	-0.35%	-5.6513	0.00%	-0.0369
GERMANY	0.92%	28.7380	1.09%	28.9323	1.06%	24.9748	0.18%	4.2470	0.34%	6.2309	0.30%	6.1754
GREECE	0.11%	2.4722	0.56%	10.0614	0.23%	4.7895	-0.44%	-10.1949	0.04%	0.7107	-0.31%	-7.0286
HONGKONG	-0.13%	-3.4014	0.48%	9.9660	-0.02%	-0.3273	-1.08%	-23.0430	-0.37%	-9.1958	-0.97%	-22.6728
IRELAND	0.51%	11.7774	0.30%	3.4392	0.65%	13.4941	-0.06%	-1.2306	-0.28%	-3.2619	0.06%	1.1534
ISRAEL	-0.04%	-1.9781	0.74%	14.8199	0.04%	1.3800	-0.69%	-17.3884	0.09%	1.6754	-0.63%	-17.1042
ITALY	1.04%	38.5665	0.94%	23.2819	0.96%	37.8547	0.73%	22.9515	0.62%	12.2829	0.64%	21.4501
JAPAN	-0.16%	-7.9805	-0.08%	-3.6968	-0.15%	-8.0806	-0.59%	-17.0941	-0.46%	-13.2897	-0.58%	-17.5707
NETHERLANDS	1.18%	40.9944	0.16%	6.3412	1.07%	36.1738	0.72%	21.8314	-0.30%	-7.6831	0.62%	16.8709
NEWZEALAND	1.20%	27.4084	1.03%	23.2423	1.34%	28.9816	0.73%	19.1390	0.53%	13.9619	0.87%	30.5211
NORWAY	0.83%	23.8389	0.89%	17.7318	0.87%	22.9060	0.15%	3.3707	0.28%	3.8127	0.20%	4.3897
PORTUGAL	0.29%	8.4966	0.61%	15.9200	0.66%	20.2409	-0.17%	-3.0853	0.16%	4.1813	0.17%	3.8583
SINGAPORE	0.39%	11.7226	0.20%	6.9797	0.46%	13.8557	-0.29%	-8.2747	-0.44%	-10.4999	-0.23%	-6.3547
SPAIN	0.72%	26.9760	0.37%	6.6461	0.78%	23.8108	0.35%	9.1545	-0.02%	-0.2811	0.40%	9.3562
SWEDEN	1.04%	25.9284	0.41%	6.5307	1.08%	26.1557	0.35%	11.6870	-0.16%	-3.3267	0.43%	13.0321
SWITZERLAND	0.94%	35.7678	0.57%	18.8627	0.88%	32.1360	0.56%	22.6442	0.19%	4.8755	0.49%	15.7140
UK	1.15%	31.5340	0.51%	15.6855	1.24%	32.9874	0.63%	19.5295	-0.03%	-0.5196	0.71%	20.8590
US	0.04%	1.5237	0.23%	7.5748	0.04%	1.6700	-0.51%	-15.9522	-0.22%	-4.6915	-0.49%	-12.4061
POOLED SAMPLE	0.66%	6.9674	0.65%	7.6915	0.74%	8.3433	0.08%	0.6869	0.10%	1.2439	0.15%	1.4135

7.5.3. The formation (J) and holding period (H)

In Table 7.9, we report the average after-transaction cost returns for cross-sectional momentum strategy for all of the combinations of formation (J) and holding (H) periods. The returns realised by the various implementations reduce dramatically for the shorter holding periods once account is taken of the transaction costs but the momentum strategy still remains profitable in most markets over longer holding periods.

The findings as reported in Table 7.4 suggest that in most markets the optimum momentum strategy to apply once the impact of transaction costs are recognised is a shorter formation period of either six or nine months in combination with a holding period of either nine or 12 months. This represents a significant change from the situation before transaction costs are taken into account (see Table 5.9) where the typical optimum formation period in 14 markets is nine or 12 months while the optimum holding period is three months. In other words the combination of the holding and formation periods has remained unchanged at between 15 and 18 months with the impact of the transaction costs resulting in a move to a shorter formation period and a longer holding period, with the exceptions being the New Zealand and Sweden markets. This indicates that the best way of exploiting the momentum phenomenon, when one recognizes the transaction costs, is to extend the holding period (thereby reducing the transaction costs) and reduce the formation period in order to leave the aggregate of the two largely unchanged.

Table 7.9. Cross-sectional momentum profitability based on formation (J) and holding (H) period

This table reports the pooled average monthly after-transaction cost cross-sectional momentum returns based on the formation J (J = three, six, nine and 12 months) and the holding H (H = three, six, nine and 12 months) for each market. T-statistics are reported in *italics*. The highest return is highlighted in green and the lowest return is marked in red.

A LIGER A L L	11 0	TT (II C	II 10	A LIGHT :	TT 0		II 6	II 10	DEL CHILL	11 0			II 10
AUSTRALIA	H = 3	H = 6	H = 9	H = 12	AUSTRIA	H = 3	H = 6	H = 9	H = 12	BELGIUM	H = 3	H = 6	H = 9	H = 12
J = 3	-1.36%	-0.26%	-0.12%	-0.06%	J = 3	-0.38%	-0.04%	0.20%	0.14%	J = 3	-0.06%	0.30%	0.25%	0.47%
	-9.4396	-1.9686	-1.0377	-0.5702		-2.9253	-0.4745	2.7960	1.5965		-0.8425	6.1979	1.9012	9.4174
J = 6	-0.59%	-0.13%	-0.34%	-0.18%	J = 6	0.23%	0.35%	0.50%	0.58%	J = 6	0.65%	0.92%	0.94%	0.84%
	-3.7275	-0.8252	-1.9098	-1.6638		3.4624	3.7934	6.3318	7.2481	- I O	20.7794	38.7188	_	19.0732
J = 9	-0.37%	-0.10%	-0.12%	-0.30%	J = 9	0.59%	0.71%	0.63%	0.56%	J = 9	0.92%	1.14%	1.01%	0.77%
T 10	-2.8987	-0.7103	-1.2722	-2.7538	T 12	9.3950	8.4981	8.2446	6.3545	T 10	14.2832	18.8292		11.6854
J = 12	-0.34%	-0.24%	-0.46%	-0.42%	J = 12	0.53%	0.53%	0.37%	0.20%	J = 12	1.00%	0.91%	0.84%	0.46%
	-2.6773	-2.0747	-5.1227	-4.6183		5.1047	6.3053	3.6260	2.8301		10.6577	11.0535	11.6249	5.0113
CANADA	H = 3	H = 6	H = 9	H = 12	DENMARK	H = 3	H = 6	H = 9	H = 12	FINLAND	H = 3	H = 6	H = 9	H = 12
J = 3	-1.24%	-0.41%	0.21%	0.11%	J = 3	-0.15%	0.41%	0.51%	0.70%	J = 3	-0.34%	0.15%	0.70%	0.34%
	-7.9163	-3.0800	1.7282	1.2349		-6.4963	13.2685	11.9075	19.9098		-3.4399	1.4492	6.1142	3.6765
J = 6	-0.47%	0.10%	0.37%	0.26%	J = 6	0.65%	0.74%	0.81%	0.93%	J = 6	0.25%	0.61%	0.87%	0.83%
	-3.4755	0.6979	2.4205	2.3850		21.1012	17.6977	12.4461	23.0158		5.4247	9.2072	5.5612	8.2360
J = 9	0.09%	0.30%	0.26%	0.06%	J = 9	0.89%	0.92%	0.98%	0.62%	J = 9	0.59%	0.79%	0.59%	0.52%
	0.6844	2.2962	1.8909	0.6217		18.2377	14.9754	31.8937	7.1039		12.5645	5.1445	4.6509	3.4762
J = 12	0.07%	0.12%	-0.02%	-0.30%	J = 12	1.08%	1.07%	0.88%	0.59%	J = 12	0.51%	0.64%	0.70%	0.57%
	1.0134	1.0100	-0.2288	-2.9350		16.4592	30.5890	24.0545	10.7318		8.4813	5.8021	4.1701	4.2494
FRANCE	H = 3	H = 6	H = 9	H = 12	GERMANY	H = 3	H = 6	H = 9	H = 12	GREECE	H = 3	H = 6	H = 9	H = 12
J = 3	-1.30%	-0.47%	-0.04%	-0.15%	J = 3	-0.84%	-0.05%	0.33%	0.14%	J = 3	-0.76%	0.10%	-0.11%	0.33%
	-12.4609	-5.3649	-0.6900	-1.1746		-14.7426	-0.8096	6.9155	1.2088		-8.3656	1.0653	-2.3861	2.4579
J = 6	-0.54%	-0.04%	0.07%	0.21%	J = 6	-0.06%	0.46%	0.61%	0.57%	J = 6	-0.20%	0.00%	-0.06%	0.01%
	-4.8269	-0.6037	0.8326	3.8481		-2.3681	7.3702	14.1243	9.8072		-2.2150	0.0016	-0.9183	0.2121
J = 9	-0.29%	0.01%	0.24%	0.14%	J = 9	0.30%	0.52%	0.49%	0.36%	J = 9	-0.13%	-0.09%	-0.25%	-0.43%
	-1.9399	0.0633	2.4838	2.0634		9.9431	10.5126	11.9788	5.7363		-1.6175	-1.9570	-2.6307	-5.5724
J = 12	0.06%	0.26%	0.30%	0.19%	J = 12	0.41%	0.47%	0.39%	0.26%	J = 12	-0.36%	-0.48%	-0.52%	-0.82%
	0.5534	4.4051	6.0689	5.8572		6.3573	12.3523	8.5598	5.8036		-5.2737	-5.2251	-8.2374	-6.4555
HONGKONG	H = 3	H = 6	H = 9	H = 12	IRELAND	H = 3	H = 6	H = 9	H = 12	ISRAEL	H = 3	H = 6	H = 9	H = 12
J = 3	-1.64%	-0.71%	-0.55%	-0.49%	J = 3	-0.51%	-0.61%	-0.58%	-0.09%	J = 3	-1.37%	-0.62%	-0.37%	-0.46%
	-10.9836	-6.3708	-4.9965	-6.1971		-5.8960	-2.8238	-3.0207	-0.6492		-12.8349	-5.6074	-2.6402	-4.6476
J = 6	-0.89%	-0.47%	-0.46%	-0.58%	J = 6	-0.20%	0.11%	-0.24%	0.72%	J = 6	-0.59%	-0.28%	-0.30%	-0.13%
-	-7.2804	-4.3413	-4.0354	-6.9020	-	-2.5823	1.8255	-1.6363	3.8809		-4.0693	-2.0338	-3.0233	-1.2344
J = 9	-0.97%	-0.74%	-0.70%	-0.84%	J = 9	-0.38%	-0.08%	0.21%	0.28%	J = 9	-0.37%	-0.26%	-0.23%	-0.10%
	-10.1531	-7.3047	-6.3226	-8.4988		-3.7789	-0.6706	3.5710	2.8570		-2.1275	-1.8214	-1.7322	-0.5288
J = 12				-8.4988 -0.90% -7.4946	J = 12	-3.7789 -0.13% -0.9050	-0.6706 0.04% 0.3559	3.5710 0.17% 1.5580	2.8570 -0.21% -2.9243	J = 12	-2.1275 -0.41% -4.7059	-1.8214 -0.27% -3.7870	-1.7322 -0.34% -3.9340	-0.5288 -0.46% -4.6461

ITALY	H = 3	H = 6	H = 9	H = 12	JAPAN	H = 3	H = 6	H = 9	H = 12	NETHERLANDS	H = 3	H = 6	H = 9	H = 12
J = 3	-0.08%	0.35%	0.72%	0.62%	J=3	-1.07%	-0.56%	-0.41%	-0.13%	J = 3	-0.27%	0.04%	0.26%	0.22%
	-1.4114	8.8178	11.5055	27.5779		-30.5649	-15.2014	-9.3071	-4.1314		-2.9993	0.2771	2.0155	2.5565
J = 6	0.41%	0.64%	0.71%	0.71%	J = 6	-0.95%	-0.72%	-0.37%	-0.18%	J = 6	0.10%	0.38%	0.48%	0.67%
	8.8494	10.3351	13.3261	22.9776		-23.9325	-13.0452	-13.3093	-3.5635		0.5422	2.1876	3.8597	6.3023
J = 9	0.80%	0.83%	0.84%	0.55%	J = 9	-0.76%	-0.43%	-0.33%	-0.37%	J = 9	0.33%	0.43%	0.62%	0.50%
	13.5304	12.9545	23.8094	6.1674		-21.0876	-15.9735	-9.7703	-9.1868		1.6445	2.5472	4.7520	3.8443
J = 12	0.88%	0.93%	0.93%	0.75%	J = 12	-0.63%	-0.59%	-0.62%	-0.57%	J = 12	0.41%	0.46%	0.47%	0.42%
	25.3592	24.6776	14.8892	10.7129		-36.9767	-16.8772	-14.6113	-16.5067		2.0740	2.8062	3.2988	3.3901
NEWZEALAND	H = 3	H = 6	H = 9	H = 12	NORWAY	H = 3	H = 6	H = 9	H = 12	PORTUGAL	H = 3	H = 6	H = 9	H = 12
J = 3	0.34%	0.72%	0.47%	0.39%	J = 3	-1.01%	-0.15%	0.20%	0.29%	J = 3	-0.71%	0.12%	0.13%	0.29%
	3.0487	10.8274	4.9498	4.2645		-18.8326	-3.1101	6.8428	6.6981		-3.2492	1.1944	1.6449	4.5120
J = 6	0.81%	0.80%	0.81%	0.53%	J = 6	-0.26%	0.33%	0.52%	0.65%	J = 6	-0.40%	0.09%	0.25%	0.27%
	7.7166	9.2542	25.2758	5.1582		-4.4468	8.2773	6.6269	6.3461		-4.0261	1.1755	4.4868	4.8651
J = 9	0.95%	0.92%	0.85%	0.67%	J = 9	0.38%	0.61%	0.39%	0.52%	J = 9	-0.05%	0.23%	0.31%	0.32%
	12.3256	20.9853	16.1689	9.3345		9.3190	12.8448	9.0076	4.3447		-0.6800	3.5488	3.4464	4.7888
J = 12	0.90%	0.89%	0.64%	0.65%	J = 12	0.27%	0.28%	0.31%	0.04%	J = 12	-0.09%	0.04%	0.02%	0.04%
	12.6942	20.9852	19.4179	13.2145		6.0464	5.7118	5.8793	0.4697		-0.9987	0.7292	0.3704	0.8278
ania i none	** *	•••	** 0		an . n .	** *	•••	** 0		auren eur	** *		** 0	
SINGAPORE	H = 3	H = 6	H = 9	H = 12	SPAIN	H = 3	H = 6	H = 9	H = 12	SWEDEN	H = 3	H = 6	H = 9	H = 12
J = 3	-1.15%	-0.44%	0.03%	-0.12%	J = 3	-0.60%	-0.32%	0.17%	0.18%	J = 3	-0.18%	0.11%	0.39%	0.11%
T (-20.3501	-5.0344	0.5801	-4.3927		-6.8350	-2.7329	2.4496	1.9208		-2.6267	1.2822	8.5841	0.9423
J = 6	-0.38%	-0.19%	-0.20%	-0.05%	J = 6	-0.27%	0.20%	0.38%	0.37%	J = 6	0.28%	0.50%	0.49%	0.29%
	-7.1749	-2.5821	-5.0004	-0.9705		-2.1111	2.0850	5.4500	16.0499		4.3170	9.0446	8.3422	4.5938
J = 9	-0.42%	-0.30%	-0.15%	-0.44%	J = 9	0.19%	0.43%	0.49%	0.35%	J = 9	0.34%	0.35%	0.26%	0.03%
J = 12	-5.7644 -0.41%	-6.2452 -0.24%	-2.7954 -0.36%	-8. <i>7109</i> -0.30%	J = 12	1.4108 0.44%	3.8701 0.63%	5.5803 0.70%	4.5993 0.52%	J = 12	2.9434 0.17%	2.9263 0.20%	-0.07%	0.2738
J = 12		-0.24% -4.9341	-0.36% -8.3596	-0.30% -5.7021	J = 12	0.44% 6.7767	0.63% 20.2385	19.6714	0.52% 10.3425	J = 12	0.17%	0.20% 1.3116	-0.07% -0.5173	
-	-12.2072	-4.9341	-0.3390	-3.7021		0.//0/	20.2383	19.0/14	10.3423		0.9202	1.3110	-0.31/3	0.5504
SWITZERLAND	H = 3	H = 6	H = 9	H = 12	UK	H = 3	H = 6	H = 9	H = 12	US	H = 3	H = 6	H = 9	H = 12
J = 3	-0.18%	0.18%	0.26%	0.37%	J = 3	-0.36%	0.18%	0.39%	0.37%	J = 3	-1.32%	-0.56%	-0.36%	-0.22%
	-2.0304	2.2641	4.0853	6.5996		-2.1290	1.4109	3.6183	4.3003			-14.7859	-6.6006	-5.7284
J = 6	0.25%	0.49%	0.44%	0.65%	J = 6	0.28%	0.48%	0.58%	0.72%	J = 6	-0.72%	-0.26%	-0.35%	-0.06%
	2.6889	10.3828	7.3859	9.7664		1.5614	4.0892	7.3106	10.5452		-17.2939	-7.0899	-4.0956	-0.8438
J = 9	0.44%	0.51%	0.56%	0.37%	J = 9	0.52%	0.70%	0.67%	0.47%	J = 9	-0.36%	-0.23%	-0.18%	-0.32%
	5.6538	8.6470	11.7123	6.9346		3.3691	8.4448	9.7071	7.2838		-7.3988	-3.5437	-2.5384	-4.7355
J = 12	0.62%	0.75%	0.53%	0.39%	J = 12	0.60%	0.66%	0.50%	0.26%	J = 12	-0.47%	-0.28%	-0.37%	-0.44%
	7.2860	13.0258	13.5454	12.8919		3.4695	6.2172	6.1693	3.6811		-10.3108	-4.5884	-5.6937	-5.4010

7.5.4. The rebalancing methods

Table 7.10 summarises the average cross-sectional momentum net returns under each of the four approaches to portfolio constructions considered in this study. Based on the pooled net returns across the 24 markets, the returns of cross-sectional momentum strategies decline from their raw returns in Table 5.10 to 0.16% per month for CAR (0), 0.13% per month for CAR (1), 0.11% per month for BHAR (0) and 0.04% per month for BHAR (1).

For the time-series momentum strategies, we find that the investment outcomes remained largely unchanged across the four portfolio rebalancing strategies both before and after transaction costs, and we now observe this to be equally true for the cross-sectional momentum strategies. The overall performances of time-series and cross-sectional momentum strategies using CAR (0) continuous to be the best and the performances of the strategies using BHAR (1) appear to be the worst. The strategies using CAR (0) gain the highest net returns in 14 markets, while the strategies involving BHAR (1) yield the greatest net returns in Israel and Portugal. However, the differences of investment outcomes are quite small when the methods employed for portfolio construction under the two momentum strategies in majority of the markets.

Table 7.10. Cross-sectional momentum profit based on portfolio constructions

This table reports the pooled average monthly after-transaction cost cross-sectional momentum returns based on four rebalancing methods: monthly-rebalancing with zero gap (CAR (0)), monthly-rebalancing with 1-month gap (CAR (1)), buy-and-hold with zero gap (BHAR (0)), and buy-and-hold with 1-month gap (BHAR (1)). T-statistics are reported in *italics*. The highest return is highlighted in green and the lowest return is marked in red.

	Raw return								Net return							
	CAR (0)		CAR (1)		BHAR (0)		BHAR (1)		CAR (0)		CAR (1)		BHAR (0)		BHAR (1)	
AUSTRALIA	0.76%	10.3534	0.72%	9.9358	0.70%	8.7297	0.63%	7.9395	-0.25%	-3.1418	-0.28%	-4.3209	-0.28%	-3.5978	-0.53%	-7.5711
AUSTRIA	0.82%	17.6583	0.76%	14.5969	0.76%	13.1667	0.70%	11.5878	0.42%	8.3559	0.36%	6.7593	0.35%	5.5416	0.29%	4.6465
BELGIUM	1.06%	23.5119	1.06%	22.3689	1.05%	15.9384	1.02%	17.1942	0.73%	14.4440	0.73%	15.3904	0.71%	10.1646	0.67%	11.1780
CANADA	1.09%	16.1903	1.02%	14.3255	0.98%	14.5523	0.90%	13.5202	0.10%	1.1407	0.02%	0.3037	-0.08%	-0.9434	-0.16%	-2.2644
DENMARK	1.35%	36.3750	1.28%	33.1283	1.19%	24.8015	1.18%	24.8415	0.84%	18.2364	0.77%	18.2197	0.65%	12.1447	0.64%	13.5008
FINLAND	1.08%	20.6948	1.07%	18.4582	1.02%	14.5816	1.01%	16.4649	0.57%	8.9990	0.55%	8.8574	0.49%	5.5848	0.48%	7.4986
FRANCE	0.46%	9.7012	0.60%	14.5988	0.38%	6.3942	0.47%	8.7864	-0.09%	-1.2140	0.05%	0.8403	-0.19%	-2.3525	-0.10%	-1.4387
GERMANY	1.06%	28.1905	1.03%	27.1077	1.05%	18.9098	0.95%	21.5367	0.34%	5.9906	0.30%	6.7059	0.28%	3.9065	0.17%	3.4390
GREECE	0.30%	6.7751	0.27%	6.0312	0.34%	4.2846	0.31%	3.8392	-0.23%	-5.3884	-0.26%	-6.7052	-0.21%	-2.7571	-0.24%	-3.3044
HONGKONG	0.21%	3.3986	0.13%	1.9467	0.15%	2.3046	-0.05%	-0.8449	-0.68%	-10.4597	-0.76%	-11.5884	-0.79%	-11.7437	-1.00%	-15.5865
IRELAND	0.60%	17.9627	0.53%	12.5493	0.51%	4.8921	0.30%	3.4005	0.04%	1.0534	-0.04%	-1.0523	-0.07%	-0.6233	-0.31%	-3.1373
ISRAEL	0.24%	4.0226	0.23%	3.9726	0.23%	3.2832	0.28%	3.8627	-0.41%	-6.0904	-0.42%	-7.1127	-0.42%	-4.9527	-0.39%	-5.0559
ITALY	1.00%	28.4487	1.02%	34.3066	0.96%	24.1993	0.94%	22.4729	0.69%	15.1872	0.71%	20.2205	0.63%	13.2254	0.61%	12.6745
JAPAN	-0.17%	-11.8703	-0.10%	-5.9294	-0.08%	-2.9609	-0.18%	-5.4467	-0.58%	-16.0390	-0.50%	-16.0953	-0.50%	-10.9641	-0.60%	-13.2083
NETHERLANDS	0.86%	12.4616	0.82%	11.8242	0.83%	10.7581	0.71%	8.8704	0.41%	5.5038	0.37%	5.0418	0.36%	4.4047	0.24%	2.9055
NEWZEALAND	1.25%	30.4919	1.15%	26.6534	1.25%	20.7591	1.11%	16.2939	0.78%	26.4697	0.67%	21.6670	0.76%	14.7384	0.62%	10.6824
NORWAY	0.83%	20.0567	0.77%	18.0157	0.94%	17.7793	0.90%	17.8584	0.19%	3.2517	0.13%	2.4227	0.28%	3.7983	0.24%	3.4051
PORTUGAL	0.46%	9.6943	0.54%	17.2247	0.50%	9.5121	0.58%	11.0675	0.01%	0.1792	0.09%	2.1393	0.02%	0.2691	0.10%	1.6710
SINGAPORE	0.35%	10.0186	0.30%	7.5608	0.41%	10.7302	0.35%	7.6080	-0.31%	-8.2507	-0.36%	-9.1547	-0.27%	-5.5806	-0.33%	-6.2378
SPAIN	0.66%	16.3123	0.68%	18.3078	0.59%	8.1034	0.57%	10.2238	0.29%	5.2750	0.31%	6.1542	0.19%	2.2623	0.17%	2.6088
SWEDEN	0.89%	14.6839	0.82%	12.3780	0.87%	11.0390	0.80%	9.8037	0.27%	5.3851	0.20%	4.0370	0.21%	3.3369	0.14%	2.2324
SWITZERLAND	0.83%	24.1481	0.78%	24.5525	0.85%	17.5328	0.72%	17.2430	0.46%	12.1396	0.41%	13.0755	0.46%	8.3389	0.34%	7.1847
UK	1.05%	16.6634	0.97%	17.9141	0.97%	14.5151	0.86%	13.7392	0.53%	7.6945	0.46%	7.9972	0.44%	5.9152	0.32%	5.0095
US	0.11%	3.9741	0.14%	4.2658	0.12%	3.3049	0.04%	1.1454	-0.39%	-7.9776	-0.35%	-7.7386	-0.40%	-6.9689	-0.48%	-10.7629
POOLED SAMPLE	0.71%	8.8670	0.69%	9.1702	0.69%	9.2340	0.63%	8.3009	0.16%	1.7150	0.13%	1.5017	0.11%	1.2376	0.04%	0.4121

7.6. Time-series and cross-sectional momentum strategies after accounting for the transaction costs

The conclusion that can be drawn from the general analysis of the time-series and the cross-sectional momentum returns after accounting for the transaction cost is that over the last two decades both momentum strategies have realised positive gains across all of our markets other than Australia, Greece, Hong Kong, Israel, Japan, Singapore and the US. The findings suggest that in most markets implementing either form of momentum strategy with combined formation and holding periods of between 15 and 18 months has a high probability of success. Based on the returns before the transaction costs reported in Chapters 5, the optimal timeseries momentum strategy outperforms the optimal cross-sectional momentum strategy. We now turn our attention to whether this finding still holds when the transaction costs and short-sale constraints are introduced into our analysis.

7.6.1. Comparing performances of optimal time-series and cross-sectional momentum strategies

In Table 7.7 we report the average monthly returns after the trading costs for both time-series (TSM) and cross-sectional (CSM) momentum implementations in each of the 24 markets. The optimum implementation in each market is determined by aggregating the returns for each momentum strategy for each implementation and then choosing the one which yields the highest combined returns.

The second column of results for each momentum strategy is the average before-transaction costs (raw) return for the optimum implementation with the next two columns reporting the transaction costs for the long and short portfolios with the final column reporting the average monthly after-transaction costs (net) returns. Before the trading costs are taken into account, the findings in Chapter 5 suggest that the optimal implementation period (i.e. sum of formation and holding periods) tends to be between 12 and 15 months, including a formation period between 9 and 12 months, and a 3-month holding period for the most developed markets. After taking the transaction costs into account, the combination of formation and holding periods is now between 15 and 18 months in 20 out of the 24 markets. The optimal combination of formation and holding periods remain basically unchanged in Finland, Greece, Ireland, Israel, Italy, Japan, Spain and the UK, with the introduction of the transaction costs. For six other markets, the optimal combination involves combining the same formation period with a longer holding period, while in the remaining ten countries; the optimal combination involves a shorter formation period but a longer holding period.

Before considering the transaction costs, the optimal portfolio weighting scheme involves using MW in 11 markets, using IVOL in ten markets and using EW in three markets. Now, the optimal portfolio weighting scheme involves MW in 16 markets, and is split equally

between using EW and IVOL in the other eight markets. Our findings suggest that a buy-and-hold approach provides the best investment outcomes for portfolio rebalancing under both of the momentum strategies but in fact there is very little difference across all rebalancing schemes.

A comparison of the transaction costs between the winners and losers of the two momentum strategies under optimal implementations is presented in Table 7.11. The transaction cost estimates associated with the losers are higher than those of the winners in all markets, with the exceptions being in Australia, Greece, Israel, Portugal and Singapore for the time-series momentum strategy, and the sole exception of Australia for the cross-sectional momentum strategy. A number of studies report that the price impacts of buyer- and seller-initiated transactions costs are asymmetric (Chan & Lakonishok, 1993, 1995; Li et al., 2009), and our findings from the two momentum strategies also strongly suggest that the asymmetric costs between the winners and losers are dominated by selling costs.

Comparing the aggregate costs of the winners and losers for the time-series and cross-sectional momentum strategies, it is perhaps not surprising that transaction costs from the time-series momentum strategy are slightly higher than the costs from the cross-sectional momentum strategy. We highlight in Chapter 6 that the time-series momentum strategy with fixed cut-offs designate fewer stocks as losers when markets are performing well, and fewer stocks as winners when markets are performing poorly. This suggests that the time-series momentum strategy will generate a higher turnover over a market cycle which will contribute to higher transaction costs. We have also shown that the typical time-series momentum stock is smaller than the typical cross-sectional momentum stock which will likewise contribute to larger transaction costs.

The net returns for the optimum time-series momentum implementation strategies are positive in all markets and significant in 19 of these markets. The returns range between 3.17% per month in Ireland to 0.14% per month in the US. For the cross-sectional momentum strategies, the net returns are positive in 23 markets but not in the Hong Kong market, and are significant in 15 of these markets. The maximum net monthly return is the 2.20% per month realised in Ireland whereas the net return in the Hong Kong market is -0.12% per month.

The last column in Table 7.7 (TSM - CSM) reports the difference between the after-transaction cost return of the time-series and cross-sectional momentum strategies under the optimal implementation. Before accounting for the transaction costs, in Table 5.11 we find that the time-series momentum strategy outperforms the cross-sectional momentum strategy in all the 24 markets and is significant in 13 markets. After we introduce the transaction costs into the study, the costs erode the advantage of the time-series momentum strategy over the cross-sectional momentum strategy. The time-series momentum strategy now outperforms cross-sectional momentum strategy in 21 markets with this superior outperformance being significant in seven markets, Canada, Ireland, Japan, the Netherlands and Sweden at the 5% level and Finland and New Zealand at the 10% level. The three markets in which the cross-sectional momentum strategy outperforms the time-series momentum strategy are Germany, Norway and the US with only the US being significant. The market in which the superior performance by time-series momentum strategies is greatest is New Zealand at 1.26% per month while for cross-sectional momentum strategies the superior performance is greatest at 0.39% per month in Norway.

Table 7.11. Monthly profits of time-series and cross-sectional momentum strategies

This table reports "optimal" implementations, average monthly before-transaction costs (raw) returns and after-transaction cost (net) returns, transaction costs of loser and winner portfolios in time-series (TSM) and cross-sectional (CSM) momentum strategies, and the difference of net return between TSM and CSM for each market from 1992 to 2012.

Country	IMI	OPTI PLEME	MAL NTATION			TS	M					CSI	М			DIFFERENCE
	JxH	Weight	Construction	Momentum Raw return	Cost - Loser	Cost - Winner	Loser	Winner	Momentum Net return	Momentum Raw return	Cost - Loser	Cost - Winner	Loser	Winner	Momentum Net return	NET RETURN TSM - CSM
AUSTRALIA	9x6	MW	BHAR(0)	2.38%	0.58%	0.47%	0.55%	1.88%	1.33%	1.54%	0.53%	0.45%	0.68%	1.25%	0.57%	0.76%
				5.0943	12.3667	11.2053	1.0345	3.2676	2.8036	2.8656	10.8816	11.1959	1.3300	2.6855	1.0395	1.3122
AUSTRIA	9x12	EW	BHAR(0)	1.33%	0.15%	0.13%	-0.39%	0.66%	1.05%	1.17%	0.12%	0.12%	-0.27%	0.66%	0.93%	0.12%
				2.5334	5.5640	5.3852	-0.7819		2.0199	3.2215	5.7272	5.6728	-0.8177		2.5529	0.3616
BELGIUM	3x6	MW	BHAR(1)	0.86%	0.23%	0.18%	0.13%	0.59%	0.46%	0.57%	0.18%	0.17%	0.51%	0.72%	0.22%	0.24%
CANADA	0	3.6337	DILAD(0)	1.5368	8.3630	9.3981	0.2659		0.8080	1.2342	8.9586	9.5912		2.1147	0.4660	0.4759
CANADA	6x9	MW	BHAR(0)	3.06%	0.42%	0.36%	0.13%	2.41%	2.28%	1.86%	0.38%	0.35%	0.47%	1.60%	1.13%	1.14%
DENMARK	C 10	IVOL	DILAD(0)	4.7563	7.0787	7.0248 0.15%	-0.2179	3.8265 1.07%	3.4751	3.1269	7.2038	7.1919 0.16%	-0.03%	3.0699 1.15%	1.8569	2.9539
DENMARK	6X12	IVOL	BHAR(0)	1.64% 5.8275	0.18% 5.7452	5.5935	-0.25% -0.6530		1.30% 4.5031	1.50% 5.6947	0.17% 5.5705	5.6586	-0.05%		1.18% 4.3053	0.12% 0.5623
FINLAND	12x6	MW	BHAR(0)	2.85%	0.24%	0.22%	0.25%	2,64%	2.38%	1.72%	0.24%	0.22%	0.47%	1.73%	1.25%	1.13%
FINLAND	1230	IVI VV	BHAK(0)	3.4246	8.6730	7.7744	0.3660		2.8739	2.2456	10.0101	9.2034		2.3028	1.6279	1.7901
FRANCE	9x9	IVOL	BHAR(0)	1.12%	0.24%	0.21%	0.48%	1.16%	0.67%	0.99%	0.21%	0.20%	0.7232	1.10%	0.58%	0.09%
FRANCE	93.9	IVOL	BHAK(0)	4.3878	7.4840	7.4086	1.3973	3.6475	2.5031	3.4665	7.1953	7.2468		3.3849	1.9295	0.6249
GERMANY	6x12	MW	BHAR(0)	1.43%	0.23%	0.20%	0.08%	1.07%	1.00%	1.47%	0.20%	0.19%	-0.09%	0.99%	1.07%	-0.08%
GERMANT	0.112	101 00	DIIAK(0)	2.7486	5.4618	5.1760	0.0375	2.2255	1.9197	3.2587	5.2354	5.3071	-0.1697		2.3552	-0.2026
GREECE	3x12	MW	BHAR(1)	1.71%	0.15%	0.16%	-0.25%	1.15%	1.40%	1.38%	0.14%	0.12%	0.46%	1.58%	1.12%	0.28%
GREECE	JAIL	111 11	DIT III(1)	2.1623	5.0379	5.2156	-0.3361	1.3408	1.7747	1.5022	5.2883	5.3960	0.5372	1.6178	1.2187	0.3663
HONGKONG	9x9	MW	BHAR(0)	1.35%	0.37%	0.33%	1.20%	1.86%	0.65%	0.51%	0.34%	0.28%	1.07%	0.95%	-0.12%	0.77%
полоколо	727	11111	DIT III(0)	2.1003	7.3601	7.3283	1.7623	2.7195	0.9993	0.9215	7.3346	7.2141	1.7083	1.4378	-0.2093	1.3233
IRELAND	6x12	MW	BHAR(0)	3.52%	0.18%	0.17%	-1.08%	2.09%	3.17%	2.36%	0.18%	0.16%	-0.11%	1.92%	2.02%	1.15%
III II II	0.112		DIII III(0)	3.3624	4.7604	4.7532	-1.1691	2.5604	3.0214	2.3081	4.7160	4.5299	-0.1404		1.9873	1.9602
ISRAEL	9x12	MW	BHAR(0)	2.02%	0.20%	0.23%	0.22%	1.81%	1.59%	1.66%	0.19%	0.16%	0.23%	1.54%	1.31%	0.28%
				3.0968	5.4669	5.0817	0.3764	2.6930	2.4179	3.0009	5.6391	5.5262	0.3932	2.7378	2.3692	0.5479
ITALY	12x6	MW	BHAR(0)	2.26%	0.21%	0.15%	-0.89%	1.01%	1.90%	1.38%	0.15%	0.12%	0.11%	1.22%	1.12%	0.78%
				3.6685	10.2911	8.8661	-1.5524		3.0967	2.7298	10.7226	9.1670	0.1951	2.3315	2.2079	1.4517
JAPAN	3x12	MW	BHAR(0)	1.09%	0.12%	0.11%	-0.59%	0.27%	0.85%	0.24%	0.10%	0.11%	0.16%	0.20%	0.04%	0.81%
			(-/	2.9597	5.6485	5.5457	-1.3030		2.2666	0.7032	5.6448	5.6464	0.3816	0.4221	0.1062	3.6487
NETHERLANDS	6x12	IVOL	BHAR(0)	2.17%	0.19%	0.12%	-0.84%	1.02%	1.86%	1.42%	0.14%	0.12%	0.10%	1.26%	1.16%	0.70%
				6.1297	5.1762	5.3031	-1.7883	2.1978	5.1031	5.0848	5.3401	5.4380	0.2622	2.7484	4.1280	2.2860
NEWZEALAND	12x6	MW	BHAR(0)	2.84%	0.28%	0.24%	-0.44%	1.87%	2.31%	1.51%	0.25%	0.21%	0.14%	1.19%	1.05%	1.26%
				3.6648	10.8400	11.1266	-0.8986	2.9847	2.9731	3.0464	11.0246	11.5907	0.3142	3.8278	2.0919	1.8665
NORWAY	6x12	MW	BHAR(0)	1.30%	0.22%	0.16%	0.71%	1.63%	0.92%	1.65%	0.18%	0.16%	0.45%	1.77%	1.32%	-0.39%
				2.1253	5.3819	5.6283	0.9477	2.6035	1.4796	3.6658	5.4751	5.6053	0.7740	2.7588	2.8482	-0.7861
PORTUGAL	6x12	MW	BHAR(0)	1.73%	0.14%	0.19%	-0.07%	1.32%	1.40%	0.95%	0.13%	0.12%	0.09%	0.79%	0.70%	0.70%
				2.1303	4.8743	3.6227	-0.1016	2.1453	1.6989	1.5842	5.0981	5.3660	0.1440	1.2840	1.1472	1.0124
SINGAPORE	3x9	MW	BHAR(0)	1.26%	0.26%	0.27%	0.51%	1.24%	0.73%	0.70%	0.24%	0.23%	0.70%	0.92%	0.22%	0.50%
				2.7756	7.3562	7.1360	0.8746	1.9406	1.5616	1.7045	7.3407	7.2608	1.2346	1.7961	0.5383	0.9587
SPAIN	12x6	EW	BHAR(0)	1.29%	0.20%	0.18%	0.25%	1.16%	0.91%	1.00%	0.17%	0.15%	0.27%	0.96%	0.68%	0.23%
				2.7071	10.9276	9.3148	0.4856	2.8819	1.9188	2.9540	12.3874	12.1255	0.6515	2.2665	1.9958	0.6050
SWEDEN	9x6	IVOL	CAR(0)	2.18%	0.44%	0.38%	0.14%	1.50%	1.36%	1.39%	0.32%	0.27%	0.62%	1.42%	0.79%	0.56%
				4.7164	19.0483	12.0311	0.2537	2.8704	2.9015	3.2792	26.5265	31.0804	1.1656	2.8037	1.8729	1.9690
SWITZERLAND	6x12	EW	BHAR(0)	1.42%	0.15%	0.12%	0.21%	1.36%	1.15%	1.20%	0.12%	0.11%	0.33%	1.30%	0.98%	0.18%
				3.7521	5.6532	5.4296	0.4481		3.0304	4.3403	5.5229	5.5894	1.0157		3.5000	0.6187
UK	12x3	IVOL	CAR(0)	2.15%	0.40%	0.39%	-0.13%	1.22%	1.36%	1.85%	0.34%	0.31%	0.01%	1.22%	1.20%	0.16%
				8.8272	21.0705	19.4509	-0.3906		5.3578	5.8716	17.1522	17.3715	0.0401	3.2591	3.7155	0.9354
US	6x12	MW	BHAR(0)	0.42%	0.15%	0.13%	1.04%	1.18%	0.14%	0.70%	0.13%	0.13%	0.89%	1.34%	0.45%	-0.31%
				1.3837	5.3964	5.5375	2.3668	2.3582	0.4644	2.2296	5.5225	5.5189	2.1221	2.7211	1.4154	-2.0179

7.6.2. Comparing performances of time-series and cross-sectional momentum strategies based on the winners

Momentum strategies are implemented by taking a long position for stocks in the winner portfolio and a short position for stocks in the loser portfolio. However, the literature suggests that regulations may outlaw or significantly restrict the ability to build short portfolios in

many of our 24 markets (Chang, Cheng, & Yu, 2007; Demir, Muthuswamy, & Walter, 2004; Griffin et al., 2005).

Griffin et al. (2005) point out that in a situation where shorting the losers is restricted, momentum strategies could still make a profit depending on the performance of the long portfolio consisting of the winner stocks. Following their suggestion, this section examines returns for time-series and cross-sectional momentum strategies after the transaction costs of buying stocks in the winner portfolio under the optimal implementation (that is the implementation with the highest aggregate of the after-costs returns) across the time-series and cross-sectional winner portfolios.

In Table 7.12 we report the performance of the time-series (TSM) and cross-sectional (CSM) momentum winner portfolios after the transaction costs for the optimum implementations of the long-only portfolios. We find that only considering the long positions in the winner stocks has only a small impact on the optimal implementations in most markets. The optimal implementation cycle is slightly expanded from a range of between 15 and 18 months to a range of between 12 and 18 months when buying stocks in the winners. The dominant schemes for portfolio weighting scheme and portfolio construction still involve MW (16 markets) and a buy-and-hold strategy (20 markets).

The reported raw returns are before the transaction costs while the net returns are after the transaction costs. We find that a strategy of building a portfolio of winning stocks performs fairly well in their own right. The results suggest that the winner portfolios yield after-transaction costs returns that are positive for both momentum strategies across all 24 markets. Further the performance is significant in all but two markets (Greece and Japan) for the time-series momentum strategy, and two markets (Hong Kong and Singapore) for the cross-sectional momentum strategy.

Over the testing period, the range of profits from the winner portfolios are between 2.38% per month in Finland and 0.27% per month in Japan for the time-series momentum strategy. For the cross-sectional momentum strategy the corresponding profits are 2.37% in Finland and 0.2% in Japan. Based on the difference between time-series and cross-sectional momentum strategies (TSM - CSM) in the last column in the table, it can be consistently seen that the time-series momentum strategy outperforms the cross-sectional momentum strategy in 18 out of the 24 markets, but compared to the findings before considering the transaction costs, however, the superior performance of the time-series momentum strategy again is eroded as the difference is only significant in two markets (Australia and Hong Kong).

Table 7.12. Monthly profits from buying stocks in time-series and cross-sectional winners

This table reports optimal implementations, average monthly before-transaction costs (raw) returns and after-transaction cost (net) returns, transaction costs of the winner portfolios in the time-series (TSM) and cross-sectional (CSM) momentum strategies, and the difference of net return between TSM and CSM for each market from 1992 to 2012. The optimum implementation for each market is chosen by aggregating the returns of the winners for time-series and cross-sectional momentum under each implementation and then choosing the one for which this aggregate return was greatest. The Newey–West adjusted t-statistics are reported below the returns.

Country	IM		IMAL INTATION		TSM			CSM		DIFFERENCE
			Construction	Winner Raw return	Cost - Winner	Winner Net return	Winner Raw return	Cost - Winner	Winner Net return	NET RETURN TSM - CSM
AUSTRALIA	9x3	MW	BHAR(0)	2.75%	0.76%	1.99%	2.04%	0.69%	1.35%	0.65%
TIOSTICIENT	710	111 11	DIT III(0)	5.2183	14.1990	3.8201	4.0943	12.9189	2.6627	2.5417
AUSTRIA	12x3	IVOL	CAR(0)	1.21%	0.27%	0.94%	1.14%	0.25%	0.89%	0.05%
			(0)	3.6148	17.0585	2.7880	3.6849	20.6265	2.8706	0.3493
BELGIUM	6x12	IVOL	BHAR(0)	1.19%	0.10%	1.09%	1.25%	0.09%	1.15%	-0.06%
			(-)	3.9297	4.8927	3.5590	4.0071	4.8980	3.6691	-0.4905
CANADA	9x3	MW	CAR(0)	2.97%	0.67%	2.30%	2.55%	0.59%	1.95%	0.35%
			(0)	5.1047	23.3241	3.9706	4.1742	25.7160	3.1941	1.4624
DENMARK	9x3	MW	CAR(1)	1.85%	0.38%	1.47%	1.74%	0.29%	1.45%	0.02%
			(-)	3.9573	13.0640	3.1223	4.6799	18.5237	3.9227	0.0859
FINLAND	6x12	MW	BHAR(0)	2.51%	0.14%	2.38%	2.49%	0.12%	2.37%	0.01%
			(0)	3.4578	5.1492	3.2602	3.4101	5.1049	3.2440	0.0158
FRANCE	9x9	IVOL	BHAR(0)	1.37%	0.21%	1.16%	1.30%	0.20%	1.10%	0.05%
11011/02	,,	1.02	D11111(0)	4.3388	7.4086	3.6475	3.9973	7.2468	3.3849	0.6801
GERMANY	6x12	MW	BHAR(0)	1.27%	0.20%	1.07%	1.18%	0.19%	0.99%	0.08%
ODIUM II VI	0.112	11111	211111(0)	2.6542	5.1760	2.2255	2.3595	5.3071	1.9676	0.4461
GREECE	3x12	MW	BHAR(1)	1.31%	0.16%	1.15%	1.70%	0.12%	1.58%	-0.43%
GREECE	3/112	111 11	DIII III(1)	1.5279	5.2156	1.3408	1.7414	5.3960	1.6178	-0.6507
HONGKONG	9x9	MW	BHAR(0)	2.18%	0.33%	1.86%	1.23%	0.28%	0.95%	0.91%
nonditorio	<i>)</i> ,,,	171 77	BIII IK(0)	3.1928	7.3283	2.7195	1.8665	7.2141	1.4378	2.1035
IRELAND	6x12	MW	BHAR(0)	2.26%	0.17%	2.09%	2.07%	0.16%	1.92%	0.18%
IKLLAND	UAIL	141 44	BIIAK(0)	2.7749	4.7532	2.5604	2.6551	4.5299	2.4541	0.6778
ISRAEL	9x3	MW	BHAR(1)	2.56%	0.61%	1.95%	2.19%	0.44%	1.74%	0.20%
ISICALL	713	171 77	DIII III(1)	3.6043	10.2145	2.7769	3.9725	14.8743	3.1985	0.4390
ITALY	12x9	MW	BHAR(0)	1.10%	0.11%	0.99%	1.51%	0.09%	1.42%	-0.43%
117121	12/1)	111 11	DIII III(0)	2.1161	6.1416	1.9028	2.7897	6.3831	2.6312	-1.2857
JAPAN	3x12	MW	BHAR(0)	0.38%	0.11%	0.27%	0.31%	0.11%	0.20%	0.07%
3711 7111	JAIL	11111	DIII III(0)	0.7806	5.5457	0.5503	0.6389	5.6464	0.4221	0.5840
NETHERLANDS	9x6	IVOL	BHAR(0)	1.76%	0.26%	1.50%	1.21%	0.21%	1.00%	0.50%
TTETTIERE IT TO	ZAO	TVOL	DIII III(0)	3.2384	9.4464	2.7779	2.9708	11.2132	2.4411	1.4640
NEWZEALAND	6x3	MW	CAR(0)	2.73%	0.45%	2.28%	2.11%	0.38%	1.73%	0.56%
	0.10	11111	01111(0)	3.7688	25.3003	3.1584	5.9857	24.9827	4.8555	1.0561
NORWAY	9x6	MW	BHAR(1)	1.88%	0.33%	1.55%	2.31%	0.26%	2.05%	-0.50%
	ZAO	111 11	DIII III(1)	3.0923	10.4367	2.5621	3.7092	12.5570	3.2961	-1.6141
PORTUGAL	6x9	IVOL	BHAR(1)	1.90%	0.21%	1.69%	1.75%	0.19%	1.56%	0.13%
CHICGHE	0.10	TVOL	DIII III(1)	3.2291	6.8504	2.8459	3.0858	6.5473	2.7234	0.3735
SINGAPORE	12x6	IVOL	BHAR(1)	1.74%	0.40%	1.34%	1.20%	0.30%	0.90%	0.44%
DILYOLD OTLE	12.10	1.02	211111(1)	2.4901	12.2762	1.9172	2.1019	12.4580	1.5856	1.1469
SPAIN	12x6	MW	BHAR(0)	1.67%	0.18%	1.33%	1.15%	0.16%	1.00%	0.33%
5171111	12/10	11111	DIII III(0)	3.1907	9.2946	2.7987	2.4309	10.2678	2.0977	0.9033
SWEDEN	3x9	MW	BHAR(1)	1.47%	0.22%	1.24%	2.24%	0.19%	2.05%	-0.80%
		1.1.1	2111(1)	2.3562	6.6404	1.9817	3.4544	6.9974	3.1664	-2.7688
SWITZERLAND	12x3	MW	BHAR(0)	1.88%	0.32%	1.54%	1.45%	0.22%	1.23%	0.31%
5IZERE/IND	1213	141 44	Din in(0)	3.9250	10.9250	3.2552	3.6776	12.7915	3.0935	1.1102
UK	12v6	IVOL	BHAR(0)	1.56%	0.25%	1.30%	1.39%	0.21%	1.18%	0.12%
OK	1210	IVOL	DITAK(0)	3.7523	11.3960	3.1360	3.6215	11.0682	3.0609	1.3472
IIS	6v12	EW	RHAD(0)							-0.05%
OB	UX12	L: VV	DITAK(0)							-0.03% -1.1477
US	6x12	EW	BHAR(0)	1.70% 3.6476	0.17% 5.3149	1.53% 3.2727	1.75% 3.7285	0.17% 5.3418		1.58% 3.3662

7.7. Time-series and cross-sectional momentum in "up" and "down" markets after accounting for the transaction costs

When previously analysing raw returns, we find that both the time-series momentum strategy in 17 markets and the cross-sectional momentum strategy in 19 markets perform better in up markets (i.e. as measured by the market performance over the previous 12 months). In this section we repeat the analysis but this time taking account of transaction costs. We continue to define the state of the market based on the index performance over the previous 12 months.

7.7.1. Comparing performances of time-series and cross-sectional momentum strategies

Table 7.13 reports the average monthly (raw) returns before the transaction costs, the transaction costs for the winners and losers, and the net return after the transaction costs. The data is given for the time-series (TSM) and cross-sectional (CSM) momentum strategies following up and down market conditions based on the optimal implementations of the strategies (Table 7.11).

The previous finding that shorting losers is more costly than taking long positions in winners is largely maintained for the cross-sectional momentum strategies in both up and down markets. However, this finding is much weaker for the time-series momentum strategies during the periods of down markets. Comparing the aggregate costs of the winners and losers in the two momentum strategies in both up and down market conditions, the time-series momentum consistently produces higher costs than the cross-sectional momentum in both market conditions, with the exceptions of Finland in up markets, and Belgium and Canada in down markets.

In addition, transaction costs in the two momentum strategies are not only asymmetric between the winners and losers, but are also impacted by the ex-ante market conditions. Comparing the aggregate costs of the winners and losers in up and down markets, the costs of the two momentum strategies across 17 markets in the periods when markets have been performing strongly are much lower than those costs in the periods when markets have been performing poorly. One possible explanation for this finding is the different amounts of liquidity available on the buying and selling sides under different market conditions (Chiyachantana, Jain, Jiang, & Wood, 2004).

The previous findings (Table 5.11) that the performances of the time-series and cross-sectional momentum strategies in up markets are stronger than that they are in down markets in the majority of the 24 markets, is consistently true after accounting for the transaction costs. Time-series momentum strategies in 21 markets and cross-sectional momentum strategies in 20 markets yield higher after-transaction costs returns in up markets than the returns in down markets. The exceptions are in Israel, Spain and Switzerland for time-series momentum strategies and in Israel, Japan, Portugal and Spain for cross-sectional momentum strategies.

The last column in Table 7.13 provides a comparison of the after-costs performances of the two momentum strategies under up and down markets in each market. Before accounting for the transaction costs (Table 6.3), we find that the time-series momentum strategy outperforms the cross-sectional momentum in 20 markets (9 significant) during up and in 22 markets (6 significant) in down market state. Using net returns, we continue to find that the outperformance of the time-series momentum strategy is largely contributed by the superior performance realised during the down markets.

After considering transaction costs, the time-series momentum strategy outperforms the cross-sectional momentum strategy in 20 markets (7 significant) following up periods and 16

markets (4 significant) following down periods. However, the average after-costs outperformance of the time-series momentum strategy across the 24 markets drops by 0.1%, to 0.47% per month from 0.57% per month in up markets, and it dramatically falls by 0.7%, to 0.46% per month from 1.16% per month in down markets. In Section 7.6, we highlight that outperformance of the time-series momentum strategy is weakened due it experiencing higher transaction costs to those experienced by the cross-sectional momentum strategy. The finding in Table 7.13 indicates that the dilution of the advantage of the time-series momentum strategy is due to the higher transaction costs of the strategy during the down periods.

Table 7.13. Profitability of momentum strategies in Up and Down markets

The second column in this table shows the aggregate numbers of months when the market is following up (or down) markets for each market. The third column shows the optimal implementation for each market from Table 7.11. Based on the optimal implementation for each market, this table reports the (raw) return before transaction costs and (net) return after transaction costs, average monthly transaction costs of winner and loser portfolios for time-series (TSM) and cross-sectional (CSM) following "up" and "down" states of markets during the 252 months from 1992 to 2012. Following the method employed in Cooper et al. (2004), we defined an "up" ("down") month as one in which the market index has risen (fallen) over the previous 12 months. Newey–West adjusted t-statistics are reported below the returns in the table.

"UP" MARKETS	NO. OF MONTHS	IMP		MAL NTATION		TS	SM			CS	SM		DIFFERENCE
	MOTTING			Construction	Raw return (W-L)	Cost - L	Cost - W	Net return (W-L)	Raw return (W-L)	Cost - L	Cost - W	Net return (W-L)	TSM - CSM
AUSTRALIA	202	9x6	MW	BHAR(0)	2.57%	0.59%	0.46%	1.53%	2.18%	0.52%	0.43%	1.23%	0.30%
				()	5.0812	5.8475	5.6420	2.9327	4.7395	5.5770	5.5918	2.6678	0.7546
AUSTRIA	184	9x12	EW	BHAR(0)	1.39%	0.18%	0.14%	1.07%	1.28%	0.14%	0.14%	1.00%	0.07%
					2.1990	4.2248	4.2304	1.6942	2.8779	4.3139	4.2853	2.2105	0.1661
BELGIUM	191	3x6	MW	BHAR(1)	0.99%	0.23%	0.17%	0.58%	0.67%	0.17%	0.16%	0.34%	0.25%
					1.6506	4.9567	5.1508	0.9668	1.4932	4.9912	5.1679	0.7444	0.4286
CANADA	230	6x9	MW	BHAR(0)	3.39%	0.41%	0.35%	2.64%	2.34%	0.36%	0.34%	1.64%	1.00%
					5.1266	4.9884	4.9691	3.9260	4.2739	5.0407	5.0338	2.9366	2.4934
DENMARK	197	6x12	IVOL	BHAR(0)	1.81%	0.17%	0.14%	1.51%	1.56%	0.15%	0.15%	1.26%	0.24%
					6.0099	4.0396	4.0059	5.0281	5.1504	3.9973	4.0283	4.1815	1.0024
FINLAND	181	12x6	MW	BHAR(0)	3.47%	0.23%	0.17%	3.06%	2.19%	0.24%	0.19%	1.76%	1.31%
					3.4862	5.1013	4.9576	3.0851	2.6237	5.2789	4.9232	2.0740	1.7914
FRANCE	194	9x9	IVOL	BHAR(0)	1.07%	0.22%	0.18%	0.67%	0.98%	0.18%	0.17%	0.63%	0.04%
					4.4638	4.6246	4.6403	2.7283	4.5233	4.5532	4.5542	2.8609	0.2839
GERMANY	190	6x12	MW	BHAR(0)	1.76%	0.19%	0.14%	1.43%	1.42%	0.16%	0.15%	1.11%	0.32%
					2.9815	3.6670	3.6757	2.4483	2.8572	3.6349	3.6131	2.2165	0.7741
GREECE	154	3x12	MW	BHAR(1)	2.58%	0.15%	0.16%	2.27%	3.09%	0.14%	0.13%	2.82%	-0.55%
					2.3847	3.3670	3.5025	2.1296	2.7924	3.5050	3.4915	2.5685	-0.5216
HONGKONG	204	9x9	MW	BHAR(0)	1.42%	0.36%	0.30%	0.76%	0.71%	0.32%	0.26%	0.13%	0.63%
					2.1439	4.7060	4.6646	1.1492	1.2781	4.6724	4.6508	0.2324	1.1147
IRELAND	212	6x12	MW	BHAR(0)	3.79%	0.18%	0.16%	3.45%	2.87%	0.18%	0.15%	2.54%	0.91%
		_			3.3520	3.7033	3.7934	3.0459	2.6813	3.6756	3.6444	2.3870	1.3926
ISRAEL	199	9x12	MW	BHAR(0)	1.74%	0.22%	0.24%	1.28%	1.33%	0.20%	0.18%	0.95%	0.33%
					2.3992	4.0593	3.8018	1.7315	2.5466	4.1409	4.1553	1.8141	0.6593
ITALY	172	12x6	MW	BHAR(0)	3.05%	0.23%	0.13%	2.69%	1.45%	0.14%	0.11%	1.19%	1.50%
					4.2734	5.1971	4.5479	3.8127	2.1238	5.0698	4.7795	1.7505	2.4464
JAPAN	146	3x12	MW	BHAR(0)	1.07%	0.10%	0.08%	0.88%	-0.04%	0.08%	0.08%	-0.20%	1.08%
NEW YERY AND	202	5 10	YY Y C Y	DIV. D.(0)	2.1012	3.2070	3.1205	1.6863	-0.0804	3.1493	3.1551	-0.4227	3.5877
NETHERLANDS	202	6x12	IVOL	BHAR(0)	2.42%	0.18%	0.11%	2.13%	1.41%	0.12%	0.11%	1.18%	0.95%
NEWZEALAND	222	10.6	100	DILA D(0)	6.4012	3.8585	4.0530	5.5030	5.1849	4.1410	4.0942	4.3916	2.7734
NEWZEALAND	232	12x6	MW	BHAR(0)	3.08%	0.29%	0.24%	2.55%	1.59%	0.25%	0.22%	1.12%	1.42%
NORWAY	196	6x12	MW	DIIAD(0)	3.7275 1.39%	0.2546	6.2826 0.15%	3.0653 1.02%	3.0331 1.91%	6.2294 0.18%	6.3153 0.15%	2.1233 1.58%	2.0216
NORWAI	190	0X12	IVI VV	BHAR(0)		3.8921	4.0126		4.0726	3.9901	4.0056		-0.57% -0.9078
PORTUGAL	177	6x12	MW	BHAR(0)	2.0169 1.74%	0.10%	0.11%	1.4536 1.53%	0.72%	0.11%	0.11%	3.3198 0.51%	1.02%
FORTUGAL	1//	0.112	IVI VV	BHAK(0)	1.8199	3.3143	3.5265	1.5726	0.72%	3.4415	3.4338	0.6463	1.4357
SINGAPORE	189	3x9	MW	BHAR(0)	1.80%	0.29%	0.27%	1.25%	1.20%	0.26%	0.23%	0.0403	0.54%
SINOAI OKE	109	383	171 77	BHAR(0)	3.6632	4.7805	4.7429	2.5208	3.5520	4.8472	4.7789	2.0487	1.1384
SPAIN	167	12x6	EW	BHAR(0)	1.00%	0.22%	0.20%	0.59%	0.98%	0.17%	0.15%	0.66%	-0.07%
SI ZIII (107	12/10	2,,,	DII/IR(0)	1.6912	5.3905	5.1700	0.9971	2.7183	5.7983	5.6908	1.8141	-0.1266
SWEDEN	196	9x6	IVOI	CAR(0)	2.43%	0.43%	0.33%	1.67%	1.40%	0.31%	0.27%	0.82%	0.86%
SWEDER	170)AO	TTOL	C/Ht(0)	5.3459	44.0169	40.3871	3.6637	3.8679	54.3451	56.4990	2.2264	2.7170
SWITZERLAND	195	6x12	EW	BHAR(0)	1.40%	0.15%	0.11%	1.14%	1.34%	0.11%	0.10%	1.12%	0.02%
	-,,,	0			3.1628	4.0479	4.0122	2.5832	4.6830	3.9881	4.0365	3.9437	0.0602
UK	214	12x3	IVOI.	CAR(0)	2.20%	0.41%	0.37%	1.43%	2.01%	0.33%	0.29%	1.38%	0.05%
				(-)	9.3196	38.7362	35.9982	5.7717	7.1054	32.2913		4.8154	0.3264
US	226	6x12	MW	BHAR(0)	0.59%	0.15%	0.13%	0.31%	0.84%	0.13%	0.13%	0.59%	-0.28%
				()	1.9192	4.2321	4.2916	0.9954	2.5091	4.2995	4.2829	1.7418	-1.7948

"DOWN"	NO. OF		OPTI			TS	M			CS	SM		DIFFERENCE
MARKETS	MONTHS	IMPL	EME	NTATION									
		JxH W	eight	Construction	Raw return (W-L)	Cost - L	Cost - W	Net return (W-L)	Raw return (W-L)	Cost - L	Cost - W	Net return (W-L)	TSM - CSM
AUSTRALIA	50	9x6 N	MW	BHAR(0)	1.61%	0.56%	0.54%	0.51%	-1.04%	0.55%	0.52%	-2.11%	2.62%
					1.3456	3.2387	3.1295	0.4403	-0.6112	3.1498	3.2228	-1.2387	1.1421
AUSTRIA	68	9x12 I	EW	BHAR(0)	1.18%	0.08%	0.10%	1.01%	0.86%	0.06%	0.06%	0.74%	0.26%
					1.2139	1.7187	1.6531	1.0810	1.3545	1.7382	1.7386	1.1930	0.5022
BELGIUM	61	3x6 N	MW	BHAR(1)	0.46%	0.20%	0.19%	0.06%	0.26%	0.23%	0.19%	-0.15%	0.22%
					0.3956	3.1308	3.1823	0.0543	0.2274	3.2131	3.2515	-0.1287	0.2269
CANADA	22	6x9 N	MW	BHAR(0)	-0.46%	0.55%	0.47%	-1.47%	-3.12%	0.57%	0.47%	-4.16%	2.68%
					-0.2092	1.8176	1.7875	-0.6282	-1.0520	1.8141	1.7977	-1.3396	1.7305
DENMARK	55	6x12 IV	VOL	BHAR(0)	1.01%	0.22%	0.22%	0.56%	1.27%	0.21%	0.19%	0.87%	-0.30%
					1.5267	2.2946	2.2781	0.8125	2.1700	2.2131	2.2250	1.3743	-0.6997
FINLAND	71	12x6 N	ИW	BHAR(0)	1.26%	0.27%	0.35%	0.65%	0.51%	0.24%	0.29%	-0.02%	0.67%
					0.8416	3.0916	3.2248	0.4376	0.3094	3.3212	3.5708	-0.0148	0.4909
FRANCE	58	9x9 IV	VOL	BHAR(0)	1.28%	0.29%	0.32%	0.67%	1.02%	0.31%	0.30%	0.41%	0.25%
					1.7543	2.8414	2.8964	0.8476	1.0647	2.8390	2.8860	0.4052	0.7307
GERMANY	62	6x12 N	MW	BHAR(0)	0.41%	0.38%	0.36%	-0.33%	1.61%	0.34%	0.31%	0.96%	-1.29%
					0.4412	2.6615	2.5905	-0.3533	1.5864	2.5466	2.5985	0.9265	-1.3663
GREECE	98	3x12 N	MW	BHAR(1)	0.36%	0.15%	0.17%	0.03%	-1.31%	0.14%	0.10%	-1.55%	1.59%
					0.3555	2.5787	2.6189	0.0330	-0.9801	2.6524	2.8519	-1.1437	1.4754
HONGKONG	48	9x9 N	ИW	BHAR(0)	1.04%	0.40%	0.44%	0.20%	-0.36%	0.42%	0.37%	-1.15%	1.35%
					0.5954	2.6316	2.6611	0.1149	-0.1915	2.6406	2.5878	-0.6111	0.6838
IRELAND	40	6x12 N	MW	BHAR(0)	2.10%	0.18%	0.21%	1.71%	-0.36%	0.18%	0.18%	-0.72%	2.43%
					0.7560	1.6879	1.5553	0.6002	-0.1326	1.6867	1.4947	-0.2586	1.9155
ISRAEL	53	9x12 N	ИW	BHAR(0)	3.05%	0.14%	0.18%	2.74%	2.88%	0.14%	0.10%	2.65%	0.09%
					2.3402	2.0242	2.0483	2.0827	1.7675	2.0451	1.9081	1.6178	0.0625
ITALY	80	12x6 N	MW	BHAR(0)	0.57%	0.17%	0.20%	0.19%	1.23%	0.15%	0.12%	0.96%	-0.76%
					0.4924	3.7039	3.8249	0.1688	1.5521	3.9233	3.7260	1.2095	-0.7251
JAPAN	106	3x12 N	MW	BHAR(0)	1.12%	0.15%	0.15%	0.81%	0.63%	0.13%	0.13%	0.37%	0.44%
					1.7334	3.2928	3.3274	1.2524	1.1039	3.3489	3.3428	0.6397	1.6252
NETHERLANDS	5 50	6x12 IV	VOL	BHAR(0)	1.17%	0.21%	0.16%	0.81%	1.46%	0.20%	0.15%	1.11%	-0.30%
					1.2764	1.9469	1.9044	0.8382	1.7960	1.9790	1.9389	1.3130	-0.5344
NEWZEALAND	20	12x6 N	MW	BHAR(0)	-0.01%	0.19%	0.23%	-0.43%	0.65%	0.23%	0.18%	0.24%	-0.67%
					-0.0079	1.8273	1.7705	-0.2753	0.3754	1.6597	1.8244	0.1323	-0.3095
NORWAY	56	6x12 N	MW	BHAR(0)	0.98%	0.21%	0.18%	0.59%	0.74%	0.18%	0.19%	0.37%	0.21%
					0.7680	2.1437	2.2102	0.4512	0.5838	2.0646	2.2078	0.2899	0.2518
PORTUGAL	75	6x12 N	MW	BHAR(0)	1.69%	0.23%	0.37%	1.09%	1.48%	0.17%	0.15%	1.15%	-0.07%
					1.2603	2.6466	2.0769	0.8176	1.4758	2.5710	2.8129	1.1521	-0.0540
SINGAPORE	63	3x9 N	MW	BHAR(0)	-0.36%	0.20%	0.29%	-0.85%	-0.80%	0.21%	0.24%	-1.24%	0.40%
					-0.4080	2.5030	2.4355	-0.9134	-0.6344	2.3389	2.4690	-1.0174	0.2609
SPAIN	85	12x6 I	EW	BHAR(0)	1.87%	0.17%	0.14%	1.56%	1.03%	0.15%	0.14%	0.74%	0.82%
					2.4364	3.5306	3.1876	2.0507	1.5447	3.4249	3.4804	1.1064	2.0502
SWEDEN	56	9x6 IV	VOL	CAR(0)	1.30%	0.50%	0.54%	0.26%	1.34%	0.35%	0.28%	0.71%	-0.45%
					1.1989	10.9710	8.6942	0.2367	1.1561	20.7305	25.6669	0.6192	-0.7489
SWITZERLAND	57	6x12 I	EW	BHAR(0)	1.49%	0.15%	0.15%	1.18%	0.75%	0.14%	0.13%	0.48%	0.70%
				. ,	1.9411	2.1576	2.1263	1.4919	1.1015	2.1661	2.1489	0.6746	1.6918
UK	38	12x3 IV	VOL	CAR(0)	1.83%	0.35%	0.52%	0.96%	0.98%	0.41%	0.38%	0.19%	0.77%
					2.0885	27.2867	23.0830	1.0814	0.7864		22.7591	0.1463	1.0733
US	26	6x12 N	MW	BHAR(0)	-1.06%	0.11%	0.12%	-1.30%	-0.51%	0.12%	0.11%	-0.74%	-0.55%
-				(-/	-1.3216	1.4192	1.4326	-1.6489	-0.6802	1.3820	1.4363	-1.0493	-0.9763

7.7.2. Comparing performances of time-series and cross-sectional momentum strategies based on the winners

Table 7.14 reports the time-series (TSM) and cross-sectional (CSM) momentum strategies based on the optimal implementations in Table 7.12 solely based on the long-only portfolios of winning stocks during up and down markets. The raw return indicates the momentum returns before the transaction costs for each market and the net returns indicate the returns after transaction costs are considered.

Comparing the transaction costs between the optimal time-series and cross-sectional momentum strategies in both market conditions, the results are largely unchanged in that the time-series momentum strategy produces higher costs than the cross-sectional momentum strategy except in up markets in Germany and down markets in Spain. The transaction costs for the time-series momentum strategy in up markets is higher than they are in down markets in 23 markets. The transaction costs for the cross-sectional momentum strategy in up markets is higher than the costs in down markets in 15 markets.

In the periods when markets have been performing strongly, both momentum strategies under optimal implementations yield significant positive after-transaction cost returns across the markets with the exception of Japan for the time-series momentum strategy, and Hong Kong and Japan for the cross-sectional momentum strategy. The range of the return for the time-series momentum strategy is from 3.11% per months in Finland to 0.1% per month in Japan. The same range for the cross-sectional momentum strategy is from 3.35% per month in Finland to 0.03% per month in Japan. In the periods when markets have been performing poorly, the time-series momentum strategy yields significant returns only in Australia at the 5% level and in Israel at the 10% level, and the cross-sectional momentum strategy does not produce significant returns in any of the markets. Consistent with the results before the transaction costs that we find in Chapter 6, the two momentum strategies perform more strongly in up markets than in down markets.

The last column (TSM - CSM) in Table 7.14 compares the performances of the two strategies for up and down markets. Although the findings are consistent with our previous results based on raw returns which show that the time-series momentum strategy outperforms the cross-sectional momentum strategy in the majority of markets, with the introduction of

transaction costs, the advantage of the time-series momentum strategy largely disappears in up markets and is significantly weakened in down markets.

Table 7.14. Profitability from buying stocks from momentum winners in up and down markets

The second column in this table shows the aggregate numbers of months when the market is following up (or down) markets for each market. The third column shows the optimal implementation for each market from Table 7.12. Based on the optimal implementation for each market, this table reports the (raw) return before transaction costs and net return after transaction costs, average monthly transaction costs of winner and loser portfolios for time-series (TSM) and cross-sectional (CSM) following "up" and "down" states of markets during the 252 months from 1992 to 2012. Following the method employed in Cooper et al. (2004), we defined an "up" ("down") month as one in which the market index has risen (fallen) over the previous 12 months. Newey–West adjusted t-statistics are reported below the returns in the table.

"I ID" MADIZETE	NO. OF	OPTI	MAL		TSM			CSM		DIEEEDENCE
"UP" MARKETS	MONTHS	IMPLEME	NTATION		1 31/1			CSIVI		DIFFERENCE
		JxH Weight	Construction	Raw return (W)	Cost - W	Net return (W)	Raw return (W)	Cost - W	Net return (W)	TSM - CSM
AUSTRALIA	202	9x3 MW	BHAR(0)	2.60%	0.75%	1.85%	2.27%	0.70%	1.57%	0.27%
				5.4385	8.7320	3.9036	4.3257	8.2985	3.0395	1.1720
AUSTRIA	184	12x3 IVOL	CAR(0)	1.51%	0.26%	1.25%	1.51%	0.25%	1.26%	-0.01%
				4.9396	27.9514	4.1104	4.7324	30.4855	3.9644	-0.0735
BELGIUM	191	6x12 IVOL	BHAR(0)	1.71%	0.08%	1.63%	1.76%	0.08%	1.68%	-0.05%
				6.3834	3.5444	6.0136	6.4380	3.5549	6.1385	-0.3347
CANADA	230	9x3 MW	CAR(0)	3.02%	0.65%	2.37%	2.73%	0.59%	2.15%	0.22%
				5.8095	39.2428	4.5612	5.2282	39.0758	4.1084	1.2101
DENMARK	197	9x3 MW	CAR(1)	2.02%	0.33%	1.69%	1.91%	0.27%	1.63%	0.06%
				5.4378	19.6481	4.5420	4.9666	25.0442	4.2519	0.4119
FINLAND	181	6x12 MW	BHAR(0)	3.24%	0.13%	3.11%	3.47%	0.12%	3.35%	-0.24%
				5.9022	3.6303	5.6520	5.1690	3.5981	4.9800	-0.6057
FRANCE	194	9x9 IVOL	BHAR(0)	1.73%	0.18%	1.55%	1.69%	0.17%	1.52%	0.03%
				5.9659	4.6403	5.2785	5.4092	4.5542	4.8333	0.3473
GERMANY	190	6x12 MW	BHAR(0)	1.73%	0.14%	1.58%	1.58%	0.15%	1.43%	0.16%
				4.1927	3.6757	3.8553	3.3582	3.6131	3.0584	0.7568
GREECE	154	3x12 MW	BHAR(1)	2.25%	0.16%	2.09%	3.44%	0.13%	3.31%	-1.22%
				2.2083	3.5025	2.0600	3.0906	3.4915	2.9744	-1.7030
HONGKONG	204	9x9 MW	BHAR(0)	1.97%	0.30%	1.67%	1.22%	0.26%	0.95%	0.72%
				3.1896	4.6646	2.6786	2.0365	4.6508	1.6013	2.0091
IRELAND	212	6x12 MW	BHAR(0)	2.64%	0.16%	2.47%	2.39%	0.15%	2.23%	0.24%
				3.7388	3.7934	3.5037	3.4922	3.6444	3.2681	0.8658
ISRAEL	199	9x3 MW	BHAR(1)	2.09%	0.53%	1.56%	2.22%	0.45%	1.77%	-0.21%
				3.3881	7.6623	2.5534	3.6551	8.4414	2.9422	-0.6651
ITALY	172	12x9 MW	BHAR(0)	1.68%	0.11%	1.57%	2.15%	0.09%	2.06%	-0.50%
				2.9060	3.8668	2.7250	3.5272	4.1053	3.3886	-1.1739
JAPAN	146	3x12 MW	BHAR(0)	0.18%	0.08%	0.10%	0.12%	0.08%	0.03%	0.06%
				0.3224	3.1205	0.1730	0.1987	3.1551	0.0557	0.4475
NETHERLANDS	202	9x6 IVOL	BHAR(0)	1.63%	0.22%	1.41%	1.59%	0.18%	1.41%	0.00%
				4.7497	5.3597	4.0548	4.6848	5.7887	4.1008	-0.0198
NEWZEALAND	232	6x3 MW	CAR(0)	2.77%	0.43%	2.34%	2.31%	0.38%	1.93%	0.41%
				5.5709	35.1204	4.7073	6.7094	36.5825	5.5919	1.1832
NORWAY	196	9x6 MW	BHAR(1)	2.10%	0.30%	1.80%	2.60%	0.24%	2.35%	-0.55%
DODELICAL	177	6 0 HIOI	DILL D(1)	3.3762	5.4753	2.9086	4.2265	5.8637	3.8434	-1.8565
PORTUGAL	177	6x9 IVOL	BHAR(1)	2.34%	0.20%	2.14%	2.32%	0.17%	2.14%	0.00%
GDIG L DODE	100	12 6 11/01	DILL D(1)	3.3238	4.3398	3.0320	3.6775	4.3694	3.3850	-0.0027
SINGAPORE	189	12x6 IVOL	BHAR(1)	1.85%	0.38%	1.48%	1.53%	0.29%	1.24%	0.23%
SPAIN	167	12x6 MW	BHAR(0)	3.1985 1.95%	5.6596 0.20%	2.5227 1.68%	2.8718 1.54%	5.6715 0.16%	2.3052 1.38%	0.9943
SPAIN	107	12X0 NIW	BHAK(0)							0.30%
SWEDEN	196	3x9 MW	BHAR(1)	3.4160 2.10%	5.2118 0.20%	3.0939 1.90%	2.6790	5.4969 0.19%	2.4166	-0.74%
SWEDEN	190	3X9 IVI VV	BIIAK(1)	3.7105	4.6240	3.3655	5.0944	4.5900	4.8047	-2.2324
SWITZERLAND	195	12x3 MW	BHAR(0)	2.08%	0.28%	1.80%	1.85%	0.20%	1.65%	0.15%
SWITZERLAND	193	1233 10100	BIIAK(0)	4.9747	8.0265	4.3110	4.3658	8.0057	3.8882	0.6892
UK	214	12x6 IVOL	BHAR(0)	1.74%	0.23%	1.52%	1.61%	0.19%	1.42%	0.0892
OK	214	12AU 1VOL	DIAK(0)	5.9457	5.9683	5.1441	5.3715	5.8541	4.7333	1.3576
US	226	6x12 EW	BHAR(0)	1.77%	0.18%	1.59%	1.79%	0.17%	1.62%	-0.03%
OB	220	OAIZ EW	DIAK(0)	4.4949	4.1804	4.0447	4.3652	4.1896	3.9523	-0.6987
				T.T/T	7.1004	1.077/	7.5052	r.1070	3.7343	-0.0707

MARKETS MONTHS IMPLEMENTATION Raw return (W) Cost - W (W) (W)	TSM - CSM 2.15% 2.5108 0.22% 0.4196 -0.08% -0.4438 1.61% 1.5816 -0.11%
AUSTRALIA 50 9x3 MW BHAR(0) 3.37% 0.78% 2.59% 1.13% 0.69% 0.44% 2.5150 4.1022 1.9827 1.1899 4.3293 0.4577 AUSTRIA 68 12x3 IVOL CAR(0) 0.41% 0.32% 0.09% 0.15% 0.27% -0.12% 0.6717 12.4876 0.1510 0.5805 14.2588 -0.4812 BELGIUM 61 6x12 IVOL BHAR(0) -0.43% 0.15% -0.59% -0.36% 0.14% -0.50% -0.8007 2.3010 -1.0770 -0.6442 2.2902 -0.8924 CANADA 22 9x3 MW CAR(0) 2.37% 0.85% 1.53% 0.60% 0.69% -0.09% 1.4578 12.9951 0.9463 0.3028 14.4676 -0.0453 DENMARK 55 9x3 MW CAR(1) 1.24% 0.53% 0.71% 1.15% 0.33% 0.82% 0.9144 11.7788 0.5194 1.4578 12.1888 1.0385	2.15% 2.5108 0.22% 0.4196 -0.08% -0.4438 1.61% 1.5816
AUSTRIA 68 12x3 IVOL CAR(0) 0.41% 0.32% 0.09% 0.09% 0.15% 0.27% 0.012% 0.15% 0.27% 0.12% 0.041% 0.32% 0.09% 0.15% 0.5805 14.2588 0.4812 BELGIUM 61 6x12 IVOL BHAR(0) 0.043% 0.15% 0.15% 0.59% 0.05% 0.14% 0.05% 0.00%	2.5108 0.22% 0.4196 -0.08% -0.4438 1.61% 1.5816
AUSTRIA 68 12x3 IVOL CAR(0) 0.41% 0.32% 0.09% 0.15% 0.27% -0.12% 0.6717 12.4876 0.1510 0.5805 14.2588 -0.4812 BELGIUM 61 6x12 IVOL BHAR(0) -0.43% 0.15% -0.59% -0.36% 0.14% -0.50% -0.8007 2.3010 -1.0770 -0.6442 2.2902 -0.8924 CANADA 22 9x3 MW CAR(0) 2.37% 0.85% 1.53% 0.60% 0.69% -0.09% 1.4578 12.9951 0.9463 0.3028 14.4676 -0.0453 DENMARK 55 9x3 MW CAR(1) 1.24% 0.53% 0.71% 1.15% 0.33% 0.82% 0.9144 11.7788 0.5194 1.4578 12.1888 1.0385	0.22% 0.4196 -0.08% -0.4438 1.61% 1.5816
BELGIUM 61 6x12 IVOL BHAR(0) -0.43% 0.15% -0.59% -0.36% 0.14% -0.50% CANADA 22 9x3 MW CAR(0) 2.37% 0.85% 1.53% 0.60% 0.69% -0.09% DENMARK 55 9x3 MW CAR(1) 1.24% 0.53% 0.71% 1.15% 0.33% 0.82% 0.9144 11.7788 0.5194 1.4578 12.1888 1.0385	0.4196 -0.08% -0.4438 1.61% 1.5816
BELGIUM 61 6x12 IVOL BHAR(0) -0.43% 0.15% -0.59% -0.36% 0.14% -0.50% -0.8007 2.3010 -1.0770 -0.6442 2.2902 -0.8924 CANADA 22 9x3 MW CAR(0) 2.37% 0.85% 1.53% 0.60% 0.69% -0.09% 1.4578 12.9951 0.9463 0.3028 14.4676 -0.0453 DENMARK 55 9x3 MW CAR(1) 1.24% 0.53% 0.71% 1.15% 0.33% 0.82% 0.9144 11.7788 0.5194 1.4578 12.1888 1.0385	-0.08% -0.4438 1.61% 1.5816
CANADA 22 9x3 MW CAR(0) 2.37% 0.85% 1.53% 0.60% 0.69% -0.09% DENMARK 55 9x3 MW CAR(1) 1.24% 0.53% 0.71% 1.15% 0.33% 0.82% 0.9144 11.7788 0.5194 1.4578 12.1888 1.0385	-0.4438 1.61% 1.5816
CANADA 22 9x3 MW CAR(0) 2.37% 0.85% 1.53% 0.60% 0.69% -0.09% 1.4578 12.9951 0.9463 0.3028 14.4676 -0.0453 DENMARK 55 9x3 MW CAR(1) 1.24% 0.53% 0.71% 1.15% 0.33% 0.82% 0.9144 11.7788 0.5194 1.4578 12.1888 1.0385	1.61% 1.5816
DENMARK 55 9x3 MW CAR(1) 1.24% 0.53% 0.71% 1.15% 0.33% 0.82% 0.9144 11.7788 0.5194 1.4578 12.1888 1.0385	1.5816
DENMARK 55 9x3 MW CAR(1) 1.24% 0.53% 0.71% 1.15% 0.33% 0.82% 0.9144 11.7788 0.5194 1.4578 12.1888 1.0385	
0.9144 11.7788 0.5194 1.4578 12.1888 1.0385	-0.11%
FINIAND 71 $6v12 MW RHAP(0) 0.6702 0.1502 0.5202 0.0102 0.1207 0.1107$	-0.1213
	0.63%
0.4317 2.3284 0.3304 0.0073 2.3189 -0.0787	0.9322
FRANCE 58 9x9 IVOL BHAR(0) 0.15% 0.32% -0.17% 0.01% 0.30% -0.28%	0.11%
0.3122 2.8964 -0.3313 0.0257 2.8860 -0.5752	0.6030
GERMANY 62 6x12 MW BHAR(0) -0.13% 0.36% -0.50% -0.04% 0.31% -0.35%	-0.14%
-0.1250 2.5905 -0.4657 -0.0464 2.5985 -0.3641	-0.4318
GREECE 98 3x12 MW BHAR(1) -0.17% 0.17% -0.34% -1.05% 0.10% -1.15%	0.81%
-0.1572 2.6189 -0.3240 -1.1798 2.8519 -1.2981	1.0161
HONGKONG 48 9x9 MW BHAR(0) 3.08% 0.44% 2.64% 1.31% 0.37% 0.94%	1.70%
<u>1.5799 2.6611 1.3447 0.7791 2.5878 0.5533</u>	1.3866
IRELAND 40 6x12 MW BHAR(0) 0.28% 0.21% 0.07% 0.41% 0.18% 0.23%	-0.16%
<u>0.1298</u> 1.5553 0.0329 0.2072 1.4947 0.1164	-0.3182
ISRAEL 53 9x3 MW BHAR(1) 4.32% 0.93% 3.39% 2.04% 0.41% 1.63%	1.76%
<u>2.3229</u> 3.9083 1.8123 2.0378 4.3058 1.6394	1.1123
ITALY 80 12x9 MW BHAR(0) -0.14% 0.12% -0.26% 0.11% 0.08% 0.03%	-0.29%
	-0.3136
JAPAN 106 3x12 MW BHAR(0) 0.65% 0.15% 0.50% 0.57% 0.13% 0.43%	0.07%
<u>0.8211 3.3274 0.6335 0.7589 3.3428 0.5857</u>	0.2609
NETHERLANDS 50 9x6 IVOL BHAR(0) 2.33% 0.42% 1.86% -0.33% 0.32% -0.65%	2.51%
<u> </u>	1.6083
NEWZEALAND 20 6x3 MW CAR(0) 2.23% 0.57% 1.66% -0.30% 0.37% -0.67%	2.33%
	1.2881
NORWAY 56 9x6 MW BHAR(1) 1.11% 0.44% 0.68% 1.29% 0.33% 0.96%	-0.29%
<u>0.6674</u> 3.1819 0.4149 <u>1.0628</u> 3.2972 0.8124	-0.2781
PORTUGAL 75 6x9 IVOL BHAR(1) 0.86% 0.24% 0.62% 0.41% 0.23% 0.19%	0.43%
<u>0.8279</u> 2.8947 0.5986 0.4592 2.6689 0.2086	0.5330
SINGAPORE 63 12x6 IVOL BHAR(1) 1.40% 0.47% 0.93% 0.20% 0.31% -0.12%	1.04%
<u>0.9274</u> 3.5173 0.6116 <u>0.2201</u> 3.5282 -0.1285	0.8910
SPAIN 85 12x6 MW BHAR(0) 0.99% 0.14% 0.64% 0.39% 0.15% 0.24%	0.40%
<u> 1.4869 3.1000 1.2052 0.5761 3.2287 0.3560</u>	0.6237
SWEDEN 56 3x9 MW BHAR(1) -0.75% 0.29% -1.04% 0.19% 0.18% 0.01%	-1.04%
	-1.4185
SWITZERLAND 57 12x3 MW BHAR(0) 1.17% 0.44% 0.66% 0.09% 0.28% -0.18%	0.84%
<u>0.9326 4.2962 0.5514 0.1402 4.7557 -0.2744</u>	0.8887
UK 38 12x6 IVOL BHAR(0) 0.51% 0.39% 0.11% 0.15% 0.31% -0.16%	0.27%
0.4221 2.8163 0.0945 0.1554 2.7733 -0.1555	0.7872
US 26 6x12 EW BHAR(0) 1.17% 0.13% 1.04% 1.39% 0.13% 1.25%	-0.22%
0.4939	-1.0861

7.8. An alternative approach: Break-even transaction costs

In previous sections, the transaction costs that have been estimated using LOT Y-split model are those for the marginal investor. One deficiency of this approach is that not all investors face the same transaction costs and so the transaction costs that we report above do not apply across the whole investor spectrum. One way to address this issue is to calculate the break-

even transaction costs for each implementation of the two momentum strategies. The break-even transaction cost is that rate which would reduce the return on the implementation to zero based on the "actual" turnover generated by the implementation (Yufeng, H., Ke, Y., & Guofu, Z., 2013), One particular advantage of this approach is that it allows every investors to compare their estimate of their own transaction costs with the break-even transaction cost in order to see whether they might expect to earn a profit from implementing the momentum strategy.

The "actual" turnover is based on the difference in weights between stocks in the portfolio at

the end of one holding period and the weights in targeted portfolio at the beginning of the subsequent period. Knowing these two portfolios, the purchases and sale of stocks can be calculated and they equate with the actual transactions that would take place if the strategy was being implemented. Then, the break-even transaction cost is estimating by dividing the before-transaction cost return obtained from Chapter five by the aggregate of the actual turnover for both the winner and loser portfolios. The actual turnover and break-even transaction costs for each implementation are reported in the Table 7.7 - 7.9 in the Appendix. Table 7.15 below compares the actual turnovers and break-even transaction costs of the timeseries (TSM) and cross-sectional (CSM) momentum strategies for what we refer to as the optimal implementations (see table 5.11). One important observation to be taken from Table 7.15 is that the level of turnover generated by time-series momentum is about 10% higher than what it is for cross-sectional momentum. Indeed, time-series momentum proves to have the higher turnover in 22 of the 24 with the exceptions being in Finland and Ireland. Despite typically having the higher turnover, time-series momentum has the higher break-even transaction costs in 19 of the 24 markets. However, the higher turnover ratio has little impact on the superior performance of the time-series momentum strategy in terms of the break-even transaction costs. The last column in the table reports the difference in break-even transaction costs between the time-series and cross-sectional momentum strategies. In the case of time-series momentum strategies it can be seen that the break-even costs are higher than cross-sectional momentum strategies in 19 markets with the exceptions being Belgium, Denmark, Germany, Switzerland and the UK. This is consistent with our previous finings that time-series momentum remains the better performing strategy after incorporating transactions costs even through the extent of its superiority is eroded by their introduction

Table 7.15. Break-even transaction costs for optimal time-series and cross-sectional strategies

The optimal implementations are based on before-transaction costs returns in table 5.11. The column (W-L) shows the raw returns, T/O represents the actual turnover ratio for the winner and loser portfolios. The column (Breakeven) shows the Break-even transaction costs, where the costs is calculated by the raw return over the sum of actual turnover ratios on the winner and loser portfolios. The last column shows the difference in breakeven costs between the time-series and cross-sectional momentum strategies under optimal implementation for each market.

Country	Or	otimal imp	lementation		Tim	e-series				Cross	-sectional		Breakeven Difference
	JxH	Weight	Construction	W - L	T/O (L)	(T/O) W	Breakeven		W - L	T/O (L)	(T/O) W	Breakeven	TSM - CSM
AUSTRALIA	9x3	MW	BHAR(0)	2.76%	47.21%	39.33%	3.19%	_	1.86%	43.28%	39.03%	2.26%	0.93%
AUSTRIA	12x3	IVOL	CAR(0)	1.57%	40.46%	40.11%	1.95%		1.40%	38.30%	37.46%	1.84%	0.11%
BELGIUM	12x3	IVOL	CAR(1)	1.79%	37.87%	36.88%	2.39%		1.63%	30.68%	29.25%	2.72%	-0.32%
CANADA	9x3	MW	BHAR(0)	3.13%	47.24%	39.50%	3.61%		2.06%	42.37%	35.80%	2.63%	0.98%
DENMARK	9x3	IVOL	BHAR(1)	2.00%	41.51%	37.32%	2.54%		1.74%	30.86%	30.47%	2.83%	-0.30%
FINLAND	12x6	MW	BHAR(0)	2.85%	21.15%	19.62%	6.98%		1.72%	23.32%	21.89%	3.80%	3.19%
FRANCE	9x3	IVOL	CAR(1)	1.43%	42.13%	43.29%	1.68%		1.11%	38.66%	38.25%	1.44%	0.24%
GERMANY	12x3	IVOL	CAR(0)	1.85%	38.09%	36.91%	2.46%		1.62%	32.30%	30.73%	2.57%	-0.11%
GREECE	3x12	MW	BHAR(1)	1.71%	43.48%	44.04%	1.96%		1.38%	36.50%	35.53%	1.91%	0.04%
HONGKONG	6x3	MW	BHAR(0)	2.21%	53.67%	50.01%	2.13%		1.34%	49.53%	44.77%	1.42%	0.71%
IRELAND	6x12	MW	BHAR(0)	3.52%	27.94%	27.40%	6.36%		2.36%	30.23%	29.09%	3.98%	2.38%
ISRAEL	9x12	MW	BHAR(0)	2.02%	46.92%	42.31%	2.26%		1.66%	44.68%	37.12%	2.03%	0.23%
ITALY	12x6	MW	BHAR(0)	2.26%	40.25%	37.45%	2.91%		1.38%	27.91%	27.34%	2.49%	0.42%
JAPAN	3x12	MW	BHAR(0)	1.09%	15.37%	14.81%	3.60%		0.24%	14.23%	14.45%	0.85%	2.75%
NETHERLANDS	9x3	EW	BHAR(1)	2.40%	41.31%	43.41%	2.83%		1.58%	31.20%	31.63%	2.52%	0.31%
NEWZEALAND	12x3	IVOL	BHAR(0)	2.82%	44.88%	44.08%	3.17%		1.73%	41.11%	40.65%	2.12%	1.05%
NORWAY	9x3	IVOL	BHAR(0)	2.07%	43.31%	41.96%	2.43%		1.57%	35.94%	35.03%	2.21%	0.22%
PORTUGAL	6x6	MW	BHAR(1)	2.08%	28.45%	30.05%	3.56%		0.89%	29.04%	28.27%	1.55%	2.00%
SINGAPORE	9x3	IVOL	BHAR(0)	1.64%	43.75%	44.07%	1.87%		0.87%	35.96%	34.73%	1.23%	0.64%
SPAIN	12x6	EW	BHAR(0)	1.29%	20.99%	22.04%	3.01%		1.00%	18.84%	19.39%	2.61%	0.40%
SWEDEN	12x3	IVOL	BHAR(1)	2.81%	38.27%	37.01%	3.73%		1.37%	31.00%	29.99%	2.25%	1.48%
SWITZERLAND	12x3	EW	CAR(0)	1.75%	37.84%	36.37%	2.36%		1.32%	26.10%	26.07%	2.52%	-0.16%
UK	12x3	IVOL	CAR(0)	2.15%	36.45%	36.34%	2.95%		1.85%	32.27%	30.22%	2.96%	-0.01%
US	9x3	MW	CAR(1)	0.87%	48.07%	40.22%	0.99%		0.64%	42.72%	36.23%	0.82%	0.17%

7.9. Conclusion

Previous chapters have found that both momentum strategies produce positive returns for the 24 markets but that the time-series momentum strategy produces the best investment outcomes largely driven by its better performance during period when markets are performing poorly. In order to investigate whether the apparent profitability of these strategies is exploitable by investors, we have repeated much of the previous analysis but this time is on an after-transaction costs basis.

From a practical perspective, some studies question the viability of momentum strategies for two reasons. One is that momentum strategies may not be profitable after transaction costs are considered (Lesmond et al., 2004). The other is that momentum strategies may not be profitable if short sales are prohibited (Alexander, 2000). This chapter examines both momentum strategies after addressing these concerns. Compared with the study in Lesmond et al. (2004), this study investigates a large number of implementation approaches that have been employed in the majority of momentum literature for each market and applies the more precise transaction cost measurement model used by Goyenko et al. (2009).

We find that based on our 192 implementations, both of the time-series and cross-sectional momentum strategies can still be profitable but this is conditioned on means for implementation used. The findings suggest that in most markets the aggregate of the formation period and holding period in the two momentum strategies should be extended to between 15 and 18 months (as compared with the previous 12 and 15 months) as a result of taking into account transaction costs. We also find in most markets that buy-and-hold portfolio construction along with market weighting is consistent with achieving superior investment outcomes.

We find that optimal implementation of the time-series momentum strategy yields average profits 1.34% per month over the 24 markets and it is significant in 19 markets. The cross-sectional momentum strategy is also found to be profitable in all but the Hong Kong (0.12% loss per month) and yields an average return of 0.87% per month. The transaction costs from the time-series momentum strategy are higher than the costs from the cross-sectional momentum strategy which is largely a consequence of time-series momentum strategy selecting smaller and growth stocks, and generating a higher turnover over a market cycle.

Comparing the differences between the performance of the two momentum strategies before and after the transaction costs, we find that the time-series momentum strategy continues to outperform cross-sectional momentum strategy in 21 of the 24 markets. However, the outperformance is only now significant in seven markets (Canada, Ireland, Japan, the Netherlands and Sweden at 5% level and Finland and New Zealand at 10% level) compared to 13 markets previously. The consistent results that the eroded outperformance in the time-series momentum strategy has been found based on the long-only portfolio of the winning stocks, which in the case when short-sale is restricted.

Chapter 8 – Time-series and cross-sectional momentum strategies after adjusting for risk

8.1. Introduction

We find in Chapter 7 that the introduction of transaction costs results in a significant reduction in the profitability of the two momentum strategies: based on the use of a 32% cut off, we find that across all 24 markets that the average return of the optimal implementation of time-series momentum strategy fall to 0.24% per month from 0.91%, with an equivalent decrease for the cross-sectional momentum strategy being to 0.17% per month from 0.7%. The optimal implementation for each market however produces positive after-transaction costs return in the 24 markets (19 significant) for the time-series momentum strategy and in 23 markets (15 significant) for the cross-sectional momentum strategy. In addition, the optimal time-series momentum strategy consistently shows superior performance in 21 markets (seven significant) with the outperformance being an average of 0.47% per month.

One important factor impacting returns has so far been ignored is our analysis: the standard risks involved in using momentum strategies. In order to redress this deficiency in our analysis, in this chapter we used the after-transaction cost (net) returns from Chapter 7 as the basis for calculating two risk-adjusted measures of performance: the Fama-French three-factor model and the Sharpe ratio.³⁵

The remainder of this chapter is organised as follows. Sections 8.2 and 8.3 compare the Sharpe ratios and the Fama-French alphas of the two momentum strategies under optimal

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³⁵ It was deemed in appropriate to use the Carhart (1997) four-factor model which includes momentum as the fourth factor given that we are trying to ascertain the performance of momentum investment strategies.

implementation approaches. Section 8.4 compares risk-adjusted profit and the risk factors under alternative market conditions. Conclusions are presented in Section 8.5.

8.2. Risk-adjusted measures

8.2.1. The Fama-French three-factor model

The common standard risk-adjusted measure used in the literature is the Fama-French three-factor model. This chapter first investigates whether the two momentum strategies yield significant positive excess returns – Fama and French alpha (intercept term, α_i) (as measured by momentum portfolio return minus the risk-free rate) after adjusting in the firm-specific risk (beta), firm size risk, and firm distress risk from the following regression model.

$$MR_i - Rf_i = \alpha_i + \beta 1_i (Rm_i - Rf_i) + \beta 2_i SMB_i + \beta 3_i HML_i + \varepsilon_i$$
 1

where MR_i is momentum return after accounting for the transaction costs at month t, Rf_i is the risk-free rate at month t, Rm_i is market-weighted index at month t, SMB_i is 'small minus big' at month t, which is calculated by the market average return for the smallest 30% of stocks minus the market average return of the largest 30% of stocks in that month. HML_i is 'high minus low' at month t, which is calculated as the market average return for 50% of stocks with the highest book-to-market ratio minus market average return for 50% of stocks with the lowest book-to-market ratio.

8.2.2. The Sharpe ratio

The Sharpe ratio is a risk-adjusted approach of return that is often used to assess the performance of a portfolio (Sharpe, 1998). It measures the increments in excess returns (as measured by the portfolio return minus the risk-free rate) for each additional unit of risk (as measured by the standard deviation of the portfolio returns).

Sharpe ratio =
$$\frac{\overline{MP} - Rf}{Std (MP)}$$
 2

where $\overline{\text{MP}}$ is the average momentum return after accounting for the transaction costs, Rf is the average risk-free rate and Std (MP) is momentum portfolio standard deviation over the testing period. Following literature, this chapter compares the risk-adjusted time-series and the cross-sectional momentum returns using the Sharpe measure and the three-factor model.

8.3. The risk-adjusted performances of time-series momentum strategies

Based on the after-transaction cost monthly returns from Chapter 7, we apply the two risk measurements discussed in previous section to computer the average monthly Fama and French alpha, and Sharpe ratio of the time-series momentum strategy, and report the results in Table 8.1 and Table 8.2 contained in Appendix 3. The time-series momentum strategy involves forming a long portfolio consisting of the identified winning stocks and a short portfolio consisting of the identified losing stocks with the average monthly returns after the transaction costs reported as the difference between the monthly momentum returns for the two portfolios subtracting the monthly costs of both portfolios. The results all relate to an implementation in which the cut-offs for selecting the stocks to be included in the cross-sectional momentum portfolios were set at 16%.

Panels A, B and C of Tables 8.1 and 8.2 in Appendix 3 present the average monthly Fama-French alpha and Sharpe ratio of time-series momentum strategies when the portfolio weights are based on EW, MW and IVOL, respectively.

8.3.1. The risk-adjusted performances of time-series momentum strategies

Table 8.3 summarises the number of 192 implementations of the time-series momentum that yield (i) significant positive and negative Fama-French alpha and, (ii) positive and negative

Sharpe ratio. When judged purely on sign of the two measurements, 41% of the implementations in the time-series momentum strategy yield positive Fama-French alphas, and 50% of the implementations produce the positive Sharpe ratios. Ten out of the 24 markets show that more than half of the implementations produce positive returns after adjusting risk using the two measures.

In terms of the significant level of the Fama-French alpha, however, only overall 7% of the implementations yield significant positive risk-adjusted net returns with half of the 24 markets having no implementations that yield a significant positive Fama-French alpha. After accounting for the transaction costs in previous chapter, we find that less than 10% of the implementations produces significant positive net return in ten markets (Hong Kong, the US, Japan, Greece, Norway, Portugal, Israel, Spain, Ireland and Singapore). After further adjusting for risk based on the Fama-French alpha, we now find that there is an additional seven markets (Australia, Austria, Canada, Finland, France, Germany and Italy) where the time-series momentum strategy performs poorly with less than 10% of their implementations yielding significant positive risk-adjusted net return.

The three countries in which the performance of the time-series momentum strategy is eroded most after the application of the Fama-French three-factor model are Italy where the percentage of implementations that yield significant positive performance drops to 4% from 72%, the UK where it falls to 19% from 76% and Denmark where it decreases to 10% from 66%. The three markets where the performance is best after the risk-adjustment with in excess of 20% of implementations yielding significant positive returns are New Zealand, the Netherlands and Switzerland.

Chart 8.1 shows the average after-transaction costs (net) return and the Fama-French alpha of the time-series momentum strategy across the 192 implementations analysed for each market.

The investment gain across the 24 markets erodes after adjusting for risk, to -0.22% per month from 0.24% with the biggest reduction being in Italy. The time-series momentum strategy on average produces positive risk-adjusted net return in nine markets (Belgium, Denmark, Finland, Italy, the Netherlands, New Zealand, Sweden, Switzerland and the UK) with the highest in New Zealand at 0.41% per month. In contrast, the average monthly risk-adjusted net returns across the implementations in Australia, Greece, Hong Kong, Israel, Japan, Norway and the US return a loss of in excess of 0.5% per month.

Chart 8.2 displays the average Sharpe ratios across all of the implementations for each of the 24 markets. This average Sharpe ratio proves to be positive for the time-series momentum strategy in 12 markets on average across all implementations with highest being in the UK with an average Sharpe ratio of 0.1. Even though half the markets have a positive average Sharpe ratio, it proves that the average across all markets is slightly negative reflecting the relatively high negative Sharpe ratio in markets such as Australia, Hong Kong, Israel and the US.

Based on results of the two risk measures, over half of the implementations would appear to realise positive risk-adjusted net returns in nine markets: Belgium, Denmark, Finland, Italy, the Netherlands, New Zealand, Sweden, Switzerland and the UK.

Table 8.3. Numbers of implementations yield positive/negative time-series momentum risk-adjusted net returns

This table reports the numbers of implementations yielding positive and negative average monthly time-series momentum risk-adjusted net returns based on the Fama-French alpha and the Sharpe ratio for each market. The SIGNIFICANT column indicates the aggregate numbers of implementations that generate average monthly returns at the 1%, 5%, or 10% significance level, whereas the NON-SIGNIFICANT column indicates the numbers of strategies producing average monthly returns over 10% significance level.

			F	ama-Fr	ench alpha					Sha	rpe ratio	
		POS	ITIVE		I	NEG	ATIVE		POSIT	IVE	NEGAT	TIVE
	SIGNIFICANT	%	NON SIGNIFICANT	%	SIGNIFICANT	%	NON SIGNIFICANT	%	NO.	%	NO.	%
AUSTRALIA	1	1%	34	18%	124	65%	33	17%	32	17%	160	83%
AUSTRIA	0	0%	66	34%	12	6%	114	59%	149	78%	43	22%
BELGIUM	26	14%	124	65%	3	2%	39	20%	167	87%	25	13%
CANADA	8	4%	55	29%	50	26%	79	41%	77	40%	115	60%
DENMARK	19	10%	134	70%	8	4%	31	16%	165	86%	27	14%
FINLAND	12	6%	114	59%	2	1%	64	33%	135	70%	57	30%
FRANCE	0	0%	49	26%	36	19%	107	56%	64	33%	128	67%
GERMANY	0	0%	30	16%	55	29%	107	56%	125	65%	67	35%
GREECE	0	0%	23	12%	100	52%	69	36%	20	10%	172	90%
HONGKONG	0	0%	19	10%	118	61%	55	29%	23	12%	169	88%
IRELAND	4	2%	92	48%	28	15%	68	35%	84	44%	108	56%
ISRAEL	0	0%	9	5%	139	72%	44	23%	22	11%	170	89%
ITALY	7	4%	109	57%	10	5%	66	34%	167	87%	25	13%
JAPAN	0	0%	8	4%	121	63%	63	33%	41	21%	151	79%
NETHERLANDS	66	34%	80	42%	2	1%	44	23%	172	90%	20	10%
NEWZEALAND	47	24%	109	57%	3	2%	33	17%	147	77%	45	23%
NORWAY	0	0%	8	4%	55	29%	129	67%	37	19%	155	81%
PORTUGAL	0	0%	47	24%	36	19%	109	57%	36	19%	156	81%
SINGAPORE	0	0%	96	50%	12	6%	84	44%	112	58%	80	42%
SPAIN	0	0%	31	16%	43	22%	118	61%	23	12%	169	88%
SWEDEN	26	14%	131	68%	8	4%	27	14%	156	81%	36	19%
SWITZERLAND	71	37%	89	46%	5	3%	27	14%	168	88%	24	13%
UK	37	19%	109	57%	6	3%	40	21%	161	84%	31	16%
US	0	0%	2	1%	118	61%	72	38%	13	7%	179	93%
POOLED SAMPLE	14	7%	65	34%	46	24%	68	35%	96	50%	96	509

Chart 8.1. Average time-series momentum Fama-French alphas across 192 implementations for each market

This chart plots the pooled average monthly after-transaction costs (net) returns and risk-adjusted net returns based on the Fama-French three-factor model for 192 time-series momentum strategies for each market. The dashed line shows the average monthly returns across the 24 developed markets.

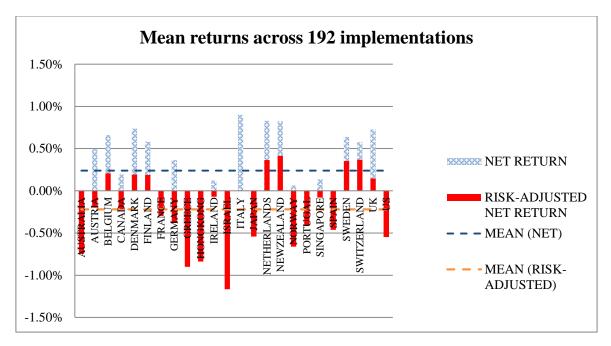
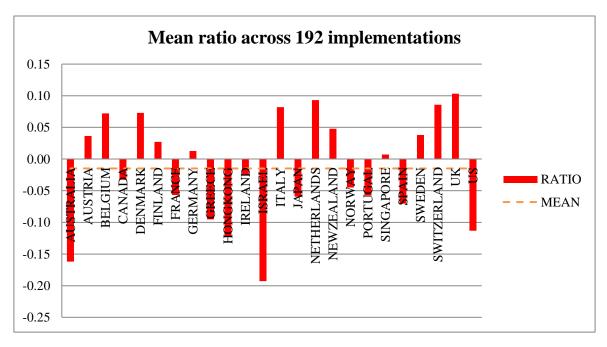


Chart 8.2. Average monthly Sharpe ratio for the time-series momentum strategy across implementations for each market

This chart reports the pooled average monthly Sharpe ratio for 192 time-series momentum strategies for each market. The dashed line shows the average monthly Sharpe ratio across the 24 developed markets.



8.3.2. The weighting method

Within each market, Table 8.4 reports the pooled average monthly net returns and risk-adjusted net returns of time-series momentum strategies using equal weight (EW), market weight (MW) and inverse volatility (IVOL) weights (t-statistics in italics). In terms of the Fama-French alpha, the average return for all equally weighted implementations fall from 0.13% with no risk-adjustment to -0.34% per month after the risk-adjustment, from 0.32% per month to -0.13% per month for market weighted portfolios and from 0.26% per month to -0.19% per month for inverse volatility weighted portfolios.

Based on these average returns, there is almost no change in what proves to be the optimal weighting scheme when implementing time-series momentum strategy in any of the countries. Hence, the overall impact of introducing risk into our analysis is to make the result for the three weighting schemes reasonably uniformly unattractive. When judged on the basis of the Fama-French alpha, MW and IVOL each produce the best outcomes in ten countries. For the Sharpe ratio, MW proves best in 12 markets and IVOL in eight.

Table 8.4. Risk-adjusted performance of time-series momentum based on three weights

This table reports the pooled average monthly net (after-transaction costs) returns and risk-adjusted net returns using equal weight (EW), market weight (MW) and inversed volatility weight (IVOL) for each market. The results of net returns are from Table 7.3. We apply the Fama-French three factor model and the Sharpe measure to evaluate the risk-adjusted return on an after-transaction costs basis. T-statistics are reported in *italics*. The highest return is highlighted in green and the lowest return is marked in red.

			Net	returns					Fama-Fr	ench alpha					Shar	pe ratio		
	EW		MW		IVOL		EW		MW		IVOL		EW		MW		IVOL	
AUSTRALIA	-0.90%	-18.0191	0.41%	7.1437	-0.36%	-6.2765	-1.40%	-29.0494	0.00%	-0.0138	-0.84%	-15.3059	-0.31	-27.0124	0.00	0.1352	-0.18	-13.9627
AUSTRIA	0.58%	17.9456	0.30%	5.8163	0.59%	17.3029	-0.10%	-3.0880	-0.48%	-9.2358	-0.02%	-0.6732	0.05	9.6866	0.00	0.5856	0.06	9.1636
BELGIUM	0.71%	21.7033	0.57%	11.9328	0.70%	15.5559	0.27%	9.3253	0.08%	1.5522	0.27%	7.1690	0.09	12.9715	0.04	6.4042	0.09	9.3946
CANADA	-0.35%	-5.6476	0.83%	11.8354	0.10%	1.8149	-0.77%	-13.8044	0.41%	6.9886	-0.31%	-6.3842	-0.12	-10.6623	0.06	7.6732	-0.04	-3.2674
DENMARK	0.77%	17.6884	0.70%	15.1891	0.74%	15.4999	0.22%	5.3671	0.13%	2.7642	0.22%	4.8310	0.09	9.3271	0.05	7.7916	0.08	7.9013
FINLAND	0.32%	6.4403	1.00%	12.5262	0.42%	8.5733	-0.05%	-1.2358	0.56%	7.8304	0.06%	1.4344	0.00	-0.0673	0.07	8.6888	0.01	2.0696
FRANCE	0.10%	1.9028	-0.38%	-6.3077	0.17%	3.1044	-0.24%	-4.8842	-0.51%	-10.0367	-0.14%	-2.9269	-0.04	-3.5637	-0.10	-12.4838	-0.03	-2.2062
GERMANY	0.19%	4.6121	0.48%	9.1781	0.42%	8.6304	-0.63%	-14.3426	-0.22%	-3.6525	-0.30%	-6.3433	-0.02	-2.2981	0.03	4.0686	0.03	2.5719
GREECE	-0.36%	-5.1516	-0.32%	-3.8910	-0.23%	-3.2715	-0.91%	-12.5684	-1.01%	-12.9872	-0.78%	-10.9086	-0.11	-13.3423	-0.08	-11.0442	-0.10	-11.6510
HONGKONG	-0.84%	-13.7584	0.06%	1.0690	-0.58%	-10.2857	-1.23%	-20.1115	-0.30%	-5.4698	-0.99%	-18.2276	-0.19	-19.7376	-0.03	-4.3562	-0.15	-15.2805
IRELAND	-0.09%	-1.0184	0.45%	4.2387	0.00%	0.0265	-0.41%	-5.2859	0.48%	5.0038	-0.28%	-3.4945	-0.04	-5.1555	0.01	1.3234	-0.04	-4.2393
ISRAEL	-0.76%	-10.6143	0.26%	2.8421	-0.65%	-9.6330	-1.50%	-22.0170	-0.60%	-6.6417	-1.39%	-22.4438	-0.28	-16.6165	-0.04	-4.1336	-0.25	-15.3139
ITALY	0.94%	19.1266	0.89%	13.4450	0.87%	19.0354	0.17%	3.8628	-0.27%	-4.7611	0.11%	2.6035	0.10	10.9563	0.06	8.0284	0.09	10.1774
JAPAN	-0.32%	-8.7427	0.03%	0.8400	-0.26%	-8.1519	-0.67%	-19.3568	-0.35%	-10.0340	-0.60%	-20.1718	-0.09	-10.9239	-0.01	-0.9347	-0.08	-10.2328
NETHERLANDS	1.02%	28.0566	0.43%	8.2804	1.03%	22.6014	0.60%	14.3133	-0.10%	-1.7893	0.60%	12.0684	0.13	20.0562	0.02	3.3675	0.13	17.5872
NEWZEALAND	0.73%	13.3591	0.75%	10.9314	0.99%	18.0265	0.22%	4.2299	0.49%	7.1084	0.52%	9.1535	0.03	3.7354	0.03	3.9362	0.08	9.7850
NORWAY	0.00%	0.0580	0.08%	1.2178	0.11%	2.2544	-0.72%	-15.3719	-0.65%	-11.3851	-0.61%	-13.1998	-0.06	-8.7067	-0.03	-5.4079	-0.04	-6.3430
PORTUGAL	-0.33%	-4.4417	0.10%	1.2145	-0.08%	-1.1561	-0.60%	-7.8004	-0.29%	-3.1457	-0.35%	-4.4066	-0.09	-10.4763	-0.02	-3.8766	-0.06	-7.9383
SINGAPORE	0.00%	-0.0331	0.12%	1.9532	0.29%	5.6727	-0.20%	-4.8653	-0.10%	-1.5985	0.06%	1.2900	-0.01	-2.1070	0.01	0.9715	0.03	3.6176
SPAIN	0.02%	0.4295	-0.46%	-6.2491	-0.05%	-0.8456	-0.31%	-6.3583	-0.70%	-10.3896	-0.37%	-7.1468	-0.05	-6.2566	-0.10	-12.9784	-0.06	-7.4685
SWEDEN	0.56%	9.2177	0.55%	8.8760	0.79%	11.9081	0.16%	2.6232	0.43%	6.9198	0.46%	6.8854	0.03	3.7097	0.02	3.7350	0.06	6.8728
SWITZERLAND	0.75%	18.7330	0.35%	7.4548	0.63%	15.3612	0.58%	13.7211	0.08%	1.7808	0.44%	10.3811	0.12	15.3385	0.03	3.6791	0.10	11.0319
UK	0.77%	26.2999	0.48%	8.0770	0.93%	27.5502	0.14%	4.7456	0.04%	0.8514	0.26%	8.4732	0.12	13.0409	0.01	1.4018	0.18	15.7842
US	-0.38%	-11.7275	0.01%	0.1407	-0.27%	-7.6495	-0.71%	-22.8345	-0.36%	-10.7548	-0.57%	-19.0568	-0.16	-20.6157	-0.04	-6.4183	-0.14	-15.6457
POOLED SAMPLE	0.13%	1.1064	0.32%	4.0254	0.26%	2.5218	-0.34%	-2.8094	-0.13%	-1.5612	-0.19%	-1.7901	-0.03	-1.3958	0.00	-0.0420	-0.01	-0.4369

8.3.3. The formation (J) and holding period (H)

Table 8.5 reports the pooled average monthly the Fama-French alphas and Sharpe ratios across 16 time-series momentum strategies when using the formation period J (J = three, six, nine and 12 months) and the holding period H (H = three, six, nine and 12 months) for each market.

The findings as reported in Table 7.4 indicate that the time-series momentum strategy tended to produce the highest after-transaction costs (net) returns in a cycle (i.e. sum of formation and holding periods) of between 15 and 18 months in all markets other than Sweden. Across all of the markets, the best combination involves either a nine or 12 months formation period in combination with a six months holding periods. After accounting for the risks in Table 8.5, the pattern remains similar where the momentum cycle in 20 markets continuing to lie in the range of 15 to 18 months with the exceptions being in Norway, Hong Kong, Switzerland and Israel when using the Fama-French alpha, and Hong Kong, Singapore, Greece and Sweden

when using the Sharpe ratio. Compared with the after-transaction costs performance in Table 7.4, the best combination of formation and holding periods remains unchanged in 15 markets when using the Fama-French alpha and 14 markets when using the Sharpe ratio.

Table 8.5. Risk-adjusted performance of time-series momentum based on formation (J) and holding (H) period

The Fama-French three-factor alpha

This table reports the pooled average monthly time-series momentum Fama-French alphas based on the formation J (J = three, six, nine and 12 months) and the holding H (H = three, six, nine and 12 months) for each market. T-statistics are reported in *italics*. The highest return is highlighted in green and the lowest return is highlighted in red.

AUSTRALIA	H = 3	H = 6	H = 9	H = 12	AUSTRIA	H = 3	H = 6	H = 9	H = 12	BELGIUM	H = 3	H = 6	H = 9	H = 12
J = 3	-1.81%	-0.82%	-0.53%	-0.41%	J = 3	-0.54%	-0.35%	-0.18%	-0.20%	J = 3	-0.31%	0.06%	-0.04%	0.21%
	-8.6894	-4.4897	-3.2907	-2.5532		-3.5117	-3.3612	-2.5042	-2.9021		-5.6555	0.8730	-0.3379	5.0510
J = 6	-1.06%	-0.52%	-0.60%	-0.69%	J = 6	-0.46%	-0.20%	0.04%	0.08%	J = 6	0.03%	0.03%	0.23%	0.24%
	-5.3859	-2.3158	-2.9104	-4.0045		-5.8831	-2.4690	0.5577	0.8616		0.3486	0.2901	4.3623	5.5042
J = 9	-0.66%	-0.38%	-0.43%	-0.49%	J = 9	-0.04%	-0.01%	-0.01%	0.01%	J = 9	0.15%	0.60%	0.40%	0.37%
	-2.8725	-1.7230	-2.8284	-2.9024		-0.6498	-0.1263	-0.1799	0.1610		1.6142	12.4857	7.0761	7.8882
J = 12	-1.01%	-0.79%	-0.86%	-0.88%	J = 12	-0.22%	-0.27%	-0.26%	-0.59%	J = 12	0.44%	0.47%	0.26%	0.14%
	-5.3636	-4.2035	-5.7736	-6.2633		-2.0763	-2.1595	-2.5875	-5.0314		5.9354	10.9130	2.2500	2.2292
CANADA	H = 3	H = 6	H = 9	H = 12	DENMARK	H = 3	H = 6	H = 9	H = 12	FINLAND	H = 3	H = 6	H = 9	H = 12
J = 3	-1.29%	-0.43%	0.03%	-0.06%	J = 3	-0.69%	0.00%	-0.05%	-0.02%	J = 3	-0.56%	-0.34%	0.29%	0.42%
	-6.6187	-3.7495	0.2507	-0.5728		-9.8703	0.0030	-0.4081	-0.2654		-9.9934	-2.8238	3.4394	3.8818
J = 6	-0.60%	-0.02%	0.36%	-0.19%	J = 6	0.16%	0.48%	0.38%	0.40%	J = 6	-0.09%	0.44%	0.19%	0.24%
	-3.4168	-0.1272	1.7258	-1.3955		4.2651	11.6134	8.2700	4.9840		-1.1622	3.6750	1.0769	1.9827
J = 9	0.03%	0.12%	0.03%	-0.20%	J = 9	0.43%	0.47%	0.41%	0.15%	J = 9	0.23%	0.43%	0.22%	-0.16%
	0.1291	0.8072	0.1981	-1.6926		8.2431	9.0555	10.2140	3.1982		3.1262	4.2531	2.3447	-1.2015
J = 12	-0.23%	-0.20%	-0.35%	-0.53%	J = 12	0.19%	0.49%	0.10%	0.16%	J = 12	0.47%	0.70%	0.20%	0.32%
	-1.4436	-0.9574	-2.2539	-3.5817		3.6719	11.9864	1.3808	3.6702		5.7431	4.1670	1.7356	1.9481
FRANCE	H = 3	H = 6	H = 9	H = 12	GERMANY	H = 3	H = 6	H = 9	H = 12	GREECE	H = 3	H = 6	H = 9	H = 12
J = 3	-1.35%	-0.52%	-0.29%	-0.28%	J = 3	-1.25%	-0.26%	-0.09%	-0.19%	J = 3	-1.38%	-0.45%	-0.55%	-0.32%
	-12.1600	-10.0243	-7.8944	-5.0925		-16.7929	-2.0187	-1.0159	-2.8117		-16.4830	-2.4434	-3.7297	-1.4596
J = 6	-0.66%	-0.32%	-0.14%	-0.21%	J = 6	-1.07%	-0.34%	-0.06%	-0.21%	J = 6	-0.93%	-0.62%	-0.80%	-1.10%
	-8.2811	-6.5409	-1.3074	-2.8710		-16.5105	-4.2686	-0.6306	-2.6564		-7.1149	-4.7696	-12.7224	-22.6281
J = 9	-0.36%	-0.07%	0.06%	0.04%	J = 9	-0.55%	-0.08%	-0.24%	-0.10%	J = 9	-0.99%	-0.57%	-1.28%	-0.43%
	-3.4620	-0.8795	0.9203	0.5898		-8.4195	-0.7458	-3.9221	-1.2259		-4.6879	-3.2188	-19.6638	-2.1387
J = 12	-0.37%	-0.07%	-0.04%	-0.16%	J = 12	-0.56%	-0.41%	-0.25%	-0.42%	J = 12	-1.13%	-1.45%	-0.89%	-1.47%
	-2.6721	-0.9072	-0.9081	-3.6904		-7.9562	-4.2222	-3.0748	-4.5538		-10.1818	-16.9322	-6.8033	-20.9030
HONGKONG	H = 3	H = 6	H = 9	H = 12	IRELAND	H = 3	H = 6	H = 9	H = 12	ISRAEL	H = 3	H = 6	H = 9	H = 12
J = 3	-1.89%	-0.69%	-0.59%	-0.59%	J = 3	-0.78%	-1.05%	-0.85%	-0.10%	J = 3	-2.61%	-1.73%	-1.34%	-1.29%
	-11.6373	-4.3510	-6.7693	-5.4435		-4.0674	-4.6863	-4.6748	-1.8391		-30.6020	-21.4541	-10.8993	-19.6092
J = 6	-0.89%	-0.42%	-0.43%	-0.62%	J = 6	-0.62%	0.10%	-0.58%	0.72%	J = 6	-1.69%	-1.19%	-1.27%	-0.90%
	-5.3657	-3.7424	-4.5344	-6.5026		-2.8159	0.4117	-2.3110	2.5550		-10.7018	-6.3544	-10.1101	-7.8853
J = 9	-0.80%	-0.62%	-0.69%	-0.51%	J = 9	-0.11%	0.32%	0.55%	0.28%	J = 9	-1.40%	-0.91%	-0.91%	-0.58%
	-5.2269	-4.3318	-5.8323	-3.2985		-0.8896	2.9257	3.4732	2.5057		-6.3063	-4.7541	-6.3448	-3.3220
J = 12	-1.26%	-1.04%	-1.06%	-1.30%	J = 12	0.49%	0.22%	0.31%	-0.02%	J = 12	-1.03%	-0.53%	-0.77%	-0.52%
	-7.2216	-6.4488	-7.8180	-8.0123		4.6428	2.4797	2.1196	-0.2323		-7.2441	-3.7491	-6.8746	-2.5737
					-					-				

ITALY	H = 3	H = 6	H = 9	H = 12	JAPAN	H = 3	H = 6	H = 9	H = 12	NETHERLANDS	H = 3	H = 6	H = 9	H = 12
J = 3	-0.31%	-0.45%	-0.06%	-0.17%	J = 3	-1.05%	-0.63%	-0.42%	-0.19%	J = 3	-0.03%	0.09%	-0.07%	0.60%
	-2.5579	-2.7582	-0.6607	-1.7494	-	-17.9781	-19.5302	-12.2156	-2.5299	-	-0.6060	0.7763	-0.4262	6.0541
J = 6	-0.13%	0.08%	-0.04%	-0.51%	J = 6	-0.94%	-0.54%	-0.41%	-0.20%	J = 6	-0.14%	0.25%	0.36%	0.73%
	-1.7001	0.8097	-0.3273	-3.1355		-13.5209	-6.3996	-10.0724	-2.8313		-0.9499	2.2569	3.3886	4.7768
J = 9	0.25%	0.30%	0.31%	0.00%	J = 9	-0.86%	-0.43%	-0.44%	-0.38%	J = 9	0.49%	0.86%	0.53%	0.64%
	2.5585	2.5689	3.9033	-0.0279		-16.6363	-8.4476	-13.0461	-6.2866		3.3464	5.3447	4.3518	5.9966
J = 12	0.20%	0.29%	0.15%	0.14%	J = 12	-0.70%	-0.51%	-0.53%	-0.46%	J = 12	0.28%	0.68%	0.36%	0.19%
	2.5600	4.6739	2.6539	2.1486		-18.0710	-10.3361	-9.7146	-9.6167		2.3932	5.4033	2.9481	1.1715
NEWZEALAND	H = 3	H = 6	H = 9	H = 12	NORWAY	H = 3	H = 6	H = 9	H = 12	PORTUGAL	H = 3	H = 6	H = 9	H = 12
J = 3	-0.09%	0.10%	0.05%	-0.32%	J = 3	-1.49%	-0.27%	-0.51%	-0.59%	J = 3	-1.34%	0.03%	0.09%	0.14%
	-0.6071	1.1282	0.6806	-2.6093		-32.6192	-2.8539	-4.1608	-5.4682		-7.6200	0.2410	0.7288	0.9621
J = 6	0.56%	0.40%	0.32%	0.16%	J = 6	-1.09%	-0.52%	-0.56%	-0.42%	J = 6	-0.43%	0.06%	0.30%	0.07%
	5.2656	4.0484	3.4871	1.6368		-16.7472	-9.4679	-5.5604	-7.2119		-2.8627	0.4814	1.9633	0.4513
J = 9	0.68%	0.50%	0.62%	0.39%	J = 9	-0.64%	-0.56%	-0.56%	-0.83%	J = 9	-0.98%	-0.19%	-0.20%	-0.23%
	11.6589	4.3810	15.2163	5.5882		-4.4726	-11.0825	-9.4746	-14.9694		-8.4508	-2.1008	-1.5292	-2.2134
J = 12	1.15%	1.01%	0.64%	0.43%	J = 12	-0.79%	-0.50%	-0.67%	-0.60%	J = 12	-1.26%	-1.01%	-0.76%	-0.92%
	10.3245	6.7466	7.5146	8.9935		-10.6170	-5.0673	-10.9832	-4.7052		-16.0539	-11.7476	-9.3860	-10.2532
-					-					-				
SINGAPORE	H = 3	H = 6	H = 9	H = 12	SPAIN	H = 3	H = 6	H = 9	H = 12	SWEDEN	H = 3	H = 6	H = 9	H = 12
J = 3	-0.87%	0.04%	0.14%	-0.21%	J = 3	-1.14%	-0.91%	-0.34%	-0.09%	J = 3	-1.02%	0.11%	-0.10%	0.13%
	-11.9336	0.3016	3.6278	-1.5572		-22.4646	-6.4058	-5.1370	-2.0256		-9.8617	1.1957	-1.0006	1.6023
J = 6	-0.42%	-0.10%	0.38%	0.06%	J = 6	-1.21%	-0.65%	-0.16%	-0.46%	J = 6	0.21%	0.47%	0.50%	0.37%
-	-5.0486	-1.3693	3.9989	1.2529	-	-14.2727	-5.4732	-1.7685	-3.9096		2.4100	8.2408	5.5039	4.7348
J = 9	-0.16%	0.14%	0.01%	-0.31%	J = 9	-0.81%	-0.42%	-0.06%	-0.39%	J = 9	0.61%	0.71%	0.64%	0.20%
	-1.6343	2.3637	0.1162	-2.2636		-4.9027	-4.8105	-0.9800	-5.8426		8.6545	10.1704	10.3692	2.2840
J = 12	-0.15%	0.16%	0.15%	-0.12%	J = 12	-0.39%	0.03%	-0.22%	-0.18%	J = 12	0.74%	0.69%	0.68%	0.70%
	-2.5285	2.1672	1.7774	-1.4984		-3.8686	0.3502	-3.0417	-7.0283		7.2529	9.4348	10.9095	4.9391
-										-				
SWITZERLAND	H = 3	H = 6	H = 9	H = 12	UK	H = 3	H = 6	H = 9	H = 12	US	H = 3	H = 6	H = 9	H = 12
J = 3	-0.43%	0.35%	0.13%	0.60%	J = 3	-0.46%	0.18%	0.12%	0.33%	J = 3	-1.14%	-0.35%	-0.44%	-0.31%
	-4.5096	5.3392	1.6352	5.9681		-6.1335	3.0236	1.9728	6.9277		-20.1259	-5.4602	-7.7233	-7.0732
J = 6	0.36%	0.84%	0.40%	0.58%	J = 6	-0.03%	0.27%	0.22%	0.17%	J = 6	-0.73%	-0.49%	-0.36%	-0.46%
	3.5077	9.6577	3.2365	5.6730		-0.2159	3.9626	4.7177	4.9822		-15.0162	-8.0895	-5.1146	-7.1062
J = 9	0.42%	0.67%	0.37%	0.23%	J = 9	0.18%	0.45%	0.29%	0.05%	J = 9	-0.50%	-0.29%	-0.42%	-0.62%
	3.5525	6.8495	3.0785	3.6614		1.9351	6.7041	7.0634	1.0431		-13.5113	-5.3479	-6.3830	-10.1263
J = 12	0.47%	0.47%	0.17%	0.27%	J = 12	0.29%	0.27%	0.13%	-0.10%	J = 12	-0.64%	-0.61%	-0.64%	-0.76%
	9.7143	10.1888	3.0456	4.0411		3.0599	4.0061	2.8452	-2.0263		-12.9577	-8.8469	-8.1955	-9.6616
-										-				

Sharpe Ratio

This table reports the pooled average monthly time-series momentum Sharpe ratios based on the formation J (J = three, six, nine and 12 months) and the holding H (H = three, six, nine and 12 months) for each market. T-statistics are reported in *italics*. The highest ratio is highlighted in green and the lowest ratio is highlighted in red.

AUSTRIAL H = 3	ALICTO ALIA	11 2	11 /	11 0	II 10	A LICTRIA	11 2	11 (II C	II 12	DELCHIM	11 2	11 (II C	II 12
Section Sect	AUSTRALIA	H = 3	H = 6	H = 9	H = 12	AUSTRIA	H = 3	H = 6	H = 9	H = 12	BELGIUM	H = 3	H = 6	H = 9	H = 12
Teal	J = 3					J = 3					J = 3				
Solution Solution	1 – 6					1 – 6					1 – 6				
Heat	$\mathbf{J} = \mathbf{O}$					J = Q					J = Q				
Second S					_										
Tensor T	J = 9					J = 9					J = 9				
CANADA						I 12									
CANADA H = 3 H = 6 H = 9 H = 12 DENMARK H = 3 H = 6 H = 9 H = 12 FINLAND H = 3 H = 6 H = 9 H = 12 J = 3 -0.28 -0.12 -0.01 -0.01 -0.01 -0.01 -0.01 -0.01 -0.01 -0.01 -0.02 -0.05 -0.01 -0.01 -0.01 -0.01 -0.06 -0.01 J = 6 -0.01 -0.08 -0.10 -0.04 -0.0583 -0.10 0.08 0.10 0.08 -0.10 -0.08 -0.4069 -0.012 -0.02 -0.0583 -0.12 -0.02 -0.05 -0.04488 -0.40680 1.5762 0.9615 -0.8377 9.4934 10.7233 12.6936 9.8330 -0.02 0.05 0.04 0.01 J = 12 -0.02 0.00 -0.01 -0.05 J = 12 0.07 0.13 0.09 9.030 9.10 J = 12 0.05 0.04 0.01 J = 3 -0.03 -0.13 -0.06	J = 12					J = 12					J = 12				
J = 3		-5.0838	-4.0810	-5.1433	-5.0312	-	3.0644	2./198	2.5221	-1.829/	-	8.9233	11.0693	4./382	4.2598
J = 3	CANADA	H – 3	H – 6	H – 9	H – 12	DENMARK	H – 3	H - 6	H – 9	H – 12	FINI AND	H – 3	H - 6	H – 9	H – 12
Table			_												
FRANCE H = 3 H = 6 H = 9 H = 12 H															
Second	J = 6				_	J = 6					J = 6				
J=9															
Tender T	J = 9					J = 9					J = 9				
FRANCE H=3 H=6 H=9 H=12 GERMANY H=3 H=6 H=9 H=12 GRECE H=3 H=6 H=9 H=12 H=12 H=12 H=12 H=12 H=12 H=12 H=12		-0.4680	1.5762	0.9615	-0.8377		9.4934	10.7233	12.6936	9.8330		2.8275	4.6753	3.6193	0.5098
FRANCE H = 3 H = 6 H = 9 H = 12	J = 12	-0.02	0.00	-0.01	-0.05	J = 12	0.07	0.13	0.09	0.10	J = 12	0.05	0.09	0.05	0.06
J = 3		-1.0858	0.1132	-0.4014	-1.9218		6.1987	9.9905	4.5587	7.7729		7.7122	6.1220	4.3351	3.6165
J = 3										-					
The color of the	FRANCE	H = 3	H = 6	H = 9	H = 12	GERMANY	H = 3	H = 6	H = 9	H = 12	GREECE	H = 3	H = 6	H = 9	H = 12
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	J = 3	-0.30	-0.13	-0.06	-0.06	J = 3	-0.16	-0.01	0.05	0.02	J = 3	-0.16	-0.07	-0.10	-0.07
The image is a standard region of the			-11.5300	-4.0041				-0.5493			-				
J = 9 -0.08 -0.01 0.02 0.01 J = 9 0.00 0.05 0.03 0.05 J = 9 -0.09 -0.06 -0.11 -0.05 J = 12 -0.06 0.00 0.02 -0.01 J = 12 0.01 0.04 0.05 0.02 J = 12 -0.10 -0.12 -0.09 -0.09 -0.09 -0.13 HONGKONG H = 3 H = 6 H = 9 H = 12 IRELAND H = 3 H = 6 H = 9 H = 12 ISRAEL H = 3 H = 6 H = 9 H = 12 J = 3 -0.32 -0.15 -0.13 -0.12 J = 3 -0.11 -0.12 -0.09 -0.28 -0.29 -8.2956 -4.7718 -5.3961 -4.4683 -3.4064 -8.5594 -5.0185 -9.5103 -8.3471 -5.7504 -6.1470 J = 6 -0.14 -0.07 -0.09 J = 6 -0.09 -0.02 -0.06 0.06 J = 6 -0.25 -0.21 -0.22 -0.17	J = 6	-0.14	-0.07	-0.01	-0.02	J = 6		0.03			J = 6	-0.09	-0.07	-0.09	-0.12
The color of the		-10.6619	-6.1477	-0.7705	-1.4062		-8.8133	2.9664	5.5547	4.0255		-8.1448	-5.3687	-9.9892	-12.3303
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	J = 9	-0.08	-0.01	0.02	0.01	J = 9	0.00	0.05	0.03		J = 9	-0.09	-0.06	-0.11	-0.05
HONGKONG															
HONGKONG H = 3 H = 6 H = 9 H = 12 J = 3	J = 12					J = 12					J = 12				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		-2.7207	0.0358	1.1640	-1.1475		1.0878	2.5422	3.5966	1.7784		-11.5169	-17.9409	-5.8859	-11.5817
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$															
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$			_												
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	J = 3					J = 3					J = 3				
-5.7113 -4.2276 -4.1855 -5.4360 -5.2530 -1.2663 -3.1431 2.6957 -6.2180 -4.6575 -5.7581 -4.3644 J = 9 -0.12 -0.09 -0.08 -0.07 J = 9 -0.03 0.01 0.04 0.02 J = 9 -0.20 -0.15 -0.13 -0.10 -5.7119 -4.6505 -3.5435 -3.5387 -4.8961 1.7174 5.9038 3.3103 -5.0255 -4.1452 -4.4449 -2.6380 J = 12 -0.16 -0.11 -0.12 -0.13 J = 12 0.02 0.01 0.02 0.00 J = 12 -0.11 -0.06 -0.10 -0.08	·										·				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	J = 6					J = 6					J = 6				
J=12 -0.16 -0.11 -0.12 -0.13 J=12 0.02 0.01 0.02 0.00 J=12 -0.01 -0.06 -0.10 -0.08															
J = 12 -0.16 -0.11 -0.12 -0.13 J = 12 0.02 0.01 0.02 0.00 J = 12 -0.11 -0.06 -0.10 -0.08	J = 9					J = 9					J = 9				
-6.0238 -4.7946 -5.0707 -5.0652 6.8841 3.4031 3.3863 0.4930 -3.7805 -2.2255 -4.3082 -2.3276	J = 12					J = 12					J = 12				
		-6.0238	-4.7946	-5.0707	-5.0652		6.8841	3.4031	3.3863	0.4930		-3.7805	-2.2255	-4.3082	-2.3276

ITALY	H = 3	H = 6	H = 9	H = 12	JAPAN	H = 3	H = 6	H = 9	H = 12	NETHERLANDS	H = 3	H = 6	H = 9	H = 12
J = 3	-0.02	-0.01	0.08	0.06	J = 3	-0.20	-0.11	-0.06	0.00	J = 3	0.03	0.07	0.06	0.14
	-2.4117	-0.4201	5.4400	2.9031		-9.1527	-6.2862	-3.5545	0.1756		3.5381	3.8236	2.4839	8.7278
J = 6	0.04	0.09	0.11	0.04	J = 6	-0.13	-0.06	-0.02	0.01	J = 6	0.02	0.08	0.10	0.15
	5.3199	5.3381	6.5653	1.8847		-7.2799	-3.8890	-2.1596	0.3726		1.3525	4.4562	5.6266	6.5591
J = 9	0.09	0.13	0.13	0.10	J = 9	-0.10	-0.02	-0.02	-0.03	J = 9	0.10	0.14	0.12	0.13
	8.5932	7.3374	10.4106	6.8352		-8.9117	-2.4899	-3.4353	-2.5006		4.9848	6.6412	5.3989	7.2209
J = 12	0.11	0.14	0.12	0.11	J = 12	-0.07	-0.04	-0.04	-0.05	J = 12	0.06	0.13	0.10	0.07
	16.1073	12.2379	9.2357	9.6263		-7.9478	-3.3366	-3.7938	-3.8694		3.9324	6.7743	4.9590	3.0363
NEWZEALAND	H = 3	H = 6	H = 9	H = 12	NORWAY	H = 3	H = 6	H = 9	H = 12	PORTUGAL	H = 3	H = 6	H = 9	H = 12
J = 3	-0.04	0.00	-0.01	-0.05	J = 3	-0.18	-0.03	-0.04	-0.03	J = 3	-0.15	-0.03	-0.02	-0.02
	-2.1063	-0.3521	-0.6613	-3.2384		-21.6721	-4.0695	-2.6023	-2.4153		-7.1716	-1.9573	-0.8446	-0.9108
J = 6	0.07	0.05	0.04	0.04	J = 6	-0.08	-0.03	-0.03	-0.01	J = 6	-0.07	-0.02	0.01	-0.01
	5.0558	3.1392	2.0528	2.1454		-10.6358	-4.5360	-2.6573	-1.1449		-3.8297	-1.2788	0.4133	-0.4551
J = 9	0.07	0.07	0.10	0.06	J = 9	-0.04	-0.02	-0.03	-0.06	J = 9	-0.13	-0.05	-0.04	-0.04
	5.7955	3.3520	11.6828	3.7505		-2.5514	-3.6659	-4.9699	-4.2935		-10.4053	-5.2024	-3.4887	-4.5013
J = 12	0.12	0.11	0.08	0.06	J = 12	-0.04	-0.01	-0.04	-0.04	J = 12	-0.11	-0.10	-0.07	-0.09
	12.0456	9.0143	8.9493	7.7722		-4.0874	-0.8032	-3.4914	-2.6369		-8.3632	-10.7418	-12.6120	-9.3651
SINGAPORE	H = 3	H = 6	H = 9	H = 12	SPAIN	H = 3	H = 6	H = 9	H = 12	SWEDEN	H = 3	H = 6	H = 9	H = 12
J = 3	-0.12	0.02	0.07	0.00	J = 3	-0.20	-0.15	-0.07	-0.02	J = 3	-0.14	0.00	0.01	0.02
	-20.5324	0.7296	9.1000	-0.1056				-10.4497	-4.1282		-13.5349	-0.2063	1.2396	2.0377
J = 6	-0.05	0.01	0.05	0.03	J = 6	-0.17	-0.10	-0.03	-0.07	J = 6	0.00	0.05	0.05	0.05
	-6.5562	1.4985	5.7301	3.8219										
J = 9	-0.03		0.02			-25.5946	-8.6112	-2.7226	-5.3493		0.5964	7.1037	3.9090	5.0305
		0.01	0.03	-0.01	J = 9	-0.12	-0.06	-0.01	-0.05	J = 9	0.05	0.08	0.08	0.03
T 10	-2.4971	1.3314	2.4147	-0.01 -0.3763		-0.12 -6.7674	-0.06 -5.4730	-0.01 -0.9028	-0.05 -8.1467		0.05 5.7155	0.08 7.2318	0.08 8.2691	0.03 2.1760
J = 12	-2.4971 -0.02	1.3314 0.04	2.4147 0.05	-0.01 -0.3763 0.03	J = 9 J = 12	-0.12 -6.7674 -0.05	-0.06 -5.4730 0.00	-0.01 -0.9028 -0.02	-0.05 -8.1467 -0.02	J = 9 J = 12	0.05 5.7155 0.07	0.08 7.2318 0.08	0.08 8.2691 0.09	0.03 2.1760 0.09
J = 12	-2.4971	1.3314	2.4147	-0.01 -0.3763		-0.12 -6.7674	-0.06 -5.4730	-0.01 -0.9028	-0.05 -8.1467		0.05 5.7155	0.08 7.2318	0.08 8.2691	0.03 2.1760
	-2.4971 -0.02 -2.5912	1.3314 0.04 5.1207	2.4147 0.05 5.0214	-0.01 -0.3763 0.03 2.3723	J = 12	-0.12 -6.7674 -0.05 -4.4446	-0.06 -5.4730 0.00 0.1729	-0.01 -0.9028 -0.02 -2.6954	-0.05 -8.1467 -0.02 -5.8662	J = 12	0.05 5.7155 0.07 4.7978	0.08 7.2318 0.08 7.0238	0.08 8.2691 0.09 8.2290	0.03 2.1760 0.09 8.0772
SWITZERLAND	-2.4971 -0.02 -2.5912 H = 3	1.3314 0.04 5.1207 H = 6	2.4147 0.05 5.0214 H = 9	-0.01 -0.3763 0.03 2.3723 H = 12	J = 12 UK	-0.12 -6.7674 -0.05 -4.4446 H = 3	-0.06 -5.4730 0.00 0.1729 H = 6	-0.01 -0.9028 -0.02 -2.6954 H = 9	-0.05 -8.1467 -0.02 -5.8662 H = 12	J = 12 US	0.05 5.7155 0.07 4.7978 H = 3	0.08 7.2318 0.08 7.0238 H = 6	0.08 8.2691 0.09 8.2290 H = 9	0.03 2.1760 0.09 8.0772 H = 12
	-2.4971 -0.02 -2.5912 H = 3 -0.09	1.3314 0.04 5.1207 H = 6 0.07	2.4147 0.05 5.0214 H = 9 0.06	-0.01 -0.3763 0.03 2.3723 H = 12 0.15	J = 12	-0.12 -6.7674 -0.05 -4.4446 H = 3 -0.11	-0.06 -5.4730 0.00 0.1729 H = 6 0.06	-0.01 -0.9028 -0.02 -2.6954 H = 9 0.10	-0.05 -8.1467 -0.02 -5.8662 H = 12 0.14	J = 12	0.05 5.7155 0.07 4.7978 H = 3 -0.30	0.08 7.2318 0.08 7.0238 H = 6	0.08 8.2691 0.09 8.2290 H = 9 -0.12	0.03 2.1760 0.09 8.0772 H = 12 -0.10
SWITZERLAND J = 3	-2.4971 -0.02 -2.5912 H = 3 -0.09 -5.4998	1.3314 0.04 5.1207 H = 6 0.07 5.4152	2.4147 0.05 5.0214 H = 9 0.06 2.6829	-0.01 -0.3763 0.03 2.3723 H = 12 0.15 10.3425	J = 12 <u>UK</u> J = 3	-0.12 -6.7674 -0.05 -4.4446 H = 3 -0.11 -5.9878	-0.06 -5.4730 0.00 0.1729 H = 6 0.06 3.2640	-0.01 -0.9028 -0.02 -2.6954 H = 9 0.10 3.7497	-0.05 -8.1467 -0.02 -5.8662 H = 12 0.14 5.4278	J = 12 US J = 3	0.05 5.7155 0.07 4.7978 H = 3 -0.30 -11.6960	0.08 7.2318 0.08 7.0238 H = 6 -0.11 -5.1886	0.08 8.2691 0.09 8.2290 H = 9 -0.12 -9.0648	0.03 2.1760 0.09 8.0772 H = 12 -0.10 -4.8530
SWITZERLAND	-2.4971 -0.02 -2.5912 H = 3 -0.09 -5.4998 0.06	1.3314 0.04 5.1207 H = 6 0.07 5.4152 0.14	2.4147 0.05 5.0214 H = 9 0.06 2.6829 0.10	-0.01 -0.3763 0.03 2.3723 H = 12 0.15 10.3425 0.12	J = 12 UK	-0.12 -6.7674 -0.05 -4.4446 H = 3 -0.11 -5.9878 0.05	-0.06 -5.4730 0.00 0.1729 H = 6 0.06 3.2640 0.12	-0.01 -0.9028 -0.02 -2.6954 H = 9 0.10 3.7497 0.12	-0.05 -8.1467 -0.02 -5.8662 H = 12 0.14 5.4278 0.16	J = 12 US	0.05 5.7155 0.07 4.7978 H = 3 -0.30 -11.6960 -0.16	0.08 7.2318 0.08 7.0238 H = 6 -0.11 -5.1886 -0.10	0.08 8.2691 0.09 8.2290 H = 9 -0.12 -9.0648 -0.07	0.03 2.1760 0.09 8.0772 H = 12 -0.10 -4.8530 -0.10
SWITZERLAND $J = 3$ $J = 6$	-2.4971 -0.02 -2.5912 H = 3 -0.09 -5.4998 0.06 3.1382	1.3314 0.04 5.1207 H = 6 0.07 5.4152 0.14 8.4184	2.4147 0.05 5.0214 H = 9 0.06 2.6829 0.10 3.5391	-0.01 -0.3763 0.03 2.3723 H = 12 0.15 10.3425 0.12 7.7085	J = 12 UK $J = 3$ $J = 6$	-0.12 -6.7674 -0.05 -4.4446 H = 3 -0.11 -5.9878 0.05 1.8172	-0.06 -5.4730 0.00 0.1729 H = 6 0.06 3.2640 0.12 4.2190	-0.01 -0.9028 -0.02 -2.6954 H = 9 0.10 3.7497 0.12 4.7566	-0.05 -8.1467 -0.02 -5.8662 H = 12 0.14 5.4278 0.16 7.0126	J = 12 US J = 3 J = 6	0.05 5.7155 0.07 4.7978 H = 3 -0.30 -11.6960 -0.16 -9.7098	0.08 7.2318 0.08 7.0238 H = 6 -0.11 -5.1886 -0.10 -6.8912	0.08 8.2691 0.09 8.2290 H = 9 -0.12 -9.0648 -0.07 -4.4764	0.03 2.1760 0.09 8.0772 H = 12 -0.10 -4.8530 -0.10 -4.7690
SWITZERLAND J = 3	-2.4971 -0.02 -2.5912 H = 3 -0.09 -5.4998 0.06 3.1382 0.08	H = 6 0.07 5.4152 0.14 8.4184 0.14	2.4147 0.05 5.0214 H = 9 0.06 2.6829 0.10 3.5391 0.11	-0.01 -0.3763 0.03 2.3723 H = 12 0.15 10.3425 0.12 7.7085 0.08	J = 12 <u>UK</u> J = 3	-0.12 -6.7674 -0.05 -4.4446 H = 3 -0.11 -5.9878 0.05 1.8172 0.10	-0.06 -5.4730 0.00 0.1729 H = 6 0.06 3.2640 0.12 4.2190 0.16	-0.01 -0.9028 -0.02 -2.6954 H = 9 0.10 3.7497 0.12 4.7566 0.16	-0.05 -8.1467 -0.02 -5.8662 H = 12 0.14 5.4278 0.16 7.0126	J = 12 US J = 3	0.05 5.7155 0.07 4.7978 H = 3 -0.30 -11.6960 -0.16 -9.7098 -0.10	0.08 7.2318 0.08 7.0238 H = 6 -0.11 -5.1886 -0.10 -6.8912	0.08 8.2691 0.09 8.2290 H = 9 -0.12 -9.0648 -0.07 -4.4764	0.03 2.1760 0.09 8.0772 H = 12 -0.10 -4.8530 -0.10 -4.7690 -0.10
$\frac{\text{SWITZERLAND}}{J=3}$ $J=6$ $J=9$	-2.4971 -0.02 -2.5912 H = 3 -0.09 -5.4998 0.06 3.1382 0.08 4.4697	H = 6 0.07 5.4152 0.14 8.4184 0.14 7.5051	2.4147 0.05 5.0214 H = 9 0.06 2.6829 0.10 3.5391 0.11 4.9839	-0.01 -0.3763 0.03 2.3723 H = 12 0.15 10.3425 0.12 7.7085 0.08 6.5135	J = 12 UK J = 3 J = 6 J = 9	-0.12 -6.7674 -0.05 -4.4446 H = 3 -0.11 -5.9878 0.05 1.8172 0.10 3.2950	-0.06 -5.4730 0.00 0.1729 H = 6 0.06 3.2640 0.12 4.2190 0.16 7.6271	-0.01 -0.9028 -0.02 -2.6954 H = 9 0.10 3.7497 0.12 4.7566 0.16 9.0424	-0.05 -8.1467 -0.02 -5.8662 H = 12 0.14 5.4278 0.16 7.0126 0.11 6.5850	J = 12 US $J = 3$ $J = 6$ $J = 9$	0.05 5.7155 0.07 4.7978 H = 3 -0.30 -11.6960 -0.16 -9.7098 -0.10 -8.9830	0.08 7.2318 0.08 7.0238 H = 6 -0.11 -5.1886 -0.10 -6.8912 -0.05 -4.1237	0.08 8.2691 0.09 8.2290 H = 9 -0.12 -9.0648 -0.07 -4.4764 -0.07 -4.4550	0.03 2.1760 0.09 8.0772 H = 12 -0.10 -4.8530 -0.10 -4.7690 -0.10 -5.2380
SWITZERLAND $J = 3$ $J = 6$	-2.4971 -0.02 -2.5912 H = 3 -0.09 -5.4998 0.06 3.1382 0.08	H = 6 0.07 5.4152 0.14 8.4184 0.14	2.4147 0.05 5.0214 H = 9 0.06 2.6829 0.10 3.5391 0.11	-0.01 -0.3763 0.03 2.3723 H = 12 0.15 10.3425 0.12 7.7085 0.08	J = 12 UK $J = 3$ $J = 6$	-0.12 -6.7674 -0.05 -4.4446 H = 3 -0.11 -5.9878 0.05 1.8172 0.10	-0.06 -5.4730 0.00 0.1729 H = 6 0.06 3.2640 0.12 4.2190 0.16	-0.01 -0.9028 -0.02 -2.6954 H = 9 0.10 3.7497 0.12 4.7566 0.16	-0.05 -8.1467 -0.02 -5.8662 H = 12 0.14 5.4278 0.16 7.0126	J = 12 US J = 3 J = 6	0.05 5.7155 0.07 4.7978 H = 3 -0.30 -11.6960 -0.16 -9.7098 -0.10	0.08 7.2318 0.08 7.0238 H = 6 -0.11 -5.1886 -0.10 -6.8912	0.08 8.2691 0.09 8.2290 H = 9 -0.12 -9.0648 -0.07 -4.4764	0.03 2.1760 0.09 8.0772 H = 12 -0.10 -4.8530 -0.10 -4.7690 -0.10

8.3.4. The rebalancing methods

Table 8.6 reports the pooled net returns and risk-adjusted net returns of the time-series momentum strategy under different implementations according to four rebalancing methods: CAR (0), BHAR (0), CAR (1), and BHAR (1).

Like previously, it proves that the investment outcomes are not very sensitive to the rebalancing period used. The average Fama-French alphas across the implementations for the time-series momentum strategies using CAR (0) and CAR (1) are -0.18% per month and -0.22% per month, whereas the strategies involving BHAR (0) and BHAR (1) are -0.21% per month and -0.27% per month. It appears that monthly rebalancing is preferable with there being little difference between imposing a one-month lag or not. Based on the calculated Sharpe ratio, there is hardly any difference in the investment outcomes under any of the rebalancing methods.

Table 8.6. Risk-adjusted performance of time-series momentum based on portfolio constructions

This table reports net returns, the Fama-French alphas and the Sharpe ratios of the pooled average monthly time-series momentum based on four rebalancing methods: monthly-rebalancing with zero gap (CAR (0)), monthly-rebalancing with 1-month gap (CAR (1)), buy-and-hold with zero gap (BHAR (0)), and buy-and-hold with 1-month gap (BHAR (1)). The results of net returns are from Table 7.5. T-statistics are reported in *italics*.

-	Net return								Fama-French alpha									Sharpe ratio							
	CAR (0) CAR (1)		BHAR (0)		BHA	BHAR (1)		CAR (0)		CAR (1)		BHAR (0)		BHAR (1)		CAR (0)		CAR (1)		BHAR (0)		BHAR (1)			
AUSTRALIA	-0.15%	-1.4153	-0.20%	-2.1353	-0.29%	-2.8326	-0.48%	-5.2320	-0.61%	-5.5770	-0.67%	-7.1424	-0.73%	-6.9697	-0.98%	-10.1951	-0.18	-6.3089	-0.19	-7.4762	-0.14	-7.4614	-0.14	-9.9988	
AUSTRIA	0.53%	11.1067	0.52%	12.6301	0.49%	8.3018	0.43%	8.2307	-0.08%	-1.6111	-0.10%	-2.2030	-0.28%	-4.9524	-0.34%	-6.0517	0.05	5.4367	0.05	6.4596	0.03	4.0404	0.02	3.5907	
BELGIUM	0.73%	18.5876	0.74%	21.8512	0.58%	9.1704	0.59%	11.1638	0.29%	8.3044	0.30%	9.8080	0.14%	2.3068	0.10%	1.8484	0.09	10.6791	0.10	13.4263	0.05	4.7236	0.05	5.4889	
CANADA	0.27%	2.7559	0.20%	2.2382	0.19%	1.6255	0.11%	1.0919	-0.10%	-1.0936	-0.22%	-2.7176	-0.24%	-2.2150	-0.32%	-3.5225	-0.02	-1.2523	-0.04	-2.1971	-0.03	-1.9193	-0.04	-3.0471	
DENMARK	0.81%	17.6499	0.79%	19.0611	0.62%	9.6968	0.73%	13.4082	0.29%	7.4224	0.22%	6.9176	0.07%	1.0620	0.18%	3.1770	0.10	8.9854	0.09	9.7418	0.05	4.0267	0.06	6.6153	
FINLAND	0.64%	9.0653	0.62%	9.2143	0.53%	5.3445	0.54%	5.9104	0.28%	4.4719	0.21%	3.4680	0.12%	1.4010	0.14%	1.8083	0.04	4.1286	0.04	4.2169	0.02	1.8029	0.02	2.0464	
FRANCE	-0.08%	-1.0238	0.10%	1.7332	-0.16%	-1.9129	0.01%	0.0872	-0.34%	-4.8727	-0.20%	-4.1422	-0.39%	-5.6042	-0.26%	-5.0012	-0.08	-4.4543	-0.04	-3.0000	-0.07	-5.1912	-0.04	-3.9848	
GERMANY	0.43%	7.4465	0.40%	8.2491	0.34%	4.9802	0.28%	5.2851	-0.36%	-5.8773	-0.36%	-6.8501	-0.34%	-4.9041	-0.45%	-6.6855	0.03	2.2300	0.02	2.0892	0.01	0.5383	0.00	-0.3638	
GREECE	-0.55%	-14.0178	-0.58%	-14.7273	-0.14%	-1.4546	0.07%	0.7213	-1.15%	-29.5541	-1.20%	-31.3660	-0.72%	-7.2193	-0.52%	-5.2128	-0.13	-29.8301	-0.14	-28.1950	-0.06	-7.6611	-0.04	-5.0914	
HONGKONG	-0.28%	-3.8473	-0.42%	-5.5437	-0.40%	-4.5363	-0.70%	-7.8241	-0.71%	-8.9425	-0.87%	-10.8922	-0.77%	-8.2923	-1.01%	-11.1314	-0.12	-7.8472	-0.14	-9.0243	-0.10	-7.5805	-0.13	-10.4752	
IRELAND	0.21%	2.7708	0.20%	2.8851	0.10%	0.6596	-0.03%	-0.1914	0.00%	0.0347	-0.04%	-0.5648	-0.01%	-0.0426	-0.24%	-1.7413	-0.02	-2.3974	-0.02	-2.6804	-0.02	-1.7827	-0.03	-2.8125	
ISRAEL	-0.49%	-5.0297	-0.43%	-4.9528	-0.31%	-2.5127	-0.30%	-2.2979	-1.26%	-14.4764	-1.20%	-15.4679	-1.05%	-8.9888	-1.15%	-9.1517	-0.25	-9.7748	-0.24	-10.2915	-0.14	-7.5656	-0.14	-7.2040	
ITALY	1.07%	20.2051	1.03%	23.4831	0.76%	10.6797	0.73%	11.4414	0.22%	4.4986	0.14%	3.5341	-0.14%	-2.0744	-0.20%	-3.1337	0.12	13.8856	0.12	15.9629	0.05	5.2804	0.04	5.2359	
JAPAN	-0.23%	-5.8836	-0.22%	-5.5569	-0.10%	-1.9267	-0.18%	-3.7156	-0.60%	-15.6299	-0.57%	-15.4646	-0.44%	-9.7544	-0.56%	-11.5235	-0.07	-7.6663	-0.07	-7.3414	-0.04	-3.5569	-0.05	-5.1688	
NETHERLANDS	0.88%	18.3519	0.74%	16.1750	0.92%	11.8137	0.78%	9.4840	0.41%	7.4115	0.27%	5.1423	0.45%	5.0563	0.33%	3.4977	0.12	11.7817	0.09	9.7692	0.09	8.1354	0.07	6.3370	
NEWZEALAND	0.99%	18.9440	0.83%	20.7324	0.84%	9.4608	0.63%	7.6779	0.57%	9.7846	0.40%	9.3760	0.44%	4.7891	0.24%	3.1001	0.08	8.5575	0.05	7.5563	0.04	3.8014	0.02	1.6376	
NORWAY	0.03%	0.6153	-0.03%	-0.4805	0.14%	1.6607	0.11%	2.0521	-0.64%	-12.5997	-0.74%	-13.4788	-0.58%	-8.1993	-0.68%	-12.7640	-0.05	-7.1088	-0.06	-8.0423	-0.03	-3.5351	-0.03	-5.5810	
PORTUGAL	-0.33%	-4.7830	-0.11%	-2.2702	-0.10%	-0.9586	0.13%	1.2150	-0.66%	-9.6989	-0.44%	-9.1121	-0.39%	-3.2454	-0.17%	-1.3934	-0.09	-10.8609	-0.06	-10.7625	-0.05	-4.6598	-0.03	-2.7748	
SINGAPORE	0.27%	5.4899	0.20%	4.7360	0.11%	1.7253	-0.05%	-0.6055	0.06%	1.4234	-0.05%	-1.2864	-0.05%	-0.8877	-0.27%	-3.6813	0.03	3.6641	0.02	2.6449	0.00	-0.0167	-0.02	-2.1005	
SPAIN	-0.08%	-1.1273	-0.05%	-0.7959	-0.27%	-2.7307	-0.25%	-3.4595	-0.37%	-5.8978	-0.37%	-6.8517	-0.57%	-6.3525	-0.54%	-8.3820	-0.07	-6.7693	-0.07	-7.4176	-0.07	-6.6139	-0.07	-8.7018	
SWEDEN	0.69%	9.9658	0.68%	12.5329	0.53%	6.0340	0.65%	7.8548	0.43%	5.8583	0.37%	6.6594	0.27%	2.9934	0.34%	4.1732	0.05	4.8183	0.05	5.8398	0.02	2.3226	0.03	3.8039	
SWITZERLAND	0.58%	11.3903	0.53%	14.8430	0.61%	8.8404	0.58%	9.8957	0.37%	7.1289	0.30%	7.3425	0.41%	5.6459	0.39%	6.0851	0.10	7.9876	0.09	9.6355	0.08	6.1375	0.07	6.9508	
UK	0.74%	11.5749	0.70%	15.3958	0.77%	11.6282	0.70%	14.7812	0.15%	3.2277	0.08%	2.3805	0.26%	5.3521	0.10%	2.3349	0.12	6.6204	0.10	7.4522	0.11	6.6911	0.08	7.1465	
US	-0.21%	-4.2073	-0.18%	-3.9484	-0.20%	-3.8912	-0.27%	-6.7462	-0.52%	-12.1579	-0.53%	-12.3203	-0.51%	-12.0628	-0.63%	-16.3399	-0.12	-9.3050	-0.12	-9.3788	-0.10	-9.0842	-0.11	-12.5490	
POOLED SAMPLE	0.27%	2.6646	0.25%	2.6658	0.23%	2.6932	0.20%	2.2669	-0.18%	-1.7250	-0.22%	-2.2412	-0.21%	-2.4478	-0.27%	-3.0120	-0.01	-0.5731	-0.02	-0.7876	-0.01	-0.9164	-0.02	-1.2777	

8.4. The risk-adjusted performances of cross-sectional momentum strategies

Tables 8.7 and 8.8 in Appendix 3 report the average monthly risk-adjusted performances of 16 (J x H) cross-sectional momentum strategies across the 24 markets using the Fama-French alpha and the Sharpe ratio, for each of the implementations as outlined in Table 4.1. The reported profits all relate to an implementation where the cut-offs are set at 16%. In each rebalancing period the top 16% are identified as winning stocks and the bottom 16% as losing stocks. The strategy used is to buy the portfolio consisting of the identified winning stocks and sell the portfolio consisting of the identified losing stocks with the average monthly after-transaction costs returns being the difference between the monthly returns of the two portfolios subtracting the transaction costs of the winners and losers. The risk-adjusted net return in the two tables is then estimated using the Fama-French model and the Sharpe ratio.

Panels A, B and C of Tables 8.7 and 8.8 in Appendix 3 show the average monthly Fama-French alphas and the Sharpe measures of the cross-sectional momentum strategy when the portfolio weights are based on EW, MW and IVOL, respectively.

8.4.1. The risk-adjusted performance of cross-sectional momentum strategies

Table 8.9 summarises the number of implementations that yield (i) significant positive and negative Fama-French alphas, and (ii) positive and negative Sharpe ratios of the 192 cross-sectional momentum strategies for each market. When pooling all of the 24 markets, the number of implementations that produce positive Fama-French risk-adjusted net returns are 34% (6% significant) from 59% (23% significant) before the adjustment, with about 40% of the implementations in the cross-sectional momentum strategy gaining positive Sharpe ratios.

Hence, we have seen that standard risk measure explains a high proportion of the apparent profitability of cross-sectional (and time-series) momentum strategies.

None of the implementations under either momentum strategies yield significant positive risk-adjusted net returns in 12 markets (Austria, France, Germany, Greece, Hong Kong, Israel, Japan, Norway, Portugal, Singapore, Spain and the US) over our testing period. The findings support that the market efficiency holds in these markets after the transaction costs and investment risks are taken into account. In the other 12 markets, less than 10% of the implementations in both momentum strategies produce significantly positive risk-adjusted net returns in Australia, Italy, Canada, Ireland and Finland. In contrast, in excess of 20% of the implementations yield significant positive Fama-French alphas in New Zealand and Switzerland (both time-series and cross-sectional momentum strategies), in Belgium and Denmark (the cross-sectional momentum strategy only) and the Netherlands (the time-series momentum strategy only). The magnitude of these significant positive findings are much higher than one would expect based on statistical inference and so do not provide strong inference of the existence of pricing inefficiencies in these markets nor the existence of exploitable investment opportunities.

Chart 8.3 plots the pooled after-transaction costs (net) returns and risk-adjusted net return using the Fama-French model of 192 cross-sectional momentum strategies for each market. The average risk-adjusted net returns across the 24 markets drops to -0.29% per month from 0.11% (net return). We previously find that the cross-sectional momentum strategy is not profitable in ten of the 24 markets in terms of the pooled net returns. At the other end of the scale we find five markets where the implementations of cross-sectional momentum strategy yield positive risk-adjusted returns: Belgium (0.31% per month), Denmark (0.24% per

month), Finland (0.19% per month), New Zealand (0.31% per month) and Switzerland (0.24% per month).

Chart 8.4 shows the pooled Sharpe ratios across the implementations for each market. The average pooled Sharpe ratios across the 24 markets is -0.04 in the cross-sectional momentum strategy, while -0.01 in the time-series momentum strategy in Chart 8.2. The pooled Sharpe ratios in the cross-sectional momentum strategy appear to be positive in Austria, Belgium, Denmark, Finland, Italy, the Netherlands, New Zealand Switzerland and the UK. In contrast, at the bottom of the scale, the Sharpe ratios appear to be negative in remaining 15 markets with the lowest ratio in Israel at -0.22.

In sum, based on the findings of the Fama-French alpha and the Sharpe ratio (Chart 8.1 – Chart 8.4), the average risk-adjusted net returns from the cross-sectional and time-series momentum strategies are consistently positive in five markets: Belgium, Denmark, Finland, New Zealand and Switzerland. For the time-series momentum strategy, four additional markets (Italy, the Netherlands, New Zealand and the UK) show positive outcomes using either of the two risk-adjustment methods.

Table 8.9. Numbers of implementations yield positive/negative cross-sectional momentum risk-adjusted net returns

This table reports the numbers of implementations yielding positive and negative average monthly cross-sectional momentum risk-adjusted returns based on the Fama-French alpha and the Sharpe ratio for each market. The SIGNIFICANT column indicates the aggregate numbers of implementations that generate average monthly returns at the 1%, 5%, or 10% significance level, whereas the NON-SIGNIFICANT column indicates the numbers of strategies producing average monthly returns over 10% significance level.

			Fa	ma-Fre	ench alpha					Sharp	e ratio	
		POS	TIVE		1	NEGA	ATIVE		POS	SITIVE	NEGA	ATIVE
	SIGNIFICANT	%	NON SIGNIFICANT	%	SIGNIFICANT	%	NON SIGNIFICANT	%	NO.	%	NO.	%
AUSTRALIA	0	0%	16	8%	122	64%	54	28%	13	7%	179	93%
AUSTRIA	0	0%	63	33%	35	18%	94	49%	114	59%	78	41%
BELGIUM	84	44%	73	38%	7	4%	28	15%	164	85%	28	15%
CANADA	1	1%	46	24%	58	30%	87	45%	51	27%	141	73%
DENMARK	48	25%	106	55%	9	5%	29	15%	168	88%	24	13%
FINLAND	13	7%	121	63%	5	3%	53	28%	131	68%	61	32%
FRANCE	0	0%	49	26%	32	17%	111	58%	49	26%	143	74%
GERMANY	0	0%	16	8%	59	31%	117	61%	116	60%	76	40%
GREECE	0	0%	6	3%	101	53%	85	44%	5	3%	187	97%
HONGKONG	0	0%	1	1%	144	75%	47	24%	0	0%	192	100%
IRELAND	2	1%	43	22%	14	7%	133	69%	25	13%	167	87%
ISRAEL	0	0%	3	2%	149	78%	40	21%	5	3%	187	97%
ITALY	0	0%	40	21%	18	9%	134	70%	158	82%	34	18%
JAPAN	0	0%	0	0%	176	92%	16	8%	1	1%	191	99%
NETHERLANDS	28	15%	82	43%	36	19%	46	24%	116	60%	76	40%
NEWZEALAND	38	20%	131	68%	3	2%	20	10%	153	80%	39	20%
NORWAY	0	0%	35	18%	31	16%	126	66%	62	32%	130	68%
PORTUGAL	0	0%	39	20%	15	8%	138	72%	31	16%	161	84%
SINGAPORE	0	0%	33	17%	25	13%	134	70%	8	4%	184	96%
SPAIN	0	0%	101	53%	20	10%	71	37%	101	53%	91	47%
SWEDEN	0	0%	104	54%	8	4%	80	42%	94	49%	98	51%
SWITZERLAND	53	28%	107	56%	2	1%	30	16%	160	83%	32	17%
UK	6	3%	84	44%	15	8%	87	45%	116	60%	76	40%
US	0	0%	3	2%	119	62%	70	36%	1	1%	191	99%

Chart 8.3. Average cross-sectional momentum Fama-French alphas across implementations for each market

This chart plots the pooled average monthly after-transaction costs (net) returns and risk-adjusted net returns based on the Fama-French three-factor model for 192 time-series momentum strategies for each market. The dashed line shows the average monthly returns across the 24 developed markets.

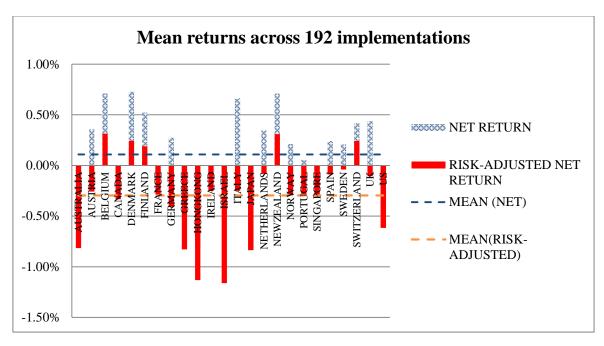
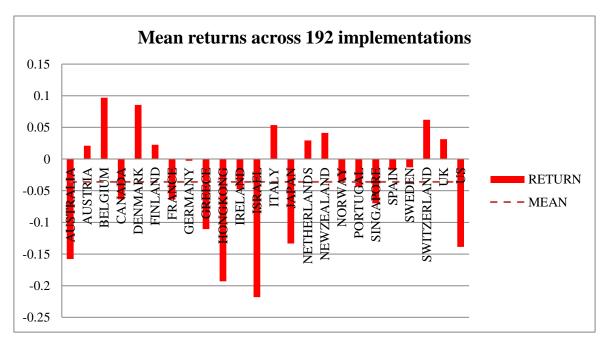


Chart 8.4. Average monthly Sharpe ratio for the cross-sectional momentum strategy across implementations for each market

This chart reports the pooled average monthly Sharpe ratio for 192 cross-sectional momentum strategies for each market. The dashed line shows the average monthly Sharpe ratio across the 24 developed markets.



8.4.2. The weighting method

Table 8.10 outlines the average net returns, Fama-French alphas and Sharpe ratios (t-statistics in italics) of all cross-sectional momentum strategies in terms of three different portfolio weights: equal weight (EW), market weight (MW) and inverse volatility (IVOL) weight.

The introduction of the risk-adjustment has very little impact on the relative performance of the three weighting schemes in 22 markets based on the Fama-French alpha and in 23 markets based on the Sharpe ratio. The strategies using IVOL continue to produce the best investment outcomes in terms of the average risk-adjusted net returns across the 24 markets. On a country-by-country basis, the cross-sectional momentum strategies using MW yield the highest risk-adjusted net returns in ten markets based on either the two risk measures, whereas the strategies using EW and IVOL generate the greatest returns in five and eight markets respectively according to the Fama-French alpha, and in six and seven markets respectively according to the Sharpe ratio.

The findings when using the weighting methods for the cross-sectional momentum strategy are similar to those that have been identified for the time-series momentum strategy. Based on the Fama-French alpha and the Sharpe ratio from the time-series momentum strategy (Table 8.4) and the cross-sectional momentum strategy (Table 8.10), we observe the general finding that the MW and IVOL weighting schemes both achieve better investment outcomes EW. However, EW remains the best weighting schemes in Belgium, France, Italy and Switzerland under both risk-adjusted methods.

Table 8.10. Risk-adjusted performance of cross-sectional momentum strategy based on three weights

This table reports the pooled average monthly net returns, the Fama-French alphas and the Sharpe ratios of cross-sectional momentum strategies using equal weight (EW), market weight (MW) and inversed volatility weight (IVOL) for each market. The results of net returns are from Table 7.8. T-statistics are reported in *italics*. The highest return is highlighted in green and the lowest return is marked in red.

			Net	return					Fama-Fi	ench alpha					Shar	pe ratio		
	EW		MW		IVOL		EW		MW		IVOL		EW		MW		IVOL	
AUSTRALIA	-0.72%	-18.1059	0.13%	3.0705	-0.42%	-7.4048	-1.23%	-31.7948	-0.31%	-6.5788	-0.91%	-15.0167	-0.28	-33.1243	-0.04	-7.2609	-0.15	-16.0764
AUSTRIA	0.51%	14.5196	0.01%	0.3256	0.55%	13.8478	-0.09%	-2.7245	-0.65%	-14.5004	-0.04%	-1.2999	0.05	6.9591	-0.04	-6.4541	0.06	6.7058
BELGIUM	0.84%	21.2993	0.52%	9.5454	0.77%	17.0556	0.42%	10.6551	0.16%	2.7314	0.37%	8.3608	0.13	14.4157	0.03	4.0971	0.12	10.9205
CANADA	-0.43%	-7.6464	0.45%	8.3609	-0.10%	-1.9166	-0.74%	-14.9434	0.12%	2.2266	-0.38%	-8.0214	-0.14	-14.0042	0.02	3.2892	-0.07	-7.5699
DENMARK	0.76%	18.1742	0.68%	15.8893	0.74%	17.5555	0.26%	6.8772	0.18%	3.9606	0.29%	7.4035	0.10	9.7413	0.05	7.7245	0.10	8.9523
FINLAND	0.29%	7.8866	0.94%	14.9787	0.33%	8.7524	0.00%	-0.1027	0.50%	7.9706	0.07%	1.9135	0.00	-0.7222	0.07	9.9937	0.00	0.6164
FRANCE	0.09%	1.8550	-0.35%	-5.6513	0.00%	-0.0369	-0.21%	-4.5653	-0.37%	-6.9082	-0.28%	-5.1003	-0.04	-4.0466	-0.10	-11.3035	-0.05	-4.8526
GERMANY	0.18%	4.2470	0.34%	6.2309	0.30%	6.1754	-0.58%	-14.6605	-0.28%	-5.1438	-0.36%	-7.4755	-0.02	-2.7762	0.01	1.0661	0.01	0.5957
GREECE	-0.44%	-10.1949	0.04%	0.7107	-0.31%	-7.0286	-1.05%	-23.7507	-0.53%	-9.6605	-0.90%	-19.8653	-0.15	-26.6429	-0.05	-12.2635	-0.13	-22.0471
HONGKONG	-1.08%	-23.0430	-0.37%	-9.1958	-0.97%	-22.6728	-1.45%	-29.8291	-0.66%	-15.1077	-1.29%	-28.4681	-0.26	-41.7643	-0.09	-19.5153	-0.23	-38.2566
IRELAND	-0.06%	-1.2306	-0.28%	-3.2619	0.06%	1.1534	-0.37%	-8.9726	-0.13%	-1.5862	-0.26%	-5.4899	-0.05	-9.0556	-0.05	-8.1146	-0.04	-5.5889
ISRAEL	-0.69%	-17.3884	0.09%	1.6754	-0.63%	-17.1042	-1.43%	-39.5677	-0.70%	-13.0190	-1.36%	-42.5558	-0.31	-31.5926	-0.06	-9.4100	-0.28	-25.6611
ITALY	0.73%	22.9515	0.62%	12.2829	0.64%	21.4501	-0.08%	-3.3896	-0.51%	-12.5525	-0.15%	-6.3798	0.07	10.9982	0.03	4.7039	0.06	8.6971
JAPAN	-0.59%	-17.0941	-0.46%	-13.2897	-0.58%	-17.5707	-0.87%	-24.7640	-0.80%	-21.9288	-0.84%	-25.4588	-0.16	-21.6975	-0.09	-17.0365	-0.15	-22.2194
NETHERLANDS	0.72%	21.8314	-0.30%	-7.6831	0.62%	16.8709	0.31%	9.5999	-0.81%	-17.1114	0.25%	7.2407	0.10	13.0026	-0.08	-17.2017	0.07	9.0623
NEWZEALAND	0.73%	19.1390	0.53%	13.9619	0.87%	30.5211	0.25%	6.1825	0.27%	6.4555	0.41%	12.6863	0.04	6.0416	0.00	0.5416	0.08	12.9162
NORWAY	0.15%	3.3707	0.28%	3.8127	0.20%	4.3897	-0.37%	-8.7777	-0.23%	-3.7024	-0.29%	-6.9264	-0.05	-6.1514	-0.02	-2.1625	-0.04	-4.9434
PORTUGAL	-0.17%	-3.0853	0.16%	4.1813	0.17%	3.8583	-0.46%	-8.3786	-0.28%	-7.2197	-0.15%	-3.0295	-0.08	-9.9841	-0.02	-5.7566	-0.03	-4.9262
SINGAPORE	-0.29%	-8.2747	-0.44%	-10.4999	-0.23%	-6.3547	-0.30%	-9.0614	-0.38%	-8.7678	-0.19%	-5.4392	-0.07	-12.5333	-0.08	-14.6099	-0.06	-10.1227
SPAIN	0.35%	9.1545	-0.02%	-0.2811	0.40%	9.3562	-0.01%	-0.4447	-0.33%	-5.6395	0.08%	2.0875	0.00	-0.5909	-0.05	-5.6121	0.00	0.5475
SWEDEN	0.35%	11.6870	-0.16%	-3.3267	0.43%	13.0321	0.00%	-0.0957	-0.28%	-5.3778	0.16%	4.3085	0.00	0.3870	-0.05	-11.2620	0.01	2.5841
SWITZERLAND	0.56%	22.6442	0.19%	4.8755	0.49%	15.7140	0.41%	18.2802	0.01%	0.3079	0.30%	11.6584	0.10	16.3401	0.01	0.7923	0.08	10.4475
UK	0.63%	19.5295	-0.03%	-0.5196	0.71%	20.8590	0.03%	1.0216	-0.45%	-10.6152	0.10%	3.2152	0.06	7.4858	-0.06	-8.1687	0.09	9.1948
US	-0.51%	-15.9522	-0.22%	-4.6915	-0.49%	-12.4061	-0.76%	-24.8497	-0.41%	-9.7434	-0.68%	-22.8920	-0.17	-26.6719	-0.08	-10.5274	-0.17	-22.6235
POOLED SAMPLE	0.08%	0.6869	0.10%	1.2439	0.15%	1.4135	-0.35%	-3.0139	-0.29%	-4.0350	-0.25%	-2.4312	-0.05	-1.8199	-0.03	-3.1750	-0.03	-1.3512

8.4.3. The formation (J) and holding period (H)

Table 8.11 reports the average pooled monthly Fama-French alphas and Sharpe ratios across 16 cross-sectional momentum strategies when using the formation period J (J = three, six, nine and 12 months) and the holding period H (H = three, six, nine and 12 months) for each market.

Consistent with the findings of time-series momentum strategies (see Table 8.5), we continue to find for the cross-sectional momentum strategy the highest risk-adjusted net returns range between 15 and 18 months in 18 markets using the Fama-French alpha and in 17 markets using the Sharpe ratio.

When dealing with raw returns (see Chapter 5), we find that the time-series and cross-sectional momentum strategies produced the highest returns with a momentum cycle between 12 and 15 months composed of a formation period of between 9 and 12 months and a holding period of three months. Once transaction costs are introduced (see Chapter 7), we find that

the optimal momentum cycle lay between 15 and 18 months with a shorter formation period and a longer holding period. Now, with risk-adjusted net returns, the best cycle for both momentum strategies lies in the range between 15 and 18 months in 20 markets using the time-series momentum strategy and in 17 market using the cross-sectional momentum strategy with the formation and holding periods that produce the best outcomes being unchanged in 11 markets for the time-series momentum strategies and in 13 markets for cross-sectional momentum strategies.

Table 8.11. Risk-adjusted performance of cross-sectional momentum based on formation (J) and holding (H) period

Three-factor model - This table reports the pooled average monthly cross-sectional momentum Fama-French alphas based on the formation J (J = three, six, nine and 12 months) and the holding H (H = three, six, nine and 12 months) for each market. T-statistics are reported in italics. The highest return is highlighted in green and the lowest return is highlighted in red.

AUSTRALIA	H = 3	H = 6	H = 9	H = 12	AUSTRIA	H = 3	H = 6	H = 9	H = 12	BELGIUM	H = 3	H = 6	H = 9	H = 12
J = 3	-1.77%	-0.66%	-0.58%	-0.42%	J = 3	-0.80%	-0.60%	-0.43%	-0.43%	J = 3	-0.50%	-0.02%	-0.11%	0.12%
	-11.1061	-4.0037	-4.8896	-3.1553		-5.0033	-5.8573	-4.2748	-4.0363		-6.3154	-0.2887	-0.7443	1.8819
J = 6	-1.08%	-0.63%	-0.86%	-0.69%	J = 6	-0.29%	-0.30%	-0.16%	-0.07%	J = 6	0.21%	0.52%	0.56%	0.38%
	-6.3611	-4.0023	-4.5005	-6.0771		-3.6346	-2.5842	-1.6163	-0.8663		6.7531	18.0550	18.4391	6.7574
J = 9	-0.83%	-0.58%	-0.60%	-0.80%	J = 9	-0.01%	0.07%	-0.05%	-0.03%	J = 9	0.51%	0.78%	0.63%	0.40%
	-6.0289	-3.8861	-5.3451	-6.4902		-0.1549	0.7535	-0.5407	-0.3368		7.1124	13.0308	12.6432	7.5169
J = 12	-0.86%	-0.77%	-0.98%	-0.93%	J = 12	-0.13%	-0.18%	-0.33%	-0.37%	J = 12	0.55%	0.49%	0.43%	0.06%
	-6.5208	-6.2035	-10.0362	-8.9712		-1.2478	-2.1667	-3.3301	-5.2747		5.6597	6.6577	6.5965	0.9393
CANADA	H = 3	H = 6	H = 9	H = 12	DENMARK	H = 3	H = 6	H = 9	H = 12	FINLAND	H = 3	H = 6	H = 9	H = 12
J = 3	-1.23%	-0.57%	-0.12%	-0.25%	J = 3	-0.56%	0.07%	0.07%	0.19%	J = 3	-0.64%	-0.13%	0.25%	0.03%
-	-7.4831	-4.2297	-1.0105	-2.0427		-12.7387	1.4900	1.1875	5.6167		-6.7662	-1.6640	3.0285	0.3807
J = 6	-0.59%	-0.13%	0.07%	-0.15%	J = 6	0.37%	0.39%	0.36%	0.35%	J = 6	-0.01%	0.32%	0.62%	0.44%
	-4.4157	-0.9606	0.4822	-1.3887		11.2962	10.1123	6.3622	6.4495		-0.2404	5.7965	4.0877	5.6724
J = 9	-0.03%	0.03%	-0.15%	-0.36%	J = 9	0.46%	0.47%	0.42%	0.00%	J = 9	0.39%	0.58%	0.26%	0.21%
	-0.2223	0.2403	-1.0209	-3.7105		7.9083	7.6648	11.8842	0.0355		9.3754	3.7629	2.1898	1.5347
J = 12	-0.20%	-0.31%	-0.55%	-0.82%	J = 12	0.56%	0.51%	0.27%	-0.04%	J = 12	0.19%	0.25%	0.21%	0.08%
	-2.3262	-2.6027	-5.3598	-8.5455		8.2931	11.3700	5.8743	-0.7601		4.5110	2.9332	1.6332	0.8830
FRANCE	H = 3	H = 6	H = 9	H = 12	GERMANY	H = 3	H = 6	H = 9	H = 12	GREECE	H = 3	H = 6	H = 9	H = 12
J = 3	-1.41%	-0.56%	-0.33%	-0.39%	J = 3	-1.49%	-0.65%	-0.36%	-0.35%	J = 3	-1.32%	-0.51%	-0.66%	-0.33%
	-16.2056	-6.8162	-6.2514	-3.1568		-32.9897	-6.1097	-6.5497	-2.6337		-13.1603	-5.3731	-14.8492	-2.7779
J = 6	-0.63%	-0.22%	-0.10%	-0.09%	J = 6	-0.76%	-0.22%	-0.07%	-0.09%	J = 6	-0.73%	-0.53%	-0.60%	-0.64%
	-8.6790	-5.6762	-2.0442	-1.5631		-18.3067	-2.4543	-1.0517	-1.3056		-6.7058	-6.2416	-8.0922	-9.7679
J = 9	-0.42%	-0.15%	0.00%	-0.10%	J = 9	-0.46%	-0.16%	-0.22%	-0.35%	J = 9	-0.62%	-0.64%	-0.84%	-1.14%
	-4.3840	-1.9991	-0.0105	-3.1223		-12.4712	-3.0657	-4.6710	-5.7760		-6.6230	-11.4831	-8.3720	-12.6288
J = 12	-0.10%	0.01%	0.02%	-0.11%	J = 12	-0.35%	-0.28%	-0.31%	-0.42%	J = 12	-0.90%	-1.07%	-1.15%	-1.54%
	-1.9639	0.4694	0.7239	-2.3249		-6.4305	-4.9834	-6.0721	-7.6096		-10.6941	-10.6948	-17.6669	-11.4674
	** *	** .	** 0		TREE AND	** 0		** 0		TOD A DI			** 0	** 40
HONGKONG	H = 3	H = 6	H = 9	H = 12	IRELAND	H = 3	H = 6	H = 9	H = 12	ISRAEL	H = 3	H = 6	H = 9	H = 12
J = 3	-1.88%	-0.88%	-0.78%	-0.83%	J = 3	-0.50%	-0.56%	-0.72%	-0.24%	J = 3	-1.99%	-1.25%	-1.02%	-1.11%
	-14.8315	-8.9578	-7.7021	-9.7910		-4.1949	-3.1750	-3.7691	-2.8783		-19.5533	-12.3251	-7.2683	-12.0675
J = 6	-1.07%	-0.78%	-0.68%	-0.96%	J = 6	-0.18%	0.02%	-0.43%	0.37%	J = 6	-1.26%	-1.04%	-1.02%	-0.94%
	-7.9945	-6.4247	-5.8014	-10.4682		-1.2786	0.1648	-3.1534	1.8630		-9.0583	-8.1401	-10.5395	-11.9792
J = 9	-1.18%	-1.00%	-1.13%	-1.26%	J = 9	-0.40%	-0.24%	-0.16%	-0.07%	J = 9	-1.09%	-0.99%	-1.10%	-0.87%
I 12	-11.9911	-8.5544	-8.8461	-11.7689	I 12	-5.2720	-3.1346	-2.6781	-0.6737	T 10	-6.0291	-6.9000	-10.8676	-4.3874
J = 12	-1.40%	-1.21%	-1.53%	-1.54%	J = 12	-0.20%	-0.11%	-0.09%	-0.51%	J = 12	-1.22%	-1.13%	-1.19%	-1.36%
	-11.6244	-9.3945	-12.6224	-12.1809		-1.8814	-1.7962	-0.9267	-8.1605		-14.1504	-19.0352	-15.3334	-19.4178

ITALY	H = 3	H = 6	H = 9	H = 12	JAPAN	H = 3	H = 6	H = 9	H = 12	NETHERLANDS	H = 3	H = 6	H = 9	H = 12
J = 3	-0.78%	-0.40%	-0.06%	-0.12%	J = 3	-1.37%	-0.86%	-0.67%	-0.42%	J = 3	-0.69%	-0.39%	-0.17%	-0.07%
	-9.6686	-5.3384	-1.0906	-3.9153		-55.2133	-22.9942	-12.6347	-29.3506		-6.6256	-2.4053	-1.0573	-0.8455
J = 6	-0.42%	-0.16%	-0.15%	-0.20%	J = 6	-1.24%	-0.98%	-0.64%	-0.46%	J = 6	-0.37%	-0.07%	0.07%	0.31%
	-6.1858	-1.8692	-1.8206	-4.4833		-35.1621	-16.9790	-23.1649	-10.3293		-1.7956	-0.3796	0.5121	2.8351
J = 9	-0.17%	-0.23%	-0.13%	-0.42%	J = 9	-1.05%	-0.71%	-0.63%	-0.66%	J = 9	-0.11%	0.02%	0.19%	0.07%
	-1.5161	-1.7611	-1.9494	-3.5929		-27.5612	-32.7128	-23.7266	-22.6318		-0.5140	0.1264	1.3334	0.5492
J = 12	-0.18%	-0.11%	-0.22%	-0.25%	J = 12	-0.96%	-0.92%	-0.93%	-0.85%	J = 12	-0.06%	-0.02%	0.03%	-0.05%
	-2.2555	-2.8007	-5.9435	-7.0166		-42.4223	-31.1022	-19.6170	-33.3177		-0.2727	-0.0848	0.1968	-0.3418
NEWZEALAND	H = 3	H = 6	H = 9	H = 12	NORWAY	H = 3	H = 6	H = 9	H = 12	PORTUGAL	H = 3	H = 6	H = 9	H = 12
J = 3	-0.10%	0.27%	0.06%	-0.11%	J = 3	-1.27%	-0.41%	-0.20%	-0.20%	J = 3	-1.13%	-0.17%	-0.26%	-0.09%
	-0.9874	4.2041	0.6706	-1.0707		-22.0009	-7.3615	-6.9221	-5.8260		-5.1259	-1.6374	-2.4294	-1.5636
J = 6	0.44%	0.43%	0.45%	0.06%	J = 6	-0.59%	-0.10%	0.06%	-0.03%	J = 6	-0.66%	-0.13%	-0.05%	-0.11%
	6.0441	7.8888	15.3469	0.6627		-11.5375	-2.1136	0.6454	-0.4356		-6.3835	-1.8710	-0.5768	-2.9692
J = 9	0.62%	0.56%	0.46%	0.34%	J = 9	-0.03%	0.14%	-0.24%	-0.10%	J = 9	-0.40%	-0.08%	-0.10%	-0.12%
	9.5413	17.9959	11.8792	6.6328		-0.5268	2.0903	-5.7945	-0.8247		-5.0260	-1.2067	-1.2773	-1.8328
J = 12	0.53%	0.49%	0.20%	0.26%	J = 12	-0.26%	-0.38%	-0.43%	-0.67%	J = 12	-0.45%	-0.31%	-0.33%	-0.40%
-	12.4778	12.9342	5.0157	3.7205		-5.1354	-5.3151	-9.0408	-8.7090		-5.0066	-5.4358	-7.1552	-12.8122
SINGADORE	H = 3	U _ є	Н – 0	H = 12	CDAIN	H = 3	H = 6	П – 0	H = 12	SWEDEN	H = 3	H = 6	П – 0	H = 12
SINGAPORE J = 3	-1.04%	H = 6	H = 9 0.04%	H = 12 -0.18%	$\frac{\text{SPAIN}}{J=3}$	-0.76%	-0.56%	H = 9 -0.13%	H = 12 -0.17%	J = 3	-0.38%	-0.06%	H = 9 0.08%	-0.08%
J = 2	-1.04% -17.1068	-0.41% -4.8120	0.04%	-0.18% -5.7465	J = 3	-0.76% -9.0585	-0.56% -5.4619	-0.13% -1.8386	-0.17% -1.8561	J = 2	-0.38% -3.2757	-0.06% -1.3786	1.9169	-0.08% -0.8607
J = 6	-0.34%	-0.18%	-0.16%	-0.09%	J = 6	-0.50%	-0.09%	0.02%	-0.01%	J = 6	0.11%	0.24%	0.31%	0.05%
J = 0	-0.34% -4.4225	-0.18% -1.8998	-0.16% -3.2634	-0.09% -1.6867	J = 0	-0.30% -4.2067	-0.09% -0.9948	0.02%	-0.01% -0.3960	J = 0	2.7306	4.6394	5.4799	1.1293
J = 9	-0.30%	-0.22%	-0.12%	-0.44%	J = 9	-0.04%	0.11%	0.10%	-0.03%	J = 9	0.14%	0.14%	0.01%	-0.30%
J — 2	-3.9477	-5.2432	-0.12%	-8.3575	3 – 3	-0.3393	0.11%	1.2178	-0.03%	J — 9	1.3584	1.2193	0.01%	-0.30%
J = 12	-0.32%	-0.18%	-0.38%	-0.36%	J = 12	0.11%	0.22%	0.25%	0.06%	J = 12	0.01%	-0.08%	-0.37%	-0.44%
J = 12	-6.9729	-2.8155	-6.8254	-5.5660	3 – 12	1.6189	6.0963	6.6755	1.0533	J — 12	0.01%	-0.7257	-3.2249	-5.9964
	0.7727	2.0133	3.0234	5.5000		1.0107	3.0703	3.0755	1.0555		3.0700	0.7237	3.227	5.7707
SWITZERLAND	H = 3	H = 6	H = 9	H = 12	UK	H = 3	H = 6	H = 9	H = 12	US	H = 3	H = 6	H = 9	H = 12
J = 3	-0.28%	0.11%	0.13%	0.22%	J = 3	-0.69%	-0.20%	-0.03%	-0.07%	J = 3	-1.25%	-0.65%	-0.59%	-0.48%
	-2.9591	1.6238	2.3322	4.0124		-4.8291	-2.8208	-0.4295	-1.2177		-46.5122	-16.5163	-6.8331	-12.6774
J = 6	0.12%	0.33%	0.34%	0.43%	J = 6	-0.18%	-0.02%	0.11%	0.04%	J = 6	-0.73%	-0.45%	-0.54%	-0.45%
	1.3785	6.9116	7.0581	7.0821		-1.2115	-0.2447	2.3213	0.5429		-26.4565	-11.9237	-6.4438	-6.7863
J = 9	0.30%	0.38%	0.36%	0.17%	J = 9	0.02%	0.17%	0.01%	-0.23%	J = 9	-0.40%	-0.36%	-0.47%	-0.68%
	3.8999	7.1102	6.9062	3.0972		0.2179	3.1345	0.1718	-4.3856		-6.4006	-4.3076	-5.1063	-8.9772
J = 12	0.42%	0.47%	0.26%	0.12%	J = 12	0.05%	-0.03%	-0.19%	-0.45%	J = 12	-0.58%	-0.59%	-0.77%	-0.86%
	4.9758	7.1720	5.2287	2.6274		0.3330	-0.2910	-2.7200	-7.1703		-7.0173	-7.1147	-9.8459	-9.7789

Sharpe ratios - This table reports the pooled average monthly cross-sectional momentum Sharpe ratios based on the formation J (J = three, six, nine and 12 months) and the holding H (H = three, six, nine and 12 months) for each market. T-statistics are reported in *italics* and highest return for each market is highlighted. The highest return is highlighted in green and the lowest return is highlighted in red.

AUSTRALIA	H = 3	H = 6	H = 9	H = 12	AUSTRIA	H = 3	H = 6	H = 9	H = 12	BELGIUM	H = 3	H = 6	H = 9	H = 12
J = 3	-0.32	-0.16	-0.14	-0.15	J = 3	-0.11	-0.06	-0.01	-0.02	J = 3	-0.07	0.00	0.02	0.05
	-7.1964	-4.5202	-4.0409	-3.9912		-7.1438	-4.4082	-0.4953	-0.7726		-6.2717	0.3770	0.7069	3.0386
J = 6	-0.15	-0.12	-0.13	-0.16	J = 6	0.00	0.02	0.05	0.07	J = 6	0.08	0.14	0.15	0.14
	-5.1247	-3.6622	-4.4956	-4.8462		-0.3107	1.3663	3.2653	4.0372		7.3962	10.7315	10.8641	7.8088
J = 9	-0.13	-0.10	-0.13	-0.17	J = 9	0.06	0.08	0.07	0.06	J = 9	0.13	0.17	0.16	0.12
	-4.9190	-3.6445	-4.4999	-5.3804		4.7113	5.0387	4.4987	3.3632		6.8489	12.3330	9.5000	6.0620
J = 12	-0.13	-0.14	-0.20	-0.21	J = 12	0.05	0.05	0.02	-0.01	J = 12	0.15	0.14	0.12	0.05
	-5.2507	-4.9789	-7.2058	-6.2070		2.8196	3.2110	1.3754	-0.5731		6.1114	6.0683	6.2112	2.3546
CANADA	H = 3	H = 6	H = 9	H = 12	DENMARK	H = 3	H = 6	H = 9	H = 12	FINLAND	H = 3	H = 6	H = 9	H = 12
J = 3	-0.25	-0.14	-0.03	-0.04	J = 3	-0.12	0.02	0.05	0.10	J = 3	-0.11	-0.03	0.05	0.01
	-6.7596	-5.0406	-1.4184	-1.8832		-10.5398	2.1909	3.3948	7.7621		-6.2376	-2.2195	4.6121	0.5573
J = 6	-0.12	-0.04	0.00	-0.02	J = 6	0.06	0.09	0.12	0.15	J = 6	-0.01	0.04	0.07	0.08
	-5.2205	-1.8698	0.1473	-0.8369		8.5955	6.7308	5.9977	10.9378		-1.7639	5.8285	4.8081	6.5174
J = 9	-0.04	-0.01	-0.02	-0.05	J = 9	0.11	0.12	0.14	0.07	J = 9	0.04	0.05	0.03	0.02
	-2.1174	-0.4174	-0.9345	-2.8453		7.8828	7.0588	12.0548	3.8113		8.2317	3.5895	2.2248	0.8665
J = 12	-0.04	-0.04	-0.06	-0.12	J = 12	0.15	0.15	0.11	0.05	J = 12	0.02	0.04	0.04	0.02
	-3.0826	-2.2501	-3.5593	-5.0910		7.4863	10.2487	10.0788	4.1615		3.5500	3.1916	2.1695	1.4792
FRANCE	H = 3	H = 6	H = 9	H = 12	GERMANY	H = 3	H = 6	H = 9	H = 12	GREECE	H = 3	H = 6	H = 9	H = 12
J = 3	-0.28	-0.14	-0.08	-0.08	J = 3	-0.19	-0.07	0.00	-0.02	J = 3	-0.18	-0.08	-0.11	-0.07
	-18.7543	-12.9092	-5.6903	-5.2098		-21.0108	-5.8737	0.3725	-1.0838		-9.4105	-4.8722	-8.6041	-2.7805
J = 6							0.0707	0.5725	-1.0050		-9.4103	-7.0722	0.0071	
J = O	-0.14	-0.06	-0.03	-0.02	J = 6	-0.05	0.02	0.06	0.05	J = 6	-0.10	-0.08	-0.09	-0.09
J = 0	-0.14 -10.0754	-0.06 -5.2677	-0.03 -2.4044	-0.02 -1.4148	J = 6					J = 6				
J = 6			-2.4044 0.00	-1.4148 -0.02	J = 6 J = 9	-0.05 -15.5808 0.00	0.02 2.9361 0.04	0.06 7.8901 0.03	0.05 5.9162 0.01	J = 6 J = 9	-0.10 -6.7200 -0.09	-0.08 -6.0794 -0.08	-0.09	-0.09
	-10.0754	-5.2677	-2.4044	-1.4148		-0.05 -15.5808	0.02 2.9361	0.06 7.8901	0.05 5.9162		-0.10 -6.7200	-0.08 -6.0794	-0.09 -7.6841	-0.09 -6.1814
	-10.0754 -0.09	-5.2677 -0.04 -2.3464 0.00	-2.4044 0.00 -0.0424 0.00	-1.4148 -0.02 -2.1970 -0.02		-0.05 -15.5808 0.00 0.1979 0.02	0.02 2.9361 0.04	0.06 7.8901 0.03	0.05 5.9162 0.01 1.0598 0.00		-0.10 -6.7200 -0.09 -7.0086 -0.11	-0.08 -6.0794 -0.08 -8.7233 -0.12	-0.09 -7.6841 -0.11	-0.09 -6.1814 -0.14
J = 9	-10.0754 -0.09 -4.8607	-5.2677 -0.04 -2.3464	-2.4044 0.00 -0.0424	-1.4148 -0.02 -2.1970	J = 9	-0.05 -15.5808 0.00 0.1979	0.02 2.9361 0.04 4.6842	0.06 7.8901 0.03 4.4795	0.05 5.9162 0.01 1.0598	J = 9	-0.10 -6.7200 -0.09 -7.0086	-0.08 -6.0794 -0.08 -8.7233	-0.09 -7.6841 -0.11 -7.3460	-0.09 -6.1814 -0.14 -10.1308 -0.17
J = 9	-10.0754 -0.09 -4.8607 -0.03	-5.2677 -0.04 -2.3464 0.00	-2.4044 0.00 -0.0424 0.00	-1.4148 -0.02 -2.1970 -0.02	J = 9	-0.05 -15.5808 0.00 0.1979 0.02	0.02 2.9361 0.04 4.6842 0.03	0.06 7.8901 0.03 4.4795 0.02	0.05 5.9162 0.01 1.0598 0.00	J = 9	-0.10 -6.7200 -0.09 -7.0086 -0.11	-0.08 -6.0794 -0.08 -8.7233 -0.12	-0.09 -7.6841 -0.11 -7.3460 -0.14	-0.09 -6.1814 -0.14 -10.1308 -0.17
J = 9	-10.0754 -0.09 -4.8607 -0.03	-5.2677 -0.04 -2.3464 0.00	-2.4044 0.00 -0.0424 0.00	-1.4148 -0.02 -2.1970 -0.02	J = 9	-0.05 -15.5808 0.00 0.1979 0.02	0.02 2.9361 0.04 4.6842 0.03	0.06 7.8901 0.03 4.4795 0.02	0.05 5.9162 0.01 1.0598 0.00	J = 9	-0.10 -6.7200 -0.09 -7.0086 -0.11	-0.08 -6.0794 -0.08 -8.7233 -0.12	-0.09 -7.6841 -0.11 -7.3460 -0.14	-0.09 -6.1814 -0.14 -10.1308 -0.17 -10.1870 H = 12
J = 9 J = 12	-10.0754 -0.09 -4.8607 -0.03 -2.3665	-5.2677 -0.04 -2.3464 0.00 -0.0984	-2.4044 0.00 -0.0424 0.00 0.5136	-1.4148 -0.02 -2.1970 -0.02 -4.2196	J = 9 J = 12	-0.05 -15.5808 0.00 0.1979 0.02 2.4951	0.02 2.9361 0.04 4.6842 0.03 4.2248	0.06 7.8901 0.03 4.4795 0.02 1.9161	0.05 5.9162 0.01 1.0598 0.00 -0.4871	J = 9 J = 12	-0.10 -6.7200 -0.09 -7.0086 -0.11 -9.2686	-0.08 -6.0794 -0.08 -8.7233 -0.12 -8.8067	-0.09 -7.6841 -0.11 -7.3460 -0.14 -11.1118	-0.09 -6.1814 -0.14 -10.1308 -0.17 -10.1870
J = 9 J = 12 HONGKONG	-10.0754 -0.09 -4.8607 -0.03 -2.3665 H = 3	-5.2677 -0.04 -2.3464 0.00 -0.0984 H = 6	-2.4044 0.00 -0.0424 0.00 0.5136 H = 9	-1.4148 -0.02 -2.1970 -0.02 -4.2196 H = 12	J = 9 J = 12 IRELAND	-0.05 -15.5808 0.00 0.1979 0.02 2.4951 H = 3	0.02 2.9361 0.04 4.6842 0.03 4.2248 H = 6	0.06 7.8901 0.03 4.4795 0.02 1.9161 H = 9	0.05 5.9162 0.01 1.0598 0.00 -0.4871 H = 12	J = 9 J = 12 ISRAEL	-0.10 -6.7200 -0.09 -7.0086 -0.11 -9.2686 H = 3	-0.08 -6.0794 -0.08 -8.7233 -0.12 -8.8067 H = 6	-0.09 -7.6841 -0.11 -7.3460 -0.14 -11.1118 H = 9	-0.09 -6.1814 -0.14 -10.1308 -0.17 -10.1870 H = 12
J = 9 J = 12 HONGKONG	-10.0754 -0.09 -4.8607 -0.03 -2.3665 H = 3 -0.29	-5.2677 -0.04 -2.3464 0.00 -0.0984 H = 6	-2.4044 0.00 -0.0424 0.00 0.5136 H = 9 -0.17	-1.4148 -0.02 -2.1970 -0.02 -4.2196 H = 12 -0.18	J = 9 J = 12 IRELAND	-0.05 -15.5808 0.00 0.1979 0.02 2.4951 H = 3 -0.10	0.02 2.9361 0.04 4.6842 0.03 4.2248 H = 6	0.06 7.8901 0.03 4.4795 0.02 1.9161 H = 9 -0.11	0.05 5.9162 0.01 1.0598 0.00 -0.4871 H = 12 -0.05	J = 9 J = 12 ISRAEL	-0.10 -6.7200 -0.09 -7.0086 -0.11 -9.2686 H = 3 -0.39	-0.08 -6.0794 -0.08 -8.7233 -0.12 -8.8067 H = 6 -0.28	-0.09 -7.6841 -0.11 -7.3460 -0.14 -11.1118 H = 9 -0.25	-0.09 -6.1814 -0.14 -10.1308 -0.17 -10.1870 H = 12 -0.27
J = 9 $J = 12$ $HONGKONG$ $J = 3$	-10.0754 -0.09 -4.8607 -0.03 -2.3665 H = 3 -0.29 -8.7217	-5.2677 -0.04 -2.3464 0.00 -0.0984 H = 6 -0.18 -7.9933	-2.4044 0.00 -0.0424 0.00 0.5136 H = 9 -0.17 -7.3402	-1.4148 -0.02 -2.1970 -0.02 -4.2196 H = 12 -0.18 -7.8040	J = 9 J = 12 IRELAND J = 3	-0.05 -15.5808 0.00 0.1979 0.02 2.4951 H = 3 -0.10 -8.0859	0.02 2.9361 0.04 4.6842 0.03 4.2248 H = 6 -0.11 -6.6963	0.06 7.8901 0.03 4.4795 0.02 1.9161 H = 9 -0.11 -7.4211	0.05 5.9162 0.01 1.0598 0.00 -0.4871 H = 12 -0.05 -6.0752	$J = 9$ $J = 12$ \overline{ISRAEL} $J = 3$	-0.10 -6.7200 -0.09 -7.0086 -0.11 -9.2686 H = 3 -0.39 -8.0294	-0.08 -6.0794 -0.08 -8.7233 -0.12 -8.8067 H = 6 -0.28 -6.8717	-0.09 -7.6841 -0.11 -7.3460 -0.14 -11.1118 H = 9 -0.25 -5.5711	-0.09 -6.1814 -0.14 -10.1308 -0.17 -10.1870 H = 12 -0.27 -6.8000
J = 9 $J = 12$ $HONGKONG$ $J = 3$	-10.0754 -0.09 -4.8607 -0.03 -2.3665 H = 3 -0.29 -8.7217 -0.19	-5.2677 -0.04 -2.3464 0.00 -0.0984 H = 6 -0.18 -7.9933 -0.14	-2.4044 0.00 -0.0424 0.00 0.5136 H = 9 -0.17 -7.3402 -0.14	-1.4148 -0.02 -2.1970 -0.02 -4.2196 H = 12 -0.18 -7.8040 -0.19	J = 9 J = 12 IRELAND J = 3	-0.05 -15.5808 0.00 0.1979 0.02 2.4951 H = 3 -0.10 -8.0859 -0.06	0.02 2.9361 0.04 4.6842 0.03 4.2248 H = 6 -0.11 -6.6963 -0.03	0.06 7.8901 0.03 4.4795 0.02 1.9161 H = 9 -0.11 -7.4211 -0.06	0.05 5.9162 0.01 1.0598 0.00 -0.4871 H = 12 -0.05 -6.0752 0.03	$J = 9$ $J = 12$ \overline{ISRAEL} $J = 3$	-0.10 -6.7200 -0.09 -7.0086 -0.11 -9.2686 H = 3 -0.39 -8.0294 -0.23	-0.08 -6.0794 -0.08 -8.7233 -0.12 -8.8067 H = 6 -0.28 -6.8717 -0.19	-0.09 -7.6841 -0.11 -7.3460 -0.14 -11.1118 H = 9 -0.25 -5.5711 -0.20	-0.09 -6.1814 -0.14 -10.1308 -0.17 -10.1870 H = 12 -0.27 -6.8000 -0.19
J = 9 J = 12 HONGKONG J = 3 J = 6	-10.0754 -0.09 -4.8607 -0.03 -2.3665 H = 3 -0.29 -8.7217 -0.19 -7.7347	-5.2677 -0.04 -2.3464 0.00 -0.0984 H = 6 -0.18 -7.9933 -0.14 -6.1553	-2.4044 0.00 -0.0424 0.00 0.5136 H = 9 -0.17 -7.3402 -0.14 -6.0290	-1.4148 -0.02 -2.1970 -0.02 -4.2196 H = 12 -0.18 -7.8040 -0.19 -8.0963	J = 9 J = 12 IRELAND J = 3 J = 6	-0.05 -15.5808 0.00 0.1979 0.02 2.4951 H = 3 -0.10 -8.0859 -0.06 -6.4304	0.02 2.9361 0.04 4.6842 0.03 4.2248 H = 6 -0.11 -6.6963 -0.03 -4.3469	0.06 7.8901 0.03 4.4795 0.02 1.9161 H = 9 -0.11 -7.4211 -0.06 -5.1072	0.05 5.9162 0.01 1.0598 0.00 -0.4871 H = 12 -0.05 -6.0752 0.03 1.8696	J = 9 J = 12 ISRAEL J = 3 J = 6	-0.10 -6.7200 -0.09 -7.0086 -0.11 -9.2686 H = 3 -0.39 -8.0294 -0.23 -6.2465	-0.08 -6.0794 -0.08 -8.7233 -0.12 -8.8067 H = 6 -0.28 -6.8717 -0.19 -5.3919	-0.09 -7.6841 -0.11 -7.3460 -0.14 -11.1118 H = 9 -0.25 -5.5711 -0.20 -6.3419	-0.09 -6.1814 -0.14 -10.1308 -0.17 -10.1870 H = 12 -0.27 -6.8000 -0.19 -5.0814
J = 9 J = 12 HONGKONG J = 3 J = 6	-10.0754 -0.09 -4.8607 -0.03 -2.3665 H = 3 -0.29 -8.7217 -0.19 -7.7347 -0.19	-5.2677 -0.04 -2.3464 0.00 -0.0984 H = 6 -0.18 -7.9933 -0.14 -6.1553 -0.16	-2.4044 0.00 -0.0424 0.00 0.5136 H = 9 -0.17 -7.3402 -0.14 -6.0290 -0.17	-1.4148 -0.02 -2.1970 -0.02 -4.2196 H = 12 -0.18 -7.8040 -0.19 -8.0963 -0.21	J = 9 J = 12 IRELAND J = 3 J = 6	-0.05 -15.5808 0.00 0.1979 0.02 2.4951 H = 3 -0.10 -8.0859 -0.06 -6.4304 -0.07	0.02 2.9361 0.04 4.6842 0.03 4.2248 H = 6 -0.11 -6.6963 -0.03 -4.3469 -0.04	0.06 7.8901 0.03 4.4795 0.02 1.9161 H = 9 -0.11 -7.4211 -0.06 -5.1072	0.05 5.9162 0.01 1.0598 0.00 -0.4871 H = 12 -0.05 -6.0752 0.03 1.8696 -0.01	J = 9 J = 12 ISRAEL J = 3 J = 6	-0.10 -6.7200 -0.09 -7.0086 -0.11 -9.2686 H = 3 -0.39 -8.0294 -0.23 -6.2465 -0.19	-0.08 -6.0794 -0.08 -8.7233 -0.12 -8.8067 H = 6 -0.28 -6.8717 -0.19 -5.3919 -0.17	-0.09 -7.6841 -0.11 -7.3460 -0.14 -11.1118 H = 9 -0.25 -5.5711 -0.20 -6.3419 -0.19	-0.09 -6.1814 -0.14 -10.1308 -0.17 -10.1870 H = 12 -0.27 -6.8000 -0.19 -5.0814 -0.18
J = 9 J = 12 HONGKONG J = 3 J = 6 J = 9	-10.0754 -0.09 -4.8607 -0.03 -2.3665 H = 3 -0.29 -8.7217 -0.19 -7.7347 -0.19 -9.1249	-5.2677 -0.04 -2.3464 0.00 -0.0984 H = 6 -0.18 -7.9933 -0.14 -6.1553 -0.16 -8.0789	-2.4044 0.00 -0.0424 0.00 0.5136 H = 9 -0.17 -7.3402 -0.14 -6.0290 -0.17 -7.1868	-1.4148 -0.02 -2.1970 -0.02 -4.2196 H = 12 -0.18 -7.8040 -0.19 -8.0963 -0.21 -8.1837	J = 9 J = 12 IRELAND J = 3 J = 6 J = 9	-0.05 -15.5808 0.00 0.1979 0.02 2.4951 H = 3 -0.10 -8.0859 -0.06 -6.4304 -0.07 -10.5578	0.02 2.9361 0.04 4.6842 0.03 4.2248 H = 6 -0.11 -6.6963 -0.03 -4.3469 -0.04 -5.1280	0.06 7.8901 0.03 4.4795 0.02 1.9161 H = 9 -0.11 -7.4211 -0.06 -5.1072 -0.01 -2.4787	0.05 5.9162 0.01 1.0598 0.00 -0.4871 H = 12 -0.05 -6.0752 0.03 1.8696 -0.01 -0.7496	J = 9 $J = 12$ $ISRAEL$ $J = 3$ $J = 6$ $J = 9$	-0.10 -6.7200 -0.09 -7.0086 -0.11 -9.2686 H = 3 -0.39 -8.0294 -0.23 -6.2465 -0.19 -5.0844	-0.08 -6.0794 -0.08 -8.7233 -0.12 -8.8067 H = 6 -0.28 -6.8717 -0.19 -5.3919 -0.17 -5.3012	-0.09 -7.6841 -0.11 -7.3460 -0.14 -11.1118 H = 9 -0.25 -5.5711 -0.20 -6.3419 -0.19 -5.3392	-0.09 -6.1814 -0.14 -10.1308 -0.17 -10.1870 H = 12 -0.27 -6.8000 -0.19 -5.0814 -0.18 -4.1271

			** *	77 40					** 42	\	** *	** *	** *	** 45
ITALY	H = 3	H = 6	H = 9	H = 12	JAPAN	H = 3	H = 6	H = 9	H = 12	NETHERLANDS	H = 3	H = 6	H = 9	H = 12
J = 3	-0.08	0.00	0.07	0.06	J = 3	-0.25	-0.15	-0.12	-0.06	J = 3	-0.10	-0.03	0.01	0.01
	-14.6608	-0.5269	7.5059	8.1400		-15.2604	-9.8288	-10.4978	-4.6537		-8.6486	-1.3875	0.5740	0.2663
J = 6	0.01	0.05	0.07	0.07	J = 6	-0.20	-0.16	-0.10	-0.07	J = 6	-0.01	0.04	0.06	0.10
	0.8681	4.3521	5.3285	8.4489			-11.5327	-11.9514	-4.5091		-0.4427	1.2713	2.2821	3.8420
J = 9	0.07	0.08	0.09	0.04	J = 9	-0.16	-0.10	-0.09	-0.11	J = 9	0.03	0.05	0.08	0.06
	5.8681	6.1715	9.9358	2.3865			-11.6209	-9.3596	-8.2419		0.9937	1.5566	3.1094	2.2528
J = 12	0.08	0.09	0.09	0.06	J = 12	-0.13	-0.13	-0.15	-0.15	J = 12	0.04	0.05	0.05	0.04
	8.8178	16.8057	20.6209	7.2924		-19.8640	-13.1820	-15.1037	-12.4809		1.4347	1.8270	2.0044	1.8014
NIEWZE AL AND	11 2	II (II 0	II 12	NODWAY	11 2	П. (11 0	II 10	DODTLICAL	11 2	11 (11 0	II 12
$\frac{\text{NEWZEALAND}}{\text{J} = 3}$	H = 3	H = 6 0.04	H = 9 0.00	H = 12 -0.01	$\frac{\text{NORWAY}}{\text{J} = 3}$	H = 3 -0.22	H = 6 -0.10	H = 9 -0.04	H = 12 -0.03	PORTUGAL J = 3	H = 3	H = 6 -0.05	H = 9 -0.04	H = 12 -0.02
J = 3	-0.03 -1.7476	3.4795		-0.01 -0.5219	J=3	-0.22	-0.10 -12.2961	-0.04 -7.8060	-0.03 -3.5333	J = 3	-0.15 -4.5847	-0.05	-0.04 -2.9876	
J = 6	0.06	0.06	0.1103	0.02	J = 6	-0.10	-0.02	0.02	0.03	J = 6	-0.09	-0.04	-0.02	-1.8832 -0.02
$\mathbf{J} = 0$	3.3399	3.7888	6.3163	0.02	$\mathbf{j} = 0$	-0.10 -18.2485	-0.02	1.4215	1.9491	$\mathbf{J} = 0$	-0.09 -6.7140	-0.04 -3.4579	-0.02 -2.1673	-0.02
J = 9	0.08	0.08	0.3703	0.04	J = 9	0.00	0.03	0.00	0.01	J = 9	-0.7140	-0.02	-0.01	-0.01
J = 9	5.3831	7.5420	6.4568	2.7187	J = 9	-0.8404	5.0408	-0.6051	0.3056	J = 9	-0.03 -4.7608	-0.02 -2.1341	-0.01 -1.3131	-1.1351
J = 12	0.07	0.07	0.4308	0.02	J = 12	-0.02	-0.02	-0.0031	-0.07	J = 12	-0.05	-0.04	-0.04	-0.05
J = 12	5.1722	7.9615	3.7335	2.9332	J = 12	-3.3035	-2.8386	-0.02	-0.07 -4.7669	J = 12	-0.03 -4.8161	-0.04 -5.4639	-0.04 -7.5583	-6.7999
-	3.1722	7.9013	3./333	2.9332		-3.3033	-2.0300	-2.1920	-4.7009		-4.0101	-3.4039	-7.3363	-0.7999
SINGAPORE	H = 3	H = 6	H = 9	H = 12	SPAIN	H = 3	H = 6	H = 9	H = 12	SWEDEN	H = 3	H = 6	H = 9	H = 12
J = 3	-0.19	-0.10	-0.02	-0.05	J = 3	-0.18	-0.13	-0.04	-0.03	J = 3	-0.08	-0.03	0.01	-0.03
	-27.1761	-8.6257	-2.0997	-9.2475		-25.7562	-11.7769	-3.3574	-2.3169		-6.0809	-3.0458	0.9867	-1.6288
J = 6	-0.07	-0.05	-0.05	-0.03	J = 6	-0.10	-0.02	0.01	0.00	J = 6	0.00	0.02	0.02	0.00
	-10.6357	-4.9937	-10.1742	-3.0613		-7.6857	-1.5167	0.8188	0.7711		-0.6458	3.0836	2.6684	-0.2418
J = 9	-0.07	-0.06	-0.05	-0.09	J = 9	-0.01	0.02	0.03	0.00	J = 9	0.01	0.01	0.00	-0.04
	-9.0567	-11.7994	-4.8122	-19.5280		-0.7915	1.3563	2.0450	0.3355		0.5214	0.7779	-0.2784	-3.0877
J = 12	-0.07	-0.05	-0.08	-0.07	J = 12	0.02	0.05	0.06	0.03	J = 12	-0.01	-0.01	-0.05	-0.04
	-16.8761	-6.9951	-9.8366	-7.0187		1.7537	9.3865	11.6880	3.3145		-0.3831	-0.3446	-3.3758	-3.2763
SWITZERLAND	H = 3	H = 6	H = 9	H = 12	UK	H = 3	H = 6	H = 9	H = 12	US	H = 3	H = 6	H = 9	H = 12
J = 3	-0.07	0.01	0.04	0.07	J = 3	-0.14	-0.03	0.02	0.02	J = 3	-0.30	-0.18	-0.14	-0.14
	-4.8181	0.8128	2.1481	4.1002		-7.6073	-1.1282	0.8521	0.9027		-19.0975	-18.6625	-15.2834	-7.8321
J = 6	0.03	0.07	0.07	0.13	J = 6	0.01	0.04	0.06	0.11	J = 6	-0.17	-0.10	-0.12	-0.09
	1.4791	5.9763	4.3943	7.0445		0.2501	1.7817	2.7205	4.4738		-16.1534	-10.8377	-8.1104	-4.2322
J = 9	0.06	0.08	0.09	0.05	J = 9	0.05	0.08	0.08	0.03	J = 9	-0.11	-0.09	-0.10	-0.14
	3.7531	5.1440	6.8246	4.0229		1.8805	3.6798	3.9835	1.9031		-9.7672	-6.6883	-5.5861	-6.9492
J = 12	0.10	0.12	0.08	0.05	J = 12	0.07	0.08	0.04	-0.02	J = 12	-0.13	-0.11	-0.14	-0.16
	5.0746	8.4548	7.7970	6.6711		2.3300	3.2655	2.0103	-1.5363		-10.4417	-7.1610	-7.3915	-6.9752

8.4.4. The rebalancing methods

Table 8.12 reports the pooled risk-adjusted performance of the cross-sectional momentum strategies under different implementation approaches according to four rebalancing methods: CAR (0), BHAR (0), CAR (1), and BHAR (1).

In terms of the average risk-adjusted net returns across the 24 markets after risk-adjustment, the returns reduces to -0.23% from 0.16% per month and -0.28% to 0.13% per month for using CAR (0) and CAR (1). The equivalent downtrends appear in the strategies using BHAR, with a decrease to -0.28% from 0.11% per month using BHAR (0), and to -0.38% from 0.04% per month using BHAR (1). There is very little variation in the Sharpe ratio across the four weighting schemes. On balance, the use of monthly rebalancing without a lag (CAR (0)), proves to be the slightly better form of implementation. However, overall there is little difference between the performances of cross-sectional (and time-series) momentum strategy under all four of the weighting schemes.

Table 8.12. Risk-adjusted performance of cross-sectional momentum based on portfolio constructions

This table reports the pooled average monthly cross-sectional momentum Sharpe ratios and Fama-French alphas based on four rebalancing methods: monthly-rebalancing with zero gap (CAR (0)), monthly-rebalancing with 1-month gap (CAR (1)), buy-and-hold with zero gap (BHAR (0)), and buy-and-hold with 1-month gap (BHAR (1)). T-statistics are reported in *italics*.

				Net r	eturn							Fama-Fre	nch alpha							Sharpe	ratio			
	CA	R (0)	CA	R (1)	BHA	AR (0)	BHA	AR (1)	CA	R (0)	CA	R (1)	BHA	AR (0)	BHA	AR (1)	CA	R (0)	CA	R (1)	BH.	AR (0)	BH	AR (1)
AUSTRALIA	-0.25%	-3.1418	-0.28%	-4.3209	-0.28%	-3.5978	-0.53%	-7.5711	-0.72%	-8.8963	-0.76%	-11.3078	-0.73%	-8.8402	-1.04%	-13.3119	-0.17	-8.3085	-0.18	-9.8121	-0.14	-9.1694	-0.14	-11.9205
AUSTRIA	0.42%	8.3559	0.36%	6.7593	0.35%	5.5416	0.29%	4.6465	-0.15%	-3.3914	-0.25%	-4.5955	-0.26%	-4.2761	-0.37%	-5.5996	0.04	3.4809	0.02	2.1900	0.02	1.6035	0.01	0.7344
BELGIUM	0.73%	14.4440	0.73%	15.3904	0.71%	10.1646	0.67%	11.1780	0.34%	6.8039	0.35%	7.6786	0.32%	4.7315	0.25%	3.9604	0.11	8.5995	0.11	9.1808	0.09	6.1307	0.08	6.5375
CANADA	0.10%	1.1407	0.02%	0.3037	-0.08%	-0.9434	-0.16%	-2.2644	-0.15%	-1.8313	-0.29%	-3.8131	-0.38%	-4.7695	-0.52%	-7.9634	-0.05	-3.1115	-0.07	-4.2299	-0.06	-5.0698	-0.07	-6.8557
DENMARK	0.84%	18.2364	0.77%	18.2197	0.65%	12.1447	0.64%	13.5008	0.40%	9.5567	0.29%	7.5443	0.14%	2.7876	0.14%	2.9693	0.12	9.9875	0.10	9.4039	0.06	5.3530	0.06	5.7475
FINLAND	0.57%	8.9990	0.55%	8.8574	0.49%	5.5848	0.48%	7.4986	0.26%	4.7490	0.22%	3.9305	0.14%	1.7263	0.14%	2.4809	0.03	3.5289	0.03	3.3076	0.01	1.4591	0.01	1.8743
FRANCE	-0.09%	-1.2140	0.05%	0.8403	-0.19%	-2.3525	-0.10%	-1.4387	-0.29%	-4.5611	-0.18%	-3.9302	-0.38%	-5.3602	-0.30%	-5.3329	-0.07	-5.3941	-0.05	-4.2494	-0.08	-5.9378	-0.06	-5.8277
GERMANY	0.34%	5.9906	0.30%	6.7059	0.28%	3.9065	0.17%	3.4390	-0.38%	-6.7249	-0.40%	-8.6409	-0.37%	-5.1086	-0.48%	-8.9308	0.01	0.8328	0.00	0.2625	0.00	-0.2952	-0.02	-2.4060
GREECE	-0.23%	-5.3884	-0.26%	-6.7052	-0.21%	-2.7571	-0.24%	-3.3044	-0.82%	-17.2732	-0.85%	-20.3704	-0.80%	-9.7697	-0.84%	-10.9634	-0.12	-15.6298	-0.13	-17.1048	-0.10	-10.2449	-0.10	-11.1523
HONGKONG	-0.68%	-10.4597	-0.76%	-11.5884	-0.79%	-11.7437	-1.00%	-15.5865	-0.99%	-13.7683	-1.10%	-15.3693	-1.13%	-15.5765	-1.31%	-19.5525	-0.19	-14.5787	-0.22	-14.7818	-0.17	-14.5378	-0.20	-17.2954
IRELAND	0.04%	1.0534	-0.04%	-1.0523	-0.07%	-0.6233	-0.31%	-3.1373	-0.10%	-2.3919	-0.21%	-6.2539	-0.18%	-2.0223	-0.51%	-6.6080	-0.04	-8.3037	-0.05	-13.1732	-0.04	-3.8897	-0.06	-7.0810
ISRAEL	-0.41%	-6.0904	-0.42%	-7.1127	-0.42%	-4.9527	-0.39%	-5.0559	-1.15%	-18.3197	-1.18%	-22.4110	-1.13%	-13.8104	-1.19%	-16.9535	-0.24	-11.5259	-0.25	-12.2633	-0.19	-11.0301	-0.19	-11.3532
ITALY	0.69%	15.1872	0.71%	20.2205	0.63%	13.2254	0.61%	12.6745	-0.20%	-4.5232	-0.19%	-5.6665	-0.30%	-6.2275	-0.31%	-6.2279	0.06	7.3006	0.07	9.5106	0.04	5.5613	0.04	5.1924
JAPAN	-0.58%	-16.0390	-0.50%	-16.0953	-0.50%	-10.9641	-0.60%	-13.2083	-0.87%	-22.8577	-0.78%	-24.2323	-0.79%	-18.6493	-0.91%	-19.9069	-0.15	-18.4728	-0.14	-17.4370	-0.11	-11.9873	-0.13	-14.8922
NETHERLANDS	0.41%	5.5038	0.37%	5.0418	0.36%	4.4047	0.24%	2.9055	-0.01%	-0.0637	-0.04%	-0.4913	-0.08%	-0.8722	-0.21%	-2.1752	0.04	2.9663	0.03	2.3710	0.03	2.2637	0.01	0.7932
NEWZEALAND	0.78%	26.4697	0.67%	21.6670	0.76%	14.7384	0.62%	10.6824	0.37%	12.9986	0.26%	9.2915	0.35%	6.4104	0.26%	4.3751	0.06	8.5548	0.04	5.7206	0.05	4.7688	0.02	2.2720
NORWAY	0.19%	3.2517	0.13%	2.4227	0.28%	3.7983	0.24%	3.4051	-0.29%	-5.9727	-0.39%	-8.2551	-0.19%	-3.0646	-0.31%	-4.6230	-0.04	-4.2042	-0.06	-5.5492	-0.02	-1.9621	-0.03	-2.9217
PORTUGAL	0.01%	0.1792	0.09%	2.1393	0.02%	0.2691	0.10%	1.6710	-0.34%	-5.9039	-0.27%	-6.5659	-0.34%	-4.9160	-0.25%	-3.8873	-0.06	-5.6886	-0.04	-6.7894	-0.04	-5.1626	-0.03	-4.5481
SINGAPORE	-0.31%	-8.2507	-0.36%	-9.1547	-0.27%	-5.5806	-0.33%	-6.2378	-0.28%	-7.9071	-0.37%	-9.9250	-0.18%	-3.8296	-0.34%	-6.3175	-0.07	-12.7096	-0.08	-14.4519	-0.05	-8.3191	-0.07	-8.8390
SPAIN	0.29%	5.2750	0.31%	6.1542	0.19%	2.2623	0.17%	2.6088	-0.03%	-0.5828	-0.05%	-1.1576	-0.12%	-1.5608	-0.16%	-2.9909	-0.01	-1.1088	-0.01	-0.9020	-0.02	-1.6919	-0.03	-2.8843
SWEDEN	0.27%	5.3851	0.20%	4.0370	0.21%	3.3369	0.14%	2.2324	0.05%	1.0204	-0.05%	-1.1864	-0.03%	-0.4959	-0.12%	-1.9286	0.00	-0.5622	-0.02	-2.3372	-0.01	-1.5320	-0.02	-2.7788
SWITZERLAND	0.46%	12.1396	0.41%	13.0755	0.46%	8.3389	0.34%	7.1847	0.29%	7.9989	0.20%	6.0224	0.31%	6.3193	0.18%	4.4813	0.08	8.1869	0.06	7.9437	0.07	5.7888	0.04	4.1325
UK	0.53%	7.6945	0.46%	7.9972	0.44%	5.9152	0.32%	5.0095	-0.01%	-0.1781	-0.13%	-2.6769	-0.05%	-0.8928	-0.24%	-4.5591	0.06	3.7495	0.03	2.7329	0.03	2.1221	0.00	0.1667
US	-0.39%	-7.9776	-0.35%	-7.7386	-0.40%	-6.9689	-0.48%	-10.7629	-0.56%	-12.6562	-0.61%	-13.0010	-0.56%	-12.3334	-0.74%	-18.1094	-0.14	-13.6196	-0.15	-12.9288	-0.12	-11.9502	-0.14	-16.1929
POOLED SAMPLE	0.16%	1.7150	0.13%	1.5017	0.11%	1.2376	0.04%	0.4121	-0.23%	-2.6255	-0.28%	-3.2728	-0.28%	-3.3062	-0.38%	-4.2473	-0.03	-1.5745	-0.04	-1.9254	-0.03	-2.0139	-0.04	-2.7325

8.5. Comparing risk-adjusted performances of time-series and cross-sectional momentum strategies under optimal implementation

The conclusion that can be drawn from the general analysis the risk-adjusted net returns for both the time-series and the cross-sectional momentum strategies on risk-adjusted net return is that both strategies perform poorly across more than half of the 24 markets. Based on the Fama-French alpha, only around 6% of the implementations produces the significant positive risk-adjusted net returns with none of the returns from the two momentum strategies being significant positive in Austria, France, Germany, Greece, Hong Kong, Israel, Japan, Norway, Portugal, Singapore, Spain and the US. The average pooled risk-adjusted net return in terms of the Fama-French alpha is -0.22% per month for the time-series momentum strategy, and -0.29% per month for the cross-sectional momentum strategy.

We previously find that the optimal time-series momentum strategy outperforms the optimal cross-sectional momentum strategy both before and after the transaction costs. We now seek to establish whether this finding is robust when risk is taken into account. Since the Fama-French regression model provides statistical significance level for each coefficient in the model, we focus on results using the Fama-French three-factor risk model for the following analysis.

Table 8.13 reports the estimates of the three-factor model of the time-series (TSM) and the cross-sectional (CSM) momentum strategies under optimal implementations, and associated Newey-West t-statistics (in italics). Similar to the procedure utilised previously, we determined the optimum implementation by aggregating the Fama-French alpha of the time-series and the cross-sectional momentum strategies under each implementation and then choosing the implementation with the highest aggregate alpha.

The first thing to report is that in 11 of the markets the combination of the formation period and holding periods remained the same as those reported in Table 7.11 (i.e. using returns after transaction costs are considered). Although the optimal investment cycle for the two momentum strategies (i.e. the sum of formation and holding periods) for many markets remains in the range of 15 to 18 months, in others the introduction of risk has resulted in a slight lengthening of this period. Previously we find that using market values to assign weights in the portfolios is part of the optimal implementation in 16 of our 24 markets (Table 7.12). After introducing risks into our analysis by way of the Fama-French three-factor model, we find that the optimal weighting scheme in the various markets is almost equally split between using market weights (MW) and weights based on the inverse of each stock's volatility (IVOL). Finally, we observe that the buy-and-hold approach (BHAR) consistently provides the best investment outcomes for rebalancing under both of the momentum strategies.

The 'constant' column reports the risk-adjusted net return (α) from the three-factor model for the two momentum strategies. The risk-adjusted net returns of the time-series momentum strategy are positive in 22 of the 24 markets and are significant in ten markets at the 5% level. The returns for the cross-sectional momentum strategy are positive in 23 markets and are significant in five markets at the 5% level. The range of risk-adjusted returns from the time-series momentum is between 2.88% per month in Ireland to being very slightly negative in both Norway and the US. The equivalent range for cross-sectional momentum returns is between 1.95% per month in Ireland and -0.2% per month in Japan.

Although the overall performance of the two momentum strategies in the 192 implementations becomes weak after adjusting for risk, the optimal time-series momentum strategy still produces significant positive returns in ten markets, and the cross-sectional

momentum strategy yields significant positive returns in five markets. However none of these markets are in the US and the developed Asian markets. The findings support Griffin et al. (2005) and Hameed and Kusnadi (2002), who find that the momentum effect is stronger in western markets than Asian markets, with the performance being particularly poor in the Japanese market. If investors' behaviour "truly" impacts the momentum effect, one of the possible explanations could be attributed to cultural differences between western and Asian investors (Liu & Lee, 2001). Most studies find that the cross-sectional momentum strategy is effective in the US markets, however, Lesmond et al. (2004) argue that the cross-sectional momentum strategy is non-profitable in the US markets after accounting for transaction costs. Based on our results in Section 7.6, we find that when transaction costs are taken into account, the cross-sectional momentum strategy under optimal implementation yield returns of around 0.45% per month and the time-series momentum strategy yield around 0.14% per month in the US market. After further adjusting the standard risks by using the Fama-French three-factor model, this study did not find statistically significant abnormal returns from the two momentum strategies in the US markets over our testing period.

The coefficients on the size premium (SMB) and value premium (HML) variables suggest that in most markets the long/short, winner/loser portfolios are tilted towards small (SMB < 0) and growth (HML < 0) stocks. The large cap tilt applies in all markets other than Hong Kong and is significant in about half the cases. This finding is at variance with accepted wisdom that momentum performance is largely driven by a tilt towards small cap stocks (Hong et al, 2000) but Asness et al. (2014) has argued that this is largely a myth. The growth tilt apples in all but Australia and Japan (time-series momentum only) but there are very few instances of it being significant. In addition, the results in the table generally highlight a negative relationship (Market-Rf < 0) between time-series momentum returns and market risk. This

indicates that in most of the markets any excess returns attributed to the two momentum strategies are not accompanied by higher market risk.

In the last column of Table 8.13, we report the differences between the risk-adjusted net returns for the two momentum strategies under optimal implementation in each of the 24 markets. The most important finding that is identified here is that after adjusting for risk the time-series momentum again outperforms the cross-sectional momentum in 19 of 24 markets, but not in Belgium, Hong Kong, Israel, Norway and the US, with the extent of outperformance varying from 0.09% per month in Greece to 1.35% per month in New Zealand. The superiority of the time-series momentum strategy is significant in Canada, Italy, the Netherlands, New Zealand, Sweden and Switzerland at the 5% significance level, and Finland and the UK at the 10% significance level. In contrast, the optimal cross-sectional momentum strategy is superior in five markets, but in no case is this difference significant.

After comparing the two momentum strategies under numerous implementations, firstly using raw returns, next introducing the transaction costs and finally applying both the transaction costs and risk-adjustment, the main conclusion that can be drawn from the analysis to date is that, based on the average returns from optimal implementations across the 24 markets, the monthly returns erode from 2.09% per month (raw returns) to 1.34% (net returns) to 0.9% per month (risk-adjusted net return) for the time-series momentum strategy and from 1.43% per month (raw returns) to 0.87% (net returns) to 0.51% per month (risk-adjusted net return) for the cross-sectional momentum strategy. The superior performance of the time-series momentum strategy also progressively weakens falling from 0.66% per month (raw returns) to 0.47% (net returns) and finally to 0.39% (risk-adjusted net return). The number of market in that the time-series momentum strategy outperforms has also been on a downward trend from 24 markets (13 significant) on raw return basis, to 21 markets (seven

significant) on net return basis, to finally 19 markets (nine significant) on risk-adjusted net return basis. However, it is clear that time-series momentum remains the superior strategy after account is taken of both implementation costs and risk.

Table 8.13. Risk factors of momentum strategies under optimal implementation approaches

This table reports coefficients from the Fama-French three-factor model: $MR_i - Rf_i = \alpha_i + \beta 1_i (Rm_i - Rf_i) + \beta 2_i SMB_i + \beta 3_i HML_i$, where MR_i is momentum return under optimal implementation approach after transaction costs at month t, Rf_i is the risk-free rate at month t, Rm_i is market-weighted index at month t, SMB_i is calculated by the market average return for the smallest 30% of stocks minus the market average return of the largest 30% of stocks in that month. HML_i is calculated as the market average return for 50% of stocks with the highest book-to-market ratio minus market average return for 50% of stocks with the lowest book-to-market ratio. The last column reports the difference between risk-adjusted returns from time-series momentum strategy (TSM) and cross-sectional momentum strategy (CSM) for each market from 1992 to 2012. Newey-West adjusted t-statistics are reported below the returns in the table.

Country	Opt	imal imp	lementation		TSN	M			CSN	Л		Difference
	JxH	Weight	Construction	Constant	Market - Rf	SMB	HML	Constant	Market - Rf	SMB	HML	TSM - CSM
AUSTRALIA	9x6	MW	BHAR(0)	0.0079	0.0401	-0.1222	0.0363	0.0018	-0.1529	-0.0320	0.0805	0.0061
				1.5535	0.3875	-1.5690	0.2655	0.3569	-1.5012	-0.4176	0.5974	1.2717
AUSTRIA	6x12	IVOL	BHAR(1)	0.0051	0.2320	-0.0181	-0.0208	0.0021	0.2280	-0.0998	-0.0538	0.0029
				1.2951	1.8745	-0.1362	-0.2625	0.6563	2.2313	-0.9102	-0.8219	1.1274
BELGIUM	9x6	MW	BHAR(1)	0.0067	-0.3312	-0.4728	-0.1373	0.0115	-0.7033	-0.6039	-0.2547	-0.0048
				1.1479	-1.3300	-1.7326	-1.2194	2.5229	-3.6148	-2.8329	-2.8962	-0.9884
CANADA	6x9	MW	BHAR(0)	0.0189	0.1140	-0.0178	-0.3359	0.0091	0.0124	-0.0311	-0.3777	0.0099
				2.8258	0.8208	-0.1303	-2.7762	1.4698	0.0970	-0.2475	-3.3857	2.2582
DENMARK	6x12	IVOL	BHAR(0)	0.0084	-0.1293	-0.1645	0.0113	0.0057	-0.0409	-0.1928	-0.0269	0.0027
				2.7853	-1.6408	-1.8633	0.2221	2.2133	-0.6071	-2.5519	-0.6177	1.1857
FINLAND	12x6	MW	BHAR(0)	0.0184	-0.1804	-0.3476	-0.1511	0.0073	-0.1213	-0.2496	-0.1703	0.0111
				2.4188	-1.4499	-2.2478	-2.0211	1.0743	-1.0905	-1.8055	-2.5480	1.6901
FRANCE	9x9	IVOL	BHAR(0)	0.0035	-0.3667	-0.4077	-0.0445	0.0024	-0.3761	-0.4318	-0.0288	0.0011
				1.3907	-5.5151	-4.7565	-0.9138	0.8742	-5.1697	-4.6037	-0.5408	0.7521
GERMANY	6x9	MW	BHAR(0)	0.0067	-0.3713	-0.2698	-0.1035	0.0044	-0.4964	-0.4092	-0.0928	0.0022
				1.1243	-3.0398	-1.8316	-0.8948	0.7469	-4.0597	-2.7754	-0.8020	0.4515
GREECE	3x12	MW	BHAR(1)	0.0045	0.0013	-0.3556	0.0754	0.0036	-0.0731	-0.2125	0.0590	0.0009
				0.6370	0.0171	-4.7879	0.7546	0.4571	-0.8435	-2.5583	0.5280	0.1173
HONGKONG	6x9	MW	BHAR(0)	0.0006	0.0097	0.0237	-0.1524	0.0008	-0.1380	-0.0721	-0.1359	-0.0003
				0.0913	0.1193	0.2610	-1.4796	0.1687	-2.1283	-1.0010	-1.6629	-0.0453
IRELAND	6x12	MW	BHAR(0)	0.0288	-0.2490	-0.1941	0.0389	0.0195	-0.1527	0.0610	-0.0177	0.0094
				2.8296	-1.3923	-1.2211	0.4001	2.1397	-0.9558	0.4300	-0.2042	1.5610
ISRAEL	9x12	MW	BHAR(0)	0.0068	-0.1201	-0.2942	-0.2166	0.0073	-0.1323	-0.1216	0.0431	-0.0006
				1.0967	-1.1338	-2.7067	-2.3495	1.3583	-1.4301	-1.2802	0.5356	-0.1051
ITALY	9x6	EW	CAR(0)	0.0078	-0.2295	-0.3347	-0.1073	0.0020	-0.3410	-0.4929	-0.0701	0.0058
				2.1512	-3.7196	-3.6647	-1.5204	0.7002	-7.0028	-6.8370	-1.2590	2.7924
JAPAN	6x12	MW	BHAR(0)	0.0024	-0.1396	-0.4368	0.0029	-0.0021	0.0993	-0.2507	-0.0092	0.0044
				0.6075	-2.0273	-5.2913	0.0377	-0.5875	1.5931	-3.3561	-0.1298	1.6759
NETHERLANDS	6x12	IVOL	BHAR(0)	0.0141	-0.1137	-0.2387	0.0205	0.0081	-0.0452	-0.1072	-0.0202	0.0060
				3.6578	-1.4104	-2.3532	0.3431	2.9195	-0.7805	-1.4728	-0.4702	1.9248
NEWZEALAND	12x6	MW	BHAR(0)	0.0213	-0.4527	-0.0808	-0.0683	0.0077	-0.3208	-0.0881	0.0019	0.0135
				3.2120	-2.6913	-0.5191	-0.6804	1.7117	-2.7913	-0.8282	0.0272	2.4127
NORWAY	6x12	MW	BHAR(0)	-0.0006	-0.2595	-0.6534	0.0641	0.0053	-0.0864	-0.3504	0.0065	-0.0059
				-0.0957	-2.3438	-4.8508	0.6928	1.0639	-1.0128	-3.3746	0.0916	-1.2117
PORTUGAL	6x9	IVOL	BHAR(1)	0.0117	-0.5714	-0.0297	-0.1215	0.0049	-0.6966	-0.1559	-0.0877	0.0068
				1.5391	-3.2897	-0.1640	-1.0387	0.7133	-4.4219	-0.9490	-0.8263	1.4776
SINGAPORE	12x6	IVOL	BHAR(0)	0.0049	-0.0407	-0.2289	0.0407	0.0018	-0.2930	-0.2169	-0.1096	0.0031
				0.8604	-0.4398	-2.5333	0.4170	0.4530	-4.5915	-3.4816	-1.6290	0.7113
SPAIN	12x6	IVOL	BHAR(0)	0.0051	-0.3437	-0.3249	0.0004	0.0036	-0.1716	-0.1728	-0.1079	0.0015
				1.1550	-3.8643	-2.9609	0.0042	1.0366	-2.4674	-2.0137		0.4275
SWEDEN	12x3	IVOL	BHAR(1)	0.0133	-0.4702	-0.4135	0.0245	0.0030	-0.3712	-0.3279	-0.0180	0.0102
				2.4540	-5.7566	-4.3207		0.7195	-5.8196	-4.3881		2.3377
SWITZERLAND	6x6	EW	BHAR(0)	0.0128	-0.4266	-0.2172	-0.1376	0.0064	-0.3136	-0.3527	-0.0525	0.0065
				3.6187	-4.4367		-1.9924	2.3713	-4.3038	-3.8492		2.1409
UK	12x3	IVOL	BHAR(0)	0.0075	-0.0964	-0.1665	-0.0884	0.0047	-0.1804		-0.1602	0.0028
				3.3138	-1.8223		-1.6911	1.7914	-2.9313	-3.5580		1.9210
US	9x6	MW	BHAR(0)	-0.0003	-0.0707	-0.2417	-0.0849	0.0007	-0.2476	-0.0478	-0.2173	-0.0009
				-0.0618	-0.8141	-2.1490	-0.4160	0.1475	-2.5464	-0.3793	-0.9506	-0.3884

8.6. Risk-adjusted momentum performances in up and down markets

Previously, we find that both optimal time-series (TSM) and cross-sectional (CSM) momentum strategies perform better in up periods than in down periods. Based on raw return, it appears to be on average 2.32% per month for the time-series momentum strategy and 1.74% per month for the cross-sectional momentum strategy in up periods and is 1.08% and 1.66% higher than their returns in down periods respectively. In addition, the time-series momentum strategy outperforms the cross-sectional momentum strategies in 20 markets in up periods and in 22 markets in down periods. After accounting for the transaction costs, we find the pattern of the two momentum strategies performing better in up periods is maintained with the difference being 1.09% for the time-series momentum strategy and 1.08% for the cross-sectional momentum strategy.

Compared the optimal performance of the two momentum strategies using raw return, we observe that the superior performance of the time-series momentum strategy is a result of its outperformance in down periods with the difference (TSM - CSM) being 1.16% per month in down periods compared to 0.57% per month in up periods. After accounting for the transaction costs, however, the magnitude of superior performance of the time-series momentum strategy in down periods is significantly diluted with the average return across the 24 markets falling from 1.16% per month to 0.46% per month.

This section now examines and compares the two momentum strategies under the two market states when account is taken of risk-adjusted using the Fama-French three factor model. Similar with the method employed by Daniel and Moskowitz (2013), we apply the following regression model to the optimal implementation for each market:

$$\begin{split} MR_{i} - Rf_{i} &= (\beta 0_{i} + D\beta 1_{i}) + [\beta 2_{i}(Rm_{i} - Rf_{i}) + D * \beta 3_{i}(Rm_{i} - Rf_{i})] + [\beta 4_{i}SMB_{i} + D * \beta 5_{i}SMB_{i}] + [\beta 6_{i}HML_{i} + D * \beta 7_{i}HML_{i}] \end{split}$$

where MR_i is momentum return after transaction costs at month t, Rf_i is risk-free rate at month t, Rm_i is market-weighted index at month t, SMB_i is small minus big at month t, which is calculated by the market average return for the smallest 30% of stocks minus the market average return of the largest 30% of stocks in that month. HML_i is high minus low at month t, which is calculated by the market average return for 50% of stocks with the highest book-to-market ratio minus market average return for 50% of stocks with the lowest book-to-market ratio. D is a dummy variable (an indicator of ex-ante market conditions) that equals oneif the cumulative return of the market index over the last 12 months is non-negative and equals zero otherwise. The constant $\beta 0$ and the coefficients of the three risk terms ($\beta 2$, $\beta 4$ and $\beta 6$) are an attempt to capture risk-adjusted returns and risk estimates when the market is following down states, whereas the sum coefficients at each component ($\beta 1+\beta 0$, $\beta 3+\beta 2$, $\beta 5+\beta 4$ and $\beta 7+\beta 6$) in the regression capture the risk-adjusted returns and risk factors in up markets.³⁶

Based on the optimal implementations identified in Table 8.13, Table 8.14 reports the regression results of optimal time-series (TSM) and cross-sectional (CSM) momentum risk-adjusted net returns and standard risk factors following up and down markets during the 252 months from 1992 to 2012.

The column (Constant + D) in TSM and CSM reports the risk-adjusted net returns in up periods, whereas the column (Constant) reports the returns in down periods. The findings are largely consistent with those discussed above for both raw and net returns with the performance of the two momentum strategies being much stronger in up markets than in down markets. For the time-series momentum strategy, the average return across the 24

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 $^{^{36}}$ Wald test are reported for each component in the regression based on the hypothesis, H0 sum of the coefficients equals to zero. H0: $\beta1+$ $\beta0=0,$ H0: $\beta3+$ $\beta2=0,$ H0: $\beta5+$ $\beta4=0,$ H0: $\beta7+$ $\beta6=0$

markets for the time-series momentum strategy is 1.02% per month in up markets with the returns being positive in 22 markets (significant in 12 markets), whereas it produces -0.42% per month with the return in seven markets being positive (none significant) in down markets. For the cross-sectional momentum strategy, the average return is 0.63% per month with 19 markets being positive (significant in 11 markets) in up markets, and -1.15% per month with four markets being positive but none of them is significant in down markets.

The column (Market-Rf, SMB and HML) of TSM and CSM report the market risk, size premium and value premium when markets have been performing strongly and markets that have been performing poorly. Similar with findings in Section 8.5, the results consistently suggest that in most markets the time-series and cross-sectional momentum gains are negatively related with standard risk premium. Ten markets are significant using the timeseries momentum strategy and seven markets are significant using the cross-sectional momentum strategy in up market state, and ten markets are significant using the time-series momentum strategy and 18 markets are significant using the cross-sectional momentum strategy in down market state. The two momentum strategies bias towards growth stocks in 14 markets (four significant) in the time-series momentum strategy and 13 markets (five significant) in the cross-sectional momentum strategy in up market state, and in 16 markets (five significant) in the case of the time-series momentum strategy and 16 markets (seven significant) in the case of the cross-sectional momentum strategy in down market state. The results in Table 8.14 demonstrate that the two momentum strategies run a positive market risk in up periods with 14 markets (four significant) for the time-series momentum strategy and 18 markets (none is significant) for the cross-sectional momentum strategy, and a negative market risk in down periods with 23 markets for the time-series momentum strategy (17 significant) and the cross-sectional momentum strategy (20 significant).

The last column of Table 8.14 reports the differences (TSM - CSM) between the risk-adjusted net returns for the two momentum strategies under optimal implementation in each of the 24 markets when the market is in up and down states. In terms of raw returns, the time-series momentum strategy outperforms the cross-sectional momentum strategy on average by 0.57% per month in up periods and by 1.16% per month in down periods. After accounting for the transaction costs, the superior performance of the time-series momentum strategy is on average 0.47% per month in up states, whereas the outperformance becomes reduces significantly to 0.46% per month in down periods.

After we introduce risk on an-after transaction cost basis, the superiority of the time-series momentum strategy across most of the markets in up and down periods remain largely unchanged. Table 8.14 highlights that the time-series momentum strategy continues to outperform the cross-sectional momentum strategy in 19 markets (six significant) in up periods with an average difference being 0.39% per month, and in 18 markets (six significant) in down markets with an average difference rebounded being 0.73% per month. The outperformance of time-series momentum strategy in down periods after adjusting for risk suggests that the time-series momentum strategy contains lower level of risk than the cross-sectional momentum strategy, particularly when markets have been performing poorly.

Table 8.14. Risk factors of momentum strategies under optimal implementation approaches in up and down markets

This table reports the risk-adjusted time-series and cross-sectional momentum returns under optimal implementations when ex-ante markets follow up and down markets by using following regression: $MR_i - Rf_i = (\beta 0_i + D * \beta 1_i) + [\beta 2_i (Rm_i - Rf_i) + D * \beta 3_i (Rm_i - Rf_i)] + [\beta 4_i SMB_i + D * \beta 5_i SMB_i] + [\beta 6_i HML_i + D * \beta 7_i HML_i], where <math>MR_i$ is momentum return after transaction costs at month t, Rf_i is risk-free rate at month t, Rm_i is market-weighted index at month t, SMB_i is calculated by the market average return for the smallest 30% of stocks minus the market average return of the largest 30% of stocks in that month. HML_i is calculated by the market average return for 50% of stocks with the highest book-to-market ratio minus market average return for 50% of stocks with the lowest book-to-market ratio. D is a dummy variable (an indicator of ex-ante market conditions) that equals one if the cumulative return of the market index over the last 12 months is non-negative and equals zero otherwise. The last two columns report the difference between risk-adjusted returns from time-series momentum strategy (TSM) and cross-sectional momentum strategy (CSM) for each market when markets are in up and down. For the results in up market, Newey–West adjusted Wald test are reported below the returns in the table for each component in the regression based on the hypothesis, H0 sum of the coefficients equals to zero. H0: $\beta 1 + \beta 0 = 0$, H0: $\beta 3 + \beta 2 = 0$, H0: $\beta 5 + \beta 4 = 0$, H0: $\beta 7 + \beta 6 = 0$. For the results in down market, Newey–West adjusted t-statistics are reported below the returns in the table.

"UP" MARKETS	NO. OF MONTHS	OPTIMA	L IMPLEM	IENTATIONS		TSM				CSM			TSM - CSM
		JxH	Weight	Construction	Constant + D	Market - Rf	SMB	HML	Constant + D	Market - Rf	SMB	HML	Constant + D
AUSTRALIA	202	9x6	MW	BHAR(0)	0.0105	0.0415	-0.1730	-0.0063	0.0068	0.0974	0.0491	0.1436	0.0037
					2.0104	0.3805	-1.6641	-0.0509	1.4151	0.7683	0.3187	1.1366	0.9276
AUSTRIA	184	6x12	IVOL	BHAR(1)	0.0052	0.5173	0.1423	0.0006	0.0019	0.4180	0.0149	-0.0801	0.0033
					1.1998	2.8337	0.8253	0.0046	0.5259	2.5085	0.0970	-0.9345	1.0832
BELGIUM	191	9x6	MW	BHAR(1)	0.0052	0.1780	-0.3213	-0.2801	0.0100	-0.0886	-0.3112	-0.2806	-0.0048
					0.7608	0.5470	-0.9327	-2.1460	2.3790	-0.4196	-1.5060	-2.2315	-0.7490
CANADA	230	6x9	MW	BHAR(0)	0.0211	0.2071	0.0605	-0.2779	0.0115	0.1746	0.0349	-0.3052	0.0095
					2.9887	1.1711		-1.7411	2.0080	1.2469	0.2189	-2.1508	2.2802
DENMARK	197	6x12	IVOL	BHAR(0)	0.0103	-0.0351	-0.1556	0.0587	0.0068	0.0260	-0.1768	0.0149	0.0035
					2.8831	-0.2862	-1.2080	0.8138	2.0011	0.2369	-1.8282	0.2526	1.4482
FINLAND	181	12x6	MW	BHAR(0)	0.0174	0.2019	-0.4433	0.0748	0.0065	0.1102	-0.3623	-0.0156	0.0109
					1.9091	0.8771	-1.3969	0.7729	0.9381	0.7861	-2.6004	-0.1620	1.2931
FRANCE	194	9x9	IVOL	BHAR(0)	0.0006	-0.0083	-0.2656	-0.0270	-0.0002	0.0887	-0.1739	0.0122	0.0009
					0.2138	-0.0970	-3.4060	-0.6761	-0.0879	0.7905	-1.8570	0.2995	0.5045
GERMANY	190	6x9	MW	BHAR(0)	0.0106	-0.1392	-0.4328	0.0581	0.0025	0.0525	-0.2771	0.0153	0.0081
					1.5270	-0.7253	-1.8501	0.5368	0.3796	0.2634	-1.0302	0.1284	1.4530
GREECE	154	3x12	MW	BHAR(1)	0.0073	0.4229	-0.2916	0.0723	0.0170	0.3398	0.0489	0.0724	-0.0097
					0.9101	3.2085	-2.6339	0.3432	1.7282	1.7737	0.2352	0.3790	-1.0822
HONGKONG	204	6x9	MW	BHAR(0)	-0.0009	0.2662	-0.0476	-0.0075	-0.0017	0.0564	-0.0783	0.0054	0.0007
					-0.1354	2.5506	-0.2393	-0.0697	-0.3442	0.6474	-0.7499	0.0549	0.1049
IRELAND	212	6x12	MW	BHAR(0)	0.0347	-0.3733	-0.2526	0.0547	0.0280	-0.3944	-0.0027	-0.0003	0.0067
					3.0103	-1.3258	-0.8986	0.6865	2.5616	-1.5940	-0.0115	-0.0036	1.0290
ISRAEL	199	9x12	MW	BHAR(0)	0.0026	-0.0460	-0.3127	-0.2826	0.0027	0.0464	-0.0303	-0.0084	-0.0001
					0.3441	-0.4052	-2.4354	-2.6180	0.5087	0.3480	-0.3483	-0.0671	-0.0139
ITALY	172	9x6	EW	CAR(0)	0.0100	0.0768	-0.1421	-0.1728	0.0049	-0.0457	-0.2962	-0.1445	0.0051
					2.3143	0.6210	-0.9021	-1.8630	1.5488	-0.5939	-3.1418	-2.0088	2.1629
JAPAN	146	6x12	MW	BHAR(0)	0.0072	0.1730	-0.4550	-0.1406	0.0019	0.4034	-0.2532	-0.1681	0.0053
					1.5557	1.2845	-3.7777		0.4237	3.1042	-1.7133	-2.1891	1.4481
NETHERLANDS	202	6x12	IVOL	BHAR(0)	0.0158	0.0481	-0.1258	0.0620	0.0064	0.2607	0.0978	-0.0032	0.0094
					3.9124	0.4369	-0.8440	0.9319	2.3095	2.6504	1.0279	-0.0631	2.7777
NEWZEALAND	232	12x6	MW	BHAR(0)	0.0230	-0.4092	-0.1475	-0.0870	0.0086	-0.2728	-0.0459	0.0067	0.0144
					2.5142	-1.2999	-0.8489	-0.7781	1.7061	-1.5115	-0.2956	0.0644	1.8996
NORWAY	196	6x12	MW	BHAR(0)	0.0044	-0.2544	-0.6670	0.0880	0.0088	0.0877	-0.2322	0.0046	-0.0044
					0.6347	-1.5525	-3.4016		1.8399	0.8576	-1.8194	0.0567	-0.7868
PORTUGAL	177	6x9	IVOL	BHAR(1)	0.0214	-0.6282	-0.1022	-0.0350	0.0154	-0.5058	-0.1008	0.1106	0.0059
					2.4408	-2.8646	-0.5740	-0.2459	1.9356	-3.4800	-0.6385	1.1700	1.2774
SINGAPORE	189	12x6	IVOL	BHAR(0)	0.0073	0.2865	0.0218	-0.0302	0.0061	0.0456	-0.0002	-0.1264	0.0012
					1.6203	2.1824	0.1432	-0.2287	1.7366	0.5331	-0.0023	-1.7369	0.3114
SPAIN	167	12x6	IVOL	BHAR(0)	-0.0013	0.0692	-0.3261	0.2523	-0.0008	0.2679	-0.0586	0.0181	-0.0005
					-0.2273	0.3274	-2.0453	1.2754	-0.1915	2.5180	-0.5274	0.2195	-0.0849
SWEDEN	196	12x3	IVOL	BHAR(1)	0.0117	-0.2106	-0.6121	-0.0193	-0.0023	-0.0147	-0.2846	-0.0171	0.0140
					2.0992	-1.7067		-0.2057	-0.4557	-0.1772	-2.7868	-0.1803	3.5008
SWITZERLAND	195	6x6	EW	BHAR(0)	0.0148	-0.2328	-0.0871	-0.0973	0.0049	0.1174	-0.0719	0.0192	0.0099
					3.3179	-1.2073		-1.0571	1.4611	0.8613	-0.4930	0.3465	2.0160
UK	214	12x3	IVOL	BHAR(0)	0.0068	0.0169	-0.1999	-0.0639	0.0063	0.0830	-0.0781	-0.1120	0.0005
***) err -	D774 D (0)	2.8327	0.1822	-2.4461	-0.8709	2.0076	0.6774	-0.6117		0.3439
US	226	9x6	MW	BHAR(0)	0.0001	0.0737	-0.2221	0.0679	-0.0004	0.1545	0.1121	-0.1256	0.0005
					0.0259	0.5516	-1.4137	0.2138	-0.0901	0.9563	0.7171	-0.3741	0.2460

"DOWN" MARKET	S NO. OF MONTHS	OPTIMA	L IMPLEN	MENTATIONS		TSN	M			CSN	Л		TSM - CSM
		JxH	Weight	Construction	Constant	Market - Rf	SMB	HML	Constant	Market - Rf	SMB	HML	Constant
AUSTRALIA	50	9x6	MW	BHAR(0)	-0.0018 -0.1514	0.1433 0.7268	0.0707 0.3949	0.2080 0.7100	-0.0195 -1.7606	-0.7400 -3.9832	-0.5513 -3.2679	-0.1555 -0.5633	0.0177 1.6975
AUSTRIA	68	6x12	IVOL	BHAR(1)	-0.0002	-0.2591	-0.2566	0.1940	0.0001	-0.1340	-0.2585	0.1513	-0.0003
	00	0.112	1.02	D11.11(1)	-0.0262	-1.2488	-1.1250	1.4465	0.0130	-0.7784	-1.3662	1.3599	-0.0544
BELGIUM	61	9x6	MW	BHAR(1)	-0.0052	-0.9524	-0.5056	-0.0294	-0.0016	-1.6030	-1.0207	-0.2585	-0.0036
DLLGIO	0.	7.10		D11.11(1)	-0.4325	-2.2004		-0.1895	-0.1720	-4.8555	-2.5788		-0.3490
CANADA	22	6x9	MW	BHAR(0)	-0.0197	-0.0200	-0.5032	-0.8644	-0.0415	-0.2844	-0.5326	-0.8902	0.0218
				(-)	-0.8332	-0.0740	-1.4751		-1.9294	-1.1589	-1.7187		1.3970
DENMARK	55	6x12	IVOL	BHAR(0)	-0.0027	-0.3183	-0.2421	-0.0651	-0.0010	-0.1611	-0.2606	-0.1076	-0.0017
				\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	-0.3763	-2.4240	-1.3857		-0.1547	-1.4214	-1.7280		-0.3176
FINLAND	71	12x6	MW	BHAR(0)	0.0026	-0.6060	-0.2592	-0.3112	-0.0025	-0.3399	-0.0680	-0.2764	0.0052
					0.1984	-3.0783	-0.9528	-3.0152	-0.2039	-1.8697	-0.2708	-2.8989	0.4194
FRANCE	58	9x9	IVOL	BHAR(0)	-0.0024	-0.9914	-0.7497	-0.0095	-0.0083	-1.2517	-1.1403	-0.0159	0.0059
					-0.5215	-9.3786	-4.7332	-0.1273	-1.7274	-11.4852	-6.9832	-0.2067	1.9944
GERMANY	62	6x9	MW	BHAR(0)	-0.0126	-0.5966	0.1813	-0.3153	-0.0065	-1.1318	-0.4644	0.0260	-0.0061
					-1.0057	-3.2783	0.6565	-1.6239	-0.5179	-6.2056	-1.6778	0.1339	-0.5734
GREECE	98	3x12	MW	BHAR(1)	-0.0103	-0.6046	-0.2687	-0.0313	-0.0301	-0.6264	-0.5619	-0.1106	0.0198
					-0.9996	-5.5974	-2.3087	-0.1954	-2.5905	-5.1398	-4.2787	-0.6119	1.6776
HONGKONG	48	6x9	MW	BHAR(0)	0.0040	-0.4594	0.5669	-0.2967	0.0067	-0.4457	0.1139	-0.4384	-0.0027
					0.2955	-3.4203	2.8989	-1.3524	0.6067	-4.0784	0.7158	-2.4553	-0.1948
IRELAND	40	6x12	MW	BHAR(0)	0.0064	-0.1203	-0.1849	0.0182	-0.0103	0.1557	-0.0143	-0.0451	0.0167
					0.2267	-0.3963	-0.5430	0.1078	-0.4160	0.5782	-0.0474	-0.3004	1.0150
ISRAEL	53	9x12	MW	BHAR(0)	0.0196	-0.2903	-0.2013	-0.0831	0.0148	-0.7181	-0.6859	0.0620	0.0049
					1.4424	-1.2142	-0.7002	-0.4336	1.2769	-3.5345	-2.8082	0.3810	0.4212
ITALY	80	9x6	EW	CAR(0)	-0.0033	-0.6477	-0.4414	-0.0908	-0.0113	-0.7516	-0.6591	-0.0391	0.0080
					-0.4845	-7.4287	-2.4022	-0.8468	-2.2275	-11.4904	-4.7811	-0.4859	1.9054
JAPAN	106	6x12	MW	BHAR(0)	-0.0057	-0.3972	-0.4467	0.1224	-0.0088	-0.1514	-0.2796	0.1237	0.0031
					-0.9975	-4.4475	-3.8135	1.2020	-1.7155	-1.8860	-2.6545		0.7654
NETHERLANDS	50	6x12	IVOL	BHAR(0)	0.0012	-0.3814	-0.4743	-0.0919	0.0040	-0.4728	-0.5056	-0.1084	-0.0028
					0.1426	-3.1092	-2.4944	-0.8622	0.7080	-5.7529	-3.9691		-0.4067
NEWZEALAND	20	12x6	MW	BHAR(0)	-0.0098	-1.0444	0.0246	0.3850	-0.0263	-1.3027	-1.1309	0.1757	0.0165
					-0.3715	-1.6490	0.0370	0.7185	-1.4584	-3.0210	-2.4966	0.4818	0.7384
NORWAY	56	6x12	MW	BHAR(0)	-0.0233	-0.3535	-0.8121	0.0567	-0.0236	-0.5933	-0.8493	0.0773	0.0003
					-1.5460	-1.7111	-3.3209	0.3827	-2.1022	-3.8499	-4.6566	0.6994	0.0295
PORTUGAL	75	6x9	IVOL	BHAR(1)	-0.0098	-0.5222	0.1219	-0.2697	-0.0258	-1.1985	-0.4066	-0.3383	0.0160
					-0.6914	-1.5918	0.2964	-1.4745	-2.0542	-4.1099		-2.0812	1.9207
SINGAPORE	63	12x6	IVOL	BHAR(0)	-0.0096	-0.5604	-0.6804	0.2071	-0.0196	-0.8347	-0.6095	0.0222	0.0099
					-0.9230	-3.9632	-4.7293	1.7421	-3.0956	-9.7551	-7.0016	0.3088	1.1287
SPAIN	85	12x6	IVOL	BHAR(0)	0.0056	-0.8613	-0.4528	-0.0567	-0.0040	-0.8796	-0.6168	-0.0014	0.0096
					0.7461	-5.9145	-2.2499	-0.4482	-0.7312	-8.2326	-4.1771	-0.0152	1.4951
SWEDEN	56	12x3	IVOL	BHAR(1)	-0.0053	-0.8546	-0.2851	0.2879	-0.0187	-1.1370	-0.9597	0.2274	0.0135
					-0.4505	-5.8497	-1.4303	2.0206	-2.1922	-10.6562	-6.5919	2.1857	1.4201
SWITZERLAND	57	6x6	EW	BHAR(0)	-0.0039	-0.7589	-0.4998	-0.1814	-0.0068	-0.9285	-0.7032	-0.1033	0.0029
****			****	D	-0.4933	-5.2420		-1.8319	-1.2867	-9.5016	-4.3744		0.4399
UK	38	12x3	IVOL	BHAR(0)	0.0057	-0.2772	-0.0778	-0.1474	-0.0111	-0.6272	-0.5615	-0.2398	0.0168
					0.9867	-3.3299	-0.7923	-1.7443	-1.7339	-6.8317	-5.1836	-2.5727	5.2548
US	26	9x6	MW	BHAR(0)	-0.0212	-0.3739	0.2275	-0.4346	-0.0250	-0.9783	-0.0795	-0.2450	0.0039
					-1.7870	-2.3235	0.5880	-1.0219	-2.0092	-5.7824	-0.1955	-0.5480	0.6162

8.7. Conclusion

This chapter investigates the implications of risk for the time-series and cross-sectional momentum strategies. We examine the risk-adjusted performance of the net returns for 192 implementations using the Sharpe ratio and the Fama-French alpha. The finding is the same irrespective of whether the Sharpe ratio or the three-factor model is used.

The standard risk factors explains a high proportion of the apparent net gains of the timeseries and cross-sectional momentum strategies. In terms of the Fama-French alpha, only around 6% of the implementations produce the significant positive risk-adjusted net returns with none of the returns from the two momentum strategies being significant positive in half of the 24 markets. The average risk-adjusted net return is -0.22% per month for the timeseries momentum strategy, and -0.29% per month for the cross-sectional momentum strategy. The magnitude of these significant positive findings does not provide strong inference of the existence of pricing inefficiencies in these markets nor the existence of exploitable investment opportunities.

Although positive gains from the two momentum strategies are not a generalizable case in our 24 markets, the study observes that the optimum implementation in the most markets involves a combination of investment cycle in the range between 15 and 18 months a buyand-hold portfolio construction policy and the use of market or inversed-volatility portfolio weighting schemes.

It is clear that time-series momentum remains the superior strategy after account is taken of both implementation costs and risk. The time-series momentum strategy continues to outperform the cross-sectional momentum strategy in 19 of the 24 markets with an average 0.39% per month. The superiority of the time-series momentum strategy appears in 19 markets with significant in nine markets: Canada (0.99% per month), Finland (1.11% per month), Italy (0.58% per month), Japan (0.44% per month), the Netherlands (0.60% per month), New Zealand (1.35% per month), Sweden (1.02% per month), Switzerland (0.65% per month) and the UK (0.28% per month).

After we introduce risk on an-after transaction cost basis, the time-series momentum strategy continues to outperform the cross-sectional momentum strategy in 19 markets (six significant) in up periods with an average difference being 0.39% per month, and in 18 markets (six significant) in down markets with an average difference being 0.73% per month. The finding

suggests that the time-series momentum strategy contains lower level of risk than the cross-sectional momentum strategy, especially when markets have been performing poorly.

Chapter 9 – Conclusions

9.1. Introduction

This chapter provides us with the opportunity to summarise the main findings of the thesis and to introduce some possible future research topics. The objectives and the contributions of the study are summarised in Sections 9.2 and 9.3, respectively. In Section 9.4 the main findings are reviewed and their implications are briefly discussed.

9.2. Objectives

Since the analysis by Jegadeesh and Titman (1993), numerous studies have found that profits that can be realised from following a momentum-based strategy of buying recent strongly performing stocks (winners) and selling recent underperforming stocks (losers). Momentum strategies have proved to be robust across time, countries and asset classes, leading Fama (1998) to observe that momentum remains the "premier unexplained anomaly". Therefore, the existence of the momentum abnormal returns continues to challenge the market efficiency theory.

Momentum investment strategies are used, either explicitly or implicitly, by numerous fund managers. Up until recently, the concentration has been on the cross-sectional momentum strategy in which stocks are allocated to the winner or loser portfolios on the basis of their relative performances over some prior period, but more recently attention has begun to switch to the time-series momentum strategy where stocks are chosen on the basis of their absolute, rather than their relative performance over some prior period. In this thesis, we fill this apparent gap in the momentum literature by compares the time-series and cross-sectional momentum strategies applied to international stock markets.

The research objective is to evaluate the performance of the two momentum strategies, and to provide insights into why they might behave differently. In addition, we look across a broad spectrum of ways to implement the strategies to provide insights into how they inter-relate with the two momentum strategies and which perform the best. As discussed in section 1.4, we address the following questions:

- 1. How do time-series and cross-sectional momentum strategies perform in terms of (i) before-transaction costs (raw) returns, (ii) after-transaction cost (net) returns and (iii) net returns adjusted for risk?
- 2. Which of cross-sectional and time-series momentum strategies yields the superior investment performance?
- 3. Why does the performance of the two momentum strategies differ?
- 4. Does the absolute and relative performance of the two momentum strategies vary through the market cycle?
- 5. A further by-product of our research is that it provides insights as to the optimal way to implement the investment strategies.

We address the above questions using data across the 24 stock markets (Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the UK and the US) using data from 1992 to 2012.

We first consider the performance of time-series and cross-sectional momentum strategies on the basis of the raw returns generated over a large number of different implementations in order to arrive at an assessment of the ability of each of the two momentum strategies to generate returns for investors. We then proceed to introduce the transaction costs and then risk in order to determine whether the investment opportunities identified in our initial analysis could be exploited.

9.3. Findings

This section summarises the main findings that emerged from the thesis to answer the research questions and outlines the academic implications of these findings as well as their implications for investors seeking to outperform the market.

In total 192 implementations for each of the momentum strategies are evaluated each using three different cut-offs for stocks to be included in the momentum portfolios (i.e. including 32%, 60% and all stocks in either the winner or loser portfolios). We first find that the momentum raw returns decreases as we widen the cut-offs and so include more stocks into the momentum portfolios. The extension of the cut-offs from 32% to 100% results in a reduction in the returns on the momentum portfolios by approximately 50% on average based on the pooled data for the 24 markets. Having established this, we then use the 32% cut-offs over the remainder of our analysis.

We find that the transaction costs and standard risk explain most profitability of the timeseries and cross-sectional momentum strategies. In terms of the Fama-French alpha
determined using after-transaction costs return, about 6% on average of the implementations
evaluated produce significant positive risk-adjusted net returns. There are absolutely no
implementations that yield significant positive returns in Austria, France, Germany, Greece,
Hong Kong, Israel, Japan, Norway, Portugal, Singapore, Spain and the US., while less than 5%
of the implementations in Australia, Canada, and Ireland. The findings support that the
market efficiency hypothesis still holds across the most markets in our sample and the
existence of exploitable investment opportunities is rare.

We particularly concentrate on the optimal implementations of both the time-series and cross-sectional momentum strategies across the 24 markets. Common characteristics of these optimal implementations for the risk-adjusted net returns are that they combine a formation and a holding period of between 15 and 18 months, a buy-and-hold portfolio construction policy and the use of either a market or inversed-volatility portfolio weighting scheme.

Our main findings for the two momentum strategies based on raw returns, net returns and risk-adjusted net returns are summarised in Table 9.1. The overall performance of the two momentum strategies is eroded from 2.09% (raw return) to 1.34% (net return) and to 0.9% (Fama-French alpha) for the time-series momentum strategy, and from 1.43% (raw return) to 0.87% (net return) and finally to 0.51% (Fama-French alpha) for the cross-sectional momentum strategy. At each of the three steps along the way, this study finds that the time-series momentum strategy continues to outperform the cross-sectional momentum strategy; however the magnitude of the superior performance is diluted with an average difference from 0.66% (raw return) to 0.47% (net return) and to 0.39% (Fama-French alpha).

Table 9.1. Summary of optimal time-series and cross-sectional momentum strategies based on raw returns, net returns and risk-adjusted net returns

Optimal implementation	TSM	CSM	TSM - CSM
	Time-series momentum	Cross-sectional momentum	Time-series momentum
	strategy yields positive	strategy yields positive	strategy outperforms cross-
Raw return	returns in 24 markets (24	returns in 24 markets (20	sectional momentum strategy
Kaw letuiii	significant) with an average	significant) with an average	in 24 markets (13 significant)
	2.09% per month across the	1.43% per month across the	with an average 0.66% per
	24 markets.	24 markets.	month across the 24 markets.
	Time-series momentum	Cross-sectional momentum	Time-series momentum
	strategy yields positive	strategy yields positive	strategy outperforms cross-
Net return	returns in 24 markets (19	returns in 23 markets (15	sectional momentum strategy
Net return	significant) with an average	significant) with an average	in 21 markets (7 significant)
	1.34% per month across the	0.87% per month across the	with an average 0.47% per
	24 markets.	24 markets.	month across the 24 markets.
	Time-series momentum	Cross-sectional momentum	Time-series momentum
Risk-adjusted	strategy yields positive	strategy yields positive	strategy outperforms cross-
net return -	returns in 22 markets (10	returns in 23 markets (7	sectional momentum strategy
Fama-French	significant) with an average	significant) with an average	in 19 markets (5 significant)
alpha	0.9% per month across the	0.51% per month across the	with an average 0.39% per
	24 markets.	24 markets.	month across the 24 markets.

Consistent with Cooper et al. (2004), we find that the major contribution to the outperformance of the momentum strategies occur in period when market perform strongly. In addition, we find that the superior performance of the time-series momentum strategy relative to the cross-sectional momentum strategy comes during periods when the markets have been performing poorly but that this advantage also erodes as we proceed from raw returns to net returns to risk-adjusted net returns.

One possible explanation for the superiority of the time-series momentum strategy is that it forms portfolios of slightly smaller capitalization stocks with a greater spread in past performance between the winner and loser stocks. Both of these features suggest that the time-series momentum strategy will outperform the cross-sectional momentum strategy. On the other hand, the transaction costs and risk from the time-series momentum strategy are higher than the costs from the cross-sectional momentum strategy which is largely a consequence of time-series momentum strategy selecting smaller and growth stocks, and generating a higher turnover over a market cycle, so it is not surprising that the outperformance of the time-series momentum strategy becomes smaller after adjusting for risk on an after-transaction costs basis.

References

- Aarts, F., & Lehnert, T. (2005). On style momentum strategies. *Applied Economics Letters*, 12(13), 795-799.
- Agyei, A. S. (2007). The post-cost profitability of momentum trading strategies: further evidence from the UK. *European Financial Management*, 13(4), 776-802.
- Ahn, D. H., Conrad, J., & Dittmar, R. F. (2003). Risk adjustment and trading strategies. *Review of Financial Studies*, 16(2), 459-485.
- Alexander, G. J. (2000). On back-testing "zero-investment" strategies. *The Journal of Business*, 73(2), 255-278.
- Ali, A., & Trombley, M. A. (2006). Short sales constraints and momentum in stock returns. *Journal of Business Finance & Accounting*, 33(3-4), 587-615.
- Amihud, Y. (2002). Illiquidity and stock returns: Cross-section and time-series effects. *Journal of Financial Markets*, 5(1), 31-56.
- Antoniou, A., Lam, H. Y. T., & Paudyal, K. (2007). Profitability of momentum strategies in international markets: The role of business cycle variables and behavioural biases. *Journal of Banking & Finance*, 31(3), 955-972.
- Asem, E., & Tian, G. Y. (2010). Market dynamics and momentum profits. *Journal of Financial and Quantitative Analysis*, 45(6), 1549-1562.
- Asness, C. S., Moskowitz, T. J., & Pedersen, L. H. (2013). Value and momentum everywhere. *The Journal of Finance*, 68(3), 929-985.
- Barber, B. M., & Odean, T. (2008). All that glitters: The effect of attention and news on the buying behavior of individual and institutional investors. *Review of Financial Studies*, 21(2), 785-818.
- Barberis, N., Shleifer, A., & Vishny, R. (1998). A model of investor sentiment. *Journal of Financial Economics*, 49(3), 307-343.
- Bem, D. J. (1965). An experimental analysis of self-persuasion. *Journal of Experimental Social Psychology*, 1(3), 199-218.
- Berkowitz, S. A., Logue, D. E., & Noser, E. A. (1988). The total cost of transactions on the NYSE. *The Journal of Finance*, 43(1), 97-112.
- Bernstein, R., & organizacija kompozitora Jugoslavije, S. (1995). *Style investing: Unique insight into equity management* (Vol. 31). New Jersey, USA: John Wiley & Sons.
- Bettman, J. L., Maher, T. R., & Sault, S. J. (2009). Momentum profits in the Australian equity market: A matched firm approach. *Pacific-Basin Finance Journal*, *17*(5), 565-579.
- Bird, R., & Casavecchia, L. (2006). Insights into the momentum life cycle for European stocks. *The Journal of Investing*, 15(3), 105-118.
- Bird, R., & Casavecchia, L. (2007). Value enhancement using momentum indicators: The European experience. *International Journal of Managerial Finance*, *3*(3), 229-262.
- Black, F. (1986). Noise. The Journal of Finance, 41(3), 529-543.
- Carhart, M. M. (1997). On persistence in mutual fund performance. *The Journal of Finance*, 52(1), 57-82.
- Chan, L. K., & Lakonishok, J. (1993). Institutional trades and intraday stock price behavior. *Journal of Financial Economics*, 33(2), 173-199.
- Chan, L. K., & Lakonishok, J. (1995). The behavior of stock prices around institutional trades. *The Journal of Finance*, 50(4), 1147-1174.
- Chang, E. C., Cheng, J. W., & Yu, Y. (2007). Short-sales constraints and price discovery: Evidence from the Hong Kong market. *The Journal of Finance*, 62(5), 2097-2121.
- Chen, J., Hong, H., & Stein, J. C. (2002). Breadth of ownership and stock returns. *Journal of Financial Economics*, 66(2), 171-205.
- Cheng, J. W., & Wu, H.-f. (2010). The profitability of momentum trading strategies: Empirical evidence from Hong Kong. *International Review of Economics & Finance*, 19(4), 527-538.

- Chiyachantana, C. N., Jain, P. K., Jiang, C., & Wood, R. A. (2004). International evidence on institutional trading behavior and price impact. *The Journal of Finance*, *59*(2), 869-898.
- Chui, A. C., Titman, S., & Wei, K. J. (2000). Momentum, legal systems and ownership structure: An analysis of Asian stock markets. *Working paper*. Retrieved from http://ssrn.com/abstract=265848
- Chui, A. C. W., Titman, S., & Wei, K. C. J. (2010). Individualism and momentum around the world. *The Journal of Finance*, 65(1), 361-392.
- Conrad, J., & Kaul, G. (1998). An anatomy of trading strategies. *Review of Financial Studies*, 11(3), 489-519.
- Cooper, M. J., Gutierrez, R. C., & Hameed, A. (2004). Market states and momentum. *The Journal of Finance*, 59(3), 1345-1365.
- Daniel, K., Hirshleifer, D., & Subrahmanyam, A. (1998). Investor psychology and security market under-and overreactions. *The Journal of Finance*, *53*(6), 1839-1885.
- Daniel, K., & Moskowitz, T. (2013). Momentum crashes. (11-03). Retrieved from http://ssrn.com/abstract=2371227
- David McLean, R., Pontiff, J., & Watanabe, A. (2009). Share issuance and cross-sectional returns: International evidence. *Journal of Financial Economics*, 94(1), 1-17.
- Demir, I., Muthuswamy, J., & Walter, T. (2004). Momentum returns in Australian equities: The influences of size, risk, liquidity and return computation. *Pacific-Basin Finance Journal*, 12(2), 143-158.
- DeRoon, F. A., Nijman, T. E., & Werker, B. J. (2001). Testing for mean-variance spanning with short sales constraints and transaction costs: The case of emerging Markets. *The Journal of Finance*, 56(2), 721-742.
- Doukas, J. A., & McKnight, P. J. (2005). European momentum strategies, information diffusion, and investor conservatism. *European Financial Management*, 11(3), 313-338.
- Drew, M. E., Veeraraghavan, M., & Ye, M. (2007). Do momentum strategies work? Australian evidence. *Managerial Finance*, *33*(10), 772-787.
- Du, D., Huang, Z., & Liao, B.-s. (2009). Why is there no momentum in the Taiwan stock market? *Journal of Economics and Business*, 61(2), 140-152.
- Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. *The Journal of Finance*, 25(2), 383-417.
- Fama, E. F. (1998). Market efficiency, long-term returns, and behavioral finance. *Journal of Financial Economics*, 49(3), 283-306.
- Fama, E. F., & French, K. R. (1996). Multifactor explanations of asset pricing anomalies. *The Journal of Finance*, *51*(1), 55-84.
- Fama, E. F., & French, K. R. (2012). Size, value, and momentum in international stock returns. *Journal of Financial Economics*, 105(3), 457-472.
- Fama, E. F., & MacBeth, J. D. (1973). Risk, return, and equilibrium: Empirical tests. *The Journal of Political Economy*, 81(3), 607-636.
- Fong, W. M., Wong, W. K., & Lean, H. H. (2005). International momentum strategies: A stochastic dominance approach. *Journal of Financial Markets*, 8(1), 89-109.
- Galariotis, E. C., Holmes, P., & Ma, X. S. (2007). Contrarian and momentum profitability revisited: Evidence from the London stock exchange 1964–2005. *Journal of Multinational Financial Management*, 17(5), 432-447.
- George, T. J., & Hwang, C. Y. (2004). The 52-week high and momentum investing. *The Journal of Finance*, 59(5), 2145-2176.
- Glaser, M., & Weber, M. (2003). Momentum and turnover: Evidence from the German stock market. *Schmalenbach Business Review*, 55(2)
- Goyenko, R. Y., Holden, C. W., & Trzcinka, C. A. (2009). Do liquidity measures measure liquidity? *Journal of Financial Economics*, 92(2), 153-181.
- Griffin, J. M., Ji, X., & Martin, J. S. (2003). Momentum investing and business cycle risk: Evidence from pole to pole. *The Journal of Finance*, 58(6), 2515-2547.
- Griffin, J. M., Ji, X., & Martin, J. S. (2005). Global momentum strategies. *The Journal of Portfolio Management*, 31(2), 23-39.

- Grinblatt, M., & Titman, S. (1989). Mutual fund performance: An analysis of quarterly portfolio holdings. *The Journal of Business*, 62(3), 393-416.
- Grinblatt, M., & Titman, S. (1993). Performance measurement without benchmarks: An examination of mutual fund returns. *The Journal of Business*, 66(1), 47-68.
- Grinblatt, M., Titman, S., & Wermers, R. (1995). Momentum investment strategies, portfolio performance, and herding: A study of mutual fund behavior. *The American Economic Review*, 85(5), 1088-1105.
- Grundy, B. D., & Martin, J. S. (2001). Understanding the nature of the risks and the source of the rewards to momentum investing. *Review of Financial Studies*, 14(1), 29-78.
- Gunasekarage, A., & Kot, H. W. (2007). Return-based investment strategies in the New Zealand stock market: Momentum wins. *Pacific Accounting Review*, 19(2), 108-124.
- Gupta, K., Locke, S., & Scrimgeour, F. (2010). International comparison of returns from conventional, industrial and 52-week high momentum strategies. *Journal of International Financial Markets, Institutions and Money*, 20(4), 423-435.
- Gupta, K., Locke, S., & Scrimgeour, F. (2013). Profitability of momentum returns under alternative approaches. *International Journal of Managerial Finance*, *9*(3), 219 246.
- Hameed, A., & Kusnadi, Y. (2002). Momentum strategies: Evidence from Pacific Basin stock markets. *Journal of Financial Research*, 25(3), 383-397.
- Hanna, J. D., & Ready, M. J. (2005). Profitable predictability in the cross section of stock returns. *Journal of Financial Economics*, 78(3), 463-505.
- Harris, L. (1990). Statistical properties of the Roll serial covariance bid/ask spread estimator. *The Journal of Finance*, 45(2), 579-590.
- Hasbrouck, J. (2009). Trading costs and returns for US equities: Estimating effective costs from daily data. *The Journal of Finance*, *64*(3), 1445-1477.
- Holden, C. W. (2009). New low-frequency spread measures. *Journal of Financial Markets*, 12(4), 778-813.
- Hong, D., Lee, C. M., & Swaminathan, B. (2003). Earnings momentum in international markets. Retrieved from http://ssrn.com/abstract=390107
- Hong, H., Lim, T., & Stein, J. C. (1998). Bad news travels slowly: Size, analyst coverage and the profitability of momentum strategies. *The Journal of Finance*, 55(1), 265 295
- Hong, H., & Stein, J. C. (1999). A unified theory of underreaction, momentum trading, and overreaction in asset markets. *The Journal of Finance*, 54(6), 2143-2184.
- Hou, T. C., & McKnight, P. J. (2004). An explanation of momentum in Canadian stocks. *Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration*, 21(4), 334-343
- Hurst, B., Ooi, Y. H., & Pedersen, L. H. (2012). A century of evidence on trend-following investing. *AQR Management*,(*Fall 2012*), 1-11.
- Ince, O. S., & Porter, R. B. (2006). Individual equity return data from Thomson Datastream: Handle with care! *Journal of Financial Research*, 29(4), 463-479.
- Jegadeesh, N., & Titman, S. (1993). Returns to buying winners and selling losers: Implications for stock market efficiency. *The Journal of Finance*, 48(1), 65-91.
- Jegadeesh, N., & Titman, S. (1999). Profitability of momentum strategies: An evaluation of alternative explanations. *The Journal of Finance*, *56*(2), 699 720.
- Jegadeesh, N., & Titman, S. (2001). Cross-sectional and time-series determinants of momentum returns. *Review of Financial Studies*, 15(1), 143-157.
- Ji, X. (2012). Momentum profitability: The pre-CRSP evidence. *Applied Economics Letters*, 19(13), 1223-1226.
- Jones, C. M., & Lamont, O. A. (2002). Short-sale constraints and stock returns. *Journal of Financial Economics*, 66(2), 207-239.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica: Journal of the Econometric Society*, 47(2), 263-291.
- Keim, D. B., & Madhavan, A. (1997). Transactions costs and investment style: an inter-exchange analysis of institutional equity trades. *Journal of Financial Economics*, 46(3), 265-292.

- Kent, D., Hirshleifer, D., & Subrahmanyam, A. (1998). Investor psychology and security market under- and overreactions. *The Journal of Finance*, *53*(6), 1839-1885.
- Kryzanowski, L., & Zhang, H. (1992). The contrarian investment strategy does not work in Canadian markets. *Journal of Financial and Quantitative Analysis*, 27(3), 383-395.
- Lakonishok, J., Shleifer, A., & Vishny, R. W. (1994). Contrarian investment, extrapolation, and risk. *The Journal of Finance*, 49(5), 1541-1578.
- Lee, C., & Ready, M. J. (1991). Inferring trade direction from intraday data. *The Journal of Finance*, 46(2), 733-746.
- Lee, C., & Swaminathan, B. (2000). Price momentum and trading volume. *The Journal of Finance*, 55(5), 2017-2069.
- Lee, K.-H. (2011). The world price of liquidity risk. *Journal of Financial Economics*, 99(1), 136-161.
- Lefevre, E. (2012). *Reminiscences of a stock operator* (Vol. 176). New Jersey, USA: John Wiley & Sons.
- Lesmond, D. A., Ogden, J. P., & Trzcinka, C. A. (1999). A new estimate of transaction costs. *Review of Financial Studies*, 12(5), 1113-1141.
- Lesmond, D. A., Ogden, J. P., & Trzcinka, C. A. (2004). The illusory nature of momentum profits. *Journal of Financial Economics*, 71(2), 349-380.
- Lewellen, J. (2002). Momentum and autocorrelation in stock returns. *Review of Financial Studies*, 15(2), 533-564.
- Li, X., Brooks, C., & Miffre, J. (2009). Transaction costs, trading volume and momentum strategies. Retrieved from http://ssrn.com/abstract=1406475
- Li, X., Miffre, J., Brooks, C., & O'Sullivan, N. (2008). Momentum profits and time-varying unsystematic risk. *Journal of Banking & Finance*, 32(4), 541-558.
- Liu, C., & Lee, Y. (2001). Does the momentum strategy work universally? Evidence from the Japanese stock market. *Asia-Pacific Financial Markets*, 8(4), 321-339.
- Liu, M., Liu, Q., & Ma, T. (2011). The 52-week high momentum strategy in international stock markets. *Journal of International Money and Finance*, 30(1), 180-204.
- Lo, A. W., & MacKinlay, A. C. (1990). When are contrarian profits due to stock market overreaction? *Review of Financial Studies*, *3*(2), 175-205.
- Marshall, B. R., Nguyen, N. H., & Visaltanachoti, N. (2013). Time-series momentum versus moving average trading rules *17th New Zealand Finance Colloquium* (Dunedin, New Zealand:
- Mengoli, S. (2004). On the source of contrarian and momentum strategies in the Italian equity market. *International Review of Financial Analysis*, 13(3), 301-331.
- Menkhoff, L., Sarno, L., Schmeling, M., & Schrimpf, A. (2012). Currency momentum strategies. *Journal of Financial Economics*, 106(3), 660-684.
- Moskowitz, T., Ooi, Y. H., & Pedersen, L. H. (2012). Time series momentum. *Journal of Financial Economics*, 104(2), 228-250.
- Moskowitz, T. J., & Grinblatt, M. (1999). Do industries explain momentum? *The Journal of Finance*, 54(4), 1249-1290.
- Muga, L., & Santamaría, R. (2009). Momentum, market states and investor behavior. *Empirical Economics*, 37(1), 105-130.
- Nijman, T., Swinkels, L., & Verbeek, M. (2004). Do countries or industries explain momentum in Europe? *Journal of Empirical Finance*, 11(4), 461-481.
- Odean, T., & Barber, B. (1999). The courage of misguided convictions: The trading behavior of individual investors. *Financial Analysts Journal*, 55(6), 41-55.
- Pan, M. S., & Hsueh, L. P. (2007). International momentum effects: A reappraisal of empirical evidence. *Applied Financial Economics*, 17(17), 1409-1420.
- Parmler, J., & Gonzalez, A. (2007). Is momentum due to data-snooping? *European Journal of Finance*, 13(4), 301-318.
- Pastor, L., & Stambaugh, R. F. (2001). *Liquidity risk and expected stock returns*. National Bureau of Economic Research
- Petersen, M. A., & Fialkowski, D. (1994). Posted versus effective spreads: Good prices or bad quotes? *Journal of Financial Economics*, 35(3), 269-292.

- Phua, V., Chan, H., Faff, R., & Hudson, R. (2010). The influence of time, seasonality and market state on momentum: Insights from the Australian stock market. *Applied Financial Economics*, 20(20), 1547-1563.
- Rey, D. M., & Schmid, M. M. (2007). Feasible momentum strategies: Evidence from the Swiss stock market. *Financial Markets and Portfolio Management*, 21(3), 325-352.
- Roll, R. (1984). A simple implicit measure of the effective bid-ask spread in an efficient market. *The Journal of Finance*, *39*(4), 1127-1139.
- Rouwenhorst, K. G. (1998). International momentum strategies. *The Journal of Finance*, 53(1), 267-284
- Schiereck, D., De Bondt, W., & Weber, M. (1999). Contrarian and momentum strategies in Germany. *Financial Analysts Journal*, *55*(6), 104-116.
- Sharpe, W. F. (1998). The sharpe ratio. In P. L. Bernstein & F. J. Fabozzi (Eds.), *Streetwise–the Best of the Journal of Portfolio Management* (pp. 169-185). USA: Princeton University Press.
- Siganos, A. (2010). Can small investors exploit the momentum effect? Financial Markets and Portfolio Management, 24(2), 171-192.
- Statman, M. (1999). Behaviorial finance: Past battles and future engagements. *Financial Analysts Journal*, 55(6), 18-27.
- Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, 185(4157), 1124-1131.
- Wang, J., & Wu, Y. (2011). Risk adjustment and momentum sources. *Journal of Banking & Finance*, 35(6), 1427-1435.
- Yufeng, H., Ke, Y., & Guofu, Z. (2013). A New Anomaly: The Cross-Sectional Proftability of Technical Analysis. *Journal Of Financial & Quantitative Analysis*, 48(5), 1-33.

Appendix

Appendix 1. Determining the cut-off points for the time-series momentum strategies

Step 2 (b) – Stock selection (in-sample upper and lower cut-off points): We first estimate the returns for each stock over the formations period, named formation return, and then calculate the mean and standard deviation of these returns over the whole sample period. Assuming these returns are normal distributed, we determine the cut-offs that will result in the required number of stocks being allocated to either winner or loser portfolios across the whole sample period. For example, if the number of stocks required is 32%, then the cut-offs would be set at plus and minus one standard deviation from the mean.

The process starts with creating a formation-return matrix which contains average returns of each stock over the formation period (J = three, six, nine and twelve months) at the end of each month if using monthly rebalancing or at the end of each holding period if using buyand-hold portfolio. For example, assume a sample (4 x 12) contains four stocks for 12 months (from month t to month t+12). The first three months (t to t+3) are skipped as preparation periods when the formation period is three months. The matrix (4 x 9) then contains formation returns which are the average returns over the last three months for each stock at end of each month when using monthly rebalancing. The matrix contains formation returns which are the average returns over the last three months at the end of each holding period when using buy-and-hold portfolio construction.

Sample matrix (4 x 12):

	1	2	3	4	5	6	7	8	9	10	11	12
Stock a	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12
Stock b	b1	b2	b3	b4	b5	b6	b7	b8	b9	b10	b11	b12
Stock c	c1	c2	c3	c4	c5	с6	c7	c8	с9	c10	c11	c12
Stock d	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d12

Matrix (4 x 9) of formation return if monthly rebalancing:

		4	5	6	7	8	9	10	11	12
Stock a		ave(a1,a2,a3)	ave(a2,a3,a4)							
Stock b										
Stock c										
Stock d										ave(d9,d10,d11)

The upper and lower levels are set by the cut-offs at x% standard deviation above, and x% standard deviation below, the mean of the formation-return matrix. Adjusting the scale factor x% can determine the upper and lower cut-offs in time-series momentum strategies in order to have the same (or closed) number of stocks as the one used in cross-sectional momentum strategies, with different cut-offs, such as 16% or 30%. Winner portfolios contain stocks that are above the upper level whereas loser portfolios contain stocks that are below the lower level.

This is an effective "in-sample" means of calculating the cut-offs as they are based on the mean and standard deviations of the returns of the stocks in the each market *over the entire sample period*. In addition, the study also determined which stocks were "out-of-sample" by setting new cut-offs at each calendar month based on the history of stock returns available at the time.

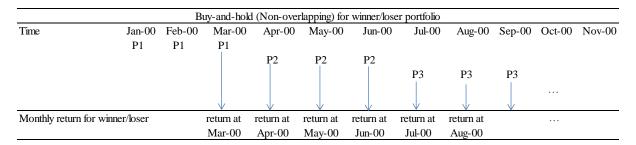
Step 2 (c) – Stock selection (out-of-sample upper and lower cut-off points): Rather than using the entire sample period to determine the cut-offs and then applying them each time portfolio is formed, at each period we set the cut-offs by using the mean plus and minus one standard deviation from the mean based on the sample where return of each stock over the

formation period. All eligible stocks above upper levels (or below lower levels) where the levels are one standard deviation above (or below) the mean based on their J-month (J = three, six, nine and twelve months) formation returns, are selected as winners and losers at the end of each month t if month rebalancing is being used, or at the end of each holding period t+H if using buy-and-hold is being used. The upper and lower levels *vary* over different time periods. The "out-of-sample" method provides a robustness check for comparing cross-sectional and time-series momentum strategies while investing in approximately one-third of the sample.

Appendix 2. Momentum implementation examples

Chart 10.1 displays an example for a 3x3 (J x H) time-series momentum portfolio with BHAR (0). All eligible stocks in the market are assigned to a winner or loser portfolios based on whether their average returns over the past J months (J = 3) are above or below the predetermined cut off point or points (see Section 4.2.2. for estimating pre-determined cut-off levels in the time-series momentum strategy). For instance, winner (loser) portfolio P2 comprises stocks with returns higher (lower) than the cut-off point over the previous January to March period. The portfolio will be held for next H (H = 3) months, which in the case are April, May and Jun. This procedure is rolled forward at the end of each holding period of H months to produce new winner, loser and momentum portfolios.

Chart 10.1. 3x3 momentum portfolio with buy-and-hold (BHAR (0)) implementation



After re-structure, the buy-and-hold portfolio can be shown as:

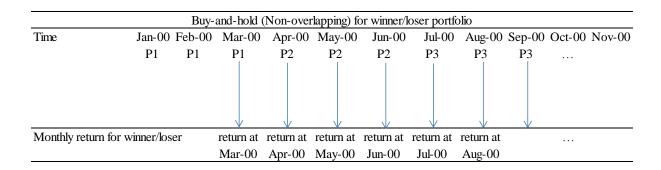
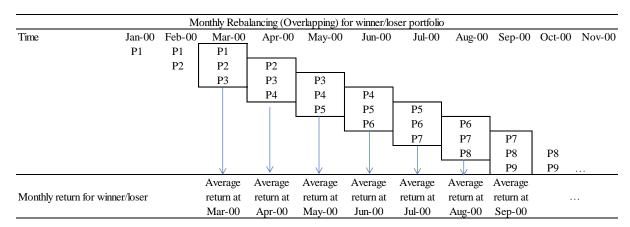


Chart 10.2 (A) shows an example for a 3x3 momentum portfolio with CAR (0). The monthly rebalancing framework can be built by rebalancing (repeating the above stock selection

procedure) the winner and loser portfolios monthly. In fact, the framework of monthly rebalancing is achieved by creating multiple buy-and-hold portfolios. The number of buy-and-hold portfolios in monthly rebalancing is controlled by the holding periods H. For example, 3x3 monthly rebalancing is achieved by creating three buy-and-hold portfolios. The first buy-and-hold portfolio starts at the beginning of the testing period t, the second buy-and-hold portfolio starts one-month later t+1, and the third buy-and-hold portfolio starts two months later t+2. By the time that the forth buy-and-hold portfolio starts at t+3, it is the end of holding period for the first portfolio.

Chart 10.3 shows the example of a 3x3 momentum construction with a one-month gap.

Chart 10.2(A). Monthly rebalancing (Overlapping) implementation strategy



Re-structure location of the portfolio

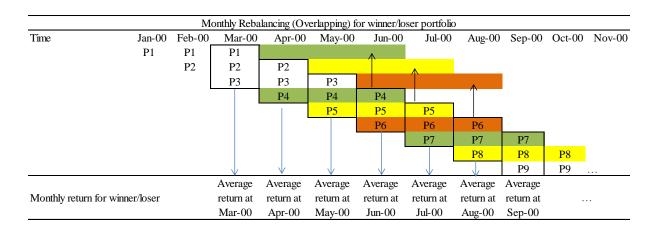


Chart 10.2(B). Monthly rebalancing portfolio construction is consistent with H numbers of buy-and-hold portfolios

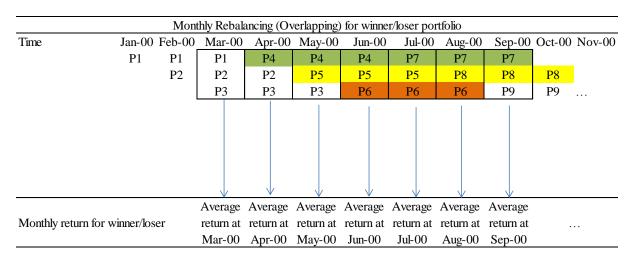


Chart 10.3. 3x3 momentum constructions with one-month gap

Formation period (3 months)

Jan-00 Feb-00 Mar-00 Apr-00 May-00 Jun-00 Jul-00

1-Month Gap

Appendix 3. Momentum results on raw, net and risk-adjusted returns (Investing around 32% of the universe)

Table 5.1. Monthly raw returns of time-series momentum strategy under different implementations

This table reports the average monthly returns for 16 (J x H) time-series momentum strategies across the 24 stock markets along with an indication of significant level based on the Newey–West adjusted t-statistics. At the end of each month if using monthly rebalancing or at the end of each holding period if using buy-and-hold portfolio construction, stocks in each market are selected into winner (loser) portfolio if average stock return over past J (J = 3, 6, 9 and 12 months) is above pre-determined symmetric upper (lower) level. The pre-defined upper and lower cut-offs for each market are reported in the appendix. All stocks in the winner and loser portfolios are equally weighted in Panel A, market value weighted in Panel B and inversed volatility weighted in Panel C. Following Moskowitz et al. (2012), inversed volatility weighting scheme is given lower proportion to higher volatile stocks in the portfolio; that is the weight of the stock in portfolio is estimated by an inverse proportion of its *ex-ante* volatility from daily returns over J (J = 3, 6, 9 and 12 months). The proportions of stocks in the portfolios remain same during the H (H = 3, 6, 9 and 12 months) holding period. We implement portfolio constructions as in Jegadeesh and Titman (1993) for buy-and-hold and monthly-rebalancing. For buy-and-hold (BHAR), the procedure is rolling forward at the end of each H holding period to generate a new winner and loser portfolios. For monthly-rebalancing (CAR), the procedure is rolling forward at the end of each month to produce an overlapping winner (loser) portfolio which contains of winner (loser) portfolio of the past J month. The return of the winner (loser) portfolio is then the simple average return of the H numbers of winner (loser) portfolios. CAR (1) and BHAR (1) indicates one-month gap between the formation and the holding periods to avoid the bid-ask bounce, whereas CAR (0) and BHAR (0) indicates no gap between the formation and the holding periods. The return on momentum portfolio is then estimated

Panel A. The time-series momentum using equal-weighted return

EW	J =		3				6				9				1:	2	-
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAI	JA																
CAR (0)		0.24%	0.28%	0.25%	0.17%	0.62%	0.45%	0.36%	0.14%	0.71%	0.57%	0.36%	0.09%	0.56%	0.26%	0.07%	-0.13%
		0.8154	1.2369	1.4465	1.0918	2.0125	1.7526	1.6725	0.7216	2.3626	2.0984	1.5041	0.4128	1.5427	0.8610	0.2552	-0.5527
CAR (1)		0.77%	0.53%	0.40%	0.21%	0.82%	0.57%	0.32%	0.09%	0.88%	0.56%	0.27%	-0.01%	0.40%	0.17%	-0.08%	-0.24%
		3.0025	2.7361	2.5452	1.3711	2.9689	2.5340	1.6176	0.4559	3.1108	2.2150	1.1741	-0.0465	1.1410	0.5824	-0.3148	-1.0490
BHAR (0)		0.36%	0.28%	0.16%	0.09%	0.60%	0.45%	0.05%	-0.16%	0.65%	0.48%	0.41%	0.27%	0.21%	-0.06%	-0.08%	-0.08%
		1.1560	1.0552	0.6231	0.3255	1.7185	1.3592	0.1458	-0.5214	1.9911	1.6839	1.6436	0.9343	0.4029	-0.1271	-0.1987	-0.1653
BHAR (1)		0.84%	0.25%	0.05%	0.04%	0.85%	0.55%	-0.11%	-0.32%	0.64%	0.28%	0.41%	0.15%	0.15%	0.00%	-0.40%	-0.40%
		3.1193	0.9752	0.1662	0.1405	2.6656	2.0362	-0.3541	-1.0437	1.8518	0.9162	1.6896	0.5004	0.3327	-0.0063	-1.0067	-0.9590
AUSTRI	A																
CAR (0)		0.76%	0.85%	0.82%	0.80%	1.08%	1.10%	1.14%	0.96%	1.31%	1.30%	1.10%	0.87%	1.48%	1.23%	1.03%	0.71%
		2.2292	2.8991	3.1324	3.5347	2.2714	2.7847	3.0976	2.8142	2.9492	3.1491	2.8086	2.4709	3.1785	2.9470	2.6453	2.0696
CAR (1)		1.37%	1.04%	0.95%	0.83%	1.23%	1.13%	1.12%	0.88%	1.56%	1.27%	1.05%	0.81%	1.37%	1.11%	0.86%	0.57%
		3.6894	3.6097	3.6523	3.7079	2.5891	2.9100	3.0664	2.6563	3.6929	3.1015	2.7478	2.4191	2.9910	2.6652	2.3100	1.6870
BHAR (0)		1.15%	1.04%	1.07%	0.76%	1.41%	1.26%	1.11%	1.22%	1.42%	1.13%	1.06%	1.33%	1.33%	0.80%	1.07%	0.05%
		2.8107	2.7249	2.2117	2.1139	2.5663	2.3782	2.2568	3.0622	2.9539	1.9837	2.3572	2.5334	2.5019	1.4581	2.0779	0.1109
BHAR (1)		1.94%	1.06%	1.28%	0.75%	1.57%	1.13%	1.01%	1.13%	1.14%	0.66%	1.09%	1.00%	1.11%	0.78%	0.59%	0.18%
		4.4724	2.5926	2.7928	2.0701	2.8832	2.0585	2.1231	2.9034	2.3241	1.0621	2.3210	1.9382	2.0323	1.4288	1.1715	0.3858
BELGIU	M																
CAR (0)		0.93%	1.00%	0.92%	0.89%	1.35%	1.21%	1.17%	0.99%	1.25%	1.32%	1.13%	0.98%	1.57%	1.41%	1.22%	1.05%
		3.5012	4.3336	4.4346	4.4923	4.0533	3.7492	3.8600	3.6683	3.2819	3.7961	3.5007	3.2653	3.5639	3.6322	3.4081	3.1144
CAR (1)		1.31%	1.05%	1.02%	0.90%	1.46%	1.22%	1.12%	0.92%	1.40%	1.29%	1.09%	0.93%	1.71%	1.37%	1.18%	0.99%
		5.1982	4.5885	4.8380	4.7297	4.4429	3.7105	3.7640	3.4907	3.5351	3.7526	3.4425	3.1484	4.1155	3.6944	3.3825	3.0125
BHAR (0)		1.10%	0.77%	0.71%	0.75%	1.27%	1.13%	0.86%	1.22%	1.25%	1.45%	1.27%	1.39%	1.58%	1.42%	1.15%	0.66%
		3.4890	2.2841	2.5045	2.0530	3.2682	2.7709	2.3212	3.6865	3.0413	3.0905	2.8527	3.4047	3.6382	3.3929	3.1932	1.7845
BHAR (1)		1.08%	0.54%	0.66%	0.72%	1.53%	0.98%	0.73%	1.18%	1.26%	1.43%	1.23%	1.16%	1.42%	1.37%	0.97%	0.66%
		3.3874	1.3155	2.3187	1.9379	4.1124	2.3020	1.8575	3.6467	2.8287	3.0860	3.0497	2.8006	3.5727	3.4034	2.7862	1.7422
CANAD	A																
CAR (0)		0.84%	0.78%	0.80%	0.79%	1.28%	1.18%	1.12%	0.84%	1.47%	1.29%	1.00%	0.65%	1.43%	1.06%	0.78%	0.44%
		2.7039	3.1331	3.6091	4.2652	3.8282	3.9960	4.2777	3.5701	4.3567	4.0245	3.4163	2.4638	4.0719	3.3398	2.5865	1.6082
CAR (1)		1.17%	0.92%	0.94%	0.77%	1.50%	1.31%	1.12%	0.72%	1.57%	1.23%	0.87%	0.47%	1.29%	0.89%	0.60%	0.24%
		4.0067	3.6301	4.4111	4.3609	4.4072	4.3843	4.3228	3.0738	4.4036	3.8803	3.0475	1.7965	3.7020	2.7982	2.0121	0.8797
BHAR (0)		0.89%	0.66%	0.82%	0.67%	1.15%	0.93%	1.02%	0.50%	1.59%	1.24%	0.92%	0.61%	1.45%	0.91%	0.76%	0.51%
		2.3483	1.7577	2.3732	2.0669	3.0006	2.5548	2.6619	1.4813	4.4128	3.2597	2.6232	1.7332	3.7743	2.4517	2.0975	1.4681
BHAR (1)		1.08%	0.86%	1.02%	0.66%	1.44%	1.15%	1.03%	0.34%	1.75%	1.31%	0.84%	0.57%	1.30%	0.73%	0.59%	0.28%
		3.0655	2.5016	3.4405	2.0716	3.7697	3.1552	2.7762	1.0060	4.7828	3.4954	2.4861	1.5751	3.4574	2.0229	1.6999	0.8863

EW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	K															•	
CAR (0)		1.22%	1.26%	1.21%	1.15%	1.70%	1.53%	1.51%	1.30%	1.71%	1.75%	1.51%	1.29%	1.73%	1.75%	1.57%	1.40%
		4.4015	5.7916	6.7652	6.8585	5.2638	5.4690	5.8570	5.1471	4.5992	5.5172	5.0716	4.4361	4.7532	5.1274	4.6832	4.3795
CAR (1)		1.47%	1.35%	1.27%	1.12%	1.57%	1.52%	1.42%	1.16%	1.88%	1.75%	1.43%	1.20%	1.83%	1.72%	1.49%	1.30%
		6.1293	6.3640	7.1262	6.4557	4.4874	5.3627	5.2364	4.3915	5.5532	5.8321	4.7452	4.1564	5.0496	5.0527	4.4619	4.1132
BHAR (0)		1.13%	1.03%	0.76%	0.89%	1.52%	1.58%	1.50%	1.67%	1.92%	1.49%	1.65%	1.30%	1.65%	1.66%	1.13%	1.10%
		3.5218	3.1912	2.5554	2.0605	4.1989	4.7020	4.6749	5.5928	6.0431	3.5224	4.9273	4.0979	3.9179	4.0822	2.8136	2.6493
BHAR (1)		1.44%	1.29%	0.91%	1.06%	1.45%	1.67%	1.19%	1.54%	2.01%	1.71%	1.56%	1.25%	1.74%	1.79%	1.24%	1.08%
		5.0214	4.0622	2.5512	2.5483	3.7160	4.9371	3.4312	5.4090	5.1648	4.0772	4.9684	3.9041	4.1496	4.9450	3.2636	2.7890
FINLAN	D																
CAR (0)		0.87%	0.55%	0.65%	0.61%	1.26%	1.09%	1.06%	0.88%	1.41%	1.37%	1.06%	0.76%	1.50%	1.16%	0.81%	0.61%
		2.1099	1.5496	1.9496	1.9865	3.1929	3.1021	3.0208	2.4838	3.2084	2.9015	2.2477	1.6706	2.6676	2.1504	1.5489	1.2366
CAR (1)		1.06%	0.71%	0.73%	0.66%	1.28%	1.25%	0.97%	0.87%	1.39%	1.25%	0.89%	0.63%	1.40%	0.95%	0.66%	0.51%
		2.7072	1.9032	2.2527	2.1910	3.3958	3.5958	2.7138	2.4509	2.8007	2.4255	1.8007	1.3660	2.4132	1.7214	1.2516	1.0392
BHAR (0)		0.79%	-0.10%	1.05%	0.84%	1.05%	1.13%	0.21%	0.69%	1.15%	0.99%	1.01%	0.34%	1.60%	1.88%	1.10%	1.05%
		1.4413	-0.1675	2.1249	1.2767	1.9782	1.9743	0.3525	1.2742	2.4666	1.5988	1.8170	0.6103	2.4378	3.1006	1.7024	1.9072
BHAR (1)		1.09%	-0.14%	1.16%	0.98%	1.02%	1.32%	0.19%	0.59%	1.16%	1.06%	0.69%	0.43%	1.35%	1.49%	0.98%	1.04%
		2.3092	-0.2362	2.3803	1.5040	2.0346	2.1384	0.3060	1.1043	2.1740	1.7762	1.1757	0.7440	2.0855	2.3112	1.5219	1.9857
FRANCI	Ε																
CAR (0)		-0.14%	0.39%	0.44%	0.51%	0.46%	0.73%	0.82%	0.74%	0.67%	0.92%	0.85%	0.74%	0.86%	0.97%	0.85%	0.69%
		-0.5360	1.9417	2.5632	3.2875	1.6086	3.1693	4.0081	3.7193	2.4331	3.6074	3.4358	3.1721	2.8662	3.4555	3.2429	2.7334
CAR (1)		0.89%	0.77%	0.74%	0.67%	1.07%	1.03%	0.99%	0.80%	1.25%	1.12%	0.95%	0.77%	1.20%	1.06%	0.86%	0.68%
		3.8516	4.1923	4.6690	4.5892	4.1935	4.8490	4.8803	4.1773	4.7657	4.4000	3.8322	3.3842	4.1443	3.8711	3.2972	2.7279
BHAR (0)		-0.10%	0.23%	0.66%	0.16%	0.53%	0.68%	0.67%	0.52%	0.65%	0.90%	0.92%	0.80%	0.82%	0.86%	0.88%	0.61%
		-0.3128	0.8288	2.4788	0.5732	1.6797	2.6429	2.2047	2.0457	2.1582	2.9866	3.3085	2.9959	2.6900	2.8313	3.2195	2.4370
BHAR (1)		0.84%	0.64%	0.91%	0.45%	1.10%	0.96%	0.82%	0.56%	1.14%	1.04%	0.92%	0.58%	1.06%	0.83%	0.88%	0.60%
		3.1635	2.4529	3.5733	1.7646	4.1890	3.8962	2.8237	2.3520	3.9037	3.4534	3.1616	2.0676	3.3768	2.8293	3.2442	2.3359
GERMAN	ΙΥ																
CAR (0)		1.05%	0.99%	0.88%	0.81%	1.21%	1.10%	1.07%	0.80%	1.42%	1.33%	1.09%	0.87%	1.63%	1.38%	1.15%	0.90%
		3.3633	3.8751	4.2274	4.2885	3.3054	3.5550	3.9124	3.0907	4.0690	4.2785	3.6360	3.0240	4.5527	4.0251	3.6140	2.9838
CAR (1)		1.37%	1.12%	0.93%	0.81%	1.25%	1.17%	1.00%	0.71%	1.61%	1.32%	1.02%	0.80%	1.59%	1.31%	1.02%	0.78%
		4.6033	4.7997	4.7597	4.4967	3.8041	4.1065	3.7820	2.7740	4.8937	4.2931	3.3999	2.7823	4.4425	3.8982	3.2524	2.5927
BHAR (0)		1.12%	1.04%	1.11%	0.58%	1.19%	1.35%	1.01%	0.95%	1.50%	1.20%	1.19%	1.01%	1.50%	1.10%	1.07%	0.81%
		3.2176	3.0059	3.6581	1.6074	2.8936	4.0072	2.6765	2.8729	3.9891	3.0812	3.6066	2.7749	3.8990	3.1350	3.1584	2.5364
BHAR (1)		1.57%	1.11%	1.07%	0.68%	1.08%	1.35%	0.99%	0.67%	1.41%	1.00%	0.95%	0.91%	1.30%	0.87%	0.65%	0.65%
		5.0271	3.3193	3.5821	1.8358	2.8282	4.3020	2.7295	2.0167	3.8717	2.5890	2.6858	2.3432	3.3336	2.5635	1.9267	2.0296

EW	J =		3				6	;			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		0.52%	0.41%	0.13%	0.00%	0.65%	0.50%	0.23%	-0.05%	0.35%	0.24%	0.03%	-0.14%	0.07%	-0.07%	-0.33%	-0.42%
		0.8770	0.9078	0.3402	-0.0067	0.8316	0.7557	0.4278	-0.0963	0.4299	0.3527	0.0430	-0.2480	0.0869	-0.0950	-0.5098	-0.7159
CAR (1)		0.52%	0.38%	0.15%	-0.02%	0.85%	0.38%	0.21%	-0.14%	0.16%	0.17%	-0.11%	-0.21%	0.20%	-0.08%	-0.40%	-0.40%
		0.9350	0.9061	0.4079	-0.0538	1.1511	0.6320	0.3999	-0.2987	0.2068	0.2651	-0.1880	-0.3772	0.2392	-0.1022	-0.6343	-0.6666
BHAR (0)		0.68%	1.21%	0.80%	1.33%	1.19%	1.19%	0.22%	0.05%	1.21%	1.01%	-0.44%	1.09%	0.27%	-0.63%	0.41%	-0.72%
		0.8936	1.6876	0.9231	2.0370	1.4308	1.5655	0.3066	0.0598	1.3012	1.0795	-0.5396	1.4651	0.3076	-0.7009	0.4846	-0.9221
BHAR (1)		1.09%	1.49%	0.91%	1.57%	1.30%	0.98%	0.30%	-0.17%	1.39%	1.32%	-0.20%	1.01%	0.63%	-0.65%	0.52%	-0.93%
		1.4651	2.0254	1.0434	2.3928	1.5483	1.3185	0.4089	-0.2250	1.5385	1.4490	-0.2471	1.3106	0.6881	-0.7419	0.6421	-1.2464
HONGKON	IG																
CAR (0)		0.70%	0.69%	0.42%	0.31%	0.91%	0.73%	0.45%	0.28%	0.97%	0.59%	0.37%	0.15%	0.70%	0.32%	0.04%	-0.15%
		2.2337	2.6438	1.7000	1.4520	2.0587	1.6874	1.2696	0.9283	1.8916	1.3705	1.0873	0.4964	1.6994	0.8745	0.1233	-0.4924
CAR (1)		0.69%	0.59%	0.34%	0.14%	0.90%	0.68%	0.35%	0.14%	0.80%	0.38%	0.19%	-0.02%	0.27%	0.05%	-0.17%	-0.31%
		2.4192	2.2564	1.4221	0.6612	1.7993	1.5642	0.9997	0.4710	1.7254	0.9806	0.5812	-0.0516	0.6570	0.1313	-0.5037	-1.0134
BHAR (0)		0.20%	0.28%	0.04%	0.14%	1.23%	0.97%	0.54%	0.55%	0.76%	0.58%	0.42%	0.15%	0.62%	0.40%	0.28%	-0.40%
		0.5192	0.6655	0.0976	0.4021	2.4386	1.9966	1.1614	1.3705	1.1778	0.8844	0.8864	0.2197	1.1798	0.8389	0.6336	-0.9421
BHAR (1)		0.06%	-0.03%	0.01%	0.00%	0.81%	0.82%	0.37%	0.19%	0.44%	0.00%	0.31%	0.01%	-0.18%	-0.10%	-0.19%	-0.61%
		0.1579	-0.0662	0.0245	-0.0066	1.4758	1.7150	0.8437	0.4613	0.7265	0.0030	0.6969	0.0177	-0.3687	-0.2366	-0.4572	-1.4037
IRELAND)																
CAR (0)		-0.03%	0.06%	0.13%	0.31%	0.24%	0.35%	0.48%	0.53%	0.81%	0.79%	0.86%	0.90%	1.20%	1.01%	0.86%	0.67%
		-0.0536	0.1165	0.3389	0.9323	0.3772	0.6479	0.9907	1.2102	1.2054	1.3322	1.5157	1.7397	1.7045	1.5923	1.4258	1.2358
CAR (1)		0.45%	0.22%	0.31%	0.47%	0.35%	0.42%	0.57%	0.51%	0.75%	0.86%	0.95%	0.87%	1.45%	1.03%	0.83%	0.61%
		0.8044	0.4608	0.8467	1.4329	0.6015	0.8161	1.2044	1.2144	1.1470	1.4577	1.7033	1.7003	2.0705	1.6021	1.3926	1.1462
BHAR (0)		0.46%	-1.21%	-0.64%	0.20%	-0.04%	0.60%	-0.91%	1.99%	0.72%	0.83%	1.31%	0.87%	1.44%	1.14%	0.78%	0.51%
		0.6510	-1.4338	-0.8387	0.2733	-0.0482	0.8744	-1.2549	3.2055	0.9416	1.0433	2.0256	1.1859	1.8827	1.6968	1.0308	0.6723
BHAR (1)		0.14%	-0.94%	-0.75%	0.72%	-0.02%	0.54%	-0.48%	1.55%	0.52%	1.12%	1.13%	0.71%	1.64%	0.76%	0.96%	0.58%
TOD A FIX		0.1999	-1.1637	-0.9638	1.0320	-0.0290	0.7481	-0.6940	2.7706	0.6545	1.5585	1.6997	1.0140	2.3468	1.1755	1.2463	0.7260
ISRAEL		0.510/	0.250/	0.210/	0.250/	0.000/	0.110/	0.140/	0.110/	0.010/	0.000/	0.160/	0.050/	0.250/	0.420/	0.220/	0.050/
CAR (0)		-0.51%	-0.27%	-0.31%	-0.25%	-0.09%	-0.11%	-0.14%	-0.11%	0.01%	0.09%	0.16%	0.05%	0.37%	0.43%	0.32%	0.07%
CAR (1)		-1.8466	-1.2058	-1.6472	-1.4700	-0.2904	-0.3894	-0.5632	-0.4666	0.0188	0.2845	0.5521	0.1980	0.9757	1.2529	1.0046	0.2462
CAR (1)		-0.14%	-0.10%	-0.15%	-0.14%	0.25%	0.10%	-0.02%	-0.04%	0.05%	0.16%	0.14%	0.00%	0.67%	0.55%	0.30%	0.06%
DILAD (0)		-0.4722	-0.4324	-0.8203	-0.8454	0.7458	0.3577	-0.0764	-0.1509	0.1405	0.4931	0.4942	0.0108	1.7331	1.6194	0.9430	0.1947
BHAR (0)		-0.34%	-0.44%	-0.39%	-0.56%	0.06%	0.03%	-0.24%	0.15%	0.02%	0.15%	0.03%	0.58%	0.57%	0.84%	0.33%	0.67%
DILAD (1)		-1.1784	-1.3239	-1.0376	-1.5168	0.1759	0.0998	-0.7617	0.4978	0.0607	0.4471	0.0887	1.7523	1.3327	2.1694	0.8139	1.4149
BHAR (1)		-0.36%	-0.31%	-0.27%	-0.32%	0.01%	-0.04%	-0.19%	0.14%	-0.04%	0.21%	-0.05%	0.63%	1.12%	0.96%	0.27%	0.75%
		-1.0389	-0.9240	-0.7234	-0.8270	0.0354	-0.1126	-0.6400	0.4845	-0.1003	0.5931	-0.1217	1.9373	2.2505	2.3584	0.6526	1.4699

EW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		1.41%	1.21%	1.21%	1.17%	1.56%	1.66%	1.45%	1.23%	1.88%	1.90%	1.75%	1.44%	1.99%	1.94%	1.64%	1.37%
		4.5876	4.7266	5.1982	5.3335	3.8958	5.2642	4.9215	4.5309	4.4195	5.5419	5.3104	4.7149	5.1180	5.5520	5.1691	4.5226
CAR (1)		1.39%	1.23%	1.20%	1.16%	1.52%	1.57%	1.40%	1.09%	1.91%	1.92%	1.59%	1.31%	1.83%	1.81%	1.44%	1.20%
		4.4472	4.8308	5.0151	5.3284	4.1537	5.0179	4.8408	4.0790	5.1144	5.8253	5.0064	4.3581	5.0110	5.3781	4.6902	4.0269
BHAR (0)		1.16%	0.37%	0.77%	0.45%	1.57%	1.29%	1.35%	0.58%	1.74%	1.49%	1.56%	1.01%	1.96%	1.61%	1.30%	1.27%
		2.7747	1.0049	2.2608	1.2391	3.7106	2.9985	4.0593	1.4736	3.7808	3.1731	3.6955	2.4521	4.1320	3.5848	3.0915	2.5581
BHAR (1)		1.16%	0.33%	1.12%	0.63%	1.17%	1.24%	1.34%	0.36%	1.73%	1.51%	1.43%	1.12%	1.68%	1.56%	1.18%	1.17%
		3.1471	0.8677	3.3813	1.7009	2.9674	2.7129	3.7768	0.9302	3.8257	3.2800	3.2880	2.8299	3.6422	3.4967	2.6659	2.3866
JAPAN																	
CAR (0)		0.30%	0.06%	0.05%	0.16%	0.17%	0.12%	0.22%	0.16%	0.19%	0.29%	0.24%	0.11%	0.40%	0.25%	0.14%	0.05%
		1.1930	0.2923	0.2413	0.9818	0.5690	0.4545	0.9354	0.7528	0.6388	1.0308	0.9285	0.4602	1.2584	0.8522	0.5237	0.1993
CAR (1)		0.28%	0.06%	0.13%	0.15%	0.12%	0.19%	0.25%	0.08%	0.38%	0.35%	0.24%	0.06%	0.37%	0.21%	0.11%	0.00%
		1.2134	0.2620	0.7108	0.9028	0.4125	0.7083	1.1080	0.4031	1.3191	1.2679	0.9581	0.2556	1.1777	0.7221	0.4039	-0.0174
BHAR (0)		0.21%	0.24%	0.30%	0.44%	0.37%	0.29%	0.26%	0.67%	0.30%	0.48%	0.34%	0.23%	0.45%	0.35%	0.24%	-0.01%
		0.7177	0.8738	1.0069	1.4874	1.1058	0.8962	0.7883	2.6261	0.9562	1.5185	1.1663	0.8216	1.4311	1.1015	0.7422	-0.0318
BHAR (1)		0.12%	0.26%	0.25%	0.55%	0.26%	0.19%	0.30%	0.43%	0.28%	0.51%	0.27%	0.04%	0.33%	0.19%	-0.01%	-0.09%
-		0.4618	0.9590	0.8937	2.0609	0.8307	0.6270	0.9817	1.6321	0.9812	1.6988	0.9537	0.1450	1.0114	0.6319	-0.0356	-0.3424
NETHERLAN	NDS																
CAR (0)		1.94%	1.67%	1.47%	1.39%	1.89%	1.58%	1.51%	1.27%	2.02%	1.81%	1.65%	1.42%	1.90%	1.84%	1.60%	1.35%
		5.6128	5.6256	5.5585	5.4244	4.6566	4.3536	4.2961	3.5868	5.3547	4.8173	4.5175	3.7291	4.5080	4.8096	4.1140	3.5173
CAR (1)		1.85%	1.60%	1.41%	1.32%	1.76%	1.61%	1.36%	1.13%	1.90%	1.70%	1.48%	1.29%	1.64%	1.67%	1.38%	1.21%
		5.2631	5.3952	5.3385	5.1662	4.1319	4.2706	3.6562	3.0794	4.6859	4.3503	3.7104	3.2863	3.9255	4.2492	3.4975	3.1620
BHAR (0)		1.98%	1.47%	1.02%	1.54%	1.82%	1.64%	1.65%	2.02%	2.07%	2.34%	1.71%	1.76%	1.77%	2.02%	1.51%	1.29%
		4.8542	3.3050	2.2535	3.0195	3.7958	3.9222	3.4965	5.2273	4.9969	6.1917	4.4464	4.1545	3.9609	4.4660	3.3476	2.8632
BHAR (1)		1.78%	1.33%	0.77%	1.57%	1.79%	1.75%	1.69%	1.95%	2.40%	2.18%	1.57%	1.61%	1.39%	1.64%	1.40%	1.00%
		4.3549	3.3655	1.8273	2.8877	4.0570	4.0705	3.5493	4.8740	5.9269	5.2961	4.0375	3.5944	3.1146	3.6288	3.1097	2.2747
NEWZEALA	ND				1												
CAR (0)		0.83%	0.98%	0.76%	0.76%	1.88%	1.48%	1.35%	1.12%	1.82%	1.72%	1.42%	1.23%	1.99%	1.60%	1.30%	1.11%
		2.4204	3.2118	3.0417	3.8242	3.3930	3.4672	4.2367	4.2136	3.2445	4.1480	4.1538	4.0120	4.3902	4.3201	3.9352	3.6388
CAR (1)		1.25%	1.06%	0.89%	0.72%	1.87%	1.47%	1.30%	1.01%	1.95%	1.62%	1.34%	1.15%	1.82%	1.38%	1.17%	0.97%
		3.5922	3.5605	3.7969	3.7944	3.7835	3.9483	4.5579	4.1435	4.0170	4.4418	4.3377	3.9530	4.3572	3.9181	3.6452	3.2455
BHAR (0)		0.81%	1.07%	0.60%	0.23%	1.56%	1.45%	0.68%	0.92%	1.73%	1.41%	1.60%	1.24%	2.28%	2.10%	1.34%	1.17%
		2.0938	2.5950	1.5378	0.5960	3.1068	3.6109	1.4468	2.5818	3.6064	3.4796	4.4822	3.4591	4.4719	4.2977	2.7952	2.6903
BHAR (1)		1.24%	0.96%	0.54%	0.09%	1.71%	1.23%	0.79%	0.59%	2.10%	1.57%	1.61%	1.33%	1.94%	1.51%	1.00%	1.06%
		2.8403	2.2613	1.3224	0.2275	3.2840	3.2253	1.7238	1.6486	4.6893	3.9911	4.4140	3.6721	4.2141	3.6413	2.3617	2.5873

EW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	Z																
CAR (0)		0.78%	0.95%	0.86%	0.76%	0.90%	0.96%	0.78%	0.60%	1.09%	0.99%	0.71%	0.32%	1.22%	0.90%	0.56%	0.28%
		1.6740	2.4887	2.9123	2.9340	1.6654	2.2445	2.2083	1.7964	2.2115	2.1788	1.6736	0.8128	2.2975	1.8178	1.2249	0.6678
CAR (1)		0.78%	0.97%	0.93%	0.71%	1.12%	1.07%	0.81%	0.42%	1.14%	0.83%	0.51%	0.09%	0.88%	0.61%	0.29%	0.04%
		1.5302	2.6862	3.2123	2.7275	2.2956	2.8648	2.4341	1.2834	2.3260	1.8433	1.1842	0.2261	1.6533	1.2366	0.6441	0.0978
BHAR (0)		0.71%	1.12%	0.30%	0.38%	0.80%	0.70%	0.31%	1.09%	2.11%	1.40%	0.90%	0.74%	1.64%	1.58%	0.70%	0.94%
		1.3519	2.0604	0.6867	0.8867	1.2619	1.0578	0.5351	2.3801	3.4745	2.3662	1.5186	1.2083	2.8226	2.5872	1.3060	1.6200
BHAR (1)		0.87%	1.38%	0.50%	0.29%	1.46%	0.88%	0.19%	0.69%	1.80%	1.10%	0.68%	0.38%	1.23%	1.20%	0.77%	0.65%
		1.6212	2.7291	1.1598	0.6245	2.3335	1.5244	0.3434	1.5423	3.0430	1.7613	1.1510	0.6224	2.0174	1.9362	1.4549	1.0510
PORTUGA	L																
CAR (0)		-0.88%	0.01%	0.18%	0.12%	-0.25%	0.15%	0.27%	0.20%	-0.45%	0.10%	0.14%	0.11%	-0.45%	-0.16%	0.09%	0.06%
		-1.8036	0.0172	0.6085	0.4532	-0.4617	0.3230	0.6430	0.5167	-0.8826	0.1968	0.3122	0.2607	-0.7729	-0.3072	0.1916	0.1336
CAR (1)		0.24%	0.71%	0.44%	0.44%	0.52%	0.66%	0.48%	0.38%	0.26%	0.41%	0.30%	0.27%	-0.04%	0.15%	0.24%	0.11%
		0.4834	2.0616	1.5630	1.7292	1.0002	1.4110	1.1581	0.9707	0.5068	0.7973	0.6749	0.6221	-0.0734	0.2876	0.5257	0.2741
BHAR (0)		-0.38%	0.82%	0.73%	0.66%	0.15%	0.65%	0.93%	0.66%	-0.79%	-0.07%	0.09%	0.55%	-0.63%	-0.45%	0.19%	-0.03%
		-0.6596	1.2563	1.1714	1.0275	0.2109	0.9793	1.4802	0.9957	-1.4956	-0.1128	0.1561	0.9761	-1.0169	-0.8086	0.3852	-0.0571
BHAR (1)		0.09%	1.04%	0.98%	0.70%	1.10%	0.89%	1.19%	0.59%	0.12%	0.57%	0.31%	0.62%	-0.24%	-0.32%	0.16%	-0.23%
		0.1490	1.8053	1.6099	1.1769	1.8071	1.6463	2.0418	1.0373	0.2047	0.9756	0.6297	1.0236	-0.4077	-0.5965	0.3228	-0.4398
SINGAPOR	RE																
CAR (0)		1.02%	1.23%	0.94%	0.76%	1.02%	1.09%	0.84%	0.64%	1.30%	1.07%	0.82%	0.62%	1.14%	0.99%	0.74%	0.53%
		2.2404	3.6141	3.3014	2.8969	1.9832	2.7168	2.3331	2.0006	2.6233	2.2712	1.9527	1.6939	2.1324	2.0477	1.6753	1.4071
CAR (1)		1.27%	1.28%	0.93%	0.66%	1.27%	1.09%	0.77%	0.50%	1.07%	0.91%	0.69%	0.44%	1.00%	0.89%	0.62%	0.39%
		2.8426	4.2342	3.3318	2.7247	2.9411	2.9087	2.1385	1.6638	2.1486	1.9459	1.6867	1.2623	1.9084	1.9038	1.5292	1.1213
BHAR (0)		0.85%	0.99%	0.83%	0.28%	1.22%	1.05%	0.65%	0.64%	1.34%	0.71%	0.49%	0.02%	1.11%	1.40%	1.25%	0.75%
		1.5303	2.0230	2.3903	0.6953	1.8802	2.2933	1.1921	1.4064	2.3923	1.2404	1.0415	0.0404	2.0667	2.7902	2.6271	1.7047
BHAR (1)		1.14%	0.46%	0.96%	0.07%	0.77%	1.00%	1.05%	0.65%	0.67%	0.73%	0.63%	-0.08%	0.89%	1.21%	0.77%	0.35%
		2.4130	1.0962	2.6023	0.1621	1.3441	2.0846	1.8064	1.5393	1.1337	1.2237	1.4395	-0.1535	1.5429	2.3012	1.6141	0.7940
SPAIN																	
CAR (0)		0.13%	0.39%	0.51%	0.62%	0.16%	0.34%	0.65%	0.56%	0.24%	0.55%	0.70%	0.50%	1.04%	0.80%	0.77%	0.60%
		0.4084	1.3744	2.0808	2.8605	0.4321	0.9579	2.1268	2.0359	0.5391	1.3046	2.0054	1.5132	2.3766	1.9774	2.0759	1.7066
CAR (1)		0.21%	0.52%	0.61%	0.62%	0.22%	0.57%	0.72%	0.53%	0.52%	0.70%	0.63%	0.47%	0.67%	0.66%	0.62%	0.48%
		0.5587	1.8369	2.5051	2.9053	0.5297	1.5873	2.3606	1.8815	1.1052	1.7432	1.7968	1.4312	1.5003	1.6522	1.6692	1.3515
BHAR (0)		0.29%	-0.35%	0.40%	0.40%	0.02%	0.16%	0.37%	-0.10%	0.50%	0.55%	1.03%	0.26%	1.01%	1.29%	0.76%	0.49%
		0.7907	-0.8070	0.9752	0.9173	0.0371	0.2679	0.6505	-0.2016	0.9927	0.9967	2.0315	0.4642	2.0702	2.7071	1.4610	0.9376
BHAR (1)		0.21%	-0.18%	0.18%	0.32%	0.17%	0.55%	0.75%	-0.18%	0.64%	0.44%	0.86%	0.20%	0.37%	0.93%	0.48%	0.42%
		0.5016	-0.4041	0.4247	0.7138	0.3348	1.0427	1.3893	-0.3649	1.2683	0.7393	1.7633	0.3503	0.7053	1.8710	0.9658	0.7802

EW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		1.02%	1.33%	1.07%	1.01%	1.85%	1.73%	1.49%	1.25%	2.13%	1.94%	1.50%	1.15%	2.34%	1.86%	1.47%	1.16%
		2.3063	3.8089	3.6189	3.9845	3.6875	3.7575	3.7022	3.5571	4.0749	4.0667	3.5116	3.1299	4.7456	3.9392	3.4177	3.0182
CAR (1)		1.59%	1.47%	1.12%	0.97%	2.19%	1.80%	1.51%	1.16%	2.35%	1.71%	1.34%	0.97%	2.28%	1.67%	1.33%	1.03%
		3.8979	4.6752	4.0399	3.8974	4.3648	4.0600	3.9453	3.5267	4.6170	3.7006	3.2669	2.7297	4.8592	3.6877	3.2668	2.7457
BHAR (0)		0.99%	1.23%	0.77%	0.88%	1.81%	1.68%	1.04%	0.96%	2.16%	2.03%	1.46%	0.81%	2.14%	1.79%	1.92%	1.64%
		1.7221	2.7911	1.6812	1.9572	3.0110	3.2036	1.7198	1.9385	3.8352	3.5544	3.0240	1.7189	4.0865	3.5591	3.7493	3.1993
BHAR (1)		1.39%	1.43%	1.02%	0.91%	2.31%	1.91%	1.00%	0.82%	2.32%	1.89%	1.56%	0.70%	2.61%	1.94%	1.82%	1.90%
		2.8110	3.4643	2.4621	1.9855	3.7789	3.5453	1.6451	1.6543	4.0259	3.5742	3.5112	1.4877	5.0139	3.7347	3.5148	3.6712
SWITZERLA	ND																
CAR (0)		1.02%	1.07%	0.96%	0.90%	1.55%	1.50%	1.31%	1.04%	1.82%	1.69%	1.25%	0.95%	1.75%	1.36%	1.03%	0.75%
		4.3862	4.9189	4.9702	5.3089	4.9750	5.3787	5.2435	4.5700	5.5335	5.9468	5.0144	4.1111	5.2722	4.4805	3.7979	3.0000
CAR (1)		1.26%	1.17%	0.98%	0.86%	1.68%	1.49%	1.19%	0.94%	1.73%	1.44%	1.02%	0.77%	1.52%	1.14%	0.83%	0.56%
		5.3957	5.5023	5.2052	5.0722	5.3936	5.5964	4.9227	4.1927	5.3707	5.2561	4.2224	3.3613	4.6483	3.8874	3.1013	2.2515
BHAR (0)		0.85%	1.16%	0.78%	1.49%	1.44%	1.72%	0.95%	1.42%	1.74%	1.85%	1.56%	1.02%	1.72%	1.20%	0.92%	1.00%
		3.0768	3.3950	2.2628	3.8869	4.0884	5.1215	3.1792	3.7521	4.3210	4.8297	4.6183	3.0485	4.7874	3.3062	2.7461	3.3122
BHAR (1)		1.16%	1.31%	0.61%	1.46%	1.70%	1.70%	0.95%	1.32%	1.79%	1.59%	1.33%	0.88%	1.60%	1.21%	0.48%	0.98%
-		4.3676	3.7322	1.7694	3.7143	4.9403	5.0691	3.2825	3.5369	4.6460	4.3596	3.9883	2.5355	4.7133	3.4315	1.5412	3.1191
UK																	
CAR (0)		1.34%	1.32%	1.12%	1.11%	1.87%	1.53%	1.42%	1.24%	1.80%	1.65%	1.41%	1.19%	1.95%	1.62%	1.33%	1.06%
		5.3962	6.4377	6.7948	7.9464	7.0085	6.8658	7.7057	7.2642	6.9306	7.0827	6.5094	5.7281	7.2472	6.2482	5.4293	4.4073
CAR (1)		1.50%	1.27%	1.12%	1.05%	1.70%	1.42%	1.31%	1.10%	1.73%	1.49%	1.28%	1.01%	1.76%	1.44%	1.14%	0.90%
		6.6516	6.7474	7.5270	8.0855	6.8528	6.8322	7.4283	6.5760	7.1990	6.5055	5.9385	4.8660	6.6156	5.5679	4.6473	3.7327
BHAR (0)		1.32%	1.47%	1.39%	1.08%	1.99%	1.76%	1.08%	1.35%	1.83%	1.57%	1.39%	1.15%	1.90%	1.72%	1.34%	1.01%
		4.7737	5.3551	6.1606	3.9464	7.2805	8.1501	4.0484	6.1983	6.8108	5.6278	6.0232	4.7486	6.7712	6.6184	4.7769	4.0785
BHAR (1)		1.61%	1.46%	1.24%	1.04%	1.72%	1.57%	1.01%	1.12%	1.76%	1.39%	1.18%	0.87%	1.82%	1.43%	1.06%	0.79%
		6.5079	5.7498	6.0713	3.8818	6.9042	8.3876	4.0635	5.3296	7.2089	5.2961	5.0851	3.6164	6.8360	5.6043	3.7145	3.3290
US					1				-				1				
CAR (0)		0.21%	0.30%	0.25%	0.19%	0.54%	0.49%	0.37%	0.19%	0.63%	0.52%	0.27%	0.06%	0.52%	0.30%	0.07%	-0.12%
		0.9257	1.5580	1.5031	1.2659	2.0435	2.0960	1.7812	0.9520	2.2587	1.9686	1.1059	0.2763	1.7582	1.0385	0.2678	-0.4882
CAR (1)		0.36%	0.36%	0.30%	0.14%	0.62%	0.51%	0.32%	0.10%	0.69%	0.44%	0.19%	-0.05%	0.40%	0.17%	-0.06%	-0.24%
		1.6953	2.0421	1.9266	0.9770	2.5026	2.2799	1.5966	0.4954	2.5243	1.7286	0.7650	-0.2415	1.3775	0.5934	-0.2270	-0.9875
BHAR (0)		0.21%	0.64%	0.32%	0.32%	0.47%	0.40%	0.21%	0.26%	0.67%	0.59%	0.38%	0.08%	0.57%	0.31%	0.15%	-0.05%
		0.8716	2.8520	1.2667	1.3064	1.5935	1.4071	0.6684	1.1406	2.2674	1.9615	1.5837	0.2912	1.8711	0.9831	0.4871	-0.1787
BHAR (1)		0.50%	0.59%	0.34%	0.18%	0.59%	0.37%	0.10%	-0.01%	0.71%	0.44%	0.14%	-0.08%	0.31%	0.06%	-0.06%	-0.26%
		2.3862	2.4958	1.4705	0.6504	2.2967	1.4857	0.3194	-0.0414	2.5367	1.4622	0.5337	-0.2733	1.0042	0.2006	-0.2172	-0.8963

Panel B. The time-series momentum using market-weighted return

MW	J =		3		ICI D. 11	ic time i	6		ii usiiig	market-	9				12)	
171 77	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL					12		0		12		0		12		0		12
CAR (0)		1.70%	1.54%	1.44%	1.21%	2.33%	2.15%	1.77%	1.40%	2.52%	2.22%	1.72%	1.27%	2.14%	1.68%	1.21%	0.85%
		4.2850	4.1671	4.4637	4.2085	5.4847	5.6179	5.1438	4.4751	6.2068	5.8915	4.9813	4.0115	4.6244	4.3540	3.5271	2.6727
CAR (1)		1.87%	1.55%	1.43%	1.08%	2.25%	2.10%	1.59%	1.20%	2.55%	1.98%	1.51%	1.01%	1.66%	1.42%	0.88%	0.58%
		4.4663	4.3251	4.5601	3.8741	5.4555	5.6703	4.7578	4.0360	6.5504	5.4523	4.4940	3.3333	3.8143	3.9662	2.6730	1.8580
BHAR (0)		1.69%	1.05%	1.29%	0.95%	2.15%	2.16%	1.51%	0.84%	2.76%	2.38%	1.38%	1.59%	1.76%	1.42%	0.79%	0.99%
		3.3800	2.2634	2.5915	1.6919	4.5775	4.5535	2.7519	1.9078	6.5381	5.0943	3.1229	3.5801	2.7541	2.4215	1.4331	1.5964
BHAR (1)		1.85%	1.00%	1.19%	1.04%	2.16%	2.20%	1.16%	0.61%	2.39%	1.76%	1.14%	1.38%	1.25%	1.25%	0.42%	0.42%
		4.2055	2.0945	2.3019	1.8884	4.4267	4.8664	2.0555	1.4435	5.2060	3.7329	2.7424	3.1503	2.0188	2.4855	0.7693	0.6904
AUSTRIA	4																
CAR (0)		0.38%	0.41%	0.55%	0.53%	1.05%	1.11%	1.14%	0.86%	1.23%	1.31%	0.96%	0.63%	1.01%	0.92%	0.60%	0.29%
		0.9788	1.1117	1.6473	1.8203	1.8235	2.2813	2.5450	2.0185	2.2196	2.3966	1.8265	1.3636	1.6611	1.6018	1.1731	0.6541
CAR (1)		0.50%	0.51%	0.59%	0.49%	1.05%	1.20%	1.05%	0.73%	1.66%	1.17%	0.87%	0.51%	0.79%	0.78%	0.43%	0.12%
		1.1430	1.4455	1.8112	1.6929	1.7405	2.5032	2.3407	1.7559	2.8873	2.0710	1.7140	1.1530	1.2370	1.3828	0.8993	0.2695
BHAR (0)		0.33%	0.92%	1.16%	0.76%	0.84%	0.77%	0.48%	0.60%	1.24%	1.62%	0.68%	1.33%	0.86%	0.39%	0.63%	-0.53%
		0.5761	1.4548	1.8070	1.4191	1.3360	1.0963	0.7187	1.2590	2.0310	2.1100	1.0533	1.8495	1.3421	0.5488	0.9570	-0.8418
BHAR (1)		0.90%	0.59%	1.31%	0.69%	0.92%	0.88%	0.71%	0.48%	1.19%	0.95%	0.59%	0.77%	0.40%	0.16%	0.14%	-0.57%
		1.4748	0.9004	2.0452	1.2904	1.1434	1.1921	1.0315	1.0608	1.6879	1.1232	0.9237	1.1060	0.5161	0.2357	0.2225	-0.8873
BELGIUN	M																
CAR (0)		0.95%	0.84%	0.88%	0.84%	1.15%	1.04%	1.09%	0.91%	1.21%	1.18%	1.00%	0.81%	1.60%	1.55%	1.26%	1.08%
		2.3879	2.6946	3.2351	3.2193	2.2862	2.2686	2.6358	2.5189	2.5749	2.6202	2.3611	2.0441	2.9577	3.0953	2.6858	2.3226
CAR (1)		1.07%	0.79%	0.94%	0.77%	1.00%	0.99%	1.01%	0.77%	1.28%	1.16%	0.92%	0.70%	1.76%	1.41%	1.19%	0.97%
		2.9790	2.5288	3.3492	3.0817	1.9553	2.1297	2.4606	2.1808	2.6340	2.5620	2.1672	1.7405	3.3664	2.8994	2.5660	2.1196
BHAR (0)		1.11%	1.28%	-0.03%	1.18%	0.59%	0.07%	0.74%	0.89%	0.31%	1.33%	0.89%	1.28%	1.33%	1.05%	0.19%	0.47%
		2.0531	2.5289	-0.0592	1.9981	0.9561	0.1107	1.1699	1.5920	0.5374	2.2354	1.5174	1.8231	2.1512	1.6613	0.3220	0.8288
BHAR (1)		0.89%	0.86%	0.33%	1.35%	1.04%	0.30%	0.61%	0.88%	1.05%	1.57%	0.88%	1.20%	1.13%	1.24%	0.27%	0.66%
		1.7082	1.5368	0.6567	2.3643	1.7166	0.5033	1.0302	1.7319	1.9279	2.5120	1.6131	1.6777	2.0246	2.1188	0.4620	1.1456
CANADA	1								1								
CAR (0)		1.77%	1.55%	1.49%	1.46%	2.29%	2.03%	1.93%	1.73%	2.68%	2.37%	2.08%	1.65%	2.28%	2.24%	1.84%	1.45%
		3.9138	4.0416	4.0585	4.5220	4.4246	4.1573	4.3904	4.0071	4.6522	4.1130	3.7549	2.9574	3.4420	3.6622	3.0786	2.4103
CAR (1)		1.92%	1.44%	1.61%	1.33%	2.13%	2.03%	1.91%	1.54%	2.59%	2.19%	1.87%	1.38%	2.31%	2.09%	1.66%	1.26%
		4.3766	3.5929	4.6409	4.1479	4.1941	4.2108	4.4233	3.5460	4.1108	3.8053	3.2601	2.4013	3.5584	3.4298	2.7233	2.0988
BHAR (0)		1.60%	1.14%	1.42%	0.94%	2.13%	2.50%	3.06%	1.24%	3.13%	2.31%	2.27%	1.35%	2.68%	2.67%	1.77%	1.57%
		2.5099	1.9472	1.8774	1.4000	3.3256	3.6572	4.7563	1.7800	4.9893	3.3421	3.4471	1.8254	3.6993	4.1749	2.3590	2.4708
BHAR (1)		1.84%	1.16%	1.74%	0.87%	2.20%	2.50%	2.62%	0.66%	2.75%	2.22%	1.95%	1.11%	2.36%	2.14%	1.46%	1.15%
		3.1648	1.9237	2.5956	1.2904	3.4786	3.7910	3.8061	0.9569	3.9468	3.3668	2.8233	1.4823	3.2927	3.3753	1.9588	1.7050

MW	J =		3				6	i			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARI	ζ.																
CAR (0)		1.29%	1.29%	1.15%	1.04%	1.70%	1.49%	1.47%	1.25%	1.65%	1.68%	1.42%	1.29%	1.52%	1.54%	1.41%	1.35%
		3.1144	3.7580	4.0028	4.1703	3.7922	3.4927	3.7297	3.4584	2.9751	3.4580	3.2190	2.9982	2.7867	3.1233	2.9198	2.9044
CAR (1)		1.36%	1.17%	1.13%	0.95%	1.44%	1.51%	1.33%	1.11%	1.79%	1.72%	1.39%	1.25%	1.60%	1.56%	1.39%	1.36%
		3.3940	3.5606	4.0988	3.8725	2.8490	3.3617	3.3116	2.9677	3.2629	3.6083	3.1140	2.9090	2.9436	3.1139	2.8770	2.8994
BHAR (0)		0.71%	0.91%	0.17%	0.93%	1.75%	1.03%	0.95%	1.46%	1.69%	1.44%	1.28%	0.94%	1.21%	1.24%	0.54%	1.18%
		1.5367	1.6621	0.3373	1.3969	3.5842	2.0365	2.0419	3.3291	2.9872	2.2844	2.5544	1.8658	1.9330	2.1307	0.8602	1.8981
BHAR (1)		1.10%	1.06%	0.35%	1.06%	1.55%	1.42%	0.80%	1.25%	1.92%	1.88%	1.37%	0.95%	1.40%	1.72%	0.82%	1.47%
		2.2419	1.9425	0.6073	1.6877	2.8475	2.8502	1.5738	2.9964	2.8732	3.1593	2.8544	1.8270	2.3545	3.2887	1.4689	2.5621
FINLAND	ı																
CAR (0)		0.94%	0.96%	1.29%	1.17%	1.55%	1.84%	1.94%	1.74%	1.74%	1.95%	1.79%	1.53%	2.12%	1.86%	1.63%	1.43%
		1.5458	2.0768	2.8142	2.7912	2.5730	3.3336	3.6275	3.2312	2.5813	2.9628	2.7277	2.4412	2.8731	2.5144	2.2728	2.0842
CAR (1)		0.84%	1.27%	1.39%	1.25%	1.85%	2.12%	1.95%	1.78%	1.90%	1.90%	1.66%	1.44%	1.91%	1.73%	1.50%	1.38%
		1.3508	2.5724	3.1213	2.8993	3.0338	3.8669	3.5484	3.2912	2.7096	2.7230	2.4858	2.2743	2.4163	2.2623	2.0489	2.0189
BHAR (0)		0.56%	0.19%	1.74%	1.73%	1.09%	1.87%	1.42%	1.43%	1.67%	1.41%	1.05%	0.26%	1.81%	2.85%	1.88%	2.32%
		0.7156	0.2635	2.2140	1.9467	1.2633	2.2264	1.7411	1.7043	2.1239	1.5876	1.2466	0.2905	2.0413	3.4246	2.1699	2.9980
BHAR (1)		0.92%	0.71%	1.95%	1.92%	1.27%	1.93%	1.35%	1.26%	1.45%	1.68%	0.81%	0.35%	2.03%	2.53%	1.95%	2.44%
		1.1991	0.9196	2.4777	2.1659	1.5311	2.2776	1.6805	1.5564	1.7819	1.9760	0.9924	0.3814	2.3896	3.0064	2.3134	3.3750
FRANCE																	
CAR (0)		-0.42%	0.16%	0.16%	0.26%	-0.09%	0.21%	0.35%	0.36%	-0.01%	0.25%	0.31%	0.29%	-0.05%	0.30%	0.34%	0.28%
		-0.9460	0.4983	0.5909	1.0518	-0.1869	0.5488	1.0288	1.1452	-0.0267	0.7132	0.8942	0.9230	-0.1032	0.7170	0.8786	0.7658
CAR (1)		0.27%	0.37%	0.35%	0.33%	0.37%	0.42%	0.49%	0.42%	0.51%	0.44%	0.46%	0.35%	0.23%	0.42%	0.37%	0.29%
		0.7133	1.3097	1.3647	1.4171	0.8897	1.1271	1.4375	1.3542	1.3642	1.2517	1.3311	1.1050	0.5210	1.0162	0.9685	0.8311
BHAR (0)		-0.53%	0.08%	0.28%	0.09%	0.04%	0.10%	-0.37%	0.25%	0.04%	0.11%	0.28%	0.85%	-0.25%	0.37%	0.49%	0.18%
		-1.0111	0.1489	0.5260	0.1494	0.0692	0.1868	-0.6638	0.4702	0.0939	0.2299	0.7535	1.9978	-0.5007	0.7562	1.1591	0.4314
BHAR (1)		0.22%	0.24%	0.22%	0.59%	0.26%	0.18%	-0.42%	0.17%	0.60%	0.20%	0.59%	0.64%	-0.05%	0.20%	0.46%	0.10%
		0.4349	0.4700	0.4532	0.9670	0.4996	0.3686	-0.7299	0.3111	1.3803	0.3883	1.4687	1.3228	-0.0916	0.3987	1.0546	0.2241
GERMAN	Y																
CAR (0)		1.45%	1.46%	1.47%	1.25%	1.53%	1.57%	1.48%	1.08%	1.61%	1.70%	1.22%	1.03%	1.64%	1.41%	1.24%	0.99%
		3.2269	4.0987	4.7257	4.2750	2.9011	3.4794	3.5139	2.6709	2.8864	3.3514	2.4243	2.1080	2.7480	2.2771	2.0333	1.6867
CAR (1)		1.40%	1.59%	1.43%	1.15%	1.47%	1.61%	1.31%	0.99%	1.78%	1.62%	1.07%	0.91%	1.49%	1.33%	1.03%	0.80%
		3.1934	4.6694	4.7329	3.9982	2.9776	3.7840	3.1455	2.5015	3.2679	3.1162	2.1133	1.8864	2.2465	2.0380	1.6372	1.3664
BHAR (0)		1.34%	1.52%	1.77%	0.63%	1.47%	1.68%	1.59%	1.43%	1.65%	1.74%	0.39%	1.46%	1.19%	1.09%	1.75%	0.52%
		2.5493	2.8238	3.2201	1.1690	2.5010	2.8985	2.5195	2.7486	2.4780	2.6462	0.5824	2.4721	1.8748	1.5669	2.6599	0.8255
BHAR (1)		1.60%	1.61%	1.45%	0.68%	1.31%	1.64%	1.30%	1.10%	1.64%	1.59%	0.38%	1.30%	1.35%	0.97%	1.39%	0.38%
		3.0700	3.0408	2.5480	1.2617	2.3533	2.9047	2.1133	2.0913	2.5072	2.4459	0.5406	2.1333	2.0680	1.3944	2.0357	0.5917

MW	J =		3	 			6				9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		0.44%	0.05%	-0.12%	-0.13%	0.19%	-0.02%	0.08%	0.04%	-0.06%	0.01%	0.08%	0.11%	0.00%	0.12%	0.08%	-0.05%
		0.7194	0.0900	-0.2534	-0.3031	0.2592	-0.0302	0.1338	0.0616	-0.0755	0.0084	0.1157	0.1671	-0.0048	0.1482	0.1097	-0.0646
CAR (1)		0.26%	0.12%	-0.05%	-0.12%	0.22%	-0.04%	0.18%	-0.06%	-0.20%	0.12%	0.09%	0.13%	0.25%	0.23%	0.05%	0.01%
		0.3744	0.2327	-0.1096	-0.2640	0.3153	-0.0622	0.3087	-0.1016	-0.2563	0.1672	0.1351	0.1838	0.3164	0.2716	0.0666	0.0154
BHAR (0)		0.53%	1.14%	0.93%	1.32%	0.47%	0.93%	0.21%	0.26%	0.57%	0.83%	-0.35%	1.56%	-0.11%	-0.50%	0.57%	-0.08%
		0.6891	1.5257	1.0759	1.8133	0.6137	1.1149	0.2471	0.3110	0.6206	0.9736	-0.3004	2.1323	-0.1289	-0.4599	0.6689	-0.0837
BHAR (1)		0.89%	1.80%	1.16%	1.71%	1.22%	0.83%	0.72%	-0.18%	0.76%	1.49%	-0.15%	1.58%	0.80%	-0.19%	0.78%	-0.11%
		1.0586	2.1901	1.2832	2.1623	1.4927	1.0096	0.7294	-0.2054	0.8115	1.7894	-0.1282	2.0832	0.8403	-0.1866	0.9429	-0.1167
HONGKON	G																
CAR (0)		1.45%	1.37%	1.06%	0.94%	1.81%	1.43%	1.15%	0.87%	1.82%	1.44%	1.05%	0.81%	1.77%	1.21%	0.85%	0.67%
		3.1686	3.6593	3.0577	3.0242	3.1644	2.5492	2.4234	2.0702	3.0663	2.6413	2.2702	1.9017	3.0453	2.3734	1.7946	1.6003
CAR (1)		1.53%	1.36%	1.08%	0.86%	1.78%	1.40%	0.96%	0.75%	1.97%	1.18%	0.93%	0.70%	1.33%	0.95%	0.68%	0.55%
		3.6610	3.8024	3.3670	2.9235	2.9562	2.4706	2.1042	1.8533	3.3470	2.2554	2.1117	1.7276	2.3080	1.9483	1.4756	1.3508
BHAR (0)		0.87%	1.32%	0.35%	0.60%	2.21%	1.32%	1.00%	0.21%	1.48%	1.31%	1.35%	1.00%	1.44%	1.45%	1.03%	1.02%
		1.4533	2.2214	0.4920	1.3641	3.5306	1.9461	1.4369	0.3362	1.8524	1.5776	2.1003	1.1145	2.1015	2.6918	1.6654	1.8920
BHAR (1)		0.95%	1.19%	0.17%	0.62%	1.38%	0.90%	0.91%	-0.24%	1.33%	0.78%	1.18%	1.14%	0.83%	0.66%	0.28%	0.51%
-		1.7073	2.3613	0.2681	1.4805	2.0474	1.3156	1.3434	-0.3774	1.7989	0.9261	1.9046	1.3744	1.4480	1.4074	0.5244	0.9618
IRELAND																	
CAR (0)		1.27%	1.12%	0.62%	0.60%	1.44%	1.35%	1.24%	1.15%	1.49%	1.28%	1.30%	1.29%	1.51%	1.15%	1.11%	0.98%
		1.6266	1.7226	1.1302	1.2908	1.6662	1.8962	2.0073	2.0472	1.6198	1.6277	1.7437	1.8532	1.5957	1.4350	1.4835	1.4709
CAR (1)		1.34%	0.76%	0.53%	0.62%	1.47%	1.13%	1.18%	1.05%	1.03%	1.18%	1.23%	1.23%	1.56%	1.21%	1.21%	0.91%
		1.8112	1.2745	1.0668	1.4219	1.9187	1.7203	2.0681	1.9495	1.2326	1.5484	1.6690	1.8254	1.8264	1.5237	1.6879	1.4536
BHAR (0)		1.43%	-0.75%	-0.65%	-0.35%	1.02%	2.22%	-0.80%	3.52%	1.22%	1.15%	2.09%	1.38%	1.91%	1.25%	1.75%	0.97%
		1.5570	-0.7137	-0.6378	-0.3208	0.9585	2.2105	-0.8433	3.3624	1.1568	1.0524	2.0711	1.3139	1.9383	1.4720	1.7786	1.0635
BHAR (1)		0.65%	-0.94%	-1.38%	-0.01%	1.44%	2.03%	0.24%	2.97%	0.71%	1.17%	1.91%	0.74%	1.64%	0.78%	1.68%	1.06%
		0.7565	-0.8941	-1.3013	-0.0113	1.6013	2.0762	0.2704	3.0723	0.7201	1.1238	1.9207	0.7612	1.9122	0.9807	1.6434	1.1642
ISRAEL					1												
CAR (0)		0.37%	0.41%	0.36%	0.29%	1.13%	1.05%	0.94%	0.76%	1.54%	1.28%	1.20%	0.88%	1.45%	1.41%	1.12%	0.72%
		0.7608	0.9841	1.0460	0.9420	1.8954	2.1879	2.2492	1.8797	2.5469	2.2999	2.4158	1.8827	1.8984	2.0768	1.8587	1.3115
CAR (1)		0.28%	0.46%	0.43%	0.28%	1.24%	1.20%	0.91%	0.66%	1.42%	1.25%	1.09%	0.75%	1.65%	1.43%	1.00%	0.65%
		0.5387	1.0824	1.2850	0.9133	2.1268	2.7192	2.1697	1.6334	2.3654	2.2671	2.2259	1.6384	2.1284	2.1775	1.6984	1.2333
BHAR (0)		0.10%	-0.18%	0.38%	0.09%	1.68%	1.46%	0.68%	1.00%	2.00%	1.82%	1.23%	2.02%	1.55%	1.84%	1.27%	1.91%
		0.1772	-0.3316	0.5582	0.1775	2.5165	2.3728	1.2967	1.6291	3.4744	2.9989	1.8047	3.0968	1.9062	2.4052	1.7967	2.2219
BHAR (1)		-0.35%	-0.07%	0.84%	0.27%	1.21%	1.69%	0.52%	1.07%	1.80%	1.68%	1.18%	1.83%	2.17%	2.04%	1.16%	2.21%
		-0.5128	-0.1260	1.2739	0.4925	1.7010	2.7860	0.9266	1.7667	2.6297	2.5310	1.7003	2.9344	2.4164	2.7282	1.6888	2.5816

MW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.55%	0.89%	0.86%	0.91%	1.45%	1.44%	1.17%	1.05%	1.42%	1.71%	1.59%	1.41%	1.92%	2.04%	1.74%	1.54%
		1.2350	2.4420	2.8305	3.4159	2.8405	3.3859	3.0155	2.9912	3.2103	4.3463	4.0457	3.7821	3.7631	4.4045	3.9693	3.7651
CAR (1)		0.98%	1.08%	1.02%	0.94%	1.56%	1.43%	1.24%	0.97%	1.82%	1.87%	1.56%	1.35%	1.81%	1.94%	1.61%	1.36%
		2.2702	2.9795	3.3820	3.4433	3.3425	3.3464	3.2878	2.7229	4.1170	4.4624	3.9150	3.5584	3.7866	4.0962	3.7526	3.3623
BHAR (0)		0.64%	-0.05%	0.95%	0.45%	1.58%	1.10%	0.73%	0.45%	1.35%	0.93%	1.43%	0.85%	2.14%	2.26%	1.42%	2.01%
		1.0214	-0.0770	1.5966	0.8388	2.8734	1.8369	1.2637	0.8060	2.3458	1.6139	2.4326	1.5660	3.3429	3.6685	2.6569	3.1488
BHAR (1)		0.86%	0.23%	1.59%	0.95%	1.18%	0.89%	0.75%	0.25%	1.46%	1.34%	1.20%	1.09%	1.78%	2.04%	1.34%	1.88%
		1.3623	0.3899	2.6457	1.8684	2.0411	1.4249	1.3041	0.4842	2.5633	2.2112	2.0311	2.0345	3.0235	3.4769	2.4614	2.9934
JAPAN																	
CAR (0)		0.35%	0.21%	0.25%	0.31%	0.45%	0.41%	0.49%	0.43%	0.34%	0.49%	0.44%	0.39%	0.47%	0.48%	0.45%	0.35%
		1.0526	0.6939	0.9182	1.3291	1.0833	1.0486	1.4323	1.4424	0.7613	1.2093	1.1893	1.1416	1.0873	1.2013	1.1892	0.9967
CAR (1)		0.35%	0.24%	0.33%	0.29%	0.62%	0.55%	0.56%	0.43%	0.51%	0.52%	0.47%	0.35%	0.46%	0.46%	0.43%	0.30%
		1.0737	0.7879	1.2371	1.2671	1.5529	1.4726	1.7372	1.4922	1.1961	1.3428	1.3149	1.1092	1.0767	1.1862	1.1882	0.8834
BHAR (0)		0.48%	0.50%	0.48%	1.09%	0.49%	0.64%	0.43%	0.81%	0.60%	0.77%	0.40%	0.59%	0.70%	0.71%	0.39%	0.42%
		1.1232	1.2953	1.1795	2.9597	1.1218	1.3509	0.9540	2.0959	1.3036	1.8266	1.0053	1.4427	1.5189	1.5727	0.9136	1.1297
BHAR (1)		0.58%	0.24%	0.21%	1.07%	0.59%	0.79%	0.42%	0.68%	0.41%	0.58%	0.30%	0.35%	0.55%	0.56%	0.15%	0.31%
		1.4413	0.5752	0.5005	3.0399	1.4644	1.8541	0.9722	1.8075	0.9633	1.4257	0.8112	0.9298	1.2325	1.3251	0.3572	0.7988
NETHERLA	NDS				1				1								
CAR (0)		1.58%	1.21%	1.03%	0.87%	0.87%	0.94%	0.86%	0.75%	1.29%	1.02%	0.98%	0.79%	1.35%	1.23%	1.01%	0.74%
		3.7290	3.4583	3.3515	3.2625	1.8410	2.2828	2.2733	2.0107	2.7509	2.4378	2.4158	1.8809	2.6207	2.6997	2.2766	1.7519
CAR (1)		1.34%	1.06%	0.93%	0.81%	0.79%	1.00%	0.72%	0.60%	1.31%	0.96%	0.91%	0.69%	1.01%	1.05%	0.71%	0.58%
		3.0088	2.9823	3.1212	2.9785	1.6528	2.2569	1.7918	1.4956	2.6606	2.1762	2.0510	1.5956	1.9973	2.2319	1.5468	1.3760
BHAR (0)		1.50%	0.77%	0.34%	1.37%	0.74%	0.71%	0.88%	2.12%	1.05%	1.56%	0.55%	1.29%	1.31%	1.47%	0.68%	0.29%
		2.6682	1.4972	0.5049	2.2189	1.4011	1.2303	1.2361	4.0739	1.9481	2.8778	1.2584	2.5905	2.5771	2.7316	1.2037	0.5060
BHAR (1)		1.27%	0.51%	0.16%	1.75%	0.64%	0.66%	0.83%	1.75%	1.52%	1.49%	0.76%	1.15%	0.90%	0.95%	0.54%	-0.25%
	N/PD	2.3240	0.9697	0.2380	2.5570	1.1253	1.1184	1.1318	3.3450	2.8517	2.7825	1.5235	2.0984	1.7040	1.7130	0.9324	-0.4151
NEWZEALA	ND	2.000/	4.7.0/	1.120/	0.020/	2.420/	1.600/	1 100/	4.450/	4.050/	4.050/	1 100/	4.000/	2 220/	1 = 20/	1.160/	1.240/
CAR (0)		2.09%	1.56%	1.13%	0.93%	2.42%	1.68%	1.40%	1.15%	1.95%	1.85%	1.49%	1.28%	2.33%	1.72%	1.46%	1.24%
G15 (1)		2.9977	3.4405	3.1544	3.1438	2.8085	2.6481	2.9908	3.0313	2.1676	2.9509	3.1785	3.1513	3.1623	3.2963	3.4436	3.2444
CAR (1)		1.64%	1.14%	0.96%	0.68%	1.91%	1.29%	1.15%	0.90%	1.76%	1.61%	1.31%	1.14%	1.91%	1.42%	1.28%	1.05%
DILAD (0)		2.9849	3.0169	3.1536	2.6208	2.5047	2.3871	2.8237	2.6595	2.3361	3.0977	3.2141	3.1392	3.0954	3.0862	3.2386	2.9326
BHAR (0)		2.03%	1.07%	1.10%	-0.07%	1.95%	1.32%	0.71%	0.90%	1.51%	0.44%	1.42%	0.40%	2.84%	2.84%	1.97%	1.22%
DILAD (1)		2.9613	1.3118	1.4531	-0.0933	2.4979	1.8434	1.1608	1.2661	1.7954	0.7810	3.0202	0.8153	3.4157	3.6648	2.5605	2.4344
BHAR (1)		1.46%	0.30%	0.46%	-0.20%	1.26%	0.41%	0.49%	0.25%	1.27%	0.61%	1.35%	0.40%	2.39%	1.93%	1.57%	1.00%
		2.3379	0.3749	0.7758	-0.2702	1.8691	0.6936	0.8122	0.4384	1.8183	1.0457	2.6676	0.7729	3.5625	3.1075	2.5371	1.9400

MW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	7																
CAR (0)		0.50%	0.97%	1.00%	1.00%	0.67%	0.96%	0.97%	0.78%	0.33%	0.67%	0.72%	0.40%	0.93%	0.77%	0.61%	0.43%
		0.9179	2.2519	2.9013	3.1941	1.1618	2.0840	2.3906	2.1945	0.5602	1.2769	1.5354	0.9392	1.5928	1.4311	1.1946	0.9064
CAR (1)		0.82%	1.10%	1.21%	0.96%	0.83%	1.15%	1.05%	0.63%	0.71%	0.76%	0.63%	0.28%	0.65%	0.58%	0.42%	0.25%
		1.3531	2.6035	3.5226	2.9959	1.5646	2.6075	2.7096	1.8099	1.1847	1.4657	1.3544	0.6651	1.1174	1.0487	0.8227	0.5252
BHAR (0)		0.08%	0.18%	-0.13%	0.12%	0.45%	0.58%	0.89%	1.30%	1.22%	0.82%	0.82%	0.92%	1.45%	1.54%	0.91%	1.32%
		0.1117	0.2763	-0.2112	0.2051	0.5937	0.8302	1.2653	2.1253	1.6134	1.1619	1.3635	1.4127	2.1451	2.3103	1.3550	1.9896
BHAR (1)		0.68%	0.90%	0.26%	0.23%	1.12%	1.11%	0.81%	1.11%	1.27%	1.04%	0.85%	0.73%	1.12%	1.16%	1.14%	1.07%
		0.8935	1.4492	0.4259	0.3770	1.5051	1.7098	1.2541	1.7749	1.7701	1.4237	1.3541	1.1212	1.6426	1.6089	1.7952	1.5418
PORTUGA	L																
CAR (0)		0.11%	0.54%	0.75%	0.67%	0.35%	0.46%	0.74%	0.44%	0.00%	0.52%	0.23%	0.10%	0.35%	0.26%	0.30%	0.33%
		0.1497	1.0088	1.7759	1.7296	0.4370	0.7175	1.3846	0.9513	0.0049	0.7772	0.3974	0.1884	0.4370	0.4012	0.5420	0.6283
CAR (1)		0.87%	1.09%	0.90%	0.85%	0.53%	0.87%	0.79%	0.62%	0.32%	0.55%	0.34%	0.18%	0.35%	0.37%	0.40%	0.25%
		1.4142	2.2457	2.1573	2.3066	0.7332	1.4214	1.5195	1.3155	0.4439	0.8376	0.6131	0.3507	0.4809	0.6185	0.7467	0.4754
BHAR (0)		0.48%	0.69%	1.29%	1.47%	0.71%	1.54%	1.37%	1.73%	-0.53%	0.31%	1.00%	0.57%	0.42%	0.16%	-0.29%	-0.10%
		0.5358	0.7644	1.6293	1.5995	0.7391	1.6117	1.7004	2.1303	-0.6652	0.3488	1.2305	0.7530	0.5112	0.2448	-0.4119	-0.1213
BHAR (1)		0.83%	1.27%	1.23%	1.39%	1.85%	2.08%	1.84%	1.77%	-0.12%	0.62%	1.29%	0.32%	0.58%	-0.10%	-0.27%	-0.50%
		1.0435	1.3733	1.6021	1.5514	2.3571	2.5529	2.1492	2.2821	-0.1664	0.7857	1.8224	0.4087	0.7307	-0.1501	-0.3828	-0.6577
SINGAPOR	E																
CAR (0)		0.98%	1.23%	1.04%	0.96%	1.03%	1.04%	1.00%	0.94%	1.26%	1.14%	1.05%	0.89%	1.32%	1.21%	1.07%	0.91%
		1.9387	3.5976	3.5638	3.4354	1.9565	2.4771	2.6708	2.7404	2.2477	2.1057	2.1827	2.1174	2.1605	2.0811	2.0061	1.9626
CAR (1)		0.95%	1.25%	1.00%	0.85%	1.27%	1.06%	0.98%	0.83%	1.09%	1.16%	0.97%	0.78%	1.14%	1.08%	0.96%	0.80%
		1.9059	3.7235	3.2742	3.0562	2.5476	2.5031	2.4394	2.4169	1.9440	2.1500	2.0848	1.9079	1.7667	1.8315	1.8740	1.7811
BHAR (0)		0.78%	1.16%	1.26%	-0.04%	1.36%	0.66%	1.14%	0.64%	1.35%	0.43%	0.53%	-0.20%	1.07%	1.06%	1.36%	0.70%
		1.3147	2.1364	2.7756	-0.0790	2.1346	1.1247	2.0935	0.9878	2.3272	0.6399	0.8471	-0.2785	1.8830	1.6812	2.3025	1.2398
BHAR (1)		0.37%	-0.01%	1.12%	-0.38%	0.74%	0.50%	1.51%	0.66%	0.46%	0.77%	0.58%	-0.41%	0.84%	0.83%	0.83%	0.46%
		0.6335	-0.0212	2.3360	-0.6558	1.0654	0.7621	2.4575	1.0460	0.6608	1.0491	0.9135	-0.5571	1.2367	1.1763	1.3261	0.8326
SPAIN																	
CAR (0)		-0.22%	-0.06%	0.18%	0.43%	-0.47%	-0.27%	0.19%	0.26%	-0.77%	-0.11%	0.18%	0.15%	0.42%	0.35%	0.36%	0.32%
		-0.5160	-0.1633	0.5480	1.5110	-0.9144	-0.5751	0.4967	0.7818	-1.3573	-0.2276	0.4444	0.3846	0.8446	0.7512	0.8045	0.7561
CAR (1)		-0.25%	0.09%	0.36%	0.45%	-0.43%	0.00%	0.34%	0.26%	-0.24%	0.17%	0.25%	0.28%	0.33%	0.27%	0.36%	0.32%
		-0.4841	0.2339	1.0750	1.6039	-0.7776	-0.0039	0.8837	0.7546	-0.4152	0.3487	0.6055	0.7349	0.6307	0.5755	0.8120	0.7374
BHAR (0)		-0.27%	-1.26%	-0.09%	0.05%	-0.94%	-1.02%	-0.32%	-0.39%	-1.15%	-0.39%	0.36%	-0.31%	0.43%	1.08%	0.01%	0.42%
		-0.4559	-1.7971	-0.1474	0.0641	-1.3661	-1.3285	-0.4372	-0.5940	-1.6721	-0.5592	0.6460	-0.4332	0.6895	1.7321	0.0247	0.6611
BHAR (1)		-0.30%	-0.77%	-0.07%	0.23%	-0.37%	-0.66%	-0.04%	-0.42%	-0.29%	-0.13%	0.34%	0.02%	0.16%	0.52%	0.06%	0.37%
		-0.4484	-1.0490	-0.1155	0.3128	-0.5548	-0.9798	-0.0554	-0.6452	-0.4240	-0.1783	0.6035	0.0248	0.2436	0.8625	0.0925	0.5993

MW	J =		3				6	;			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		1.02%	1.21%	1.04%	0.97%	1.86%	1.72%	1.57%	1.39%	1.97%	1.79%	1.51%	1.16%	1.77%	1.59%	1.36%	1.13%
		1.7772	2.7066	2.4948	2.5389	3.1317	3.0041	2.9476	2.7589	3.0263	2.8453	2.5290	2.0002	2.5125	2.3940	2.0452	1.7267
CAR (1)		1.16%	1.20%	1.10%	0.90%	2.13%	1.87%	1.63%	1.37%	2.01%	1.53%	1.24%	1.00%	1.72%	1.55%	1.23%	1.08%
		2.1351	2.7760	2.7671	2.3592	3.3759	3.2358	2.9952	2.6886	2.9512	2.4326	2.0813	1.7374	2.4887	2.2677	1.8260	1.6563
BHAR (0)		0.68%	0.64%	0.49%	0.33%	1.58%	1.36%	1.18%	1.12%	1.71%	1.45%	1.23%	0.32%	1.14%	1.17%	1.31%	1.93%
		0.7513	0.6691	0.5237	0.3426	2.3474	1.9531	1.3237	1.5731	2.4806	1.8589	1.9142	0.4164	1.4825	1.4699	1.7630	2.3846
BHAR (1)		0.85%	1.15%	0.88%	0.33%	1.95%	1.62%	1.07%	1.04%	1.47%	1.15%	1.28%	0.34%	1.67%	1.30%	1.38%	2.43%
		1.0473	1.3514	1.0109	0.3428	2.6023	2.1981	1.1914	1.3769	1.9061	1.5333	1.9696	0.4456	2.0747	1.4596	1.7304	2.7677
SWITZERLA	ND																
CAR (0)		0.30%	0.61%	0.55%	0.58%	0.81%	0.88%	0.77%	0.65%	0.98%	0.98%	0.70%	0.53%	1.31%	1.06%	0.86%	0.61%
		1.1285	2.6453	2.5794	3.0069	2.5183	2.9107	3.0136	2.6016	2.6516	2.9929	2.3315	1.8415	3.3409	2.8212	2.4615	1.8685
CAR (1)		0.79%	0.73%	0.72%	0.58%	1.04%	0.96%	0.72%	0.58%	1.10%	0.86%	0.58%	0.42%	1.28%	0.95%	0.74%	0.46%
		2.7850	3.0731	3.2311	2.9338	2.8181	3.1318	2.7368	2.3244	2.8139	2.6151	1.9627	1.4731	3.0821	2.5504	2.1132	1.4442
BHAR (0)		0.05%	0.70%	0.24%	1.18%	0.59%	1.09%	0.09%	0.78%	0.84%	1.19%	0.60%	0.82%	1.59%	1.25%	0.72%	1.01%
		0.1500	1.8823	0.6459	2.9031	1.6096	2.9768	0.2383	1.6679	1.8922	2.5907	1.2351	1.8225	3.7341	2.6867	1.6074	2.2825
BHAR (1)		0.47%	1.09%	0.33%	1.21%	1.05%	1.11%	-0.05%	0.69%	0.87%	1.15%	0.26%	0.65%	1.59%	1.36%	0.39%	0.93%
		1.4073	2.5770	0.9009	2.9241	2.9650	3.0672	-0.1337	1.4480	1.9549	2.4738	0.5504	1.3545	3.5307	3.1188	0.9507	2.1542
UK																	
CAR (0)		0.33%	0.70%	0.72%	0.92%	0.80%	0.86%	1.20%	1.07%	0.83%	1.36%	1.33%	1.12%	0.99%	1.27%	1.18%	0.97%
		0.9191	2.2267	2.5595	3.7703	1.8992	2.2429	3.6596	3.4978	1.8682	3.4155	3.6230	3.1591	2.2441	2.9632	2.8839	2.4672
CAR (1)		0.70%	0.81%	0.93%	0.96%	1.01%	1.17%	1.34%	1.07%	1.33%	1.52%	1.41%	1.05%	1.14%	1.33%	1.14%	0.90%
		2.0557	2.6219	3.4463	4.1518	2.4832	3.1680	4.1939	3.5658	3.3088	3.9330	3.8487	2.9860	2.6096	3.0952	2.8335	2.3168
BHAR (0)		0.31%	1.08%	0.56%	0.88%	0.97%	0.86%	1.16%	1.19%	1.09%	1.77%	1.68%	1.38%	0.96%	0.99%	1.05%	0.67%
		0.6629	2.2638	1.2624	1.9097	2.0845	1.8841	2.4335	2.7611	2.2741	3.7291	3.5979	2.8979	2.0279	2.0684	2.1821	1.4510
BHAR (1)		0.91%	1.10%	0.58%	1.07%	1.15%	1.11%	1.03%	0.95%	1.57%	2.08%	1.56%	1.14%	1.56%	0.96%	1.02%	0.41%
		2.0496	2.2712	1.3797	2.4349	2.6484	2.5877	2.2954	2.1477	3.6635	4.8009	3.4634	2.7223	3.1765	1.9578	2.0228	0.8722
US																	
CAR (0)		0.13%	0.37%	0.39%	0.42%	0.53%	0.70%	0.67%	0.57%	0.56%	0.71%	0.56%	0.45%	0.61%	0.62%	0.49%	0.38%
		0.4455	1.4883	1.7783	1.9793	1.5353	2.2448	2.2580	2.0540	1.5462	2.0173	1.6861	1.4030	1.5523	1.6505	1.3419	1.0868
CAR (1)		0.48%	0.50%	0.51%	0.42%	0.86%	0.82%	0.72%	0.56%	0.87%	0.78%	0.60%	0.41%	0.67%	0.64%	0.48%	0.34%
		1.6632	2.1045	2.2704	2.0221	2.5437	2.5975	2.4587	1.9823	2.3207	2.2089	1.7861	1.2884	1.7257	1.7107	1.3155	0.9878
BHAR (0)		0.02%	0.89%	-0.03%	0.48%	0.40%	0.31%	0.53%	0.42%	0.62%	0.76%	0.62%	0.46%	0.57%	0.49%	0.60%	0.57%
		0.0551	2.5458	-0.0809	1.4324	1.0671	0.8493	1.2722	1.3837	1.6439	2.0154	1.8094	1.3128	1.3374	1.1610	1.5808	1.2653
BHAR (1)		0.44%	0.62%	0.00%	0.34%	0.67%	0.44%	0.45%	0.25%	0.87%	0.76%	0.54%	0.37%	0.42%	0.27%	0.46%	0.32%
		1.4177	1.5852	-0.0017	0.9039	1.8255	1.2499	1.0123	0.7997	2.2452	1.7876	1.4638	0.9655	0.9269	0.6029	1.1862	0.6971

Panel C. The time-series momentum using inversed-volatility weighted return

IVOL	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL	JA																
CAR (0)		0.51%	0.71%	0.68%	0.63%	1.25%	1.04%	0.87%	0.58%	1.55%	1.30%	0.96%	0.64%	1.36%	0.91%	0.64%	0.37%
		2.0418	3.3415	4.0410	3.8419	4.3987	4.3819	4.0612	2.9155	5.7656	5.1300	4.2879	3.0655	4.0137	3.1684	2.5932	1.6082
CAR (1)		0.94%	0.99%	0.89%	0.67%	1.35%	1.08%	0.80%	0.48%	1.66%	1.26%	0.84%	0.50%	1.15%	0.74%	0.42%	0.19%
		3.8677	4.8201	5.0627	3.7139	5.0843	4.9202	3.8143	2.5563	6.4569	5.4795	3.9550	2.4997	3.4049	2.7756	1.7584	0.8654
BHAR (0)		0.83%	0.59%	0.76%	0.18%	1.14%	0.75%	0.41%	0.12%	1.52%	1.09%	0.85%	0.80%	1.00%	0.51%	0.44%	0.39%
		3.1127	2.1849	2.3095	0.6213	2.9313	2.0196	1.0159	0.3921	5.1239	4.0376	3.3600	2.8626	2.0050	1.0882	0.9948	0.8057
BHAR (1)		0.95%	0.48%	0.55%	0.42%	1.28%	1.00%	0.64%	0.15%	1.41%	0.92%	0.79%	0.56%	0.94%	0.51%	0.11%	0.00%
		3.5810	1.5068	1.4983	1.1356	3.9755	3.1514	1.7747	0.4407	4.2536	3.2349	3.2847	2.0502	2.1291	1.3811	0.2816	0.0106
AUSTRI	A																
CAR (0)		0.86%	0.84%	0.82%	0.78%	0.99%	1.04%	1.14%	1.02%	1.34%	1.36%	1.21%	0.98%	1.57%	1.37%	1.14%	0.84%
		3.0296	2.9825	3.3655	3.5836	2.2414	2.8163	3.3201	3.1457	3.1854	3.3223	3.1080	2.8047	3.2864	3.1715	2.8279	2.3183
CAR (1)		1.09%	0.92%	0.81%	0.72%	1.03%	1.01%	1.07%	0.89%	1.49%	1.30%	1.10%	0.90%	1.37%	1.15%	0.94%	0.66%
		3.5791	3.3941	3.3062	3.3389	2.3909	2.8492	3.1549	2.8193	3.6605	3.1899	2.9471	2.7470	2.8911	2.6774	2.4485	1.8666
BHAR (0)		1.00%	0.98%	0.95%	0.86%	1.20%	1.05%	0.59%	1.21%	1.33%	1.23%	0.99%	1.33%	1.52%	1.10%	1.27%	0.21%
		2.8362	2.8013	2.2217	2.4956	2.3442	2.0435	1.3153	3.1085	2.7500	2.1061	2.1765	2.6504	3.0774	2.0990	2.5961	0.4433
BHAR (1)		1.60%	1.01%	1.31%	0.75%	1.34%	1.02%	0.83%	1.28%	1.05%	0.69%	0.96%	1.07%	1.36%	1.04%	0.73%	0.40%
		3.9223	2.7945	3.1255	2.1005	2.6376	1.9818	1.9259	3.1235	2.0961	1.1180	2.0261	2.1748	2.6080	1.9413	1.5219	0.8804
BELGIU	M																
CAR (0)		0.72%	0.86%	0.74%	0.74%	1.33%	1.18%	1.13%	0.97%	1.41%	1.41%	1.20%	1.06%	1.68%	1.51%	1.29%	1.12%
		3.2451	4.4276	4.3935	4.4444	4.8592	4.3506	4.2772	4.1325	4.3348	4.5060	4.1662	3.9101	4.4019	4.2979	3.9246	3.6087
CAR (1)		1.04%	0.84%	0.79%	0.73%	1.51%	1.18%	1.09%	0.94%	1.55%	1.38%	1.18%	1.01%	1.79%	1.43%	1.24%	1.06%
		4.6253	4.5109	4.7602	4.7958	5.6271	4.2868	4.2441	4.0818	4.6542	4.4960	4.1754	3.7786	4.7535	4.2207	3.7819	3.4431
BHAR (0)		0.56%	0.44%	0.63%	0.40%	1.25%	1.02%	0.94%	1.10%	1.33%	1.64%	1.37%	1.34%	1.52%	1.28%	1.18%	0.68%
		1.8555	1.2545	2.2848	1.0952	3.7056	2.6672	3.0717	3.4766	3.5389	3.9572	3.3736	3.3575	3.9733	3.3386	3.5232	1.9471
BHAR (1)		0.78%	0.52%	0.58%	0.63%	1.54%	0.86%	0.82%	1.05%	1.39%	1.73%	1.28%	1.03%	1.43%	1.36%	1.07%	0.75%
CANAD		2.3847	1.2744	2.1340	1.6948	4.6488	2.1019	2.6089	3.3449	3.6067	4.3782	3.3363	2.6583	3.9641	3.6856	3.2456	2.1205
CARADA	A	1.240/	1 120/	1.050/	0.070/	1.000/	1.620/	1 400/	1 100/	1.050/	1 (70/	1.240/	0.070/	1.050/	1.420/	1 100/	0.760/
CAR (0)		1.34%	1.12%	1.05%	0.97%	1.90%	1.63%	1.49%	1.18%	1.95%	1.67%	1.34%	0.97%	1.85%	1.43%	1.10%	0.76%
CAD (1)		4.9052	4.5343	4.6741	5.1464	5.9231	5.4553	5.7124	4.9406	5.7264	5.1492	4.5369	3.5735	5.1278	4.3639	3.6019	2.6878
CAR (1)		1.42%	1.16%	1.13%	0.91%	1.90%	1.62%	1.40%	0.98%	1.95%	1.54%	1.17%	0.75%	1.63%	1.19%	0.88%	0.53%
DIIAD (0)		5.2819	4.4027	5.0873	4.8693	5.5772	5.3227	5.3775	4.1105	5.4583	4.8549	4.0171	2.8145	4.6880	3.6929	2.9416	1.8954
BHAR (0)		1.36%	0.95%	1.10%	0.57%	1.95%	1.73%	1.50%	0.53%	2.05%	1.66%	1.29%	0.88%	1.88%	1.38%	1.12%	0.78%
DILAD (1)		3.7545	2.6447	3.1054	1.5369	4.9981	4.3871	3.8027	1.2583	5.5595	4.2303	3.6212	2.4458	4.7751	3.7072	3.0359	2.3969
BHAR (1)		1.35%	1.05%	1.27%	0.74%	1.87%	1.64%	1.38%	0.53%	2.08%	1.59%	1.11%	0.76%	1.65%	1.08%	0.97%	0.57%
		4.2169	3.1927	3.9979	2.2897	4.8784	4.4672	3.6793	1.5527	5.8320	4.2543	3.2405	2.1118	4.4920	2.9219	2.8131	1.9607

IVOL	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAI	RK																
CAR (0)		1.18%	1.23%	1.16%	1.14%	1.66%	1.46%	1.46%	1.28%	1.58%	1.67%	1.48%	1.25%	1.73%	1.74%	1.55%	1.38%
		5.1823	6.1165	6.9838	7.3288	5.3985	5.2482	5.6767	5.1493	4.3460	5.2640	5.0755	4.4144	4.9316	5.3450	4.8152	4.4530
CAR (1)		1.29%	1.24%	1.18%	1.10%	1.52%	1.43%	1.36%	1.14%	1.66%	1.65%	1.37%	1.14%	1.81%	1.70%	1.44%	1.27%
		5.6030	5.9238	6.7968	6.8376	4.3377	5.1138	5.0584	4.4357	4.9795	5.5061	4.6281	4.0146	5.1966	5.2190	4.4716	4.0944
BHAR (0)		0.89%	0.91%	0.58%	0.72%	1.43%	1.57%	1.37%	1.64%	1.86%	1.41%	1.59%	1.36%	1.54%	1.65%	0.99%	1.09%
		3.1026	2.8909	1.9149	1.6904	4.2732	4.8314	4.6404	5.8275	5.8389	3.3137	4.6032	4.4959	3.7282	4.2036	2.4760	2.6461
BHAR (1)		1.29%	1.24%	0.69%	1.10%	1.42%	1.63%	1.21%	1.47%	2.00%	1.71%	1.59%	1.24%	1.70%	1.87%	1.14%	1.10%
		4.4383	3.8066	1.9775	2.6097	3.8188	4.8163	3.7195	5.3294	5.3728	4.3123	5.0702	4.0036	4.1471	5.3403	2.9679	2.8096
FINLAN	D																
CAR (0)		0.93%	0.69%	0.76%	0.73%	1.33%	1.17%	1.12%	0.96%	1.47%	1.43%	1.14%	0.81%	1.62%	1.27%	0.88%	0.70%
		2.3163	1.9694	2.2959	2.3816	3.5619	3.4743	3.2920	2.7701	3.3965	3.0550	2.4291	1.7901	2.8709	2.3221	1.6582	1.3843
CAR (1)		1.09%	0.88%	0.87%	0.77%	1.34%	1.30%	1.02%	0.92%	1.49%	1.30%	0.95%	0.68%	1.43%	1.00%	0.71%	0.58%
		2.7888	2.3910	2.7219	2.5794	3.9211	3.9424	2.9753	2.6757	3.0273	2.5648	1.9631	1.4806	2.5064	1.7813	1.3245	1.1627
BHAR (0)		0.96%	0.09%	0.92%	0.97%	1.14%	1.13%	0.33%	0.62%	1.27%	0.96%	1.02%	0.43%	1.75%	2.00%	1.20%	1.34%
		1.8095	0.1536	1.9099	1.4560	2.2383	2.0959	0.5565	1.1563	2.8291	1.6074	1.8638	0.7677	2.6795	3.3155	1.8741	2.4213
BHAR (1)		1.21%	0.14%	1.15%	1.01%	1.04%	1.18%	0.25%	0.57%	1.25%	1.01%	0.74%	0.48%	1.39%	1.58%	1.09%	1.28%
-		2.5789	0.2363	2.4617	1.5524	2.2781	2.0151	0.4242	1.1006	2.3376	1.7491	1.3017	0.8520	2.1755	2.4973	1.7144	2.4668
FRANC	E																
CAR (0)		0.11%	0.46%	0.42%	0.51%	0.83%	0.80%	0.85%	0.74%	1.09%	1.10%	0.97%	0.80%	1.17%	1.12%	0.91%	0.76%
		0.4637	2.6314	2.6531	3.7760	3.3857	3.4958	4.2086	3.9107	4.3580	4.5530	4.1786	3.7558	4.2562	4.3426	3.7757	3.2675
CAR (1)		0.61%	0.63%	0.51%	0.52%	0.99%	0.85%	0.82%	0.64%	1.43%	1.12%	0.95%	0.75%	1.30%	1.13%	0.87%	0.71%
		2.4115	3.3112	3.2379	3.7938	4.0175	3.6412	3.8977	3.2982	5.7471	4.6409	4.0539	3.5860	4.9527	4.3989	3.6081	3.1093
BHAR (0)		0.42%	0.15%	0.58%	-0.01%	0.86%	0.51%	0.94%	0.06%	0.96%	1.09%	1.12%	0.86%	1.13%	1.05%	1.04%	0.72%
		1.3203	0.5297	1.8433	-0.0189	3.3818	1.6001	3.4504	0.1392	3.7697	4.1237	4.3878	3.4423	4.0760	3.7556	3.7407	2.9445
BHAR (1)		0.36%	0.49%	0.79%	0.40%	1.11%	0.80%	1.00%	0.63%	1.43%	1.11%	1.09%	0.58%	1.29%	0.99%	0.91%	0.69%
		1.2228	1.4915	1.8720	1.1375	4.0915	2.9250	3.4257	2.4510	5.5318	3.9568	4.2481	2.1393	4.5373	3.5708	3.3935	2.6957
GERMA	NY												1				
CAR (0)		1.16%	1.03%	0.89%	0.88%	1.37%	1.30%	1.28%	1.04%	1.70%	1.58%	1.36%	1.10%	1.85%	1.62%	1.39%	1.14%
		4.3880	4.7306	4.6699	4.8553	4.2137	4.5227	4.8237	3.8726	5.2503	5.3361	4.4865	3.7994	5.4797	4.8268	4.3770	3.7404
CAR (1)		1.38%	1.09%	0.91%	0.83%	1.38%	1.32%	1.20%	0.92%	1.80%	1.55%	1.24%	0.99%	1.84%	1.54%	1.25%	1.01%
		5.3937	5.4093	5.1893	4.9147	4.5048	4.8645	4.6202	3.5123	5.9760	5.1968	4.0457	3.4102	5.4309	4.6000	3.9316	3.2899
BHAR (0)		1.07%	0.98%	1.13%	0.38%	1.18%	1.50%	1.29%	1.26%	1.71%	1.52%	1.22%	1.18%	1.63%	1.24%	1.29%	1.16%
		3.4031	3.0866	4.0107	1.1786	3.2908	4.8669	3.2984	3.8340	4.8651	3.9557	3.5554	3.1575	4.5417	3.6567	3.6886	3.3741
BHAR (1)		1.61%	1.18%	1.58%	0.91%	1.19%	1.54%	1.18%	1.02%	1.69%	1.33%	1.06%	1.13%	1.58%	1.16%	0.96%	1.04%
		5.8084	3.7286	4.4840	2.9986	3.3982	4.8972	3.0890	2.9281	4.9020	3.4356	2.8886	2.8303	4.4412	3.6032	2.9069	3.2651

IVOL	J =		3				6	j			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREEC	E																
CAR (0)		0.54%	0.47%	0.18%	0.04%	0.84%	0.61%	0.37%	0.09%	0.77%	0.46%	0.14%	-0.05%	0.49%	0.04%	-0.28%	-0.43%
		0.9663	1.0944	0.4917	0.1304	1.1402	0.9676	0.7249	0.2001	0.9802	0.6805	0.2307	-0.0991	0.6284	0.0484	-0.4385	-0.7263
CAR (1)		0.46%	0.42%	0.16%	-0.03%	1.00%	0.52%	0.35%	-0.04%	0.44%	0.30%	-0.05%	-0.19%	0.41%	-0.10%	-0.45%	-0.48%
		0.9029	1.0627	0.4371	-0.0793	1.4459	0.9183	0.7075	-0.0922	0.5893	0.4673	-0.0946	-0.3423	0.5181	-0.1335	-0.7196	-0.8151
BHAR (0)		0.54%	1.33%	0.67%	1.08%	1.28%	1.21%	0.32%	0.16%	1.68%	1.06%	-0.27%	1.22%	0.63%	-0.51%	0.37%	-0.66%
		0.7548	2.0216	0.7943	1.6890	1.6350	1.6854	0.4173	0.2206	1.7043	1.1638	-0.3237	1.6621	0.7188	-0.5924	0.4654	-0.8450
BHAR (1)		1.04%	1.68%	0.78%	1.53%	1.45%	1.10%	0.53%	-0.22%	1.73%	1.39%	-0.01%	1.10%	1.01%	-0.50%	0.29%	-0.66%
		1.4280	2.4234	0.9343	2.3875	1.8779	1.5999	0.7177	-0.3084	1.8654	1.5665	-0.0135	1.4664	1.0937	-0.6021	0.3705	-0.8920
HONGKO	NG																
CAR (0)		0.90%	0.73%	0.47%	0.33%	1.24%	0.96%	0.64%	0.47%	1.25%	0.79%	0.53%	0.31%	1.00%	0.53%	0.21%	0.03%
		3.1721	2.7257	1.8482	1.5258	2.9352	2.2188	1.8040	1.5795	2.6274	1.9331	1.6563	1.0404	2.4999	1.4673	0.6321	0.0936
CAR (1)		0.88%	0.71%	0.47%	0.23%	1.24%	0.92%	0.53%	0.35%	1.16%	0.60%	0.36%	0.14%	0.54%	0.24%	0.00%	-0.13%
		3.5654	2.6273	1.9372	1.0972	2.6324	2.1901	1.5611	1.1834	2.7602	1.6311	1.1931	0.4882	1.3485	0.6731	-0.0130	-0.4300
BHAR (0)		0.42%	0.23%	0.06%	0.14%	1.59%	1.32%	0.68%	0.63%	1.00%	0.69%	0.57%	0.38%	0.78%	0.70%	0.55%	-0.02%
		1.1444	0.5376	0.1258	0.4062	3.3422	2.8538	1.5415	1.5747	1.5992	1.0599	1.2299	0.5424	1.5295	1.5164	1.2793	-0.0533
BHAR (1)		0.31%	-0.04%	0.24%	0.03%	1.26%	1.18%	0.50%	0.32%	0.80%	0.18%	0.52%	0.25%	0.20%	0.31%	0.16%	-0.19%
		0.9166	-0.0894	0.5570	0.0759	2.4334	2.6083	1.1741	0.7595	1.3837	0.2782	1.1349	0.3758	0.4518	0.7704	0.4146	-0.4633
IRELAN	D	T															
CAR (0)		0.50%	0.35%	0.33%	0.48%	0.34%	0.47%	0.55%	0.52%	1.24%	1.08%	1.02%	1.03%	1.36%	1.15%	1.02%	0.80%
		1.1357	0.8006	0.8990	1.4952	0.6011	0.9265	1.1881	1.2325	2.0707	1.9480	1.9305	2.1744	1.9653	1.8580	1.7392	1.5364
CAR (1)		0.46%	0.15%	0.29%	0.45%	0.42%	0.50%	0.63%	0.51%	1.02%	1.05%	1.02%	0.92%	1.43%	1.10%	0.93%	0.73%
		0.9477	0.3356	0.8234	1.3457	0.8083	1.0462	1.3677	1.2459	1.6705	1.8624	1.9477	1.9414	2.1128	1.7448	1.6281	1.4330
BHAR (0)		0.89%	-1.23%	-0.51%	0.27%	-0.05%	0.79%	-0.78%	1.61%	1.08%	1.01%	1.25%	0.82%	1.67%	1.33%	0.98%	0.51%
		1.3804	-1.4936	-0.6936	0.3731	-0.0747	1.2459	-1.0816	2.5325	1.4916	1.2960	1.9657	1.1439	2.2783	1.9994	1.3854	0.6634
BHAR (1)		0.24%	-1.13%	-0.73%	0.61%	0.08%	0.60%	-0.52%	1.36%	0.85%	1.05%	1.07%	0.43%	1.58%	0.83%	0.72%	0.40%
		0.3926	-1.4987	-1.0375	0.9259	0.1384	0.9565	-0.7630	2.3238	1.1634	1.5478	1.7689	0.6348	2.3843	1.2904	1.0122	0.4968
ISRAEL		0.400/			0.040/				0.400/			0.400/	0.0.504	0.550/			
CAR (0)		-0.19%	-0.16%	-0.33%	-0.31%	0.21%	-0.04%	-0.12%	-0.10%	0.35%	0.20%	0.19%	0.06%	0.52%	0.55%	0.39%	0.11%
		-0.7405	-0.7418	-1.6549	-1.6957	0.7000	-0.1474	-0.4440	-0.3993	1.1405	0.6117	0.6421	0.2252	1.2276	1.4852	1.1523	0.3461
CAR (1)		0.06%	-0.06%	-0.27%	-0.25%	0.42%	0.05%	-0.11%	-0.13%	0.30%	0.18%	0.09%	-0.03%	0.82%	0.62%	0.37%	0.08%
DVI D (0)		0.2036	-0.2437	-1.2251	-1.2292	1.2415	0.1816	-0.4098	-0.5315	0.9175	0.5420	0.2876	-0.1223	2.0942	1.8104	1.1291	0.2670
BHAR (0)		-0.13%	-0.54%	-0.39%	-0.31%	0.31%	0.02%	-0.22%	0.21%	0.41%	0.35%	0.23%	0.62%	0.75%	1.03%	0.46%	0.75%
DYLLD (1)		-0.3799	-1.1353	-0.9916	-0.6339	0.7657	0.0508	-0.6057	0.6686	1.2351	1.0796	0.6238	1.9439	1.7136	2.6275	1.1217	1.5420
BHAR (1)		-0.01%	-0.32%	-0.53%	-0.26%	0.35%	0.16%	-0.21%	-0.09%	0.21%	0.16%	0.12%	0.62%	1.48%	1.23%	0.29%	0.82%
		-0.0312	-0.8475	-1.1941	-0.5796	0.8354	0.4395	-0.5811	-0.2441	0.5441	0.4617	0.2787	1.9314	3.0695	3.0687	0.7106	1.6322

IVOL	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	,
CAR (0)		1.31%	1.03%	1.05%	1.04%	1.44%	1.54%	1.38%	1.17%	1.74%	1.74%	1.65%	1.37%	1.80%	1.82%	1.55%	1.31%
		4.7247	4.1795	4.6780	4.8300	3.7951	5.1331	4.8592	4.5295	4.5944	5.6303	5.4869	4.8789	5.0613	5.7295	5.3601	4.7218
CAR (1)		1.20%	1.01%	1.02%	1.02%	1.46%	1.49%	1.34%	1.02%	1.69%	1.75%	1.49%	1.24%	1.69%	1.72%	1.38%	1.18%
		4.3564	4.1377	4.4932	4.8466	4.3378	5.1231	4.8965	4.0516	5.0346	5.8995	5.1337	4.4818	5.0474	5.6274	4.9333	4.2655
BHAR (0)		1.19%	0.44%	0.70%	0.47%	1.54%	1.08%	1.26%	0.52%	1.63%	1.49%	1.48%	0.98%	1.78%	1.46%	1.30%	0.91%
		3.3267	1.2962	2.1979	1.3543	3.7129	2.6539	3.8041	1.3275	3.8706	3.2846	3.7242	2.4087	4.1566	3.3945	3.2305	1.8630
BHAR (1)		1.20%	0.39%	1.04%	0.65%	1.04%	1.04%	1.19%	0.25%	1.50%	1.48%	1.32%	1.10%	1.53%	1.43%	1.16%	0.96%
		3.6674	1.0104	3.0926	1.7359	2.7626	2.4901	3.3664	0.6572	3.5309	3.2746	3.1831	2.8619	3.4988	3.4167	2.6974	2.0258
JAPAN																	
CAR (0)		0.34%	0.12%	0.06%	0.17%	0.23%	0.15%	0.24%	0.17%	0.24%	0.31%	0.26%	0.14%	0.44%	0.29%	0.18%	0.10%
		1.4903	0.5986	0.3460	1.1080	0.7986	0.5848	1.0264	0.8099	0.8217	1.1019	1.0157	0.5856	1.4460	0.9978	0.6720	0.4150
CAR (1)		0.30%	0.08%	0.13%	0.14%	0.20%	0.22%	0.27%	0.09%	0.43%	0.37%	0.26%	0.08%	0.40%	0.24%	0.14%	0.05%
		1.4299	0.3960	0.7752	0.9470	0.7035	0.8606	1.2061	0.4607	1.5018	1.3502	1.0419	0.3754	1.3278	0.8454	0.5561	0.1952
BHAR (0)		0.24%	0.27%	0.41%	0.31%	0.40%	0.33%	0.32%	0.56%	0.36%	0.47%	0.33%	0.24%	0.53%	0.39%	0.28%	0.07%
		0.9270	1.0363	1.4770	1.1028	1.2904	1.0555	0.9807	2.1667	1.1858	1.5593	1.1412	0.8926	1.7331	1.2683	0.8850	0.2865
BHAR (1)		0.14%	0.22%	0.34%	0.43%	0.33%	0.24%	0.37%	0.30%	0.37%	0.51%	0.25%	0.06%	0.39%	0.24%	0.04%	-0.01%
		0.6054	0.8448	1.2921	1.6797	1.1264	0.8127	1.2351	1.1392	1.3303	1.7216	0.9067	0.2389	1.2470	0.8239	0.1437	-0.0438
NETHERLA	NDS								<u> </u>								
CAR (0)		1.78%	1.48%	1.34%	1.29%	1.71%	1.48%	1.41%	1.20%	2.14%	1.86%	1.67%	1.42%	1.94%	1.84%	1.58%	1.33%
		6.0157	5.3365	5.3130	5.4483	4.6071	4.3797	4.3366	3.7011	6.1839	5.4054	5.0226	4.0522	4.9084	5.1906	4.3165	3.7259
CAR (1)		1.67%	1.44%	1.25%	1.20%	1.57%	1.47%	1.27%	1.05%	1.98%	1.68%	1.47%	1.24%	1.64%	1.66%	1.35%	1.20%
		5.4293	5.3039	5.2437	5.2129	3.8770	4.1272	3.6932	3.0989	5.2606	4.6537	4.0679	3.4403	4.1717	4.5274	3.6300	3.4065
BHAR (0)		1.67%	1.35%	0.73%	1.68%	1.75%	1.73%	1.61%	2.17%	2.17%	2.44%	1.74%	1.73%	1.76%	2.18%	1.37%	1.35%
		4.8264	3.1976	1.6218	3.4091	4.1599	4.4498	3.5824	6.1297	5.6045	6.2929	5.1525	4.5538	4.2612	5.1110	3.2126	3.0623
BHAR (1)		1.52%	1.08%	0.46%	1.58%	1.53%	1.69%	1.59%	2.02%	2.44%	2.27%	1.54%	1.62%	1.50%	1.69%	1.20%	1.00%
		4.5742	3.0418	1.1135	3.0501	3.7124	4.1817	3.4832	5.5482	6.1238	5.2656	4.4865	4.0184	3.5265	3.9543	2.8194	2.3703
NEWZEALA	ND	4 (=0/	4.450/	4.0=0/	1.000/	2.450/	1.040/	1 (50)	1.250/	2.120/	4.050/	4.500/	1.250/	2.400/	1.040/	4.500/	1 220/
CAR (0)		1.67%	1.47%	1.07%	1.00%	2.47%	1.84%	1.65%	1.36%	2.12%	1.95%	1.58%	1.37%	2.49%	1.84%	1.50%	1.32%
G17 (1)		2.5878	3.1820	3.1265	3.6580	3.8823	3.9997	4.9134	5.0126	3.5692	4.6444	4.6436	4.6789	4.3354	4.6626	4.6153	4.7044
CAR (1)		1.72%	1.25%	1.01%	0.83%	2.23%	1.67%	1.48%	1.19%	2.09%	1.77%	1.45%	1.25%	2.16%	1.52%	1.34%	1.15%
DILAD (0)		3.1151	3.2625	3.5914	3.6562	4.0255	4.3449	5.0935	4.9306	4.3058	5.0608	4.8926	4.7775	4.7441	4.4607	4.6152	4.4315
BHAR (0)		1.53%	1.14%	1.17%	0.32%	2.22%	1.74%	1.13%	1.19%	1.94%	1.32%	1.70%	1.23%	2.82%	2.58%	1.89%	1.27%
DILAD (1)		2.3985	3.0173	1.8480	0.9878	4.6601	4.5237	2.4717	3.2272	3.9266	3.3828	5.2199	3.3450	4.2515	3.8912	2.8405	3.1558
BHAR (1)		1.63%	0.71%	0.80%	0.09%	2.16%	1.27%	1.10%	0.85%	2.15%	1.35%	1.75%	1.32%	2.39%	1.86%	1.52%	1.37%
		3.5146	1.6428	1.5768	0.2093	4.0588	2.8844	2.4988	2.1003	4.7266	3.4851	5.2258	3.6102	4.5146	3.7132	3.1299	3.5800

IVOL	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	Y																
CAR (0)		0.81%	0.99%	0.96%	0.87%	1.05%	1.12%	0.95%	0.74%	1.09%	1.04%	0.77%	0.37%	1.32%	0.99%	0.61%	0.32%
		1.7952	2.7419	3.4240	3.4880	2.0072	2.7267	2.7871	2.3370	2.3187	2.3768	1.8949	1.0004	2.5640	2.0695	1.3950	0.7854
CAR (1)		0.74%	1.01%	1.00%	0.81%	1.27%	1.29%	0.99%	0.57%	1.10%	0.90%	0.57%	0.12%	0.93%	0.64%	0.33%	0.06%
		1.5360	2.9647	3.5439	3.1969	2.7050	3.5109	3.0706	1.8423	2.3602	2.0879	1.3768	0.3281	1.8075	1.3464	0.7419	0.1525
BHAR (0)		0.72%	1.08%	0.62%	0.49%	0.84%	0.83%	0.47%	0.95%	2.07%	1.22%	0.91%	0.77%	1.66%	1.71%	0.90%	0.85%
		1.4166	1.9785	1.3140	1.1457	1.2993	1.3121	0.7910	2.1477	3.4647	2.1003	1.5244	1.3466	2.9226	2.7955	1.7651	1.4941
BHAR (1)		0.84%	1.32%	0.59%	0.27%	1.58%	1.01%	0.38%	0.65%	1.74%	1.02%	0.74%	0.36%	1.25%	1.29%	0.90%	0.63%
		1.5587	2.8427	1.4078	0.5927	2.5424	1.7368	0.6540	1.4806	3.0105	1.6646	1.2579	0.6344	2.0740	2.0383	1.7479	1.0347
PORTUGA	L																
CAR (0)		-0.07%	0.47%	0.33%	0.25%	0.54%	0.61%	0.56%	0.39%	0.23%	0.49%	0.36%	0.19%	0.15%	0.16%	0.18%	0.03%
		-0.1387	1.2369	0.9885	0.9260	1.0405	1.3438	1.3713	1.0679	0.4646	1.0354	0.8446	0.4924	0.2558	0.3278	0.3902	0.0791
CAR (1)		0.43%	0.66%	0.29%	0.28%	0.81%	0.78%	0.50%	0.37%	0.62%	0.51%	0.41%	0.19%	0.26%	0.20%	0.15%	-0.04%
		0.8694	1.7516	0.7967	0.9432	1.6396	1.6962	1.2266	0.9757	1.2737	1.0622	0.9580	0.4680	0.4961	0.4126	0.3258	-0.0912
BHAR (0)		-0.05%	1.01%	1.13%	0.84%	0.80%	0.77%	1.39%	1.24%	-0.13%	0.45%	0.59%	0.61%	0.02%	-0.18%	0.33%	-0.34%
		-0.0742	1.4286	1.4540	1.1746	1.1996	1.1307	1.8856	1.7974	-0.2615	0.8219	1.1270	1.0913	0.0364	-0.3362	0.6323	-0.6021
BHAR (1)		0.44%	1.33%	1.59%	0.97%	1.53%	1.43%	1.70%	0.69%	0.30%	1.00%	0.67%	0.43%	-0.03%	-0.49%	0.21%	-0.53%
		0.6602	1.8582	1.8912	1.3996	2.5589	2.0070	2.2827	1.0539	0.5686	1.9284	1.2765	0.6760	-0.0507	-0.7908	0.4200	-1.0081
SINGAPOI	RE																
CAR (0)		1.15%	1.39%	1.08%	0.85%	1.26%	1.30%	1.09%	0.86%	1.52%	1.39%	1.13%	0.92%	1.45%	1.27%	1.09%	0.87%
		2.6640	4.3759	4.0148	3.3853	2.6965	3.4498	3.0247	2.6483	3.1160	2.9885	2.6732	2.4926	2.7969	2.6650	2.5321	2.3505
CAR (1)		1.29%	1.36%	1.06%	0.76%	1.39%	1.27%	1.00%	0.71%	1.28%	1.25%	1.01%	0.74%	1.21%	1.19%	0.97%	0.72%
		3.1072	4.9398	4.1305	3.2819	3.3934	3.4515	2.6818	2.2328	2.5612	2.6587	2.4377	2.0711	2.2819	2.5498	2.3792	2.0577
BHAR (0)		0.86%	0.92%	1.09%	0.11%	1.44%	1.08%	0.88%	0.66%	1.64%	1.14%	1.14%	0.76%	1.28%	1.55%	1.59%	1.29%
		1.6057	1.9173	3.4434	0.2495	2.4409	2.4204	1.6649	1.4059	3.1500	2.1500	2.5087	1.4341	2.6682	3.1270	3.2694	2.8861
BHAR (1)		1.19%	0.54%	1.23%	-0.04%	1.04%	1.16%	1.42%	0.80%	0.89%	1.16%	1.31%	0.64%	1.16%	1.65%	1.25%	1.10%
		2.6851	1.3491	3.1116	-0.0900	1.9178	2.4794	2.5555	1.8087	1.5082	2.0625	3.0096	1.1412	2.0826	3.0392	2.5802	2.3570
SPAIN																	
CAR (0)		0.10%	0.27%	0.42%	0.57%	0.02%	0.19%	0.59%	0.51%	0.16%	0.46%	0.61%	0.41%	0.92%	0.67%	0.67%	0.48%
		0.3343	0.9567	1.7249	2.6820	0.0622	0.5608	2.0085	1.9238	0.3793	1.1815	1.8582	1.3238	2.2725	1.7772	1.8915	1.4648
CAR (1)		0.10%	0.30%	0.47%	0.56%	-0.01%	0.44%	0.67%	0.48%	0.44%	0.63%	0.54%	0.37%	0.53%	0.52%	0.50%	0.34%
		0.2758	1.1267	1.9711	2.8288	-0.0243	1.2790	2.2759	1.7705	1.0278	1.6968	1.6458	1.2166	1.2765	1.4078	1.4276	1.0187
BHAR (0)		0.30%	-0.69%	0.07%	0.25%	-0.10%	0.07%	0.48%	-0.19%	0.51%	0.48%	0.94%	0.29%	0.95%	1.25%	0.54%	0.44%
		0.9128	-1.5161	0.1839	0.5452	-0.2003	0.1197	0.8358	-0.3811	1.1082	0.9314	1.8838	0.5452	2.2136	2.7710	1.0746	0.8715
BHAR (1)		0.08%	-0.28%	0.23%	0.48%	-0.04%	0.38%	0.80%	-0.34%	0.72%	0.45%	0.80%	0.21%	0.23%	0.81%	0.23%	0.26%
		0.1916	-0.6056	0.5396	0.9652	-0.0724	0.7240	1.4288	-0.6850	1.5301	0.7809	1.6745	0.3868	0.4617	1.6981	0.4673	0.4958

IVOL	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		1.08%	1.28%	1.08%	1.01%	1.96%	1.80%	1.60%	1.35%	2.42%	2.18%	1.71%	1.37%	2.48%	2.05%	1.66%	1.34%
		2.5855	3.9181	3.8859	4.2126	4.1452	4.0861	4.0808	3.8508	4.7711	4.7164	4.0463	3.7675	5.0403	4.4214	3.9327	3.5266
CAR (1)		1.42%	1.34%	1.10%	0.96%	2.17%	1.84%	1.57%	1.24%	2.56%	1.91%	1.51%	1.17%	2.48%	1.90%	1.52%	1.20%
		3.6670	4.5030	4.1046	3.9190	4.5162	4.2054	4.1144	3.7005	5.2013	4.2640	3.7282	3.3680	5.4547	4.3092	3.8395	3.2637
BHAR (0)		1.04%	1.36%	1.02%	1.00%	2.01%	1.59%	1.23%	1.26%	2.43%	2.26%	1.76%	1.08%	2.33%	2.11%	2.02%	1.97%
		1.7981	3.2158	2.2508	2.1946	3.5050	3.0127	1.9912	2.4106	4.5237	3.9159	3.9173	2.2649	4.2698	4.0076	3.9614	3.7109
BHAR (1)		1.29%	1.36%	1.18%	1.42%	2.22%	1.84%	1.26%	1.01%	2.53%	2.12%	1.84%	0.98%	2.81%	2.21%	1.90%	2.18%
		2.5004	3.2704	2.9288	2.9679	3.7826	3.3988	2.0032	1.9699	4.5767	4.0525	4.4022	2.1127	5.3410	4.2316	3.7685	4.1416
SWITZERLA	ND.																
CAR (0)		0.77%	0.87%	0.85%	0.84%	1.39%	1.40%	1.25%	0.98%	1.66%	1.59%	1.15%	0.87%	1.55%	1.19%	0.92%	0.70%
		3.6372	4.1792	4.7265	5.3880	4.8542	5.4637	5.4496	4.5932	5.4397	5.9105	5.0319	4.1741	5.0248	4.4030	3.8803	3.1874
CAR (1)		0.94%	0.97%	0.89%	0.76%	1.43%	1.35%	1.10%	0.86%	1.58%	1.33%	0.92%	0.70%	1.30%	1.01%	0.75%	0.55%
		4.2508	4.6161	5.0169	4.8130	4.9802	5.4056	4.8535	4.0720	5.3160	5.2001	4.2896	3.4251	4.3863	3.8855	3.2150	2.4913
BHAR (0)		0.64%	0.98%	0.59%	1.35%	1.17%	1.56%	1.04%	1.35%	1.51%	1.70%	1.47%	0.88%	1.54%	1.07%	0.89%	0.87%
		2.4853	2.9980	1.8019	3.5789	3.4857	4.7143	3.6919	3.5150	3.8749	4.7589	4.4846	2.8092	4.5602	3.2598	2.8119	3.3025
BHAR (1)		0.86%	1.05%	0.44%	1.19%	1.55%	1.55%	1.04%	1.26%	1.52%	1.31%	1.20%	0.76%	1.40%	1.03%	0.50%	0.88%
		3.4006	3.0222	1.4527	3.0459	4.5492	4.6770	3.7535	3.2931	4.0845	3.8819	3.8342	2.2928	4.4744	3.3154	1.6645	3.3328
UK																	
CAR (0)		1.36%	1.36%	1.18%	1.22%	1.93%	1.59%	1.49%	1.32%	1.99%	1.82%	1.56%	1.32%	2.15%	1.79%	1.48%	1.20%
		6.8351	7.5733	7.9172	9.5194	8.3646	7.9229	8.5905	7.9816	8.8409	8.4680	7.7107	6.7527	8.8272	7.3952	6.4598	5.2986
CAR (1)		1.43%	1.28%	1.15%	1.12%	1.71%	1.46%	1.36%	1.17%	1.91%	1.67%	1.43%	1.15%	1.94%	1.59%	1.29%	1.04%
		7.5199	7.4863	8.1657	8.8679	7.8344	7.6719	8.1677	7.3429	9.0902	7.8595	7.0729	5.8558	7.9967	6.6171	5.6410	4.5974
BHAR (0)		1.43%	1.51%	1.54%	1.35%	2.03%	1.80%	1.20%	1.43%	2.03%	1.81%	1.54%	1.26%	2.13%	1.91%	1.53%	1.13%
		6.4762	6.1000	7.1353	5.3656	8.5886	8.5740	4.6356	6.4526	8.7722	6.8311	7.0078	5.1711	8.3378	7.6437	5.5532	4.4310
BHAR (1)		1.73%	1.42%	1.46%	1.25%	1.82%	1.67%	1.14%	1.25%	2.02%	1.69%	1.45%	1.00%	2.06%	1.61%	1.23%	0.96%
		7.2980	5.8763	6.2738	5.2763	8.1812	8.9173	4.8690	6.1113	9.3427	6.2569	5.8958	4.1459	8.5110	6.6887	4.5695	3.9961
US																	
CAR (0)		0.03%	0.19%	0.21%	0.20%	0.35%	0.45%	0.41%	0.27%	0.55%	0.55%	0.38%	0.20%	0.51%	0.39%	0.22%	0.06%
		0.1600	1.0563	1.2849	1.3244	1.4858	2.0704	2.0346	1.4144	2.1219	2.2076	1.5868	0.9167	1.8468	1.4237	0.8643	0.2476
CAR (1)		0.29%	0.32%	0.31%	0.20%	0.51%	0.51%	0.40%	0.21%	0.70%	0.54%	0.33%	0.12%	0.48%	0.32%	0.13%	-0.02%
		1.5047	1.9260	2.0604	1.4182	2.1911	2.3852	1.9776	1.1261	2.7432	2.1781	1.4113	0.5499	1.7523	1.1861	0.5332	-0.0988
BHAR (0)		0.08%	0.60%	0.21%	0.32%	0.36%	0.36%	0.28%	0.32%	0.61%	0.63%	0.48%	0.22%	0.58%	0.42%	0.36%	0.12%
		0.3453	2.9054	0.7343	1.4075	1.3314	1.3483	0.9660	1.4755	2.2164	2.2736	2.0338	0.9068	2.0516	1.3844	1.2491	0.4294
BHAR (1)		0.35%	0.52%	0.21%	0.26%	0.51%	0.38%	0.20%	0.10%	0.67%	0.52%	0.29%	0.09%	0.38%	0.22%	0.16%	-0.07%
		1.6978	2.4922	0.8007	1.0466	2.1566	1.5865	0.6796	0.4740	2.4972	1.8190	1.1190	0.3317	1.2917	0.7262	0.5709	-0.2418

Table 5.6. Monthly raw returns of cross-sectional momentum strategy under different implementations

This table reports the average monthly returns for 16 (J x H) cross-sectional momentum strategies across the 24 stock markets along with an indication of significant levels based on the Newey–West adjusted t-statistics. At the end of each month if using monthly rebalancing or at the end of each holding period if using buy-and-hold, all stocks are ranked based on their average returns over past J (J = 3, 6, 9 and 12 months). The Winner (loser) portfolio contains top (bottom) 16% stocks. All stocks in the winner and loser portfolios are equally weighted in Panel A, market value weighted in Panel B and inversed volatility weighted in Panel C. Following Moskowitz et al. (2012), inversed volatility weighting scheme is given lower proportion to higher volatile stocks in the portfolio; that is the weight of the stock in portfolio is estimated by an inverse proportion of its *ex ante* volatility from daily returns over J (J = 3, 6, 9 and 12 months). The proportions of stocks in the portfolios remain same during the H (H = 3, 6, 9 and 12 months) holding period. We implement portfolio constructions as in (Jegadeesh & Titman, 1993) for buy-and-hold and monthly-rebalancing. For buy-and-hold (BHAR), the procedure is rolling forward at the end of each H holding period to generate a new winner and loser portfolios. For monthly-rebalancing (CAR), the procedure is rolling forward at the end of each month to produce an overlapping winner (loser) portfolio which contains of winner (loser) portfolio of the past J month. The return of the winner (loser) portfolio is then the simple average return of the H winner (loser) portfolios. CAR (1) and BHAR (1) indicates one-month gap between the formation and the holding periods to avoid the bid-ask bounce, whereas CAR (0) and BHAR (0) indicates no gap between the formation and the holding periods. The return on momentum portfolio is then estimated as return difference return between winner and loser portfolio at each month.

Panel A. The cross-sectional momentum using equal-weighted return

EW	J =		3				6	i			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAI	JA																
CAR (0)		0.22%	0.36%	0.28%	0.24%	0.46%	0.44%	0.35%	0.16%	0.43%	0.46%	0.21%	-0.01%	0.52%	0.23%	-0.02%	-0.20%
		0.7607	1.4848	1.4173	1.5077	1.3703	1.5292	1.4946	0.8121	1.2859	1.5933	0.8794	-0.0348	1.5987	0.8207	-0.0628	-0.9141
CAR (1)		0.72%	0.53%	0.41%	0.24%	0.72%	0.57%	0.34%	0.10%	0.72%	0.46%	0.17%	-0.09%	0.44%	0.12%	-0.13%	-0.31%
		2.6595	2.4490	2.3838	1.6023	2.3528	2.1599	1.5872	0.5162	2.3555	1.7450	0.7569	-0.4288	1.4797	0.4674	-0.5648	-1.4693
BHAR (0)		0.23%	0.44%	0.06%	-0.06%	0.58%	0.39%	-0.04%	0.02%	0.45%	0.38%	0.23%	0.02%	0.52%	0.19%	0.04%	-0.03%
		0.7254	1.7789	0.2142	-0.2574	1.5318	1.2085	-0.1216	0.0910	1.1962	1.2473	0.8508	0.0628	1.4868	0.6003	0.1510	-0.1046
BHAR (1)		0.88%	0.44%	0.03%	-0.14%	0.87%	0.50%	-0.04%	-0.13%	0.63%	0.25%	0.18%	-0.04%	0.45%	0.04%	-0.25%	-0.23%
		3.0716	1.8603	0.0974	-0.5867	2.5482	1.6473	-0.1345	-0.6243	1.8728	0.8341	0.7022	-0.1628	1.4385	0.1228	-0.8812	-0.7618
AUSTRI	A																
CAR (0)		0.81%	0.71%	0.73%	0.72%	1.00%	1.00%	0.98%	0.91%	1.18%	1.15%	1.06%	0.86%	1.23%	1.09%	0.92%	0.69%
		2.7431	2.6864	3.0234	3.4194	2.8280	2.9966	3.2817	3.4316	2.9648	3.1068	3.1166	2.8847	3.0379	2.8411	2.6377	2.2239
CAR (1)		0.98%	0.76%	0.79%	0.72%	1.15%	1.06%	0.99%	0.85%	1.36%	1.13%	1.01%	0.75%	1.18%	1.01%	0.81%	0.59%
		3.2019	2.9609	3.2828	3.4528	3.3642	3.2838	3.4343	3.3385	3.5256	3.1440	3.0988	2.6271	2.9738	2.7428	2.4328	1.9950
BHAR (0)		0.79%	0.53%	0.58%	0.23%	0.93%	0.76%	0.94%	1.07%	1.15%	1.40%	1.11%	1.17%	1.15%	0.91%	0.82%	0.33%
		2.3889	1.6839	1.4205	0.7926	2.6211	1.9965	2.4749	3.4278	2.8272	3.2091	3.1489	3.2215	2.7397	2.2006	1.9582	0.8594
BHAR (1)		0.97%	0.52%	0.48%	0.25%	1.20%	0.92%	0.97%	0.94%	1.30%	1.22%	1.16%	1.01%	1.13%	0.91%	0.55%	0.24%
		2.9822	1.5393	1.1921	0.8371	3.3790	2.5629	2.8970	3.0349	3.2025	2.7715	3.3048	2.8013	2.7394	2.3354	1.3484	0.6295
BELGIU	M				1				-				1				
CAR (0)		0.85%	0.91%	0.89%	0.88%	1.31%	1.33%	1.31%	1.13%	1.39%	1.44%	1.26%	1.07%	1.61%	1.45%	1.23%	1.02%
		3.3549	3.9390	4.3314	4.5810	4.3777	4.6316	4.9289	4.6425	4.2568	4.6745	4.4127	4.0320	4.9497	4.6770	4.2129	3.6601
CAR (1)		1.10%	0.98%	0.97%	0.85%	1.40%	1.41%	1.28%	1.06%	1.60%	1.44%	1.23%	1.01%	1.62%	1.36%	1.13%	0.91%
		4.5098	4.3856	4.7471	4.6398	4.7777	4.9926	5.0069	4.4495	5.0160	4.8092	4.4491	3.8854	5.2785	4.5456	3.9703	3.3426
BHAR (0)		0.93%	0.70%	0.63%	0.53%	1.26%	1.32%	1.12%	1.23%	1.53%	1.55%	1.38%	1.29%	1.67%	1.44%	1.37%	0.79%
		3.2792	2.4898	2.3320	1.7543	3.9890	4.4678	3.7376	5.0020	4.6018	4.5208	4.3691	4.2883	4.8543	4.2044	4.2973	2.5565
BHAR (1)		1.01%	0.57%	0.72%	0.45%	1.29%	1.36%	1.07%	1.10%	1.60%	1.38%	1.32%	1.00%	1.58%	1.30%	1.17%	0.71%
		3.8577	1.9373	2.6135	1.5495	4.3838	4.7595	3.7270	4.6386	4.8955	4.0057	4.4869	3.3704	5.0521	4.0640	3.6997	2.2672
CANAD	A								1								
CAR (0)		0.59%	0.51%	0.58%	0.62%	0.80%	0.82%	0.86%	0.61%	1.03%	1.01%	0.76%	0.40%	1.19%	0.78%	0.45%	0.12%
		1.7200	1.8257	2.3224	3.0033	2.0708	2.3338	2.8455	2.3724	2.5100	2.7648	2.3860	1.4383	3.0001	2.2046	1.4023	0.4133
CAR (1)		0.81%	0.66%	0.73%	0.59%	1.02%	0.97%	0.86%	0.48%	1.26%	1.02%	0.67%	0.24%	1.06%	0.61%	0.27%	-0.08%
		2.4879	2.3091	3.0820	3.0397	2.6842	2.8604	3.0539	2.0127	3.2104	2.9804	2.2396	0.8919	2.8626	1.8192	0.8600	-0.2806
BHAR (0)		0.66%	0.31%	0.55%	0.57%	0.54%	0.59%	0.54%	0.64%	0.91%	0.79%	0.62%	0.43%	1.15%	0.66%	0.48%	0.07%
		1.6691	0.7561	1.4903	1.6328	1.2112	1.4874	1.3368	1.9960	1.9510	1.7353	1.8476	1.2036	2.7924	1.7947	1.3337	0.1950
BHAR (1)		0.88%	0.44%	0.73%	0.49%	1.00%	0.96%	0.61%	0.43%	1.16%	0.80%	0.49%	0.40%	0.96%	0.53%	0.32%	-0.08%
		2.5081	1.1702	2.2567	1.3815	2.4236	2.5202	1.6267	1.3104	2.6572	2.0546	1.4972	1.0704	2.5070	1.5478	0.9703	-0.2503

EW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	K																
CAR (0)		1.11%	1.13%	1.05%	1.02%	1.54%	1.49%	1.40%	1.22%	1.72%	1.66%	1.43%	1.16%	1.90%	1.63%	1.34%	1.07%
		5.0562	6.0649	6.0734	6.5468	6.4193	6.3051	6.3275	5.7775	6.2593	6.2993	5.4681	4.6577	6.6647	5.8052	4.8082	4.0901
CAR (1)		1.25%	1.14%	1.08%	0.98%	1.62%	1.49%	1.36%	1.11%	1.78%	1.59%	1.30%	1.02%	1.77%	1.43%	1.16%	0.90%
		5.9124	6.2181	6.2773	6.1581	6.7613	6.1888	6.1051	5.1942	6.5002	5.9077	4.9535	4.0899	6.2079	5.1131	4.1926	3.5059
BHAR (0)		1.14%	1.00%	0.74%	1.03%	1.48%	1.29%	1.19%	1.44%	1.67%	1.33%	1.49%	0.96%	1.93%	1.64%	1.35%	0.87%
		4.8144	4.0656	2.9604	4.2180	5.5769	4.3377	4.1190	5.5442	5.8397	4.5778	4.9217	3.3648	6.2712	5.3550	4.4981	2.9310
BHAR (1)		1.14%	0.97%	0.94%	0.99%	1.64%	1.31%	1.22%	1.32%	1.70%	1.44%	1.37%	0.80%	1.71%	1.34%	1.18%	0.62%
		4.9485	4.0635	3.5838	4.2304	6.3810	4.2985	4.1560	5.3330	5.9433	4.9024	4.7538	2.7022	5.8001	4.4373	3.8402	2.1189
FINLANI	D																
CAR (0)		0.74%	0.70%	0.78%	0.67%	1.13%	1.09%	1.06%	0.81%	1.23%	1.11%	0.89%	0.63%	1.04%	0.81%	0.64%	0.45%
		2.2437	2.6675	3.4937	3.1867	3.1126	3.3157	3.6424	2.8111	3.2536	3.0981	2.4617	1.7403	2.5003	1.9469	1.5592	1.1311
CAR (1)		1.00%	0.81%	0.82%	0.65%	1.21%	1.14%	0.99%	0.69%	1.24%	1.01%	0.77%	0.48%	1.00%	0.69%	0.53%	0.37%
		3.2478	3.3575	3.8828	3.0738	3.4482	3.6927	3.3956	2.3555	3.3033	2.7143	2.0294	1.3077	2.3154	1.6189	1.2733	0.9154
BHAR (0)		0.42%	0.29%	0.86%	0.44%	1.01%	1.08%	0.81%	1.30%	1.12%	0.83%	0.71%	0.43%	0.92%	0.97%	0.81%	0.69%
		0.9254	0.6323	2.1162	0.9044	2.3798	2.8241	2.3131	3.5703	2.7448	1.8944	1.8083	1.0375	2.0941	2.3407	1.7376	1.7394
BHAR (1)		1.07%	0.36%	1.02%	0.45%	1.22%	1.20%	0.74%	1.04%	1.20%	0.68%	0.51%	0.35%	0.91%	0.76%	0.48%	0.53%
		2.9980	0.8775	2.6711	0.9324	3.3116	3.5110	2.0956	2.8882	2.9830	1.4995	1.2328	0.8106	2.0849	1.9001	1.0264	1.4046
FRANCE	E																
CAR (0)		-0.08%	0.37%	0.45%	0.53%	0.49%	0.71%	0.76%	0.68%	0.66%	0.87%	0.79%	0.64%	0.84%	0.82%	0.69%	0.54%
		-0.2662	1.5148	2.1830	2.9253	1.4982	2.4874	3.0510	2.9243	1.9584	2.8490	2.7264	2.3945	2.4450	2.5243	2.2333	1.8642
CAR (1)		0.68%	0.72%	0.71%	0.64%	1.01%	0.96%	0.89%	0.71%	1.09%	1.01%	0.84%	0.62%	1.05%	0.86%	0.68%	0.52%
		2.4487	3.2074	3.7566	3.7374	3.3278	3.6174	3.6438	3.1457	3.3925	3.3857	2.9379	2.3702	3.2354	2.7263	2.2577	1.8350
BHAR (0)		-0.15%	-0.03%	0.55%	-0.10%	0.48%	0.74%	0.40%	0.52%	0.57%	0.63%	0.86%	0.60%	0.79%	0.85%	0.87%	0.51%
		-0.4339	-0.0825	1.7987	-0.3126	1.3210	2.3188	1.0699	2.0320	1.5975	1.8080	2.9094	1.9524	2.2501	2.4359	2.6496	1.5962
BHAR (1)		0.52%	0.21%	0.73%	0.05%	0.96%	0.92%	0.55%	0.50%	0.93%	0.69%	0.90%	0.37%	0.95%	0.87%	0.76%	0.54%
		1.7038	0.7335	2.5627	0.1702	3.0212	3.0659	1.5454	2.1070	2.7287	1.9489	2.9711	1.1232	2.7970	2.6889	2.3236	1.7213
GERMAN	ΙΥ																
CAR (0)		0.77%	0.78%	0.77%	0.75%	1.10%	1.06%	1.03%	0.83%	1.23%	1.13%	0.95%	0.74%	1.32%	1.05%	0.84%	0.68%
		2.7167	3.3605	3.6755	3.9789	3.5239	3.8071	3.9735	3.4233	3.7090	3.6249	3.1228	2.6670	3.9055	3.2107	2.7358	2.3662
CAR (1)		1.14%	0.91%	0.86%	0.75%	1.26%	1.12%	1.00%	0.76%	1.34%	1.10%	0.86%	0.66%	1.31%	0.95%	0.76%	0.61%
		4.2739	4.1483	4.2861	4.1240	4.3514	4.0885	3.8414	3.1929	4.0993	3.5057	2.8696	2.4167	3.9944	2.9666	2.5309	2.1724
BHAR (0)		0.72%	0.60%	0.78%	0.31%	1.14%	1.21%	1.02%	0.94%	1.23%	1.08%	0.99%	0.65%	1.36%	1.15%	0.85%	0.60%
		2.1948	1.8760	2.6449	0.8247	3.2782	3.9221	2.7154	2.8748	3.4042	2.9862	3.3050	1.7578	4.0344	3.6009	2.5709	1.9882
BHAR (1)		1.18%	0.56%	0.86%	0.24%	1.18%	1.16%	0.98%	0.74%	1.28%	0.97%	0.79%	0.45%	1.21%	0.92%	0.64%	0.56%
		3.8457	1.8698	2.9679	0.5888	3.8410	3.6825	2.6509	2.2667	3.8461	2.6873	2.5617	1.1986	3.6739	3.0667	2.0598	1.8599

EW	J =		3				6				9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		0.19%	0.31%	0.20%	0.14%	0.30%	0.30%	0.23%	0.05%	0.22%	0.20%	-0.04%	-0.18%	0.05%	-0.07%	-0.21%	-0.33%
		0.4476	0.8751	0.6581	0.5079	0.6196	0.6869	0.5810	0.1325	0.4364	0.4273	-0.0877	-0.4460	0.0938	-0.1428	-0.4445	-0.7209
CAR (1)		0.40%	0.35%	0.25%	0.13%	0.44%	0.36%	0.22%	0.02%	0.42%	0.20%	-0.04%	-0.22%	0.09%	-0.12%	-0.27%	-0.39%
		0.9718	1.0126	0.8317	0.4529	0.9611	0.8764	0.5678	0.0466	0.8781	0.4289	-0.0888	-0.5331	0.1693	-0.2403	-0.5539	-0.8331
BHAR (0)		-0.04%	0.63%	0.18%	0.76%	0.45%	0.52%	0.16%	0.29%	0.33%	0.36%	-0.23%	-0.14%	-0.01%	-0.38%	-0.20%	-1.04%
		-0.0831	1.3662	0.4024	1.8321	0.8552	1.0048	0.3412	0.5831	0.6401	0.7348	-0.4024	-0.2713	-0.0179	-0.6726	-0.4168	-1.6782
BHAR (1)		0.58%	0.72%	0.22%	$\boldsymbol{0.86\%}$	0.44%	0.31%	0.07%	0.25%	0.49%	0.26%	-0.03%	-0.38%	0.05%	-0.39%	-0.36%	-0.91%
		1.1876	1.4392	0.4822	1.9399	0.9176	0.6497	0.1473	0.5462	0.9505	0.5337	-0.0605	-0.7502	0.0962	-0.7124	-0.8441	-1.5933
HONGKON	IG																
CAR (0)		0.16%	0.29%	0.18%	0.03%	0.35%	0.33%	0.11%	-0.12%	0.18%	0.05%	-0.17%	-0.43%	-0.06%	-0.23%	-0.51%	-0.66%
		0.4631	1.1471	0.7719	0.1515	0.9362	0.9914	0.3605	-0.4672	0.4550	0.1278	-0.5029	-1.3788	-0.1537	-0.6014	-1.4252	-2.0461
CAR (1)		0.25%	0.33%	0.14%	-0.05%	0.48%	0.30%	0.00%	-0.25%	0.08%	-0.08%	-0.35%	-0.56%	-0.19%	-0.38%	-0.65%	-0.75%
		0.8161	1.3355	0.6296	-0.2639	1.3707	0.9227	0.0079	-0.9334	0.1914	-0.2093	-1.0249	-1.8309	-0.4675	-1.0046	-1.8597	-2.4030
BHAR (0)		0.04%	-0.04%	-0.23%	-0.10%	0.32%	0.34%	-0.05%	-0.08%	0.17%	-0.04%	-0.13%	-0.54%	-0.21%	-0.19%	-0.62%	-0.57%
		0.1100	-0.0909	-0.6323	-0.2774	0.7265	0.8896	-0.1073	-0.2479	0.3696	-0.0881	-0.3406	-1.4084	-0.4672	-0.5025	-1.5509	-1.6130
BHAR (1)		-0.11%	-0.07%	-0.30%	-0.22%	0.17%	0.18%	-0.19%	-0.28%	-0.06%	-0.23%	-0.40%	-0.62%	-0.47%	-0.40%	-0.75%	-0.73%
-		-0.3045	-0.1848	-0.8891	-0.6277	0.4389	0.5182	-0.4622	-0.8712	-0.1533	-0.5037	-1.0638	-1.7406	-1.0894	-1.0957	-1.8592	-2.1332
IRELAND)																
CAR (0)		0.56%	0.57%	0.43%	0.47%	0.64%	0.46%	0.53%	0.53%	0.52%	0.58%	0.57%	0.50%	0.79%	0.65%	0.53%	0.37%
		1.3798	1.5312	1.3161	1.7810	1.1958	0.9287	1.2449	1.3679	0.9491	1.1385	1.1625	1.0853	1.4198	1.1850	0.9992	0.7401
CAR (1)		1.01%	0.68%	0.61%	0.50%	0.74%	0.56%	0.57%	0.49%	0.64%	0.61%	0.57%	0.41%	0.78%	0.62%	0.46%	0.24%
		2.4638	1.8243	1.9758	1.8615	1.3793	1.1514	1.3474	1.2670	1.2119	1.1689	1.1474	0.8844	1.3612	1.1048	0.8534	0.4845
BHAR (0)		0.97%	-0.27%	-0.49%	0.23%	0.33%	0.70%	-0.28%	1.30%	0.57%	0.35%	0.88%	0.82%	0.86%	0.90%	0.96%	-0.03%
		1.9738	-0.5071	-0.8806	0.4476	0.5558	1.1364	-0.4414	2.5355	0.9813	0.6064	1.5582	1.5825	1.4823	1.6230	1.5950	-0.0569
BHAR (1)		0.85%	-0.13%	-0.35%	0.79%	0.44%	0.59%	-0.01%	0.98%	0.22%	0.61%	0.64%	0.44%	0.55%	0.57%	0.62%	-0.24%
ī		1.7233	-0.2658	-0.6396	1.5993	0.7720	0.9503	-0.0216	2.0029	0.3992	1.1407	1.1228	0.8697	0.9709	1.0250	1.0086	-0.4069
ISRAEL																	
CAR (0)		-0.41%	-0.09%	-0.04%	-0.08%	0.00%	0.11%	0.02%	-0.10%	-0.01%	0.04%	-0.07%	-0.21%	0.06%	-0.02%	-0.14%	-0.30%
		-1.7888	-0.4703	-0.2528	-0.5162	0.0024	0.4151	0.1048	-0.4735	-0.0380	0.1214	-0.2761	-0.8504	0.1881	-0.0650	-0.5193	-1.1329
CAR (1)		-0.04%	0.13%	0.10%	-0.05%	0.31%	0.26%	0.05%	-0.09%	0.20%	0.07%	-0.07%	-0.24%	0.11%	-0.01%	-0.19%	-0.34%
		-0.1725	0.6656	0.5543	-0.2957	1.1127	1.0011	0.2003	-0.4512	0.6595	0.2418	-0.2814	-1.0164	0.3672	-0.0358	-0.7202	-1.3183
BHAR (0)		-0.31%	-0.23%	-0.24%	-0.46%	-0.01%	0.03%	0.04%	0.19%	-0.08%	-0.06%	-0.03%	0.05%	0.09%	0.10%	-0.16%	-0.27%
		-1.2549	-0.8857	-0.7667	-1.6833	-0.0355	0.0917	0.1341	0.8042	-0.2277	-0.1726	-0.1076	0.1989	0.2765	0.3179	-0.4655	-0.8799
BHAR (1)		-0.01%	-0.06%	-0.17%	-0.41%	0.31%	0.15%	0.09%	0.11%	0.06%	0.00%	-0.09%	0.00%	0.10%	0.10%	-0.18%	-0.29%
-		-0.0409	-0.2219	-0.5383	-1.5525	1.0405	0.5329	0.3377	0.4770	0.1794	0.0046	-0.3016	-0.0149	0.3111	0.3346	-0.5572	-0.8856

EW	J =		3				6	i			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.77%	0.82%	0.88%	0.85%	1.06%	1.16%	1.15%	1.00%	1.39%	1.37%	1.19%	1.01%	1.48%	1.30%	1.10%	0.91%
		2.9221	3.5976	4.6501	4.8231	3.3519	4.1648	4.6222	4.2686	4.3644	4.5475	4.2140	3.7265	4.5464	4.2476	3.7600	3.1937
CAR (1)		0.90%	0.92%	0.92%	0.85%	1.17%	1.20%	1.13%	0.94%	1.49%	1.34%	1.11%	0.90%	1.42%	1.19%	0.98%	0.80%
		3.6873	4.4903	5.0807	5.0266	4.1331	4.5388	4.6332	4.0736	4.8102	4.5482	3.9210	3.3782	4.5591	3.9438	3.3560	2.8565
BHAR (0)		0.72%	0.71%	0.99%	0.75%	0.99%	1.16%	1.01%	0.84%	1.32%	1.21%	1.20%	0.79%	1.31%	1.18%	1.14%	0.83%
		2.2754	2.4918	3.1499	2.6009	2.7332	3.4325	3.0669	2.9623	3.7182	3.5545	3.8029	2.5360	3.8835	3.7575	3.6071	2.6039
BHAR (1)		0.85%	0.73%	1.12%	0.75%	1.09%	1.14%	1.03%	0.76%	1.46%	1.16%	1.04%	0.60%	1.31%	1.11%	1.03%	0.79%
		3.1112	2.7981	3.6419	2.6143	3.5142	3.4309	3.2164	2.7658	4.1959	3.4480	3.3827	1.8049	3.9935	3.5552	3.1515	2.5255
JAPAN																	
CAR (0)		-0.15%	-0.23%	-0.14%	-0.02%	-0.37%	-0.29%	-0.10%	-0.13%	-0.33%	-0.16%	-0.17%	-0.24%	-0.14%	-0.23%	-0.30%	-0.35%
		-0.6420	-1.0445	-0.7326	-0.1289	-1.1817	-1.0307	-0.4037	-0.5819	-1.0001	-0.5229	-0.5971	-0.9783	-0.4215	-0.7508	-1.0490	-1.3422
CAR (1)		-0.03%	-0.15%	-0.02%	-0.01%	-0.23%	-0.13%	-0.02%	-0.15%	-0.07%	-0.04%	-0.13%	-0.25%	-0.07%	-0.25%	-0.32%	-0.36%
		-0.1260	-0.7046	-0.1133	-0.0761	-0.7595	-0.4686	-0.0689	-0.6869	-0.2103	-0.1486	-0.4905	-1.0754	-0.2280	-0.8450	-1.1545	-1.4662
BHAR (0)		-0.24%	0.04%	-0.06%	0.18%	-0.27%	-0.28%	-0.14%	0.25%	-0.23%	-0.10%	0.07%	-0.10%	-0.10%	-0.18%	-0.29%	-0.39%
		-0.8504	0.1223	-0.1947	0.6409	-0.7742	-0.8327	-0.4466	0.9697	-0.6543	-0.2903	0.2569	-0.3864	-0.3036	-0.5594	-0.9460	-1.3505
BHAR (1)		-0.15%	0.01%	-0.10%	0.22%	-0.34%	-0.53%	-0.08%	0.09%	-0.23%	0.03%	-0.02%	-0.23%	-0.16%	-0.40%	-0.48%	-0.47%
-		-0.5766	0.0513	-0.3734	0.8858	-1.0822	-1.6239	-0.2911	0.3563	-0.7062	0.0949	-0.0724	-0.9232	-0.4888	-1.2650	-1.6534	-1.6189
NETHERLAN	IDS																
CAR (0)		1.01%	1.01%	0.98%	0.94%	1.43%	1.33%	1.28%	1.11%	1.45%	1.44%	1.26%	1.09%	1.63%	1.37%	1.21%	1.05%
		3.3332	4.4540	4.8218	4.7308	4.6080	4.8204	4.6994	4.1256	4.4394	4.4981	3.9333	3.5553	4.3327	3.7383	3.3826	3.0520
CAR (1)		1.04%	1.05%	1.00%	0.87%	1.43%	1.39%	1.22%	1.01%	1.56%	1.40%	1.19%	1.00%	1.55%	1.28%	1.09%	0.96%
		3.8956	4.9308	5.0136	4.4734	4.8169	4.9987	4.3069	3.7432	4.8287	4.1884	3.6324	3.2370	4.1079	3.4638	3.0628	2.8422
BHAR (0)		1.16%	0.89%	1.06%	0.55%	1.43%	1.42%	1.05%	1.42%	1.42%	1.19%	1.36%	1.22%	1.48%	1.30%	1.21%	0.98%
		3.1628	2.7213	3.1924	1.5196	3.9694	4.3725	2.6527	5.1835	4.0856	3.1240	4.2112	3.4515	3.5659	3.5117	3.1591	2.6137
BHAR (1)		1.17%	0.89%	0.88%	0.49%	1.35%	1.30%	1.00%	1.21%	1.58%	1.16%	1.33%	1.00%	1.34%	1.15%	1.08%	0.95%
		3.3185	2.8370	2.7140	1.4726	3.9755	3.9132	2.6606	4.1860	4.6630	3.0052	3.9897	2.6263	3.2303	3.0488	2.9321	2.5397
NEWZEALA	ND																
CAR (0)		1.04%	1.15%	0.93%	0.91%	1.54%	1.40%	1.25%	1.06%	1.50%	1.36%	1.13%	0.96%	1.60%	1.32%	1.05%	0.83%
		3.5502	4.3441	4.0263	4.7730	4.4908	4.5969	4.7185	4.5612	4.3160	4.3829	3.9564	3.6643	4.6348	4.0258	3.5204	3.0241
CAR (1)		1.29%	1.20%	1.01%	0.89%	1.66%	1.43%	1.23%	0.98%	1.60%	1.35%	1.07%	0.84%	1.50%	1.22%	0.94%	0.71%
		4.2358	4.4957	4.6321	4.8462	4.8721	4.8596	4.8088	4.3320	4.9631	4.4798	3.8612	3.2832	4.3699	3.8147	3.2435	2.6439
BHAR (0)		0.96%	1.20%	0.57%	0.23%	1.72%	1.53%	1.16%	0.91%	1.81%	1.50%	1.47%	1.25%	1.67%	1.51%	0.98%	1.07%
		2.9212	3.4923	1.7847	0.6928	4.4062	4.2341	3.1856	2.9739	4.7544	4.0604	4.2859	3.8963	4.6066	4.4885	3.2742	2.8120
BHAR (1)		1.46%	1.21%	0.58%	0.31%	1.85%	1.42%	1.19%	0.66%	1.83%	1.51%	1.29%	1.17%	1.56%	1.24%	0.79%	1.01%
		3.7201	3.6031	1.7306	0.9198	4.7859	4.0684	3.2894	2.1786	4.7643	4.3306	3.7142	3.8722	4.2548	3.5338	2.6705	2.7474

EW	J =		3				6				9			12					
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12		
NORWAY	Z																		
CAR (0)		0.61%	0.68%	0.71%	0.65%	0.88%	0.92%	0.96%	0.71%	1.24%	1.14%	0.88%	0.57%	1.27%	0.88%	0.64%	0.35%		
		1.6660	2.5561	2.9431	2.7615	2.1973	2.7025	2.9556	2.2663	3.1686	2.9552	2.3399	1.5979	2.9820	2.1365	1.6039	0.9104		
CAR (1)		0.59%	0.75%	0.75%	0.55%	1.01%	1.04%	0.94%	0.59%	1.22%	1.04%	0.72%	0.38%	0.97%	0.69%	0.44%	0.18%		
		1.7719	2.9950	3.0768	2.3045	2.8135	3.1487	2.9100	1.8962	3.0995	2.6749	1.8939	1.0782	2.2369	1.6511	1.0907	0.4748		
BHAR (0)		0.66%	0.76%	0.60%	0.75%	0.85%	0.96%	0.73%	1.31%	1.39%	1.25%	1.00%	1.01%	1.15%	0.92%	0.78%	0.28%		
		1.5163	1.8290	1.6863	2.0827	1.9815	2.2573	1.7530	3.7027	3.3265	2.9547	2.3338	2.3419	2.4739	2.1005	1.7836	0.6225		
BHAR (1)		0.64%	0.85%	0.79%	0.69%	1.04%	1.05%	0.68%	0.98%	1.38%	1.19%	0.85%	0.90%	1.01%	0.60%	0.83%	0.10%		
		1.6418	2.4770	2.3694	1.8455	2.7978	2.5900	1.7862	2.7321	3.4618	2.9488	2.0907	2.1896	2.2597	1.3765	2.0387	0.2300		
PORTUGA	L																		
CAR (0)		-0.63%	-0.07%	0.17%	0.20%	-0.25%	0.15%	0.27%	0.29%	0.09%	0.26%	0.34%	0.29%	0.04%	0.20%	0.26%	0.24%		
		-1.8131	-0.2259	0.6426	0.8437	-0.5695	0.3940	0.7668	0.8723	0.1915	0.6135	0.8210	0.7402	0.0753	0.4302	0.5926	0.5690		
CAR (1)		-0.02%	0.39%	0.41%	0.40%	0.43%	0.54%	0.50%	0.45%	0.48%	0.50%	0.42%	0.36%	0.44%	0.42%	0.40%	0.33%		
		-0.0523	1.3078	1.5684	1.6573	0.9450	1.3710	1.4146	1.3685	1.0527	1.1330	1.0230	0.9263	0.8846	0.8966	0.8971	0.7768		
BHAR (0)		-0.55%	0.34%	0.24%	0.31%	-0.19%	0.25%	0.41%	0.36%	0.16%	0.61%	0.43%	0.99%	0.11%	0.10%	0.21%	0.20%		
		-1.1348	0.7371	0.5058	0.6350	-0.3915	0.5330	0.9372	0.8328	0.3047	1.1009	0.8268	2.0752	0.2198	0.1988	0.4265	0.4012		
BHAR (1)		-0.25%	0.68%	0.45%	0.51%	0.06%	0.44%	0.59%	0.45%	0.39%	0.39%	0.35%	0.88%	0.31%	0.40%	0.41%	0.13%		
		-0.5239	1.6525	0.9688	1.0828	0.1355	1.0205	1.3649	1.0555	0.8180	0.7781	0.7464	1.8423	0.5900	0.7892	0.8140	0.2609		
SINGAPOR	RE																		
CAR (0)		0.37%	0.59%	0.47%	0.32%	0.76%	0.67%	0.45%	0.25%	0.61%	0.47%	0.26%	0.06%	0.38%	0.23%	0.02%	-0.12%		
		0.9449	2.0395	1.8165	1.3642	1.9668	1.9279	1.3863	0.8692	1.4097	1.1870	0.7262	0.1918	0.8663	0.5686	0.0610	-0.3527		
CAR (1)		0.61%	0.69%	0.48%	0.31%	0.95%	0.69%	0.39%	0.20%	0.62%	0.40%	0.15%	-0.02%	0.36%	0.14%	-0.08%	-0.15%		
		1.6060	2.6738	1.9115	1.3750	2.6758	2.0114	1.2330	0.7313	1.4529	1.0469	0.4284	-0.0705	0.8547	0.3633	-0.2225	-0.4900		
BHAR (0)		0.31%	0.28%	0.59%	0.42%	0.84%	0.73%	0.37%	0.59%	0.71%	0.40%	0.42%	-0.08%	0.56%	0.54%	0.26%	0.04%		
		0.7140	0.6709	1.8212	1.5725	1.7325	1.8348	0.8832	1.9096	1.4798	0.8865	1.3000	-0.1914	1.1696	1.3544	0.6850	0.1019		
BHAR (1)		0.57%	0.22%	0.64%	0.29%	0.96%	0.76%	0.23%	0.49%	0.66%	0.40%	0.45%	-0.07%	0.51%	0.44%	-0.04%	0.04%		
		1.4797	0.6672	2.0651	1.1462	2.4911	2.0653	0.5612	1.6575	1.4885	1.0134	1.5268	-0.1778	1.1961	1.2045	-0.0939	0.1158		
SPAIN																			
CAR (0)		0.40%	0.44%	0.53%	0.54%	0.66%	0.70%	0.76%	0.68%	0.94%	0.97%	0.89%	0.77%	1.00%	0.90%	0.82%	0.69%		
		1.8108	2.3124	2.9051	3.1847	2.4785	2.6512	2.9900	2.8888	2.9750	3.2132	3.0429	2.8003	3.0102	2.8172	2.6140	2.2775		
CAR (1)		0.59%	0.55%	0.61%	0.54%	0.75%	0.81%	0.74%	0.62%	1.01%	0.96%	0.86%	0.69%	0.98%	0.87%	0.76%	0.62%		
		2.8857	2.9144	3.2663	3.2290	2.8038	2.8860	2.8485	2.6598	3.1402	3.0920	2.9471	2.5219	2.9198	2.6533	2.4356	2.0589		
BHAR (0)		0.27%	0.16%	0.74%	0.64%	0.52%	0.87%	0.77%	0.65%	1.04%	1.10%	0.99%	0.54%	1.01%	1.00%	0.97%	0.56%		
		1.0065	0.5846	2.3035	2.1691	1.7865	2.5709	2.0132	2.3339	2.9985	3.2126	2.9780	1.7863	2.9189	2.9540	2.8383	1.5682		
BHAR (1)		0.60%	0.16%	0.68%	0.64%	0.60%	0.87%	0.71%	0.52%	0.89%	0.90%	0.68%	0.31%	0.92%	0.90%	0.90%	0.50%		
		2.2109	0.5067	2.0624	2.1463	2.0352	2.6984	1.9203	1.9658	2.5193	2.5182	2.0352	0.9698	2.7532	2.5990	2.6676	1.3976		

EW	J =		3				6				9)		12				
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12	
SWEDEN																		
CAR (0)		0.96%	1.12%	0.85%	0.82%	1.39%	1.26%	1.06%	0.86%	1.41%	1.31%	0.99%	0.74%	1.44%	1.13%	0.78%	0.58%	
		2.5028	3.4417	3.0703	3.4640	3.0657	3.2225	3.1370	2.8101	3.2302	3.2610	2.6378	2.1498	3.1590	2.5792	1.9204	1.5400	
CAR (1)		1.42%	1.20%	0.94%	0.82%	1.56%	1.28%	1.02%	0.77%	1.54%	1.23%	0.87%	0.62%	1.29%	0.94%	0.61%	0.47%	
		3.8647	3.9553	3.7146	3.7038	3.7086	3.4911	3.1450	2.5975	3.6189	3.1383	2.3239	1.8526	2.8475	2.1798	1.5375	1.2685	
BHAR (0)		1.21%	0.98%	0.91%	0.45%	1.52%	1.45%	1.05%	0.74%	1.50%	1.16%	1.00%	0.58%	1.41%	1.23%	0.75%	0.73%	
		2.9831	2.6751	2.6247	1.1075	3.1253	3.6512	2.1654	1.9449	3.2376	2.3646	2.2621	1.3218	3.0048	2.9164	1.7525	2.0304	
BHAR (1)		1.47%	1.03%	0.94%	0.57%	1.65%	1.40%	1.03%	0.70%	1.47%	1.16%	0.96%	0.44%	1.39%	1.10%	0.59%	0.68%	
		3.8040	2.8816	3.0311	1.4872	3.6735	3.8671	2.2052	1.9097	3.3494	2.6016	2.2442	0.9986	2.9833	2.6370	1.3850	1.8171	
SWITZERLA	ND																	
CAR (0)		1.02%	0.90%	0.77%	0.77%	1.24%	1.06%	0.99%	0.85%	1.21%	1.12%	0.95%	0.75%	1.32%	1.08%	0.84%	0.64%	
		4.4631	4.4003	3.8617	4.2654	4.4775	3.7709	3.7816	3.6146	3.7123	3.5282	3.2061	2.7770	3.8830	3.3300	2.7575	2.2623	
CAR (1)		1.04%	0.87%	0.77%	0.71%	1.17%	1.02%	0.92%	0.72%	1.20%	1.06%	0.85%	0.62%	1.22%	0.95%	0.71%	0.50%	
		4.8599	4.1849	3.8202	4.0222	4.1561	3.5506	3.5473	3.1596	3.6575	3.3599	2.9196	2.3611	3.6885	2.9663	2.3656	1.8266	
BHAR (0)		0.97%	0.85%	0.70%	0.74%	1.26%	1.23%	0.81%	1.20%	1.21%	0.96%	1.06%	0.80%	1.34%	1.33%	0.98%	0.79%	
		3.7223	2.7700	2.3116	2.1294	4.1631	3.9720	2.5417	4.3403	3.5350	2.5896	3.5617	2.6646	3.8847	4.0298	2.9302	2.4947	
BHAR (1)		0.98%	0.69%	0.68%	0.70%	1.13%	1.12%	0.72%	1.04%	1.08%	0.83%	0.95%	0.57%	1.16%	1.16%	0.75%	0.71%	
		3.9231	2.2542	2.2701	2.0727	3.5988	3.5228	2.2832	3.8522	3.1744	2.3384	3.2213	1.7596	3.5101	3.6519	2.3921	2.2949	
UK																		
CAR (0)		1.22%	1.19%	1.00%	0.98%	1.64%	1.40%	1.28%	1.10%	1.61%	1.46%	1.21%	0.96%	1.72%	1.40%	1.07%	0.81%	
		4.4085	4.8581	4.8809	5.5055	4.9876	4.8505	5.2478	4.9755	4.8759	4.9501	4.4351	3.7899	5.1929	4.4333	3.6380	2.9248	
CAR (1)		1.29%	1.14%	0.98%	0.90%	1.54%	1.31%	1.16%	0.95%	1.51%	1.31%	1.05%	0.78%	1.53%	1.19%	0.88%	0.64%	
		4.7357	4.9148	5.1379	5.2652	4.9067	4.9426	5.0357	4.4632	4.8122	4.5944	3.8865	3.1472	4.8211	3.8589	3.0486	2.3679	
BHAR (0)		1.07%	0.97%	0.98%	0.63%	1.61%	1.34%	1.00%	1.27%	1.58%	1.34%	1.25%	0.98%	1.60%	1.38%	1.06%	0.71%	
		3.3126	3.1821	3.2676	2.0019	4.6385	4.1849	3.0828	5.8367	4.4178	3.9901	4.5282	3.3494	4.6311	4.4447	3.1843	2.3907	
BHAR (1)		1.20%	0.91%	0.86%	0.56%	1.47%	1.21%	0.94%	1.04%	1.49%	1.16%	1.02%	0.76%	1.40%	1.10%	0.73%	0.47%	
		4.0494	3.2362	3.1647	1.7904	4.7452	4.2905	3.1493	5.1033	4.5898	3.7275	3.6758	2.5807	4.3746	3.7548	2.2508	1.6262	
US		0.040/	0.000/	0.120/	0.060/	0.400/	0.050/	0.400/	0.040/	0.240/	0.240/	0.050/	0.450/	0.4=0/	0.000/	0.400/	0.240/	
CAR (0)		-0.04%	0.09%	0.13%	0.06%	0.19%	0.27%	0.19%	0.01%	0.31%	0.24%	0.05%	-0.15%	0.17%	0.00%	-0.19%	-0.34%	
		-0.1477	0.4014	0.6959	0.3844	0.6154	0.9793	0.7958	0.0413	0.9549	0.7832	0.1726	-0.5726	0.5063	0.0046	-0.5994	-1.2097	
CAR (1)		0.07%	0.20%	0.19%	0.02%	0.35%	0.35%	0.16%	-0.06%	0.38%	0.19%	-0.04%	-0.26%	0.08%	-0.10%	-0.30%	-0.43%	
DVV. D (0)		0.3065	0.9603	1.0783	0.1285	1.2204	1.3785	0.6913	-0.2908	1.2099	0.6277	-0.1229	-0.9806	0.2333	-0.2965	-0.9977	-1.5893	
BHAR (0)		-0.13%	0.14%	0.04%	0.07%	0.15%	0.31%	-0.24%	0.33%	0.32%	0.11%	0.20%	-0.13%	0.22%	0.19%	-0.06%	-0.29%	
DVV D (1)		-0.4669	0.5601	0.1369	0.2689	0.4384	0.9619	-0.6522	1.4573	0.8898	0.3187	0.7618	-0.4480	0.6074	0.5711	-0.1890	-0.8715	
BHAR (1)		0.11%	0.08%	0.02%	-0.03%	0.28%	0.31%	-0.27%	0.03%	0.30%	-0.04%	-0.07%	-0.33%	-0.02%	-0.06%	-0.30%	-0.46%	
		0.4249	0.3181	0.0538	-0.1039	0.9283	1.1070	-0.7907	0.1402	0.9014	-0.1173	-0.2368	-1.1186	-0.0660	-0.1880	-0.9435	-1.3854	

Panel B. The cross-sectional momentum using market-weighted return

MW	J =		3				6				9			12				
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12	
AUSTRAL	IA																	
CAR (0)		1.33%	1.40%	1.24%	1.02%	1.77%	1.60%	1.37%	1.03%	1.76%	1.48%	1.08%	0.69%	1.72%	1.26%	0.84%	0.50%	
		2.8664	3.5490	3.5284	3.3959	3.3595	3.3960	3.2915	2.8671	3.2373	2.9696	2.4404	1.7958	3.2278	2.6147	1.9666	1.3528	
CAR (1)		1.46%	1.37%	1.20%	0.85%	1.81%	1.57%	1.23%	0.84%	1.66%	1.30%	0.91%	0.46%	1.46%	1.08%	0.62%	0.31%	
		3.2498	3.7085	3.5626	2.9471	3.5740	3.4128	3.0743	2.4782	3.1252	2.7760	2.2044	1.2839	2.9447	2.4452	1.5826	0.8919	
BHAR (0)		1.52%	1.55%	0.98%	0.88%	1.96%	1.81%	0.66%	0.79%	1.86%	1.54%	0.97%	0.88%	1.73%	1.25%	0.31%	0.71%	
		2.2910	3.3661	2.0729	1.6023	3.2192	3.6546	1.1754	1.7841	3.0971	2.8656	1.9747	2.0467	2.9182	2.2445	0.5922	1.4092	
BHAR (1)		1.77%	1.45%	0.79%	0.82%	1.92%	1.73%	0.55%	0.50%	1.37%	1.16%	0.69%	0.67%	1.30%	0.87%	0.11%	0.32%	
-		3.8194	3.3104	1.6435	1.6076	3.4248	3.4923	1.0223	1.1952	2.5627	2.2965	1.5439	1.5430	2.4632	1.7769	0.2311	0.6631	
AUSTRIA	\																	
CAR (0)		0.19%	0.25%	0.27%	0.29%	0.63%	0.62%	0.58%	0.47%	0.87%	0.62%	0.54%	0.33%	0.76%	0.55%	0.36%	0.19%	
		0.4486	0.7333	0.8537	1.0814	1.4079	1.4705	1.5480	1.4056	1.6459	1.2218	1.2002	0.8214	1.3984	1.0857	0.7683	0.4363	
CAR (1)		-0.09%	0.13%	0.24%	0.24%	0.78%	0.72%	0.52%	0.42%	0.82%	0.47%	0.46%	0.20%	0.44%	0.36%	0.21%	0.07%	
		-0.2301	0.3978	0.8020	0.9481	1.8305	1.7759	1.4489	1.3040	1.6071	0.9770	1.0760	0.4999	0.8384	0.7426	0.4848	0.1628	
BHAR (0)		-0.11%	0.15%	0.12%	-0.17%	0.55%	0.04%	0.23%	0.44%	1.08%	1.14%	0.61%	0.73%	1.00%	0.75%	0.43%	0.51%	
		-0.2112	0.3102	0.2370	-0.3595	1.1641	0.0892	0.4110	1.0004	2.0135	1.9458	1.2728	1.5394	1.6825	1.3563	0.7551	0.8497	
BHAR (1)		-0.30%	-0.03%	0.10%	-0.05%	0.68%	0.42%	0.44%	0.43%	1.02%	0.91%	0.69%	0.45%	0.43%	0.50%	-0.07%	0.11%	
ī		-0.6392	-0.0704	0.1975	-0.1141	1.4712	0.8462	0.9449	0.9564	1.8525	1.6177	1.4315	0.9539	0.7780	0.9439	-0.1256	0.1932	
BELGIUN	1				1													
CAR (0)		0.26%	0.53%	0.55%	0.57%	1.12%	1.24%	1.17%	0.89%	1.13%	1.15%	0.93%	0.63%	1.07%	1.01%	0.67%	0.44%	
		0.7057	1.7777	2.0278	2.3675	3.0056	3.3563	3.2563	2.7629	2.5127	2.6574	2.2985	1.6697	2.1950	2.2349	1.5732	1.0715	
CAR (1)		0.43%	0.50%	0.64%	0.55%	1.16%	1.25%	1.08%	0.74%	1.20%	1.10%	0.82%	0.52%	1.20%	0.90%	0.60%	0.36%	
		1.2077	1.7063	2.2722	2.4213	2.8960	3.2555	3.0091	2.3003	2.5382	2.4978	2.0300	1.3957	2.5290	2.0583	1.4389	0.9051	
BHAR (0)		0.39%	0.82%	-0.49%	0.68%	1.14%	1.06%	1.25%	1.00%	1.07%	1.80%	1.50%	1.08%	0.95%	0.73%	0.99%	0.11%	
		0.8382	1.7954	-1.0679	1.3303	2.6265	2.2487	2.1985	1.8671	2.1551	3.9174	2.9264	2.1689	1.7819	1.4514	2.1825	0.2255	
BHAR (1)		0.42%	0.57%	-0.24%	0.92%	1.07%	1.32%	1.28%	0.76%	1.13%	1.77%	1.36%	0.74%	0.92%	0.75%	0.79%	0.16%	
CANADA		1.0023	1.2342	-0.4860	1.8534	2.2101	2.7158	2.6718	1.3991	2.3140	3.6809	2.7992	1.4346	1.7901	1.5356	1.7683	0.3405	
CANADA	1	1.540/	1.450/	1.420/	1.220/	1.060/	1.700/	1.720/	1 400/	2.050/	2.000/	1.740/	1 240/	1.720/	1.510/	1.160/	0.740/	
CAR (0)		1.54%	1.45%	1.43%	1.32%	1.86%	1.79%	1.73%	1.48%	2.05%	2.00%	1.74%	1.24%	1.72%	1.51%	1.16%	0.74%	
CAR (1)		2.8772	3.2729	3.5648	3.9653	3.4160	3.3714	3.6614	3.3328	2.8905	3.1288	2.8900	2.1065	2.4032	2.2256	1.7797	1.1335	
CAR (1)		1.52%	1.35%	1.52%	1.19%	1.80%	1.73%	1.62%	1.25%	2.24%	1.94%	1.61%	1.00%	1.63%	1.35%	0.95%	0.52%	
DILAD (0)		3.0808	3.0783	4.1409	3.6969	3.1756	3.2768	3.4769	2.8133	3.1620	3.0749	2.6681	1.6818	2.3414	2.0000	1.4448	0.8046	
BHAR (0)		1.51%	1.08%	1.36%	0.60%	1.68%	1.78%	1.86%	1.28%	2.06%	1.56%	1.57%	0.81%	1.62%	1.66%	1.11%	0.81%	
DILAD (1)		2.2471	1.7778	1.8197	0.9657	2.9681	2.8181	3.1269	2.1053	2.6762	1.9585	2.4032	1.0750	2.1499	2.3890	1.4279	1.1663	
BHAR (1)		1.65%	0.90%	1.45%	0.48%	1.79%	1.69%	1.65%	0.75%	2.09%	1.36%	1.19%	0.75%	1.27%	1.19%	0.71%	0.49%	
		2.8234	1.4348	2.1635	0.7809	2.8752	2.6920	2.7010	1.1845	2.6397	1.7913	1.7067	0.9892	1.6945	1.7251	0.9280	0.6760	

MW	J =		3				6	i			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	RK																
CAR (0)		1.04%	1.04%	0.94%	0.91%	1.46%	1.35%	1.38%	1.29%	1.63%	1.52%	1.45%	1.28%	1.69%	1.57%	1.39%	1.14%
		3.0889	3.1867	3.3292	3.4251	3.6035	3.8403	4.2598	4.1552	3.8779	3.7061	3.5654	3.2339	3.5847	3.3965	3.0407	2.6175
CAR (1)		0.90%	0.91%	0.92%	0.84%	1.50%	1.41%	1.37%	1.23%	1.67%	1.50%	1.37%	1.16%	1.57%	1.42%	1.20%	1.01%
		2.4534	2.8408	3.2205	3.2511	3.9289	3.8993	4.1390	3.7981	3.9621	3.4937	3.3175	2.9137	3.2701	2.9550	2.6379	2.3337
BHAR (0)		0.80%	0.85%	0.67%	1.09%	1.30%	1.01%	0.76%	1.07%	1.16%	0.89%	1.15%	0.44%	1.30%	1.45%	1.12%	0.85%
		1.8031	1.6428	1.3307	2.0994	2.5359	2.4137	1.4147	2.8200	2.2243	1.4288	2.5972	1.0128	2.2607	3.0014	2.1723	1.7301
BHAR (1)		0.95%	0.76%	0.99%	1.27%	1.72%	1.27%	0.81%	1.00%	1.49%	1.22%	1.19%	0.34%	1.36%	1.36%	0.99%	0.68%
		2.1783	1.5644	1.9448	2.7293	3.9671	2.9018	1.6133	2.8696	3.0030	2.1441	2.8497	0.7719	2.5985	2.7800	1.9987	1.3842
FINLANI	D																
CAR (0)		1.05%	1.11%	1.29%	1.25%	1.21%	1.47%	1.77%	1.53%	1.50%	1.81%	1.83%	1.57%	1.52%	1.65%	1.68%	1.38%
		1.8996	2.3037	3.0567	3.2556	1.9234	2.5476	3.4311	3.0861	2.3122	2.9863	3.0322	2.7413	2.1413	2.3703	2.5656	2.1823
CAR (1)		1.13%	1.20%	1.40%	1.21%	1.31%	1.73%	1.77%	1.46%	1.78%	1.90%	1.83%	1.45%	1.49%	1.59%	1.60%	1.30%
		1.8525	2.4247	3.3588	3.0447	2.0443	3.0883	3.4157	2.9336	2.7844	3.0847	3.0340	2.5424	2.0001	2.2443	2.4302	2.0391
BHAR (0)		0.56%	0.78%	1.65%	0.53%	0.84%	1.25%	2.23%	1.75%	1.63%	2.16%	1.06%	1.59%	1.63%	1.72%	1.99%	1.57%
		0.8404	1.1592	2.1398	0.6557	1.0538	1.6235	3.2460	2.6113	2.2011	3.0992	1.3911	2.2657	2.1619	2.2456	2.5774	2.2742
BHAR (1)		1.30%	1.23%	1.84%	0.67%	1.35%	1.06%	2.00%	1.15%	1.46%	1.94%	0.86%	1.28%	1.36%	1.32%	1.81%	1.46%
		1.8991	1.7677	2.5004	0.8036	1.9154	1.4717	2.8061	1.7574	1.9330	2.5556	1.1656	1.7643	1.7282	1.8405	2.4371	2.1585
FRANCE	E																
CAR (0)		-0.56%	-0.03%	0.06%	0.23%	-0.04%	0.10%	0.32%	0.33%	-0.11%	0.17%	0.26%	0.25%	0.37%	0.34%	0.36%	0.26%
		-1.4030	-0.0922	0.2122	0.9850	-0.1103	0.2654	1.0074	1.0575	-0.2287	0.3995	0.6242	0.6043	0.7326	0.7250	0.7548	0.5711
CAR (1)		-0.03%	0.24%	0.29%	0.29%	0.27%	0.43%	0.44%	0.39%	0.30%	0.27%	0.33%	0.28%	0.45%	0.42%	0.34%	0.24%
		-0.0880	0.8474	1.1454	1.2865	0.7123	1.2518	1.3525	1.2370	0.6505	0.6420	0.7872	0.6908	0.9185	0.8934	0.7213	0.5241
BHAR (0)		-0.61%	0.19%	0.23%	0.30%	-0.06%	0.23%	-0.05%	0.57%	-0.23%	-0.08%	-0.03%	0.11%	0.31%	0.57%	0.58%	0.62%
		-1.3428	0.4245	0.4782	0.5976	-0.1391	0.5085	-0.0975	1.2814	-0.4446	-0.1446	-0.0706	0.2081	0.5765	1.1320	1.1474	1.2686
BHAR (1)		-0.30%	0.17%	-0.01%	0.43%	0.07%	0.41%	-0.05%	0.60%	-0.01%	-0.18%	0.27%	0.06%	0.41%	0.61%	0.63%	0.52%
		-0.6584	0.4010	-0.0208	0.8346	0.1706	0.9884	-0.0957	1.2799	-0.0216	-0.3530	0.6184	0.1040	0.7999	1.2894	1.1915	1.0779
GERMAN	ĪΥ																
CAR (0)		0.72%	0.84%	0.89%	0.90%	1.29%	1.37%	1.28%	1.03%	1.60%	1.50%	1.21%	0.93%	1.55%	1.13%	0.97%	0.75%
		2.0311	2.7829	3.1228	3.3595	2.8209	3.3925	3.2334	2.8074	2.9311	2.8555	2.3709	1.9181	2.6653	2.0505	1.8332	1.4873
CAR (1)		0.74%	0.98%	0.96%	0.86%	1.39%	1.41%	1.21%	0.91%	1.59%	1.40%	1.07%	0.79%	1.25%	0.96%	0.78%	0.59%
		2.1292	3.2641	3.3266	3.1501	3.1530	3.3989	2.9635	2.4902	2.8159	2.6024	2.0662	1.6362	2.1668	1.7477	1.4932	1.2003
BHAR (0)		0.62%	1.15%	1.16%	0.86%	1.39%	1.79%	1.45%	1.47%	1.49%	1.34%	1.11%	1.25%	1.44%	1.24%	1.13%	0.65%
		1.3788	2.3688	2.5190	1.5529	2.7612	3.6975	2.3098	3.2587	2.5214	2.1722	1.9214	2.1634	2.2334	1.9275	1.8911	1.1062
BHAR (1)		0.76%	0.95%	1.11%	0.68%	1.20%	1.59%	1.13%	1.05%	1.27%	1.08%	0.97%	0.68%	0.92%	0.97%	0.74%	0.34%
		1.8538	2.1798	2.5233	1.2004	2.7719	3.5349	1.7861	2.3244	2.1927	1.6343	1.7516	1.1072	1.4885	1.5618	1.2182	0.5782

MW	J =		3				6	i			9				1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE	2																
CAR (0)		0.52%	0.62%	0.47%	0.41%	1.09%	0.79%	0.71%	0.45%	0.81%	0.68%	0.56%	0.41%	0.54%	0.58%	0.36%	0.25%
		0.7808	1.0846	0.9892	0.9778	1.4260	1.1701	1.2783	0.8923	0.9827	0.9563	0.9146	0.7526	0.7235	0.8159	0.5698	0.4055
CAR (1)		0.49%	0.63%	0.40%	0.34%	1.05%	0.78%	0.59%	0.36%	0.69%	0.64%	0.43%	0.29%	0.49%	0.40%	0.24%	0.14%
		0.7411	1.1223	0.8613	0.8254	1.3556	1.2505	1.1216	0.7346	0.8796	0.9677	0.7584	0.5551	0.6664	0.5946	0.3823	0.2386
BHAR (0)		1.08%	1.26%	0.66%	1.25%	1.07%	1.20%	0.38%	0.79%	1.33%	0.60%	0.83%	-0.14%	0.64%	0.38%	-0.15%	-0.63%
		1.3376	1.4960	0.8928	1.4370	1.2775	1.4766	0.4756	1.0042	1.5409	0.7924	1.1968	-0.1904	0.8296	0.4541	-0.1970	-0.6891
BHAR (1)		0.60%	1.26%	0.11%	1.38%	1.34%	0.93%	0.70%	0.58%	1.12%	0.47%	0.28%	-0.55%	0.86%	0.23%	-0.29%	-0.63%
		0.7425	1.3579	0.1471	1.5022	1.5250	1.2017	0.8541	0.7615	1.3023	0.6399	0.4127	-0.7423	1.1266	0.2819	-0.3995	-0.7583
HONGKON	VG																
CAR (0)		1.06%	0.88%	0.69%	0.52%	1.05%	0.87%	0.63%	0.48%	0.81%	0.66%	0.53%	0.23%	0.49%	0.31%	0.08%	-0.08%
		2.2366	2.3252	2.1169	1.8051	2.0287	1.8532	1.5305	1.3019	1.4286	1.2436	1.1305	0.5492	0.8618	0.6065	0.1606	-0.1924
CAR (1)		0.88%	0.83%	0.58%	0.44%	1.23%	0.87%	0.59%	0.38%	0.74%	0.59%	0.40%	0.10%	0.51%	0.28%	0.00%	-0.13%
		1.7906	2.1432	1.7338	1.4926	2.3799	1.7876	1.4114	1.0093	1.2597	1.1295	0.8667	0.2465	0.9295	0.5634	-0.0016	-0.3057
BHAR (0)		0.99%	0.38%	0.40%	-0.02%	1.34%	1.21%	0.84%	-0.01%	0.92%	0.59%	0.51%	-0.12%	0.69%	0.63%	0.06%	0.35%
		1.7090	0.6697	0.7064	-0.0415	2.5864	2.1146	1.6387	-0.0165	1.3996	0.9278	0.9215	-0.2066	1.1100	1.1044	0.0936	0.5687
BHAR (1)		0.50%	0.31%	0.03%	-0.18%	1.04%	0.80%	0.61%	-0.30%	0.50%	0.31%	0.11%	0.04%	0.43%	0.36%	-0.29%	0.25%
		0.9203	0.5719	0.0677	-0.3587	1.9709	1.4659	1.1689	-0.6153	0.7939	0.5087	0.2010	0.0652	0.7459	0.7189	-0.5298	0.4725
IRELANI)				-												
CAR (0)		1.10%	0.87%	0.27%	0.39%	1.34%	0.83%	0.52%	0.48%	0.53%	0.48%	0.38%	0.39%	0.68%	0.23%	0.17%	0.12%
		1.4394	1.4023	0.4998	0.8939	1.6024	1.0861	0.7988	0.8062	0.5688	0.6083	0.5011	0.5620	0.7289	0.2657	0.2064	0.1590
CAR (1)		1.27%	0.61%	0.24%	0.25%	1.21%	0.56%	0.37%	0.35%	0.30%	0.24%	0.26%	0.21%	0.04%	-0.04%	-0.01%	-0.16%
		1.8686	1.0673	0.4909	0.6028	1.4745	0.7806	0.5926	0.6077	0.3426	0.3101	0.3446	0.3111	0.0404	-0.0493	-0.0134	-0.2248
BHAR (0)		0.79%	-1.29%	-0.91%	-0.80%	0.86%	1.26%	-0.88%	2.36%	0.13%	-0.07%	0.91%	1.05%	0.58%	0.15%	0.84%	0.16%
		0.9840	-1.4051	-0.9858	-0.8506	0.8550	1.3778	-0.8689	2.3081	0.1277	-0.0713	1.0328	1.1584	0.5981	0.1546	0.8550	0.1725
BHAR (1)		0.25%	-1.31%	-1.34%	-0.59%	0.74%	0.70%	-0.28%	1.95%	-0.10%	-0.31%	0.43%	0.26%	-0.56%	-0.16%	0.01%	-0.20%
		0.3232	-1.5102	-1.3247	-0.6064	0.8031	0.8156	-0.3110	2.0650	-0.1002	-0.2966	0.4792	0.2879	-0.6496	-0.1808	0.0131	-0.2196
ISRAEL		0.050/	0.020/	0.500/	0.640/	0.000/	4.040/	0.770/	0.400/	1.220/	0.020/	0.600/	0.440/	0.0=0/	0.600/	0.420/	0.420/
CAR (0)		0.85%	0.83%	0.78%	0.61%	0.99%	1.01%	0.77%	0.49%	1.33%	0.93%	0.68%	0.41%	0.97%	0.69%	0.43%	0.13%
GLP (I)		2.0481	2.0865	2.2199	1.9761	1.7702	2.0152	1.7215	1.1933	2.5199	1.7527	1.3073	0.8468	1.5862	1.1198	0.7378	0.2490
CAR (1)		0.66%	0.78%	0.78%	0.44%	1.37%	1.11%	0.70%	0.41%	1.39%	0.78%	0.56%	0.22%	0.70%	0.50%	0.24%	-0.05%
D*** D (0)		1.3714	1.7870	2.1751	1.3272	2.4488	2.2439	1.5522	0.9989	2.6087	1.4284	1.0840	0.4570	1.0620	0.7861	0.4112	-0.0911
BHAR (0)		0.12%	0.26%	0.59%	-0.04%	0.61%	0.90%	0.31%	0.90%	1.45%	1.30%	1.13%	1.66%	0.93%	0.72%	0.70%	0.52%
DILLD (1)		0.2291	0.4805	1.0231	-0.0913	0.8751	1.4335	0.5611	1.8773	2.4474	2.2206	1.8184	3.0009	1.3262	1.0078	0.9974	0.6898
BHAR (1)		0.31%	0.38%	0.73%	0.04%	1.56%	1.19%	0.60%	0.72%	1.60%	1.04%	1.00%	1.37%	0.81%	0.59%	0.45%	0.62%
-		0.5239	0.6174	1.2799	0.0902	2.7586	2.0980	1.1190	1.5783	2.8135	1.7516	1.6717	2.3814	1.1926	0.8744	0.6543	0.8731

MW	J =		3				6	i			9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.21%	0.65%	0.60%	0.68%	0.73%	0.85%	0.88%	0.90%	0.87%	1.14%	1.13%	1.06%	1.32%	1.30%	1.16%	1.10%
		0.4911	1.6875	2.0312	2.6729	1.4386	2.0254	2.4257	2.6877	1.7718	2.4533	2.6728	2.6758	2.4990	2.6423	2.5583	2.6376
CAR (1)		0.65%	0.84%	0.77%	0.77%	0.94%	0.93%	0.93%	0.90%	1.27%	1.22%	1.11%	1.07%	1.30%	1.26%	1.16%	1.07%
		1.5803	2.4547	2.7953	3.2545	2.0917	2.3487	2.6362	2.7453	2.6069	2.6983	2.6468	2.7575	2.3828	2.5985	2.6075	2.6157
BHAR (0)		0.51%	0.37%	1.15%	0.82%	0.95%	0.68%	0.65%	0.97%	1.08%	0.60%	1.09%	0.29%	1.20%	1.38%	1.62%	1.37%
		0.9456	0.6486	1.9186	1.4356	1.7270	1.2979	1.2081	1.9115	1.9938	0.9745	2.2335	0.5672	2.0660	2.7298	3.0480	2.8904
BHAR (1)		0.45%	0.64%	1.45%	0.99%	0.73%	0.53%	0.54%	1.04%	1.11%	0.85%	0.77%	0.15%	1.17%	1.34%	1.50%	1.31%
		0.8300	1.1857	2.4975	1.7980	1.3767	1.0100	1.0892	2.0846	2.0235	1.4241	1.5863	0.2768	1.9279	2.7578	2.7134	2.7550
JAPAN																	
CAR (0)		-0.17%	-0.18%	0.00%	0.03%	-0.30%	-0.15%	0.02%	-0.04%	-0.21%	-0.03%	-0.05%	-0.10%	-0.11%	-0.19%	-0.18%	-0.20%
		-0.4878	-0.5292	-0.0023	0.1102	-0.6666	-0.3799	0.0560	-0.1292	-0.4387	-0.0746	-0.1485	-0.2999	-0.2515	-0.4646	-0.4747	-0.6240
CAR (1)		-0.08%	-0.07%	0.08%	0.04%	-0.08%	0.05%	0.12%	-0.03%	0.09%	0.09%	0.00%	-0.09%	-0.05%	-0.20%	-0.17%	-0.20%
		-0.2104	-0.2050	0.2955	0.1868	-0.1841	0.1168	0.3641	-0.1084	0.1985	0.2356	0.0142	-0.3084	-0.1069	-0.5111	-0.4689	-0.6419
BHAR (0)		-0.15%	0.06%	-0.15%	0.24%	0.00%	-0.17%	-0.08%	0.33%	-0.10%	0.04%	0.18%	0.19%	-0.03%	0.03%	-0.41%	-0.13%
		-0.3591	0.1565	-0.3802	0.7032	-0.0076	-0.3668	-0.1936	0.8827	-0.2159	0.0858	0.4972	0.5471	-0.0563	0.0602	-1.0264	-0.3405
BHAR (1)		-0.12%	-0.32%	-0.54%	0.23%	-0.14%	-0.29%	-0.10%	0.24%	-0.15%	0.04%	0.04%	-0.06%	-0.24%	-0.35%	-0.66%	-0.43%
		-0.2956	-0.8221	-1.4335	0.6998	-0.3077	-0.7000	-0.2484	0.6765	-0.3482	0.1100	0.1238	-0.1921	-0.5367	-0.8220	-1.7167	-1.0760
NETHERLAN	NDS																
CAR (0)		0.33%	0.06%	0.22%	0.33%	0.24%	0.25%	0.46%	0.39%	0.20%	0.31%	0.29%	0.19%	0.19%	0.16%	0.16%	0.09%
		0.8335	0.2061	0.8470	1.3783	0.5613	0.6651	1.2696	1.1717	0.4000	0.6793	0.6690	0.4958	0.3483	0.2976	0.3228	0.2012
CAR (1)		0.19%	0.02%	0.24%	0.25%	0.12%	0.33%	0.43%	0.29%	0.31%	0.29%	0.28%	0.13%	0.16%	0.09%	0.07%	0.09%
		0.5085	0.0515	0.8986	1.0626	0.2777	0.8243	1.1780	0.8555	0.6085	0.6233	0.6437	0.3428	0.3056	0.1699	0.1573	0.2118
BHAR (0)		0.47%	-0.03%	-0.06%	-0.05%	0.03%	-0.05%	0.14%	0.80%	0.03%	0.05%	0.43%	0.32%	0.08%	0.24%	0.14%	0.12%
		0.9868	-0.0597	-0.1145	-0.0925	0.0580	-0.1143	0.2438	2.0719	0.0569	0.1057	0.8711	0.6464	0.1308	0.4182	0.2581	0.2156
BHAR (1)		0.29%	-0.43%	-0.30%	0.10%	-0.14%	-0.16%	0.05%	0.40%	0.06%	-0.16%	0.36%	-0.02%	0.17%	-0.06%	0.06%	0.04%
		0.5680	-0.8855	-0.5883	0.2026	-0.2929	-0.3367	0.0799	0.9784	0.1075	-0.3167	0.7313	-0.0460	0.2764	-0.1033	0.1216	0.0644
NEWZEALA	ND																
CAR (0)		1.66%	1.38%	1.04%	0.95%	1.44%	1.25%	1.14%	0.87%	1.32%	1.18%	0.99%	0.81%	1.37%	1.18%	1.02%	0.79%
		4.0413	4.4349	3.6950	3.8667	3.3502	3.2904	3.2980	2.7565	2.9015	2.8293	2.5134	2.2475	2.6313	2.5518	2.3867	2.0375
CAR (1)		1.18%	1.04%	0.92%	0.74%	1.18%	1.13%	1.01%	0.67%	1.15%	1.10%	0.87%	0.69%	1.19%	1.06%	0.89%	0.63%
		3.3943	3.2942	3.4405	3.1073	2.6067	2.9030	2.9614	2.1308	2.5660	2.5879	2.2426	1.9546	2.4089	2.3712	2.1976	1.6664
BHAR (0)		1.33%	1.64%	0.55%	0.62%	1.43%	1.12%	1.22%	0.37%	1.68%	1.43%	1.30%	0.72%	1.21%	1.51%	1.01%	1.18%
		2.8126	3.6186	1.2154	1.3997	3.1084	2.7059	2.8825	0.9759	3.7207	2.6687	2.7737	1.8115	2.4210	3.0464	2.2097	2.3969
BHAR (1)		0.78%	0.88%	0.13%	0.40%	0.91%	0.57%	0.98%	-0.04%	1.56%	1.27%	1.09%	0.51%	1.43%	1.24%	0.76%	1.18%
		1.6338	2.0525	0.3121	0.9229	1.8772	1.3067	2.2489	-0.1054	3.2234	2.2561	2.1977	1.3126	2.8066	2.5173	1.6052	2.3250

MW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	7																
CAR (0)		0.09%	0.25%	0.48%	0.52%	0.46%	0.90%	1.08%	0.88%	1.01%	1.23%	1.09%	0.84%	1.15%	1.06%	0.99%	0.74%
		0.2441	0.8723	1.7863	2.0585	1.0075	2.1645	2.9347	2.5484	2.2625	2.9182	2.6627	2.2154	2.4339	2.3458	2.3159	1.7971
CAR (1)		0.12%	0.40%	0.64%	0.50%	0.79%	1.14%	1.10%	0.81%	1.20%	1.22%	1.02%	0.71%	0.93%	0.96%	0.86%	0.59%
		0.3168	1.3312	2.3663	1.9175	1.7892	2.8087	2.9680	2.3344	2.7255	2.9291	2.4380	1.8502	1.8734	2.1102	2.0024	1.3993
BHAR (0)		0.12%	0.20%	0.48%	0.75%	0.37%	1.20%	1.43%	1.65%	1.36%	1.46%	0.65%	1.65%	1.09%	1.01%	0.80%	0.78%
		0.2440	0.4028	0.9495	1.4522	0.6942	2.3795	3.0748	3.6658	2.7103	2.7897	1.3961	3.2808	1.9403	2.1088	1.5079	1.3228
BHAR (1)		0.17%	0.43%	0.70%	1.00%	0.91%	1.30%	1.47%	1.42%	1.41%	1.63%	0.65%	1.61%	0.93%	0.75%	0.90%	0.80%
		0.3442	0.9192	1.5963	1.9865	1.8580	2.7127	3.2850	3.1070	2.9420	3.3115	1.3204	3.1342	1.6758	1.5582	1.8993	1.5199
PORTUGA	L																
CAR (0)		0.94%	0.77%	0.79%	0.62%	0.56%	0.45%	0.47%	0.39%	0.83%	0.67%	0.65%	0.45%	0.58%	0.46%	0.42%	0.38%
		1.5847	1.5865	2.0260	1.7433	0.8219	0.8040	0.9987	0.9212	1.2316	1.0934	1.2335	0.9344	0.8330	0.7723	0.7834	0.7541
CAR (1)		1.20%	0.85%	0.84%	0.66%	0.51%	0.53%	0.47%	0.41%	0.74%	0.62%	0.55%	0.40%	0.43%	0.43%	0.38%	0.35%
		2.1442	1.8899	2.1535	1.8856	0.7619	0.9771	1.0454	1.0172	1.1010	1.0924	1.1131	0.8741	0.6369	0.7541	0.7328	0.7232
BHAR (0)		0.97%	0.63%	0.18%	0.76%	0.76%	0.71%	0.41%	0.95%	0.58%	0.75%	1.27%	0.87%	0.44%	0.32%	-0.17%	0.44%
		1.3470	0.8398	0.3112	1.0485	1.1213	0.9942	0.7164	1.5842	0.8357	0.9588	1.8260	1.3968	0.6146	0.4530	-0.2359	0.6400
BHAR (1)		1.76%	1.06%	0.11%	0.85%	0.32%	0.89%	0.65%	0.78%	0.62%	0.59%	1.23%	0.62%	0.39%	0.26%	-0.03%	0.54%
		3.0755	1.6494	0.1921	1.2450	0.4618	1.3249	1.1164	1.3364	0.9047	0.7734	1.7971	1.0114	0.5418	0.3812	-0.0361	0.8087
SINGAPOR	RE																
CAR (0)		0.42%	0.31%	0.22%	0.13%	0.46%	0.29%	0.23%	0.05%	0.24%	0.13%	0.05%	-0.04%	0.34%	0.18%	0.10%	0.06%
		0.9664	0.9631	0.7698	0.5157	0.9562	0.7057	0.6118	0.1470	0.4735	0.2865	0.1274	-0.1093	0.7263	0.3989	0.2453	0.1767
CAR (1)		-0.06%	0.23%	0.14%	0.06%	0.42%	0.34%	0.17%	0.00%	0.20%	0.17%	0.00%	-0.08%	0.34%	0.12%	0.06%	0.07%
		-0.1174	0.7439	0.4971	0.2493	0.9127	0.8363	0.4687	-0.0013	0.3867	0.3841	0.0022	-0.2205	0.7248	0.2691	0.1655	0.2152
BHAR (0)		0.27%	0.21%	0.70%	0.26%	0.69%	0.12%	0.18%	0.28%	0.49%	0.01%	0.41%	-0.39%	0.46%	0.47%	0.33%	0.38%
		0.5559	0.4303	1.7045	0.5767	1.3011	0.2435	0.4155	0.6633	0.8265	0.0099	0.8889	-0.6987	0.8746	0.9979	0.6862	0.9361
BHAR (1)		-0.12%	-0.29%	0.72%	0.11%	0.51%	0.03%	0.00%	0.31%	0.15%	0.16%	0.51%	-0.42%	0.49%	0.28%	-0.10%	0.44%
		-0.2340	-0.5743	1.7275	0.2392	1.0513	0.0609	-0.0025	0.7533	0.2566	0.2979	1.1249	-0.8089	0.9823	0.6070	-0.2173	1.1359
SPAIN																	
CAR (0)		0.04%	0.02%	0.23%	0.37%	0.09%	0.13%	0.40%	0.54%	0.35%	0.43%	0.65%	0.73%	0.54%	0.76%	0.84%	0.84%
		0.1130	0.0557	0.7926	1.5124	0.2063	0.2818	1.0366	1.6356	0.6356	0.9215	1.5688	1.9581	1.0554	1.6635	1.8780	2.0001
CAR (1)		0.00%	0.13%	0.38%	0.41%	0.14%	0.21%	0.52%	0.51%	0.31%	0.60%	0.77%	0.72%	0.77%	0.89%	0.96%	0.87%
		-0.0078	0.3836	1.2214	1.6619	0.3060	0.4480	1.3459	1.5261	0.5718	1.3171	1.9293	1.9315	1.6234	1.9371	2.1583	2.0681
BHAR (0)		-0.48%	-0.79%	-0.13%	-0.44%	-0.63%	0.04%	0.18%	0.54%	0.14%	0.16%	0.30%	0.30%	0.72%	1.16%	1.07%	1.03%
		-1.0224	-1.6218	-0.2505	-0.9189	-1.1699	0.0787	0.2822	1.0238	0.2390	0.3047	0.6412	0.5399	1.4172	2.2667	2.1524	2.0245
BHAR (1)		0.12%	-0.57%	0.16%	-0.12%	-0.01%	0.40%	0.38%	0.52%	0.00%	0.17%	0.12%	0.04%	0.90%	1.10%	1.20%	0.93%
		0.2445	-1.1162	0.3205	-0.2649	-0.0175	0.7838	0.6040	0.9628	0.0061	0.2893	0.2268	0.0739	1.7803	2.1142	2.4614	1.8628

MW	J =		3				6				9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		1.41%	0.97%	0.60%	0.52%	1.12%	0.79%	0.59%	0.48%	0.69%	0.50%	0.32%	0.10%	0.34%	0.19%	-0.06%	-0.21%
		2.6970	2.2103	1.5679	1.4870	2.1001	1.6771	1.3033	1.0691	1.2402	0.8586	0.5442	0.1780	0.4802	0.2638	-0.0946	-0.3137
CAR (1)		1.18%	0.75%	0.51%	0.34%	1.03%	0.72%	0.51%	0.36%	0.79%	0.46%	0.20%	-0.02%	0.15%	0.01%	-0.25%	-0.24%
		2.3244	1.8006	1.4178	1.0019	2.2020	1.5322	1.1141	0.7905	1.3786	0.7929	0.3519	-0.0370	0.2052	0.0212	-0.3785	-0.3830
BHAR (0)		1.45%	0.20%	1.05%	-0.46%	1.12%	1.25%	0.89%	0.35%	0.81%	0.23%	0.22%	-0.25%	0.15%	0.08%	-0.43%	0.09%
		2.2734	0.3250	1.7945	-0.8269	1.9014	2.4626	1.3667	0.5884	1.3412	0.3409	0.3401	-0.3973	0.2027	0.1137	-0.6058	0.1264
BHAR (1)		1.31%	0.12%	1.01%	-0.29%	0.94%	1.01%	0.78%	0.14%	0.61%	0.24%	-0.04%	-0.35%	-0.01%	-0.20%	-0.58%	0.10%
		2.3118	0.1994	1.8430	-0.5315	1.8230	2.0090	1.2267	0.2271	1.0102	0.3650	-0.0636	-0.5625	-0.0197	-0.2631	-0.7816	0.1353
SWITZERLA	ND																
CAR (0)		0.32%	0.53%	0.52%	0.60%	0.57%	0.59%	0.66%	0.53%	0.69%	0.76%	0.63%	0.47%	0.89%	0.80%	0.59%	0.48%
		1.0945	2.1230	2.2489	3.0958	1.6698	1.7903	2.1477	1.9402	1.8066	2.0654	1.8562	1.4642	2.3409	2.2110	1.6858	1.4526
CAR (1)		0.58%	0.63%	0.64%	0.60%	0.59%	0.72%	0.64%	0.44%	0.84%	0.77%	0.61%	0.37%	0.72%	0.67%	0.50%	0.40%
		1.9830	2.4592	2.7582	3.1631	1.6698	2.1057	2.1176	1.6108	2.1708	2.0700	1.7912	1.1566	1.9396	1.8304	1.4511	1.2112
BHAR (0)		0.09%	0.15%	0.07%	0.15%	0.35%	0.73%	0.44%	0.99%	0.65%	0.55%	0.73%	0.52%	0.85%	1.27%	0.83%	0.64%
		0.2605	0.4285	0.2166	0.4286	0.8854	1.8742	1.0746	2.8950	1.5080	1.2363	2.0226	1.4661	2.0422	3.0520	1.8941	1.6310
BHAR (1)		0.27%	0.03%	0.16%	0.21%	0.61%	0.87%	0.26%	0.86%	0.58%	0.50%	0.52%	0.17%	0.59%	0.92%	0.79%	0.48%
		0.7664	0.0778	0.4735	0.5964	1.4706	2.2039	0.6243	2.4714	1.3553	1.1350	1.4163	0.4079	1.3957	2.3015	1.8988	1.2771
UK																	
CAR (0)		0.14%	0.36%	0.42%	0.58%	0.32%	0.50%	0.73%	0.65%	0.54%	0.77%	0.79%	0.54%	0.57%	0.75%	0.63%	0.42%
		0.3426	0.9693	1.2623	1.9790	0.6558	1.1082	1.8752	1.8188	1.0005	1.5106	1.6738	1.2636	0.9952	1.3955	1.2601	0.8992
CAR (1)		0.14%	0.44%	0.52%	0.57%	0.50%	0.69%	0.79%	0.58%	0.71%	0.88%	0.75%	0.41%	0.68%	0.79%	0.56%	0.30%
		0.3180	1.1761	1.5456	1.9821	1.0566	1.5781	2.0664	1.6666	1.2565	1.7254	1.6223	0.9775	1.2430	1.5270	1.1611	0.6612
BHAR (0)		-0.10%	0.05%	0.13%	0.01%	0.40%	0.41%	0.48%	0.97%	0.62%	0.87%	0.80%	0.68%	0.51%	0.64%	0.73%	0.36%
		-0.1962	0.1032	0.2856	0.0251	0.7844	0.8143	0.9209	2.6182	1.0183	1.4701	1.4987	1.3799	0.8183	1.1329	1.3145	0.6500
BHAR (1)		-0.15%	0.04%	0.12%	0.25%	0.45%	0.47%	0.60%	0.72%	0.86%	0.94%	0.70%	0.39%	0.62%	0.52%	0.33%	0.08%
		-0.3130	0.0845	0.2604	0.5700	0.9257	0.9838	1.2470	1.8616	1.4665	1.7592	1.3404	0.8098	1.0814	0.9111	0.5701	0.1372
US																	
CAR (0)		-0.22%	-0.01%	0.19%	0.20%	0.05%	0.31%	0.41%	0.31%	0.41%	0.51%	0.41%	0.26%	0.35%	0.31%	0.22%	0.16%
		-0.7446	-0.0529	0.8439	0.9437	0.1135	0.8836	1.2772	1.0542	0.9768	1.2952	1.1247	0.7687	0.7967	0.7372	0.5587	0.4254
CAR (1)		-0.10%	0.15%	0.31%	0.19%	0.32%	0.54%	0.47%	0.30%	0.64%	0.58%	0.42%	0.23%	0.35%	0.31%	0.19%	0.11%
		-0.3364	0.5677	1.3125	0.9068	0.8252	1.5780	1.4791	1.0268	1.5217	1.5106	1.1419	0.6615	0.8172	0.7829	0.4981	0.3044
BHAR (0)		-0.48%	-0.04%	-0.29%	0.22%	0.06%	0.24%	-0.10%	0.70%	0.44%	0.41%	0.56%	0.25%	0.41%	0.55%	0.26%	0.29%
		-1.2075	-0.1141	-0.6665	0.6066	0.1392	0.5742	-0.2226	2.2296	0.9389	0.9118	1.4197	0.6144	0.8816	1.2697	0.6071	0.6328
BHAR (1)		-0.12%	-0.32%	-0.27%	0.18%	0.21%	0.40%	-0.08%	0.48%	0.60%	0.38%	0.40%	0.05%	0.19%	0.30%	0.09%	0.09%
		-0.3364	-0.7457	-0.6441	0.4594	0.5125	1.0807	-0.1901	1.4878	1.2587	0.7660	0.9135	0.1197	0.3737	0.7257	0.2111	0.1903

Panel C. The cross-sectional momentum using inversed-volatility weighted return

IVOL	J =		3	ner C. T.		Section	6		,,,,,,	70	9		1010111		12	2	
1,02	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL																	
CAR (0)		0.60%	0.80%	0.72%	0.63%	1.23%	1.01%	0.82%	0.54%	1.30%	1.10%	0.73%	0.39%	1.20%	0.84%	0.41%	0.16%
		2.0513	3.2702	3.2820	3.3751	3.4235	3.0479	2.9074	2.2741	3.2950	3.0783	2.1901	1.3925	3.2556	2.3463	1.3468	0.6079
CAR (1)		0.76%	0.88%	0.79%	0.56%	1.32%	1.01%	0.76%	0.41%	1.38%	1.01%	0.59%	0.24%	1.06%	0.62%	0.23%	-0.02%
		2.6146	3.3689	3.4345	2.7262	3.7616	3.1155	2.7678	1.7692	3.7048	2.8596	1.8363	0.9106	2.9794	1.8140	0.8069	-0.0802
BHAR (0)		0.50%	0.69%	0.49%	0.31%	1.25%	0.67%	0.30%	0.23%	1.34%	1.16%	0.94%	0.46%	1.13%	0.72%	0.33%	0.37%
		1.3645	2.2116	1.2072	0.9756	3.0286	1.7074	0.7040	0.8157	3.1521	2.7444	2.3691	1.3843	2.7796	1.9313	0.9369	0.9437
BHAR (1)		0.98%	0.83%	0.52%	0.56%	1.46%	0.88%	0.51%	0.30%	1.33%	0.99%	0.68%	0.26%	0.97%	0.42%	-0.02%	0.09%
		3.3775	2.6313	1.0110	1.5537	3.8635	2.3744	1.2057	0.9962	3.4786	2.2974	1.8601	0.7508	2.6495	1.2435	-0.0582	0.2465
AUSTRIA	4																
CAR (0)		0.92%	0.78%	0.78%	0.74%	1.02%	1.04%	1.04%	1.01%	1.37%	1.31%	1.24%	1.02%	1.40%	1.28%	1.07%	0.84%
		3.4616	3.0176	3.2247	3.5157	3.0724	3.2514	3.4105	3.6552	3.4597	3.4433	3.3792	3.0792	3.2544	3.1097	2.7422	2.3838
CAR (1)		0.74%	0.61%	0.65%	0.62%	1.10%	1.05%	1.01%	0.89%	1.40%	1.22%	1.12%	0.85%	1.28%	1.11%	0.91%	0.68%
		2.8535	2.4177	2.7611	3.0629	3.4489	3.3004	3.3836	3.2580	3.6045	3.2694	3.1856	2.6863	3.0549	2.7669	2.4439	2.0323
BHAR (0)		0.72%	0.46%	0.67%	0.57%	1.10%	0.90%	0.80%	1.12%	1.40%	1.38%	1.09%	1.12%	1.36%	1.07%	0.95%	0.54%
		2.3701	1.4988	1.6951	1.7387	3.2029	2.3606	2.1531	3.3193	3.4486	3.0975	2.8473	3.1504	3.1461	2.4389	2.1822	1.3574
BHAR (1)		0.69%	0.27%	0.66%	0.28%	1.11%	1.20%	1.06%	1.11%	1.19%	1.14%	1.06%	0.96%	1.24%	1.07%	0.75%	0.45%
	_	2.2777	0.8377	1.5676	0.8411	3.0721	3.1752	2.8104	3.1649	2.9690	2.5710	2.9017	2.6564	2.7694	2.6016	1.7334	1.1324
BELGIUN	VI .	0.040/	0.500/	0 = (0/	0.=00/	1.0(0/	1.000/	1.040/	4.400/	4.400/	4.440/	1.000/	4.050/	1.620/	4.4407	1.000/	1.000/
CAR (0)		0.81%	0.78%	0.76%	0.78%	1.26%	1.29%	1.26%	1.10%	1.40%	1.41%	1.23%	1.05%	1.63%	1.44%	1.20%	1.00%
GLD (I)		3.6920	3.4878	3.8566	4.2561	4.4852	4.7773	4.9714	4.7839	4.5878	4.7386	4.4878	4.1338	5.2802	4.8280	4.2958	3.7881
CAR (1)		0.87%	0.78%	0.78%	0.72%	1.35%	1.38%	1.22%	1.05%	1.58%	1.39%	1.19%	0.97%	1.63%	1.36%	1.10%	0.89%
DILAD (0)		4.0321	3.8479	4.2476	4.2856	4.7951	5.0991	4.9411	4.6079	5.3034	4.7902	4.4432	3.9068	5.5522	4.6738	4.0223	3.4084
BHAR (0)		0.66%	0.46%	0.25%	0.48%	1.20%	1.28%	1.14%	1.20%	1.50%	1.58%	1.40%	1.27%	1.66%	1.34%	1.35%	0.76%
DIIAD (1)		2.6119 0.84%	1.6785 0.67%	0.7586	1.4095	4.1151	4.6848 1.35%	4.0132	5.0675	4.7074 1.64%	4.6608	4.6278	4.3762	5.0421 1.56%	4.0244 1.24%	4.4172	2.5946
BHAR (1)		3.3369	2.3869	0.66% 2.1872	0.49% 1.7244	1.27% 4.5326	5.0794	1.07% 3.9435	1.12% 5.0800	5.3028	1.42% <i>4.1770</i>	1.35% 4.6440	0.88% 3.0797	5.2785	4.0269	1.19% 3.9065	0.64% 2.2005
CANADA		3.3309	2.3009	2.10/2	1./244	4.3320	3.0794	3.9433	3.0000	3.3026	4.1770	4.0440	3.0797	3.2763	4.0209	3.9003	2.2003
CANADA	1	1.11%	0.84%	0.84%	0.82%	1.36%	1.21%	1.18%	0.89%	1.49%	1.37%	1.06%	0.67%	1.59%	1.09%	0.71%	0.35%
CAR (0)		3.4030	2.9053	3.2033	3.7586	3.4372	3.2283	3.6675	3.2691	3.4335	3.4876	3.1240	2.2286	3.7898	2.8535	2.0550	1.1376
CAR (1)		0.99%	0.82%	0.89%	0.68%	1.35%	1.25%	1.10%	0.70%	1.58%	1.26%	0.90%	0.44%	1.34%	0.83%	0.46%	0.11%
C/ IK (1)		3.1313	2.7640	3.5391	3.3490	3.3728	3.4196	3.6628	2.7334	3.7741	3.4546	2.8200	1.5621	3.4495	2.3225	1.4274	0.3751
BHAR (0)		1.07%	0.49%	0.84%	0.64%	1.17%	1.15%	0.88%	0.97%	1.34%	1.20%	0.96%	0.73%	1.51%	1.00%	0.74%	0.27%
211111 (0)		2.7661	1.2154	2.1496	1.8423	2.6139	2.7281	2.0360	2.9691	2.7567	2.5155	2.8121	2.0443	3.4258	2.6048	1.9414	0.7083
BHAR (1)		1.01%	0.46%	0.89%	0.43%	1.30%	1.37%	0.84%	0.73%	1.45%	1.04%	0.74%	0.63%	1.20%	0.74%	0.57%	0.13%
DIII III (1)		2.9092	1.2551	2.5541	1.2578	2.9366	3.3582	2.1266	2.2001	3.2025	2.5631	2.1954	1.7412	2.9962	2.0360	1.6411	0.3667
-		2.7072	1.2331	2.3371	1.2370	2.7500	3.3302	2.1200	2.2001	3.2023	2.5051	2.1/57	1./712	2.7702	2.0300	1.0711	0.5007

IVOL	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	K																
CAR (0)		1.16%	1.17%	1.05%	1.05%	1.60%	1.47%	1.41%	1.23%	1.72%	1.62%	1.40%	1.16%	1.94%	1.64%	1.35%	1.08%
		6.0461	6.2689	5.9049	6.7772	6.6966	6.0444	6.1968	5.8304	6.0455	5.9572	5.2602	4.6066	6.5929	5.7396	4.8095	4.0804
CAR (1)		1.13%	1.14%	1.07%	1.01%	1.64%	1.44%	1.34%	1.12%	1.73%	1.51%	1.25%	0.99%	1.78%	1.43%	1.15%	0.89%
		5.6652	6.1507	6.2014	6.6734	6.5523	5.7607	5.9351	5.2819	6.1103	5.4287	4.7274	3.9987	6.1305	5.0155	4.1388	3.4238
BHAR (0)		1.15%	1.02%	0.74%	0.84%	1.51%	1.25%	1.20%	1.50%	1.67%	1.37%	1.52%	1.02%	1.91%	1.68%	1.38%	0.88%
		5.1539	3.9255	2.7758	3.3413	5.5043	3.8101	4.0089	5.6947	5.6351	4.6474	5.0312	3.7486	5.6813	5.2881	4.7213	2.9645
BHAR (1)		1.03%	1.03%	0.90%	0.93%	1.62%	1.29%	1.12%	1.31%	1.74%	1.39%	1.39%	0.83%	1.78%	1.40%	1.23%	0.61%
		4.5017	3.9504	3.1574	3.5764	6.2911	4.1771	4.0638	5.2109	6.1658	4.6561	4.8655	2.9272	6.2242	4.4744	4.0972	2.0801
FINLANI	D																
CAR (0)		0.77%	0.75%	0.78%	0.68%	1.16%	1.10%	1.08%	0.83%	1.33%	1.18%	0.94%	0.65%	1.14%	0.89%	0.72%	0.54%
		2.3811	2.8934	3.5656	3.3553	3.5086	3.4975	3.8052	2.9683	3.5702	3.2772	2.5987	1.8246	2.7272	2.1346	1.7443	1.3660
CAR (1)		0.92%	0.82%	0.80%	0.64%	1.15%	1.13%	0.99%	0.69%	1.31%	1.07%	0.80%	0.48%	1.07%	0.75%	0.61%	0.44%
		2.9871	3.4136	3.8381	3.1778	3.5710	3.7585	3.4655	2.4056	3.4808	2.8641	2.1371	1.3395	2.4908	1.7584	1.4544	1.1229
BHAR (0)		0.31%	0.37%	0.75%	0.38%	0.96%	0.98%	0.94%	1.21%	1.23%	0.93%	0.86%	0.43%	1.12%	1.12%	0.96%	0.87%
		0.6505	0.8483	1.9924	0.7698	2.4939	2.6507	2.8519	3.3577	3.0753	2.1592	2.2173	1.0699	2.5891	2.7468	2.0955	2.2270
BHAR (1)		1.14%	0.47%	1.03%	0.28%	1.33%	1.14%	0.87%	1.02%	1.34%	0.81%	0.69%	0.41%	1.08%	0.87%	0.65%	0.67%
		3.3913	1.3100	3.0726	0.5858	4.0488	3.3392	2.5860	2.8916	3.3562	1.8246	1.7244	0.9761	2.4924	2.2323	1.4239	1.8074
FRANCE	E																
CAR (0)		0.00%	0.35%	0.34%	0.46%	0.58%	0.67%	0.72%	0.63%	0.78%	0.83%	0.79%	0.63%	1.03%	0.90%	0.71%	0.56%
		-0.0144	1.4876	1.6881	2.7531	1.7873	2.3358	2.8437	2.7445	2.2274	2.6094	2.6403	2.3382	2.9942	2.7538	2.2763	1.9191
CAR (1)		0.31%	0.39%	0.34%	0.38%	0.77%	0.73%	0.78%	0.59%	1.11%	0.95%	0.79%	0.57%	1.08%	0.85%	0.65%	0.49%
		1.0678	1.6835	1.6865	2.2357	2.4779	2.6456	3.0305	2.5001	3.3571	3.0441	2.7264	2.1764	3.2960	2.6463	2.1014	1.7259
BHAR (0)		0.11%	-0.35%	0.51%	-0.72%	0.58%	0.40%	0.48%	0.04%	0.70%	0.67%	0.99%	0.83%	1.03%	0.89%	0.94%	0.62%
		0.3079	-0.8169	1.5003	-1.4869	1.7429	1.0517	1.2833	0.0898	2.0579	1.9645	3.4665	2.4420	2.8667	2.5150	2.7970	1.8778
BHAR (1)		0.17%	-0.19%	0.36%	-0.50%	0.76%	0.73%	0.63%	0.66%	0.85%	0.70%	0.93%	0.49%	1.03%	0.80%	0.75%	0.51%
		0.4944	-0.4302	0.7916	-1.0711	2.3011	2.0425	1.5988	2.1768	2.3788	1.8080	3.1137	1.3402	3.0021	2.3449	2.2253	1.4765
GERMAN	Y																
CAR (0)		1.04%	0.84%	0.76%	0.74%	1.36%	1.22%	1.20%	1.00%	1.50%	1.36%	1.17%	0.92%	1.62%	1.30%	1.05%	0.87%
		3.7837	3.4796	3.4657	3.5248	4.4371	4.2363	4.3901	3.8253	4.5009	4.2053	3.6440	3.1148	4.6976	3.7947	3.2301	2.8527
CAR (1)		1.20%	0.85%	0.78%	0.69%	1.40%	1.23%	1.14%	0.89%	1.49%	1.28%	1.04%	0.80%	1.55%	1.15%	0.92%	0.77%
		4.3727	3.5362	3.5576	3.3559	4.6651	4.2527	4.1111	3.4884	4.4001	3.8841	3.2486	2.7315	4.5389	3.3767	2.8694	2.5593
BHAR (0)		0.93%	0.53%	0.71%	-0.45%	1.35%	1.23%	1.29%	1.11%	1.48%	1.33%	1.16%	0.87%	1.54%	1.30%	1.11%	0.79%
		2.8414	1.5181	2.1176	-0.9092	3.9360	3.7107	3.3043	3.1964	4.0157	3.5435	3.5503	2.2012	4.4831	3.7464	3.1884	2.3629
BHAR (1)		1.23%	0.63%	1.16%	0.33%	1.27%	1.27%	1.19%	0.96%	1.43%	1.13%	0.99%	0.57%	1.39%	1.13%	0.87%	0.79%
		4.1305	2.0523	4.2780	0.8189	4.0122	3.7227	3.1050	2.7380	4.0652	2.9169	3.0230	1.4157	4.0479	3.4930	2.6184	2.3956

IVOL	J =		3	3			6	i			9)			1:	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE	2																
CAR (0)		0.43%	0.49%	0.30%	0.20%	0.56%	0.47%	0.36%	0.15%	0.48%	0.40%	0.08%	-0.13%	0.29%	0.05%	-0.17%	-0.30%
		1.0092	1.3148	0.9413	0.6790	1.1525	1.0536	0.8756	0.4003	0.9653	0.8361	0.1746	-0.3158	0.5440	0.0959	-0.3433	-0.6438
CAR (1)		0.44%	0.45%	0.29%	$\boldsymbol{0.16\%}$	0.64%	0.50%	0.31%	0.09%	0.61%	0.34%	0.01%	-0.21%	0.27%	-0.05%	-0.25%	-0.38%
		1.0035	1.2335	0.9142	0.5329	1.3586	1.1704	0.7768	0.2302	1.2389	0.7083	0.0181	-0.4868	0.5199	-0.0902	-0.5129	-0.8010
BHAR (0)		0.20%	0.78%	0.22%	0.87%	0.66%	0.70%	0.28%	0.46%	0.61%	0.45%	-0.13%	-0.04%	0.27%	-0.23%	-0.13%	-0.97%
		0.3939	1.7348	0.4327	1.9865	1.2546	1.3454	0.5608	0.9301	1.1645	0.8838	-0.2276	-0.0839	0.4783	-0.3912	-0.2671	-1.5181
BHAR (1)		0.70%	0.89%	0.25%	1.03%	0.64%	0.48%	0.18%	0.27%	0.70%	0.36%	0.02%	-0.30%	0.36%	-0.30%	-0.33%	-0.82%
		1.3527	1.7280	0.4978	2.1428	1.3162	1.0249	0.3434	0.5918	1.3174	0.7060	0.0304	-0.6070	0.6587	-0.5179	-0.7311	-1.3877
HONGKON	VG																
CAR (0)		0.48%	0.45%	0.28%	0.09%	0.62%	0.48%	0.16%	-0.11%	0.42%	0.10%	-0.11%	-0.40%	0.04%	-0.16%	-0.47%	-0.63%
		1.3869	1.6396	1.1165	0.3724	1.6105	1.3222	0.4913	-0.3587	0.9580	0.2529	-0.2960	-1.1540	0.0844	-0.3987	-1.2252	-1.8049
CAR (1)		0.42%	0.48%	0.20%	-0.02%	0.77%	0.45%	0.04%	-0.25%	0.28%	-0.02%	-0.29%	-0.54%	-0.11%	-0.33%	-0.63%	-0.74%
		1.3260	1.7715	0.7773	-0.0871	2.0909	1.2730	0.1275	-0.8434	0.6383	-0.0481	-0.7645	-1.6194	-0.2564	-0.8093	-1.6682	-2.1976
BHAR (0)		0.46%	0.14%	-0.17%	0.01%	0.59%	0.53%	0.04%	-0.02%	0.41%	0.02%	-0.09%	-0.40%	-0.10%	-0.04%	-0.53%	-0.42%
		1.1423	0.3099	-0.4097	0.0236	1.2900	1.3051	0.0877	-0.0726	0.8571	0.0424	-0.2102	-0.9436	-0.2014	-0.0968	-1.1925	-1.0957
BHAR (1)		0.25%	-0.07%	-0.17%	-0.26%	0.43%	0.38%	-0.02%	-0.27%	0.07%	-0.19%	-0.27%	-0.54%	-0.37%	-0.18%	-0.63%	-0.52%
		0.6299	-0.1627	-0.4603	-0.6654	1.0066	0.9924	-0.0539	-0.8145	0.1517	-0.4072	-0.6827	-1.3852	-0.8072	-0.4787	-1.4560	-1.4655
IRELANI)																
CAR (0)		0.71%	0.60%	0.50%	0.53%	0.99%	0.78%	0.78%	0.69%	0.81%	0.79%	0.67%	0.59%	1.02%	0.82%	0.67%	0.50%
		2.1600	1.7332	1.6282	2.1922	2.2456	1.7488	2.0037	1.9890	1.7296	1.7564	1.5129	1.4180	1.9813	1.5759	1.3389	1.0630
CAR (1)		0.77%	0.49%	0.48%	0.42%	0.91%	0.75%	0.68%	0.53%	0.78%	0.67%	0.63%	0.47%	0.89%	0.72%	0.53%	0.34%
		2.0185	1.3466	1.6113	1.6231	1.8962	1.6777	1.7596	1.5444	1.7075	1.4471	1.3991	1.1029	1.6749	1.3687	1.0543	0.7296
BHAR (0)		0.79%	-0.25%	-0.47%	0.10%	0.80%	0.95%	0.11%	1.49%	1.06%	0.95%	0.98%	1.30%	1.12%	1.21%	1.21%	0.27%
		1.7716	-0.4814	-0.8278	0.2083	1.5705	1.6912	0.1888	2.9209	2.1425	1.8553	1.8055	2.7853	2.0068	2.1994	2.1936	0.5175
BHAR (1)		0.46%	-0.22%	-0.44%	0.37%	0.76%	0.83%	0.19%	1.19%	0.49%	0.86%	0.63%	0.74%	0.75%	0.95%	0.77%	0.03%
		0.9022	-0.4916	-0.8158	0.8126	1.6085	1.4213	0.3637	2.3228	1.0213	1.7669	1.1465	1.5895	1.4242	1.7527	1.3189	0.0579
ISRAEL			0.040/	0.400/	0.4404			0.010/	0.4401		0.4407	0.0001	0.4=0/			0.000/	
CAR (0)		0.03%	-0.04%	-0.10%	-0.14%	0.27%	0.21%	0.01%	-0.14%	0.29%	0.14%	-0.02%	-0.15%	0.37%	0.23%	0.08%	-0.09%
		0.1539	-0.1931	-0.5098	-0.8140	0.9517	0.7537	0.0357	-0.6376	0.9309	0.4463	-0.0613	-0.5795	1.0914	0.6740	0.2726	-0.3189
CAR (1)		0.08%	0.03%	-0.11%	-0.21%	0.45%	0.24%	-0.05%	-0.22%	0.37%	0.09%	-0.12%	-0.27%	0.30%	0.15%	-0.03%	-0.20%
		0.3307	0.1554	-0.5371	-1.1779	1.5432	0.8435	-0.1879	-0.9709	1.1773	0.2561	-0.3839	-1.0199	0.8778	0.4479	-0.0986	-0.7424
BHAR (0)		0.08%	-0.30%	-0.37%	-0.31%	0.05%	0.01%	-0.25%	0.25%	0.31%	0.14%	0.12%	0.36%	0.36%	0.25%	0.00%	-0.22%
		0.2640	-0.7415	-1.0139	-0.8058	0.1409	0.0305	-0.6562	1.1213	0.8884	0.3682	0.4480	1.1099	1.0166	0.7721	0.0136	-0.6900
BHAR (1)		0.24%	-0.14%	-0.46%	-0.42%	0.56%	0.33%	0.00%	0.24%	0.22%	0.01%	-0.07%	0.10%	0.33%	0.17%	-0.05%	-0.45%
		0.9276	-0.4479	-1.2062	-1.0888	1.9174	1.0416	0.0061	0.8549	0.6388	0.0207	-0.2269	0.3197	0.9449	0.5495	-0.1509	-1.2688

IVOL	J =		3				6	i			9	1			1:	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.78%	0.75%	0.83%	0.80%	0.99%	1.08%	1.08%	0.94%	1.32%	1.26%	1.09%	0.90%	1.32%	1.18%	0.99%	0.81%
		3.1711	3.4025	4.6202	4.6733	3.2375	4.0656	4.4936	4.1367	4.4340	4.3890	4.0106	3.4780	4.2853	4.0228	3.5357	2.9725
CAR (1)		0.78%	0.79%	0.81%	0.75%	1.09%	1.12%	1.04%	0.87%	1.37%	1.19%	0.98%	0.78%	1.30%	1.09%	0.88%	0.71%
		3.3939	3.7883	4.5430	4.4867	4.0381	4.4676	4.5147	3.9482	4.6878	4.2499	3.6038	3.0458	4.3725	3.7752	3.1726	2.6533
BHAR (0)		0.72%	0.72%	0.90%	0.75%	0.92%	1.07%	0.96%	0.79%	1.25%	1.18%	1.19%	0.73%	1.17%	1.01%	1.08%	0.66%
		2.3882	2.4940	2.8969	2.5658	2.6397	3.1719	2.9573	2.8938	3.7564	3.5239	3.7554	2.2817	3.6116	3.4133	3.5666	2.1857
BHAR (1)		0.72%	0.72%	1.09%	0.80%	1.02%	1.07%	0.98%	0.70%	1.33%	1.06%	0.98%	0.44%	1.18%	0.99%	0.97%	0.68%
		2.7018	2.4911	3.4126	2.6858	3.4103	3.2612	3.1277	2.6848	4.0088	3.1981	3.2391	1.2850	3.7547	3.3531	3.0601	2.3390
JAPAN																	
CAR (0)		-0.10%	-0.21%	-0.15%	-0.04%	-0.32%	-0.28%	-0.10%	-0.14%	-0.29%	-0.15%	-0.17%	-0.24%	-0.10%	-0.23%	-0.29%	-0.34%
		-0.4209	-0.9408	-0.7659	-0.2093	-1.0257	-0.9932	-0.3999	-0.6092	-0.8639	-0.4802	-0.5789	-0.9526	-0.2899	-0.7132	-0.9906	-1.2895
CAR (1)		-0.01%	-0.15%	-0.03%	-0.03%	-0.20%	-0.13%	-0.02%	-0.16%	-0.04%	-0.04%	-0.14%	-0.26%	-0.05%	-0.25%	-0.31%	-0.36%
		-0.0365	-0.7227	-0.1682	-0.1630	-0.6730	-0.4681	-0.0906	-0.7353	-0.1269	-0.1399	-0.4969	-1.0659	-0.1502	-0.8270	-1.1123	-1.4203
BHAR (0)		-0.22%	0.05%	-0.08%	0.15%	-0.25%	-0.27%	-0.16%	0.21%	-0.20%	-0.06%	0.09%	-0.08%	-0.05%	-0.17%	-0.26%	-0.34%
		-0.8049	0.1798	-0.2671	0.5250	-0.7169	-0.7854	-0.5006	0.7521	-0.5702	-0.1752	0.3099	-0.3102	-0.1573	-0.5007	-0.8498	-1.1421
BHAR (1)		-0.12%	0.04%	-0.11%	0.18%	-0.32%	-0.52%	-0.10%	0.03%	-0.20%	0.03%	-0.02%	-0.20%	-0.13%	-0.40%	-0.46%	-0.43%
		-0.4703	0.1591	-0.4061	0.7005	-0.9965	-1.6015	-0.3649	0.1246	-0.6069	0.1025	-0.0891	-0.8027	-0.3993	-1.2593	-1.5687	-1.4617
NETHERLA	NDS																
CAR (0)		0.89%	0.85%	0.83%	0.80%	1.24%	1.17%	1.16%	1.00%	1.32%	1.34%	1.17%	1.01%	1.50%	1.26%	1.12%	0.97%
		3.1263	3.8854	4.2143	4.1258	4.2981	4.4866	4.5035	3.9367	4.1606	4.3672	3.8083	3.3643	4.1946	3.6061	3.2259	2.8517
CAR (1)		0.85%	0.86%	0.83%	0.71%	1.21%	1.22%	1.08%	0.89%	1.42%	1.30%	1.10%	0.91%	1.42%	1.16%	1.01%	0.90%
		3.4052	4.0873	4.2605	3.6852	4.3709	4.6872	4.0716	3.4461	4.5253	4.1144	3.4717	3.0197	3.9422	3.2868	2.9055	2.6480
BHAR (0)		0.96%	0.85%	0.84%	0.42%	1.33%	1.33%	1.05%	1.42%	1.31%	1.12%	1.38%	1.22%	1.35%	1.21%	1.13%	1.01%
		2.7743	2.5384	2.6471	1.1331	4.0223	4.1521	2.6725	5.0848	3.8085	2.9594	4.2318	3.2768	3.4300	3.3997	2.9527	2.7490
BHAR (1)		0.95%	0.75%	0.65%	0.35%	1.12%	1.22%	0.99%	1.13%	1.42%	1.01%	1.34%	1.00%	1.22%	1.04%	1.03%	0.96%
		2.8492	2.3937	1.9045	1.0484	3.5150	3.8210	2.7001	3.9673	4.3468	2.6887	4.0052	2.5502	3.0235	2.8600	2.8458	2.6807
NEWZEALA	ND																
CAR (0)		1.93%	1.65%	1.26%	1.15%	1.85%	1.57%	1.36%	1.15%	1.68%	1.48%	1.23%	1.04%	1.72%	1.40%	1.13%	0.90%
		3.3776	4.2781	4.3278	4.8573	5.5510	5.4695	5.2663	5.1041	5.2726	5.1136	4.5430	4.2815	5.1002	4.3474	3.9328	3.5461
CAR (1)		1.84%	1.47%	1.18%	1.01%	1.77%	1.49%	1.27%	0.99%	1.63%	1.39%	1.12%	0.89%	1.55%	1.26%	1.00%	0.75%
		3.4106	4.0916	4.3696	4.5737	5.5939	5.4553	5.0807	4.5654	5.5341	4.9193	4.2352	3.7522	4.7375	4.0895	3.6278	3.0629
BHAR (0)		1.82%	1.31%	1.14%	0.39%	2.02%	1.71%	1.23%	1.15%	1.96%	1.54%	1.44%	1.29%	1.73%	1.49%	1.02%	1.00%
		2.9350	4.0673	1.8118	1.2628	5.3834	4.8178	3.3939	3.9331	5.5214	4.4116	4.4786	4.4068	4.9700	4.5066	3.5801	2.7007
BHAR (1)		1.88%	1.14%	0.84%	0.42%	2.02%	1.45%	1.09%	0.88%	1.91%	1.50%	1.35%	1.20%	1.67%	1.21%	0.88%	1.02%
		3.9524	3.6015	1.7134	1.4409	5.5779	4.1456	3.4343	2.8781	5.2524	4.4610	4.1660	4.3684	4.7138	3.5640	3.1595	2.7823

IVOL	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	7																
CAR (0)		0.75%	0.68%	0.74%	0.68%	0.99%	0.93%	0.98%	0.74%	1.34%	1.21%	0.92%	0.60%	1.36%	0.92%	0.64%	0.37%
		2.1446	2.6470	3.0493	2.8976	2.6838	2.6196	2.9261	2.3253	3.2621	2.9865	2.3147	1.6052	3.1975	2.1976	1.5667	0.9378
CAR (1)		0.60%	0.67%	0.70%	0.54%	1.05%	1.05%	0.95%	0.60%	1.39%	1.13%	0.76%	0.42%	1.06%	0.67%	0.44%	0.20%
		1.9693	2.6354	2.8295	2.2786	2.9294	2.9758	2.8110	1.8956	3.3283	2.7089	1.8991	1.1222	2.4160	1.5791	1.0699	0.4991
BHAR (0)		0.82%	0.76%	0.89%	$\boldsymbol{0.80\%}$	0.95%	1.06%	0.90%	1.36%	1.57%	1.22%	0.94%	0.99%	1.30%	1.00%	0.77%	0.29%
		1.8600	1.8334	2.4872	2.0065	2.2523	2.5105	2.0607	3.8384	3.4499	2.6016	2.0891	2.1914	2.7301	2.2907	1.7268	0.6257
BHAR (1)		0.56%	0.70%	0.76%	0.50%	1.04%	1.07%	0.84%	1.00%	1.53%	1.20%	0.88%	0.92%	1.13%	0.71%	0.78%	0.15%
		1.5399	2.1090	2.3626	1.3387	2.7553	2.5038	2.1604	2.8290	3.6551	2.7583	2.0463	2.2024	2.5253	1.6215	1.8445	0.3426
PORTUGA	L																
CAR (0)		0.22%	0.54%	0.57%	0.46%	0.85%	0.88%	0.83%	0.67%	1.07%	0.89%	0.71%	0.51%	0.98%	0.69%	0.54%	0.42%
		0.5632	1.6201	1.8681	1.6722	2.0024	2.2957	2.3408	2.0556	2.5037	2.0462	1.7613	1.3415	2.1576	1.5897	1.2932	1.0693
CAR (1)		0.28%	0.52%	0.58%	0.44%	0.89%	0.89%	0.75%	0.56%	1.02%	0.79%	0.61%	0.40%	0.89%	0.64%	0.48%	0.33%
		0.6639	1.4773	1.6588	1.4771	2.0359	2.2452	2.0720	1.7198	2.3185	1.8218	1.5015	1.0753	1.9620	1.4731	1.1587	0.8437
BHAR (0)		0.00%	0.73%	0.46%	0.56%	0.78%	0.60%	0.81%	0.58%	0.78%	1.13%	0.83%	0.74%	1.04%	0.77%	0.48%	0.08%
		0.0039	1.1738	0.7621	0.8410	1.5103	1.2356	1.2885	1.2381	1.5064	1.9484	1.6232	1.4582	2.0619	1.6617	1.0542	0.1749
BHAR (1)		0.25%	1.20%	0.90%	0.95%	0.53%	1.03%	0.90%	0.47%	0.89%	0.85%	0.54%	0.38%	0.71%	0.64%	0.54%	0.09%
		0.4296	2.2123	1.2422	1.4792	0.9999	1.8105	1.2755	0.9732	1.9394	1.7128	1.0883	0.7183	1.5455	1.4185	1.1031	0.1947
SINGAPOR	E				-				-				1				
CAR (0)		0.59%	0.71%	0.57%	0.37%	0.83%	0.75%	0.54%	0.30%	0.77%	0.58%	0.36%	0.15%	0.55%	0.35%	0.16%	0.00%
		1.4739	2.4245	2.1093	1.4191	2.0833	2.0090	1.5345	0.9527	1.7610	1.3990	0.9492	0.4443	1.2112	0.8411	0.4062	0.0039
CAR (1)		0.61%	0.69%	0.50%	0.32%	0.87%	0.69%	0.43%	0.23%	0.71%	0.48%	0.22%	0.04%	0.43%	0.22%	0.01%	-0.06%
		1.5823	2.5697	1.8793	1.3044	2.2976	1.8738	1.2724	0.7639	1.6369	1.1810	0.5828	0.1229	0.9946	0.5490	0.0402	-0.1746
BHAR (0)		0.43%	0.08%	0.61%	0.33%	0.97%	0.82%	0.35%	0.54%	0.87%	0.51%	0.64%	0.09%	0.68%	0.64%	0.35%	0.16%
		0.9146	0.1744	1.7962	1.1492	2.0144	1.8980	0.7740	1.3587	1.7954	1.0946	1.9577	0.2126	1.4111	1.5276	0.8577	0.4174
BHAR (1)		0.58%	0.13%	0.67%	0.26%	1.00%	0.90%	0.28%	0.66%	0.74%	0.41%	0.62%	0.05%	0.57%	0.58%	0.04%	0.17%
		1.4880	0.3923	2.1046	0.9757	2.5411	2.3803	0.6296	2.1017	1.6536	0.9671	2.0779	0.1197	1.3375	1.5338	0.0965	0.4605
SPAIN		0.550/	0.4=0/	0.500/	0.500/	. =	0 =00/	0.000/	0.600/		1.000/	0.000/	0.000/	1.100/	1000/	0.000/	0.500/
CAR (0)		0.55%	0.45%	0.58%	0.58%	0.74%	0.79%	0.83%	0.69%	1.11%	1.08%	0.98%	0.83%	1.18%	1.00%	0.92%	0.78%
~.~		2.4865	2.3475	3.0093	3.3123	2.7796	2.9109	3.1321	2.8291	3.3947	3.4391	3.1902	2.9047	3.3505	2.9450	2.7495	2.4141
CAR (1)		0.53%	0.49%	0.59%	0.55%	0.81%	0.84%	0.75%	0.62%	1.17%	1.08%	0.95%	0.75%	1.12%	0.94%	0.83%	0.70%
		2.5672	2.4662	3.1196	3.2533	2.9251	2.9021	2.7863	2.5848	3.4142	3.3199	3.0991	2.6179	3.2135	2.7739	2.5086	2.1850
BHAR (0)		0.48%	0.15%	0.59%	0.62%	0.56%	0.90%	1.06%	0.62%	1.19%	1.19%	1.13%	0.70%	1.17%	1.03%	1.10%	0.66%
		1.7866	0.4629	1.6401	1.8221	1.9480	2.6327	2.5702	2.1106	3.1856	3.2482	3.1541	2.1747	3.2557	2.6623	3.1626	1.7062
BHAR (1)		0.37%	0.16%	0.57%	0.41%	0.65%	0.99%	0.76%	0.46%	1.04%	1.05%	0.84%	0.36%	1.01%	0.84%	1.04%	0.52%
		1.2444	0.4241	1.6374	1.2420	2.0783	3.1206	1.9952	1.5288	2.7731	2.7686	2.3725	1.0971	2.8149	2.2202	2.9910	1.3310

IVOL	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		1.16%	1.03%	0.89%	0.90%	1.53%	1.26%	1.12%	0.92%	1.57%	1.39%	1.07%	0.80%	1.51%	1.10%	0.78%	0.61%
		3.1013	2.7679	2.9151	3.5455	3.5137	3.0308	3.1029	2.7543	3.5212	3.2792	2.6815	2.2050	3.1795	2.3093	1.7838	1.5280
CAR (1)		1.17%	1.00%	0.89%	0.83%	1.47%	1.23%	1.03%	0.77%	1.58%	1.29%	0.94%	0.68%	1.27%	0.92%	0.61%	0.50%
		3.0924	2.9416	3.1715	3.3350	3.3940	3.0887	2.9089	2.3443	3.4685	3.1221	2.3588	1.9038	2.5926	1.9867	1.4277	1.2713
BHAR (0)		1.46%	0.91%	1.13%	0.43%	1.71%	1.51%	1.25%	0.93%	1.66%	1.24%	1.05%	0.68%	1.44%	1.28%	0.79%	0.81%
		3.7123	1.9172	2.9784	1.0143	3.6670	3.6621	2.4681	2.3117	3.6163	2.4853	2.3506	1.5064	2.9804	2.8640	1.7387	2.1355
BHAR (1)		1.37%	0.74%	0.81%	0.74%	1.69%	1.41%	1.32%	0.77%	1.63%	1.30%	1.00%	0.56%	1.37%	1.10%	0.60%	0.73%
		3.6636	1.6042	2.3179	1.5832	3.8037	3.5859	2.6901	2.0240	3.6803	2.8238	2.2559	1.2247	2.8084	2.4776	1.3342	1.8737
SWITZERLA	ND																
CAR (0)		0.89%	0.79%	0.70%	0.73%	1.10%	0.95%	0.93%	0.81%	1.16%	1.09%	0.94%	0.75%	1.33%	1.13%	0.87%	0.67%
		3.9309	3.8116	3.4656	3.9804	3.9388	3.2715	3.4192	3.3049	3.4124	3.2472	3.0178	2.6015	3.7375	3.2761	2.6709	2.2048
CAR (1)		0.78%	0.68%	0.67%	0.63%	0.98%	0.88%	0.85%	0.68%	1.15%	1.05%	0.85%	0.63%	1.22%	0.99%	0.73%	0.54%
		3.5982	3.1629	3.2657	3.4808	3.3622	2.9681	3.1743	2.8134	3.3206	3.1430	2.7584	2.2068	3.4810	2.8926	2.2760	1.7918
BHAR (0)		0.88%	0.75%	0.54%	0.68%	1.06%	1.06%	0.80%	1.20%	1.17%	0.99%	1.05%	0.83%	1.37%	1.31%	1.00%	0.72%
		3.3384	2.3355	1.6591	1.9070	3.5027	3.2092	2.4280	4.0729	3.2692	2.5582	3.2734	2.6270	3.8403	3.7817	2.8394	2.1313
BHAR (1)		0.69%	0.46%	0.46%	0.60%	0.91%	0.86%	0.66%	1.01%	1.01%	0.83%	0.92%	0.53%	1.14%	1.13%	0.79%	0.67%
-		2.7470	1.3982	1.4490	1.7096	2.7718	2.5555	2.0676	3.4734	2.7612	2.1384	2.8535	1.5611	3.2140	3.3266	2.2993	2.0156
UK																	
CAR (0)		1.28%	1.23%	1.04%	1.05%	1.73%	1.47%	1.37%	1.18%	1.75%	1.60%	1.31%	1.03%	1.85%	1.51%	1.15%	0.88%
		5.7129	5.6215	5.4074	6.1578	5.7689	5.3498	5.6741	5.2822	5.6609	5.4475	4.7376	3.9224	5.8716	4.8696	3.9456	3.1967
CAR (1)		1.27%	1.15%	1.00%	0.97%	1.57%	1.36%	1.24%	1.01%	1.65%	1.46%	1.14%	0.83%	1.68%	1.31%	0.95%	0.70%
		5.5292	5.3904	5.5201	5.9044	5.4057	5.2332	5.3029	4.6143	5.4722	5.0430	4.1424	3.2391	5.4824	4.2679	3.3107	2.6094
BHAR (0)		1.19%	1.02%	1.18%	0.76%	1.62%	1.35%	1.04%	1.35%	1.65%	1.36%	1.35%	1.04%	1.72%	1.52%	1.26%	0.79%
		4.5518	3.5475	4.1496	2.5049	4.8857	4.1966	3.1029	6.1490	4.8512	3.9995	4.9682	3.5893	5.2094	4.9362	3.8219	2.5459
BHAR (1)		1.35%	0.72%	1.15%	0.71%	1.51%	1.27%	1.01%	1.20%	1.64%	1.32%	1.24%	0.84%	1.56%	1.24%	0.91%	0.55%
		4.7900	2.3218	4.1639	2.5251	5.0160	4.5442	3.3139	6.1186	5.0630	3.8799	4.2575	2.8504	5.0944	4.3355	2.8484	1.8376
US					T								1				
CAR (0)		-0.26%	-0.08%	0.05%	0.02%	-0.05%	0.19%	0.20%	0.05%	0.20%	0.24%	0.12%	-0.06%	0.09%	0.03%	-0.09%	-0.22%
		-1.0150	-0.3701	0.2584	0.1108	-0.1773	0.7010	0.8132	0.2291	0.6291	0.7956	0.4152	-0.2232	0.2509	0.0874	-0.2762	-0.7715
CAR (1)		-0.12%	0.09%	0.15%	0.02%	0.20%	0.33%	0.20%	0.03%	0.35%	0.25%	0.07%	-0.13%	0.06%	0.00%	-0.16%	-0.27%
		-0.5003	0.4672	0.8469	0.1224	0.7056	1.2723	0.8271	0.1186	1.1276	0.8079	0.2485	-0.4871	0.1838	0.0155	-0.5444	-0.9895
BHAR (0)		-0.38%	-0.07%	-0.08%	0.00%	0.01%	0.27%	-0.20%	0.42%	0.24%	0.14%	0.28%	0.04%	0.18%	0.27%	0.09%	-0.16%
		-1.2555	-0.2696	-0.2261	0.0178	0.0164	0.8760	-0.5479	1.9091	0.6799	0.3939	1.0561	0.1417	0.5006	0.7963	0.2678	-0.4949
BHAR (1)		-0.13%	-0.08%	-0.11%	-0.04%	0.15%	0.29%	-0.22%	0.15%	0.26%	0.04%	0.04%	-0.15%	-0.01%	0.05%	-0.14%	-0.31%
		-0.5001	-0.2934	-0.3437	-0.1355	0.5167	1.0056	-0.6278	0.6927	0.7592	0.1266	0.1220	-0.5069	-0.0277	0.1496	-0.4215	-0.9510

Table 7.1. Monthly after-transaction cost return of time-series momentum strategy under different implementations

This table reports the average monthly returns after accounting for the transaction costs for 16 (J x H) time-series momentum strategies across the 24 stock markets along with an indication of significant level based on the Newey–West adjusted t-statistics. The results all relate to an implementation in which the cut-offs for selecting the stocks to be included in the cross-sectional momentum portfolios were set at 16%.

At the end of each month if using monthly rebalancing or at the end of each holding period if using buy-and-hold portfolio construction, stocks in each market are selected into winner (loser) portfolio if average stock return over past J (J = 3, 6, 9 and 12 months) is above pre-determined symmetric upper (lower) level. The pre-defined upper and lower cut-offs for each market are reported in the appendix. All stocks in the winner and loser portfolios are equally weighted in Panel A, market value weighted in Panel B and inversed volatility weighted in Panel C. Following Moskowitz et al. (2012), inversed volatility weighting scheme is given lower proportion to higher volatile stocks in the portfolio; that is the weight of the stock in portfolio is estimated by an inverse proportion of its *ex-ante* volatility from daily returns over J (J = 3, 6, 9 and 12 months). The proportions of stocks in the portfolios remain same during the H (H = 3, 6, 9 and 12 months) holding period. We implement portfolio constructions as in Jegadeesh and Titman (1993) for buy-and-hold and monthly-rebalancing. For buy-and-hold (BHAR), the procedure is rolling forward at the end of each H holding period to generate a new winner and loser portfolios. For monthly-rebalancing (CAR), the procedure is rolling forward at the end of each month to produce an overlapping winner (loser) portfolio which contains of winner (loser) portfolio of the past J month. The return of the winner (loser) portfolio is then the simple average return of the H numbers of winner (loser) portfolios. CAR (1) and BHAR (1) indicates one-month gap between the formation and the holding periods to avoid the bid-ask bounce, whereas CAR (0) and BHAR (0) indicates no gap between the formation and the holding periods. The return on momentum portfolio is then estimated as return difference return between winner and loser portfolio at each month.

The monthly transaction cost of each stock is inferred from the LOT - Y split model (Goyenko et al., 2009). The transaction costs of winner and loser portfolios are then estimated by $Cost\ of\ portfolio_t = \sum_{i=1}^{i=m} |\Delta weight(t,t-H)_i| \times cost_{i,t}$, the sum product of absolute proportion changes ($\Delta weight(t,t-H)_i$) for each stock in the portfolio and its transaction cost ($cost_{i,t}$) at month t from one holding period (H) to another. After-transaction cost time-series momentum return is calculated by subtracting the transaction costs of winner and loser portfolios from the momentum return at each month.

Panel A. The time-series momentum using equal-weighted return

EW	J =		3				6	i			9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL	JA																
CAR (0)		-2.24%	-0.97%	-0.59%	-0.46%	-1.35%	-0.81%	-0.49%	-0.49%	-1.00%	-0.54%	-0.49%	-0.54%	-0.97%	-0.76%	-0.71%	-0.75%
		-7.5441	-4.1880	-3.3182	-2.8843	-4.2766	-3.1489	-2.2421	-2.4262	-3.1946	-1.9808	-2.0005	-2.3596	-2.6118	-2.4655	-2.6918	-3.1224
CAR (1)		-1.73%	-0.73%	-0.45%	-0.43%	-1.16%	-0.70%	-0.53%	-0.55%	-0.85%	-0.56%	-0.58%	-0.65%	-1.14%	-0.86%	-0.86%	-0.87%
		-6.5629	-3.6977	-2.8025	-2.8395	-4.0841	-3.0652	-2.6052	-2.8359	-2.8746	-2.1770	-2.4216	-2.8879	-3.1454	-2.9612	-3.3492	-3.6880
BHAR (0)		-2.10%	-0.95%	-0.67%	-0.53%	-1.36%	-0.83%	-0.85%	-0.79%	-1.07%	-0.62%	-0.45%	-0.38%	-1.34%	-1.12%	-0.85%	-0.78%
		-6.0684	-3.2557	-2.3738	-1.8795	-3.6614	-2.3780	-2.3978	-2.5115	-3.1259	-2.0360	-1.6123	-1.1532	-2.5028	-2.3214	-1.9303	-1.5911
BHAR (1)		-1.84%	-1.15%	-0.80%	-0.59%	-1.29%	-0.78%	-1.23%	-1.01%	-1.24%	-0.98%	-0.43%	-0.67%	-1.52%	-1.10%	-1.18%	-1.10%
		-5.0520	-3.4775	-2.6593	-1.9777	-3.3811	-2.5902	-3.1168	-2.9371	-3.0494	-2.8075	-1.5657	-1.7651	-3.1575	-2.6566	-2.7763	-2.4619
AUSTRIA	A																
CAR (0)		-0.24%	0.35%	0.47%	0.54%	0.27%	0.60%	0.80%	0.71%	0.64%	0.86%	0.76%	0.62%	0.89%	0.84%	0.72%	0.46%
		-0.7128	1.1805	1.8111	2.4019	0.5747	1.5063	2.1811	2.0747	1.4174	2.0853	1.9575	1.7554	1.9021	2.0219	1.8600	1.3466
CAR (1)		0.36%	0.53%	0.61%	0.57%	0.42%	0.62%	0.78%	0.62%	0.89%	0.83%	0.71%	0.55%	0.78%	0.72%	0.56%	0.31%
		0.9769	1.8436	2.3354	2.5662	0.8837	1.5984	2.1469	1.8952	2.0696	2.0234	1.8634	1.6611	1.6965	1.7238	1.4942	0.9370
BHAR (0)		0.13%	0.51%	0.70%	0.48%	0.57%	0.72%	0.75%	0.96%	0.71%	0.66%	0.72%	1.05%	0.72%	0.39%	0.74%	-0.24%
		0.3152	1.3097	1.4227	1.2927	1.0187	1.3377	1.5049	2.3683	1.4640	1.1411	1.5993	2.0199	1.3429	0.7050	1.4259	-0.4894
BHAR (1)		0.90%	0.53%	0.91%	0.48%	0.72%	0.57%	0.64%	0.86%	0.43%	0.19%	0.75%	0.72%	0.50%	0.37%	0.25%	-0.11%
		2.0630	1.2739	1.9897	1.2829	1.3118	1.0390	1.3293	2.1776	0.8656	0.2987	1.6045	1.3905	0.9155	0.6668	0.5008	-0.2349
BELGIUN	М																
CAR (0)		0.02%	0.55%	0.61%	0.66%	0.64%	0.76%	0.86%	0.76%	0.64%	0.92%	0.83%	0.75%	0.99%	1.04%	0.95%	0.83%
		0.0784	2.2756	2.8813	3.2321	1.8382	2.3071	2.8064	2.7832	1.6146	2.6123	2.5483	2.4912	2.2135	2.6493	2.6150	2.4374
CAR (1)		0.40%	0.59%	0.71%	0.67%	0.75%	0.77%	0.81%	0.69%	0.78%	0.89%	0.79%	0.70%	1.13%	1.00%	0.91%	0.77%
		1.4916	2.4961	3.2792	3.4202	2.1739	2.2838	2.6945	2.5888	1.9016	2.5447	2.4652	2.3586	2.6734	2.6445	2.5646	2.3123
BHAR (0)		0.18%	0.31%	0.38%	0.52%	0.53%	0.64%	0.53%	0.98%	0.61%	1.05%	0.98%	1.15%	1.01%	1.05%	0.86%	0.42%
		0.5436	0.9039	1.2996	1.3746	1.3102	1.5216	1.3781	2.8206	1.4224	2.1904	2.1250	2.7834	2.2464	2.4452	2.3432	1.1171
BHAR (1)		0.15%	0.07%	0.33%	0.48%	0.77%	0.49%	0.38%	0.94%	0.61%	1.02%	0.93%	0.92%	0.85%	0.99%	0.68%	0.41%
		0.4436	0.1680	1.1186	1.2617	2.0050	1.1121	0.9474	2.7932	1.3060	2.1565	2.2470	2.1934	2.0657	2.4027	1.9480	1.0746
CANADA	4																
CAR (0)		-2.00%	-0.65%	-0.14%	0.09%	-0.96%	-0.23%	0.18%	0.14%	-0.38%	0.07%	0.07%	-0.04%	-0.22%	-0.03%	-0.06%	-0.24%
		-5.6370	-2.4721	-0.6193	0.4775	-2.6270	-0.7375	0.6779	0.6010	-1.0306	0.2240	0.2342	-0.1603	-0.6125	-0.1030	-0.2067	-0.8662
CAR (1)		-1.70%	-0.51%	0.00%	0.07%	-0.76%	-0.12%	0.18%	0.01%	-0.30%	0.01%	-0.06%	-0.22%	-0.38%	-0.22%	-0.24%	-0.45%
		-5.2025	-1.9572	-0.0014	0.3935	-2.0642	-0.3814	0.6816	0.0632	-0.7925	0.0159	-0.1978	-0.8453	-1.0661	-0.6778	-0.8269	-1.6365
BHAR (0)		-2.06%	-0.84%	-0.18%	-0.06%	-1.22%	-0.62%	-0.01%	-0.24%	-0.36%	-0.03%	-0.06%	-0.16%	-0.25%	-0.25%	-0.13%	-0.29%
		-4.5745	-2.0631	-0.4801	-0.1713	-2.8327	-1.5564	-0.0214	-0.6695	-0.9040	-0.0778	-0.1523	-0.4294	-0.6061	-0.6363	-0.3546	-0.7777
BHAR (1)		-1.88%	-0.66%	0.03%	-0.08%	-0.95%	-0.43%	0.00%	-0.43%	-0.22%	0.02%	-0.15%	-0.20%	-0.42%	-0.44%	-0.30%	-0.52%
		-4.5803	-1.7949	0.0814	-0.2127	-2.1963	-1.0762	-0.0111	-1.2120	-0.5490	0.0514	-0.4338	-0.5424	-1.0567	-1.1648	-0.8274	-1.4443

EW	J =		3				6	i			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARI	K																
CAR (0)		-0.27%	0.51%	0.72%	0.79%	0.51%	0.79%	1.01%	0.94%	0.69%	1.10%	1.03%	0.93%	0.85%	1.18%	1.14%	1.05%
		-0.9617	2.3518	4.0559	4.7479	1.5364	2.8327	3.9972	3.7549	1.8346	3.4753	3.4588	3.2018	2.3102	3.4539	3.4099	3.3064
CAR (1)		-0.03%	0.59%	0.78%	0.75%	0.37%	0.78%	0.93%	0.79%	0.85%	1.09%	0.94%	0.84%	0.95%	1.15%	1.05%	0.96%
		-0.1031	2.7886	4.4325	4.3897	1.0403	2.7717	3.4776	3.0433	2.5465	3.6570	3.1396	2.9063	2.6261	3.3989	3.1761	3.0301
BHAR (0)		-0.33%	0.27%	0.25%	0.52%	0.32%	0.81%	1.01%	1.31%	0.92%	0.84%	1.17%	0.92%	0.77%	1.07%	0.66%	0.71%
		-0.9871	0.8147	0.8001	1.1579	0.8519	2.3389	3.1347	4.2843	2.9020	1.9610	3.3979	2.8133	1.8189	2.6048	1.6167	1.6430
BHAR (1)		-0.04%	0.52%	0.41%	0.69%	0.26%	0.89%	0.71%	1.17%	1.01%	1.05%	1.07%	0.87%	0.86%	1.20%	0.77%	0.69%
		-0.1420	1.6169	1.1240	1.6257	0.6307	2.5270	1.9807	4.0331	2.5369	2.4812	3.3028	2.6997	2.0466	3.2234	1.9846	1.6987
FINLAND)																
CAR (0)		-0.48%	-0.14%	0.21%	0.27%	0.15%	0.43%	0.61%	0.56%	0.48%	0.78%	0.64%	0.44%	0.65%	0.63%	0.42%	0.30%
		-1.1397	-0.3809	0.6172	0.8687	0.3952	1.2273	1.7347	1.5687	1.1098	1.6539	1.3462	0.9678	1.1655	1.1644	0.7932	0.6052
CAR (1)		-0.29%	0.02%	0.29%	0.32%	0.14%	0.57%	0.52%	0.54%	0.44%	0.66%	0.47%	0.31%	0.53%	0.41%	0.26%	0.19%
		-0.7378	0.0527	0.8767	1.0605	0.3818	1.6536	1.4567	1.5225	0.9014	1.2754	0.9438	0.6726	0.9226	0.7373	0.4902	0.3963
BHAR (0)		-0.60%	-0.79%	0.58%	0.50%	-0.05%	0.43%	-0.21%	0.35%	0.19%	0.36%	0.56%	-0.03%	0.72%	1.36%	0.68%	0.72%
		-1.0505	-1.2792	1.1752	0.7560	-0.0880	0.7525	-0.3358	0.6536	0.4096	0.5807	1.0054	-0.0592	1.0924	2.2693	1.0459	1.3127
BHAR (1)		-0.29%	-0.82%	0.70%	0.63%	-0.08%	0.62%	-0.24%	0.24%	0.20%	0.44%	0.25%	0.06%	0.49%	0.96%	0.57%	0.71%
		-0.6031	-1.3638	1.4272	0.9642	-0.1642	0.9910	-0.3828	0.4569	0.3704	0.7313	0.4233	0.0995	0.7501	1.4972	0.8749	1.3630
FRANCE																	
CAR (0)		-1.57%	-0.32%	-0.04%	0.16%	-0.67%	0.02%	0.35%	0.39%	-0.31%	0.30%	0.38%	0.39%	0.00%	0.41%	0.42%	0.35%
		-5.7795	-1.5946	-0.2249	1.0318	-2.3311	0.0751	1.7047	1.9589	-1.0847	1.1777	1.5513	1.6792	0.0046	1.4716	1.6196	1.3708
CAR (1)		-0.55%	0.05%	0.27%	0.32%	-0.07%	0.31%	0.51%	0.45%	0.26%	0.49%	0.48%	0.42%	0.33%	0.50%	0.43%	0.34%
		-2.3397	0.2809	1.6687	2.1800	-0.2772	1.4603	2.5034	2.3410	0.9716	1.9168	1.9289	1.8399	1.1369	1.8176	1.6536	1.3393
BHAR (0)		-1.57%	-0.51%	0.16%	-0.21%	-0.63%	-0.08%	0.16%	0.15%	-0.34%	0.25%	0.44%	0.42%	-0.05%	0.28%	0.43%	0.23%
		-4.6205	-1.7386	0.5817	-0.7062	-1.9431	-0.3108	0.4965	0.5627	-1.0841	0.8011	1.5097	1.5379	-0.1694	0.8935	1.5297	0.8503
BHAR (1)		-0.63%	-0.10%	0.41%	0.08%	-0.07%	0.20%	0.31%	0.18%	0.14%	0.39%	0.44%	0.20%	0.18%	0.24%	0.43%	0.21%
		-2.2602	-0.3881	1.6104	0.2922	-0.2561	0.7766	0.9835	0.7551	0.4581	1.2567	1.4765	0.6829	0.5616	0.8075	1.5631	0.7819
GERMAN	Y																
CAR (0)		-0.89%	0.04%	0.26%	0.35%	-0.34%	0.15%	0.45%	0.35%	0.09%	0.49%	0.48%	0.42%	0.45%	0.62%	0.58%	0.45%
		-2.5717	0.1394	1.2235	1.8241	-0.8674	0.4541	1.5991	1.3259	0.2370	1.5387	1.5525	1.4241	1.2193	1.7520	1.7927	1.4741
CAR (1)		-0.58%	0.16%	0.31%	0.35%	-0.31%	0.21%	0.38%	0.25%	0.27%	0.48%	0.40%	0.34%	0.41%	0.54%	0.45%	0.33%
		-1.7716	0.6615	1.5224	1.8998	-0.8775	0.7073	1.4004	0.9662	0.7837	1.5075	1.3092	1.1709	1.0969	1.5577	1.4000	1.0752
BHAR (0)		-0.90%	0.04%	0.40%	0.09%	-0.43%	0.30%	0.34%	0.45%	0.11%	0.31%	0.53%	0.47%	0.28%	0.28%	0.42%	0.27%
		-2.2899	0.1040	1.2370	0.2244	-0.9696	0.8160	0.8502	1.3035	0.2604	0.7718	1.5086	1.2750	0.7003	0.7792	1.2173	0.8129
BHAR (1)		-0.46%	0.10%	0.37%	0.18%	-0.55%	0.29%	0.31%	0.16%	0.00%	0.09%	0.28%	0.36%	0.06%	0.04%	0.00%	0.10%
		-1.2704	0.2784	1.1824	0.4592	-1.3092	0.8477	0.8000	0.4689	-0.0124	0.2198	0.7668	0.9336	0.1447	0.0984	-0.0077	0.2950

EW	J =		3				6	<u> </u>			9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		-1.03%	-0.38%	-0.40%	-0.39%	-0.68%	-0.32%	-0.31%	-0.44%	-0.87%	-0.49%	-0.50%	-0.52%	-0.92%	-0.70%	-0.77%	-0.76%
		-1.6714	-0.8259	-1.0448	-1.1814	-0.8389	-0.4789	-0.5679	-0.9010	-1.0419	-0.6928	-0.8155	-0.9278	-1.1060	-0.9109	-1.1860	-1.2874
CAR (1)		-1.04%	-0.40%	-0.38%	-0.40%	-0.49%	-0.43%	-0.33%	-0.54%	-1.04%	-0.57%	-0.63%	-0.59%	-0.79%	-0.70%	-0.84%	-0.73%
		-1.8097	-0.9683	-1.0358	-1.2271	-0.6405	-0.6883	-0.6304	-1.1145	-1.3223	-0.8600	-1.0764	-1.0660	-0.9506	-0.9241	-1.3184	-1.2299
BHAR (0)		-0.95%	0.44%	0.28%	0.94%	-0.13%	0.35%	-0.37%	-0.45%	-0.02%	0.33%	-0.95%	0.72%	-0.74%	-1.29%	-0.03%	-1.10%
		-1.1858	0.5956	0.3131	1.4127	-0.1480	0.4575	-0.5125	-0.5787	-0.0226	0.3535	-1.1430	0.9604	-0.8231	-1.4209	-0.0400	-1.4205
BHAR (1)		-0.47%	0.73%	0.38%	1.20%	0.01%	0.20%	-0.24%	-0.59%	0.21%	0.65%	-0.69%	0.64%	-0.36%	-1.27%	0.08%	-1.32%
		-0.5991	0.9853	0.4298	1.8258	0.0112	0.2619	-0.3257	-0.7788	0.2285	0.7049	-0.8421	0.8117	-0.3874	-1.4415	0.0922	-1.7533
HONGKON	G																
CAR (0)		-1.79%	-0.54%	-0.38%	-0.29%	-1.14%	-0.49%	-0.36%	-0.31%	-0.82%	-0.52%	-0.44%	-0.45%	-0.94%	-0.71%	-0.72%	-0.74%
		-5.2563	-1.9815	-1.4792	-1.3345	-2.4545	-1.1024	-0.9772	-1.0056	-1.5333	-1.1597	-1.2618	-1.4501	-2.1208	-1.8576	-2.0984	-2.3797
CAR (1)		-1.83%	-0.64%	-0.46%	-0.46%	-1.17%	-0.55%	-0.47%	-0.45%	-0.99%	-0.73%	-0.62%	-0.62%	-1.38%	-0.99%	-0.93%	-0.90%
		-5.9107	-2.3248	-1.8519	-2.1117	-2.2255	-1.2280	-1.3218	-1.4746	-2.0213	-1.7726	-1.8759	-2.0527	-3.1442	-2.6095	-2.7329	-2.9151
BHAR (0)		-2.36%	-0.99%	-0.84%	-0.49%	-0.85%	-0.33%	-0.34%	-0.10%	-1.11%	-0.61%	-0.43%	-0.53%	-1.09%	-0.68%	-0.52%	-1.09%
		-5.6120	-2.2189	-1.7509	-1.2723	-1.5710	-0.6581	-0.7094	-0.2433	-1.6397	-0.9134	-0.8697	-0.7538	-1.9154	-1.3734	-1.1316	-2.4220
BHAR (1)		-2.55%	-1.31%	-0.88%	-0.63%	-1.30%	-0.51%	-0.52%	-0.47%	-1.42%	-1.19%	-0.55%	-0.68%	-1.90%	-1.19%	-1.00%	-1.30%
		-6.2060	-3.1204	-1.8605	-1.6178	-2.1975	-1.0145	-1.1008	-1.1117	-2.2220	-1.7558	-1.1970	-0.9755	-3.6495	-2.6561	-2.2390	-2.7615
IRELAND)																
CAR (0)		-1.44%	-0.67%	-0.35%	-0.06%	-0.90%	-0.35%	0.00%	0.18%	-0.20%	0.16%	0.39%	0.54%	0.32%	0.45%	0.44%	0.33%
		-2.8832	-1.3942	-0.8767	-0.1651	-1.4158	-0.6408	-0.0077	0.4118	-0.2873	0.2734	0.6888	1.0528	0.4576	0.7144	0.7328	0.6137
CAR (1)		-1.00%	-0.51%	-0.18%	$\boldsymbol{0.10\%}$	-0.81%	-0.30%	0.08%	0.15%	-0.27%	0.23%	0.48%	0.52%	0.57%	0.46%	0.41%	0.27%
		-1.8055	-1.0745	-0.4897	0.3074	-1.3586	-0.5654	0.1686	0.3520	-0.4073	0.3835	0.8619	1.0055	0.8086	0.7182	0.6777	0.5058
BHAR (0)		-0.98%	-1.86%	-1.17%	-0.12%	-1.14%	-0.19%	-1.40%	1.60%	-0.25%	0.26%	0.87%	0.54%	0.56%	0.54%	0.30%	0.11%
		-1.3647	-2.2151	-1.5233	-0.1680	-1.4996	-0.2725	-1.9261	2.5589	-0.3198	0.3201	1.3261	0.7297	0.7256	0.7933	0.3980	0.1382
BHAR (1)		-1.37%	-1.71%	-1.33%	0.35%	-1.20%	-0.17%	-0.97%	1.21%	-0.46%	0.44%	0.68%	0.30%	0.72%	0.21%	0.42%	0.18%
		-1.9786	-2.1066	-1.7084	0.5058	-1.7861	-0.2325	-1.4013	2.1221	-0.5714	0.5976	0.9983	0.4293	1.0199	0.3195	0.5405	0.2299
ISRAEL																	
CAR (0)		-2.32%	-1.18%	-0.93%	-0.72%	-1.56%	-1.02%	-0.76%	-0.58%	-1.27%	-0.73%	-0.44%	-0.39%	-0.83%	-0.33%	-0.24%	-0.36%
		-7.8787	-5.1397	-4.7676	-4.0890	-4.8738	-3.6712	-2.9675	-2.3402	-4.0066	-2.2744	-1.4484	-1.3928	-2.1253	-0.9390	-0.7236	-1.2040
CAR (1)		-1.97%	-1.01%	-0.77%	-0.61%	-1.24%	-0.82%	-0.64%	-0.50%	-1.24%	-0.66%	-0.45%	-0.44%	-0.52%	-0.23%	-0.26%	-0.38%
		-6.2791	-4.4394	-4.0875	-3.4785	-3.6294	-2.9690	-2.4443	-2.0553	-3.6085	-1.9427	-1.4926	-1.5480	-1.3129	-0.6678	-0.8181	-1.3070
BHAR (0)		-2.13%	-1.31%	-0.93%	-0.99%	-1.38%	-0.89%	-0.89%	-0.27%	-1.24%	-0.62%	-0.61%	0.13%	-0.61%	0.07%	-0.19%	0.13%
		-6.6504	-3.7218	-2.3976	-2.5168	-3.6741	-2.5699	-2.7191	-0.8286	-3.7651	-1.8319	-1.5492	0.3820	-1.4162	0.1862	-0.4723	0.2651
BHAR (1)		-2.25%	-1.31%	-0.91%	-0.85%	-1.49%	-0.91%	-0.83%	-0.32%	-1.36%	-0.67%	-0.66%	$\boldsymbol{0.16\%}$	-0.10%	0.23%	-0.36%	0.29%
		-5.5770	-3.6212	-2.2378	-1.9861	-3.5604	-2.5306	-2.6044	-0.9790	-3.3230	-1.7400	-1.4662	0.4523	-0.2012	0.5511	-0.8043	0.5540

EW	J =		3				6	<u> </u>			9)			12	2	
_	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.54%	0.78%	0.93%	0.96%	0.85%	1.24%	1.17%	1.03%	1.25%	1.52%	1.48%	1.24%	1.41%	1.59%	1.39%	1.16%
		1.7228	3.0292	3.9664	4.3838	2.0859	3.9140	3.9693	3.7770	2.9397	4.4658	4.4963	4.0771	3.6673	4.5947	4.3770	3.8570
CAR (1)		0.50%	0.79%	0.92%	0.95%	0.78%	1.14%	1.11%	0.88%	1.27%	1.54%	1.31%	1.11%	1.24%	1.46%	1.18%	1.00%
		1.5865	3.0928	3.8127	4.3607	2.0607	3.6200	3.8282	3.3003	3.3961	4.6888	4.1483	3.6954	3.4555	4.3399	3.8468	3.3410
BHAR (0)		0.20%	-0.10%	0.44%	0.23%	0.83%	0.84%	1.06%	0.36%	1.07%	1.09%	1.25%	0.78%	1.34%	1.21%	1.03%	1.02%
		0.4799	-0.2579	1.3008	0.6249	1.8865	1.9248	3.1409	0.9159	2.2972	2.2993	2.9704	1.8645	2.7880	2.6886	2.4028	2.0326
BHAR (1)		0.17%	-0.15%	0.80%	0.40%	0.42%	0.78%	1.04%	0.15%	1.03%	1.08%	1.12%	0.88%	1.04%	1.16%	0.91%	0.93%
		0.4710	-0.3810	2.4334	1.0867	1.0402	1.6951	2.8742	0.3750	2.2392	2.3608	2.5625	2.2104	2.2674	2.6047	2.0308	1.8725
JAPAN																	
CAR (0)		-0.88%	-0.53%	-0.33%	-0.12%	-0.86%	-0.47%	-0.16%	-0.12%	-0.69%	-0.24%	-0.13%	-0.16%	-0.40%	-0.23%	-0.20%	-0.22%
		-3.4923	-2.3532	-1.7628	-0.7060	-2.8070	-1.7367	-0.6651	-0.5484	-2.2299	-0.8321	-0.4893	-0.6926	-1.2464	-0.7735	-0.7457	-0.8934
CAR (1)		-0.90%	-0.54%	-0.25%	-0.13%	-0.91%	-0.41%	-0.13%	-0.19%	-0.50%	-0.18%	-0.13%	-0.21%	-0.43%	-0.27%	-0.24%	-0.27%
		-3.8440	-2.4874	-1.4062	-0.8164	-3.0629	-1.5523	-0.5544	-0.9516	-1.6991	-0.6245	-0.5054	-0.9426	-1.3477	-0.9410	-0.9041	-1.1349
BHAR (0)		-1.01%	-0.35%	-0.11%	0.14%	-0.67%	-0.33%	-0.13%	0.38%	-0.61%	-0.07%	-0.04%	-0.07%	-0.36%	-0.16%	-0.13%	-0.31%
		-3.4000	-1.2378	-0.3679	0.4412	-1.9427	-1.0244	-0.3818	1.4394	-1.8872	-0.2156	-0.1444	-0.2657	-1.1093	-0.4985	-0.3992	-1.1877
BHAR (1)		-1.09%	-0.34%	-0.15%	0.25%	-0.78%	-0.43%	-0.09%	0.13%	-0.62%	-0.04%	-0.12%	-0.27%	-0.48%	-0.31%	-0.38%	-0.39%
		-4.0668	-1.2506	-0.5227	0.8880	-2.3837	-1.3719	-0.2965	0.4798	-2.1094	-0.1421	-0.4172	-1.0179	-1.4363	-1.0030	-1.1944	-1.4462
NETHERLAN	NDS				1												
CAR (0)		0.62%	1.01%	1.03%	1.06%	0.85%	0.93%	1.08%	0.95%	1.12%	1.25%	1.24%	1.12%	1.11%	1.33%	1.23%	1.05%
		1.7179	3.3093	3.8476	4.1140	2.0475	2.5357	3.0525	2.6716	2.9026	3.2789	3.3506	2.9100	2.6078	3.4660	3.1353	2.7265
CAR (1)		0.51%	0.92%	0.96%	0.99%	0.69%	0.95%	0.92%	0.81%	0.98%	1.12%	1.06%	0.98%	0.83%	1.15%	1.01%	0.91%
		1.3688	3.0486	3.6118	3.8396	1.5828	2.4877	2.4608	2.1921	2.3695	2.8293	2.6324	2.4750	1.9643	2.9027	2.5273	2.3603
BHAR (0)		0.64%	0.78%	0.59%	1.20%	0.75%	0.92%	1.19%	1.67%	1.11%	1.76%	1.27%	1.43%	0.96%	1.49%	1.11%	0.95%
		1.4676	1.7322	1.3145	2.3271	1.5339	2.1394	2.4133	4.1630	2.5712	4.5803	3.2305	3.2686	2.1072	3.2409	2.4169	2.1294
BHAR (1)		0.41%	0.62%	0.33%	1.21%	0.70%	1.04%	1.22%	1.59%	1.44%	1.57%	1.13%	1.26%	0.58%	1.12%	0.99%	0.66%
		0.9299	1.5442	0.7836	2.1940	1.5371	2.3166	2.4564	3.8637	3.4532	3.7530	2.8465	2.7613	1.2650	2.4218	2.1765	1.4966
NEWZEALA	ND							0.000/	0.000/	10101		10101	0.000/	1.00/		0.000/	
CAR (0)		-0.37%	0.37%	0.33%	0.43%	0.97%	0.89%	0.93%	0.80%	1.01%	1.19%	1.01%	0.92%	1.28%	1.11%	0.93%	0.81%
~.~		-1.0901	1.2144	1.3324	2.1801	1.7409	2.0825	2.9247	3.0254	1.7860	2.8834	2.9512	2.9787	2.8023	3.0161	2.8003	2.6137
CAR (1)		0.02%	0.44%	0.46%	0.39%	0.95%	0.87%	0.88%	0.70%	1.14%	1.09%	0.93%	0.84%	1.10%	0.89%	0.80%	0.66%
		0.0647	1.4917	1.9587	2.0776	1.9168	2.3444	3.0642	2.8303	2.3212	2.9926	3.0111	2.8525	2.6189	2.5234	2.4712	2.1990
BHAR (0)		-0.42%	0.46%	0.18%	-0.10%	0.65%	0.82%	0.22%	0.61%	0.94%	0.90%	1.20%	0.93%	1.56%	1.61%	0.96%	0.84%
		-1.0927	1.1175	0.4616	-0.2504	1.2551	2.0275	0.4661	1.7103	1.9089	2.1947	3.1981	2.5281	3.0560	3.2809	2.0295	1.9607
BHAR (1)		0.01%	0.35%	0.12%	-0.23%	0.80%	0.62%	0.35%	0.27%	1.31%	1.04%	1.20%	1.01%	1.23%	1.03%	0.62%	0.76%
		0.0249	0.7982	0.2917	-0.5357	1.4928	1.6138	0.7473	0.7349	2.8377	2.5991	3.2233	2.7636	2.6371	2.4755	1.4629	1.8538

EW	J =		3				6	i			9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	7																
CAR (0)		-1.00%	0.05%	0.26%	0.31%	-0.54%	0.09%	0.19%	0.16%	-0.20%	0.19%	0.13%	-0.11%	0.07%	0.17%	0.02%	-0.14%
		-2.0860	0.1274	0.8818	1.1986	-0.9828	0.2036	0.5431	0.4779	-0.3991	0.4222	0.2991	-0.2943	0.1248	0.3418	0.0439	-0.3328
CAR (1)		-1.03%	0.06%	0.32%	0.26%	-0.36%	0.19%	0.22%	-0.02%	-0.17%	0.03%	-0.07%	-0.35%	-0.30%	-0.13%	-0.25%	-0.38%
		-2.0009	0.1682	1.1216	1.0102	-0.7215	0.5006	0.6547	-0.0590	-0.3404	0.0568	-0.1659	-0.9051	-0.5580	-0.2567	-0.5390	-0.9428
BHAR (0)		-1.06%	0.22%	-0.33%	-0.08%	-0.67%	-0.18%	-0.33%	0.63%	0.81%	0.60%	0.29%	0.26%	0.48%	0.83%	0.13%	0.48%
		-1.9760	0.3975	-0.7510	-0.1772	-1.0375	-0.2715	-0.5559	1.3507	1.3095	1.0147	0.5023	0.4291	0.8044	1.3363	0.2399	0.8321
BHAR (1)		-0.93%	0.47%	-0.13%	-0.16%	-0.05%	-0.02%	-0.46%	0.22%	0.46%	0.27%	0.05%	-0.11%	0.03%	0.43%	0.19%	0.17%
		-1.6961	0.9299	-0.2892	-0.3351	-0.0841	-0.0311	-0.8187	0.4712	0.7784	0.4444	0.0937	-0.1748	0.0407	0.6851	0.3529	0.2714
PORTUGA	L																
CAR (0)		-2.09%	-0.61%	-0.26%	-0.21%	-1.19%	-0.47%	-0.16%	-0.12%	-1.29%	-0.45%	-0.27%	-0.20%	-1.21%	-0.65%	-0.28%	-0.24%
		-4.3310	-1.6439	-0.8769	-0.8053	-2.1394	-1.0081	-0.3833	-0.3125	-2.4750	-0.9105	-0.5914	-0.4775	-2.0554	-1.2733	-0.6120	-0.5889
CAR (1)		-1.00%	0.07%	0.00%	0.11%	-0.43%	0.03%	0.05%	0.06%	-0.59%	-0.15%	-0.12%	-0.04%	-0.82%	-0.35%	-0.13%	-0.19%
		-1.9772	0.2119	0.0053	0.4392	-0.8109	0.0612	0.1167	0.1549	-1.1230	-0.2813	-0.2610	-0.0899	-1.4172	-0.6822	-0.2909	-0.4535
BHAR (0)		-1.64%	0.16%	0.32%	0.28%	-0.84%	-0.01%	0.48%	0.33%	-1.66%	-0.65%	-0.38%	0.26%	-1.46%	-0.97%	-0.19%	-0.36%
		-2.7967	0.2386	0.5000	0.4279	-1.1491	-0.0078	0.7620	0.4832	-3.0314	-1.0348	-0.6409	0.4502	-2.2878	-1.6815	-0.3782	-0.6549
BHAR (1)		-1.15%	0.43%	0.57%	0.39%	0.15%	0.22%	0.75%	0.23%	-0.71%	0.05%	-0.11%	0.32%	-1.01%	-0.85%	-0.20%	-0.57%
		-1.8897	0.7309	0.9365	0.6423	0.2433	0.3998	1.2845	0.4124	-1.2226	0.0912	-0.2281	0.5218	-1.6883	-1.5675	-0.4040	-1.0765
SINGAPOR	E																
CAR (0)		-0.77%	0.34%	0.36%	0.32%	-0.44%	0.22%	0.27%	0.21%	-0.03%	0.25%	0.23%	0.19%	-0.05%	0.24%	0.19%	0.10%
		-1.5706	0.9739	1.2343	1.2133	-0.8151	0.5230	0.7312	0.6382	-0.0563	0.5258	0.5472	0.5023	-0.0826	0.4812	0.4343	0.2696
CAR (1)		-0.54%	0.39%	0.34%	0.22%	-0.20%	0.22%	0.19%	0.07%	-0.27%	0.10%	0.10%	0.01%	-0.19%	0.13%	0.08%	-0.04%
		-1.1005	1.2430	1.1998	0.9130	-0.4333	0.5647	0.5157	0.2301	-0.5255	0.2084	0.2451	0.0205	-0.3552	0.2764	0.1849	-0.1047
BHAR (0)		-0.97%	0.04%	0.22%	-0.17%	-0.26%	0.12%	0.06%	0.19%	0.03%	-0.12%	-0.12%	-0.46%	-0.07%	0.60%	0.67%	0.24%
		-1.6215	0.0787	0.6097	-0.4110	-0.3777	0.2429	0.0977	0.4022	0.0467	-0.2032	-0.2378	-0.8285	-0.1151	1.1636	1.3974	0.5203
BHAR (1)		-0.68%	-0.49%	0.34%	-0.39%	-0.70%	0.07%	0.45%	0.20%	-0.64%	-0.10%	0.01%	-0.57%	-0.29%	0.40%	0.20%	-0.15%
		-1.3250	-1.1056	0.9259	-0.9366	-1.1533	0.1324	0.7433	0.4598	-1.0420	-0.1667	0.0267	-1.0570	-0.4705	0.7360	0.4045	-0.3310
SPAIN																	
CAR (0)		-0.89%	-0.10%	0.19%	0.39%	-0.66%	-0.14%	0.34%	0.34%	-0.44%	0.13%	0.39%	0.28%	0.43%	0.43%	0.50%	0.39%
		-2.7035	-0.3561	0.7579	1.7647	-1.7335	-0.3822	1.1043	1.2325	-0.9747	0.3064	1.1325	0.8405	0.9767	1.0723	1.3360	1.1026
CAR (1)		-0.82%	0.02%	0.29%	0.38%	-0.61%	0.08%	0.41%	0.31%	-0.16%	0.28%	0.32%	0.25%	0.05%	0.28%	0.35%	0.27%
		-2.1837	0.0689	1.1803	1.7935	-1.4643	0.2313	1.3380	1.0967	-0.3515	0.7008	0.9159	0.7534	0.1029	0.7172	0.9295	0.7439
BHAR (0)		-0.76%	-0.89%	0.05%	0.16%	-0.84%	-0.39%	$\boldsymbol{0.01\%}$	-0.35%	-0.21%	0.11%	0.71%	-0.01%	0.37%	0.91%	0.47%	0.25%
		-2.0051	-2.0431	0.1330	0.3545	-1.5613	-0.6476	0.0195	-0.6803	-0.4053	0.1995	1.3892	-0.0169	0.7517	1.9188	0.9118	0.4723
BHAR (1)		-0.86%	-0.73%	-0.17%	0.07%	-0.70%	0.01%	0.39%	-0.43%	-0.07%	0.00%	0.55%	-0.07%	-0.27%	0.55%	0.19%	0.17%
		-2.0040	-1.5849	-0.4103	0.1476	-1.3729	0.0246	0.7230	-0.8408	-0.1343	-0.0057	1.1156	-0.1296	-0.5072	1.1066	0.3890	0.3189

EW	J =		3				6				9	1			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		-1.02%	0.30%	0.37%	0.49%	0.13%	0.69%	0.79%	0.73%	0.66%	1.04%	0.86%	0.67%	1.06%	1.06%	0.88%	0.70%
		-2.2238	0.8528	1.2048	1.8315	0.2528	1.4681	1.9150	2.0201	1.2498	2.1384	1.9551	1.7905	2.1189	2.2102	1.9999	1.7826
CAR (1)		-0.50%	0.43%	0.41%	0.44%	0.42%	0.74%	0.79%	0.65%	0.84%	0.80%	0.69%	0.49%	0.98%	0.86%	0.73%	0.56%
		-1.2364	1.3344	1.4090	1.6691	0.8261	1.6362	2.0064	1.8798	1.6135	1.7015	1.6343	1.3354	2.0438	1.8591	1.7501	1.4826
BHAR (0)		-1.12%	0.13%	0.07%	0.30%	0.02%	0.57%	0.29%	0.43%	0.66%	1.10%	0.78%	0.31%	0.82%	0.95%	1.31%	1.11%
		-1.8247	0.2824	0.1366	0.6225	0.0271	1.0544	0.4678	0.8546	1.1505	1.9151	1.5718	0.6411	1.5069	1.8492	2.5358	2.1103
BHAR (1)		-0.75%	0.37%	0.31%	0.35%	0.49%	0.72%	0.20%	0.26%	0.77%	0.97%	0.89%	0.21%	1.28%	1.06%	1.20%	1.34%
		-1.4244	0.8836	0.7160	0.7543	0.7914	1.2727	0.3262	0.5021	1.2691	1.8677	1.9939	0.4541	2.3734	1.9752	2.3113	2.5939
SWITZERLA	ND																
CAR (0)		-0.02%	0.54%	0.61%	0.64%	0.69%	0.97%	0.95%	0.78%	1.05%	1.22%	0.90%	0.69%	1.06%	0.92%	0.70%	0.49%
		-0.1012	2.4903	3.1511	3.7667	2.1898	3.4944	3.8429	3.4381	3.1697	4.2859	3.6293	2.9802	3.1779	3.0399	2.6022	1.9660
CAR (1)		0.21%	0.64%	0.62%	0.60%	0.82%	0.97%	0.84%	0.68%	0.96%	0.96%	0.67%	0.50%	0.82%	0.70%	0.50%	0.30%
		0.9159	3.0200	3.3314	3.5256	2.6218	3.6364	3.4786	3.0359	2.9865	3.5238	2.7839	2.2057	2.5045	2.3938	1.8842	1.2059
BHAR (0)		-0.24%	0.59%	0.41%	1.19%	0.57%	1.19%	0.58%	1.15%	0.94%	1.36%	1.21%	0.73%	1.01%	0.76%	0.58%	0.72%
		-0.8367	1.7145	1.1786	3.0540	1.6069	3.4941	1.9009	3.0304	2.2988	3.5311	3.5264	2.1647	2.7729	2.0830	1.7469	2.4151
BHAR (1)		0.08%	0.74%	0.24%	1.17%	0.83%	1.16%	0.57%	1.04%	0.99%	1.10%	0.98%	0.60%	0.89%	0.76%	0.15%	0.70%
-		0.2963	2.1010	0.6939	2.9073	2.4152	3.4146	1.9184	2.7971	2.5400	2.9913	2.8837	1.7020	2.5806	2.1407	0.4772	2.2550
UK																	
CAR (0)		0.04%	0.66%	0.67%	0.78%	0.83%	0.87%	0.97%	0.90%	0.90%	1.07%	0.97%	0.85%	1.16%	1.09%	0.93%	0.73%
		0.1681	3.1422	4.0241	5.5501	2.9920	3.8161	5.2051	5.2753	3.3105	4.4584	4.4035	4.0823	4.1449	4.1051	3.7281	3.0117
CAR (1)		0.18%	0.60%	0.66%	0.71%	0.65%	0.74%	0.85%	0.76%	0.81%	0.90%	0.83%	0.67%	0.96%	0.90%	0.73%	0.57%
		0.7578	3.0893	4.3938	5.4687	2.4748	3.4860	4.7614	4.5045	3.2273	3.7926	3.7941	3.2035	3.4476	3.4018	2.9355	2.3327
BHAR (0)		0.00%	0.79%	0.93%	0.73%	0.93%	1.07%	0.61%	1.01%	0.92%	0.98%	0.94%	0.80%	1.11%	1.19%	0.92%	0.64%
		0.0044	2.7203	4.0376	2.5185	3.2708	4.7820	2.1432	4.5831	3.2255	3.3084	3.9412	3.1680	3.7239	4.4457	3.2200	2.6146
BHAR (1)		0.25%	0.76%	0.77%	0.69%	0.64%	0.87%	0.54%	0.77%	0.83%	0.78%	0.73%	0.50%	1.01%	0.88%	0.62%	0.42%
		0.9292	2.7899	3.6418	2.4023	2.3828	4.3881	1.9923	3.5327	3.1419	2.7661	2.9902	1.9801	3.5409	3.3176	2.1313	1.7298
US																	
CAR (0)		-1.24%	-0.43%	-0.23%	-0.18%	-0.61%	-0.23%	-0.11%	-0.18%	-0.34%	-0.11%	-0.20%	-0.29%	-0.36%	-0.27%	-0.36%	-0.47%
		-5.5329	-2.2582	-1.4063	-1.2263	-2.3382	-1.0075	-0.5421	-0.9186	-1.2414	-0.4205	-0.8330	-1.2681	-1.2439	-0.9574	-1.3475	-1.9013
CAR (1)		-1.10%	-0.37%	-0.19%	-0.23%	-0.53%	-0.22%	-0.16%	-0.27%	-0.28%	-0.19%	-0.29%	-0.41%	-0.49%	-0.41%	-0.49%	-0.59%
		-5.2782	-2.0992	-1.1913	-1.6526	-2.1992	-1.0183	-0.8002	-1.4131	-1.0760	-0.7340	-1.2013	-1.8264	-1.7149	-1.4587	-1.8939	-2.4616
BHAR (0)		-1.29%	-0.11%	-0.18%	-0.06%	-0.70%	-0.35%	-0.31%	-0.13%	-0.33%	-0.06%	-0.11%	-0.31%	-0.32%	-0.27%	-0.31%	-0.45%
		-5.0300	-0.4707	-0.7074	-0.2348	-2.3511	-1.2314	-0.9617	-0.5722	-1.1281	-0.1916	-0.4317	-1.1491	-1.0885	-0.8626	-1.0278	-1.5468
BHAR (1)		-1.01%	-0.16%	-0.17%	-0.21%	-0.59%	-0.39%	-0.42%	-0.40%	-0.30%	-0.21%	-0.35%	-0.46%	-0.59%	-0.53%	-0.52%	-0.67%
		-4.5521	-0.6684	-0.7228	-0.7176	-2.2544	-1.5139	-1.2829	-1.8177	-1.0695	-0.7056	-1.2410	-1.6402	-1.9105	-1.6671	-1.8030	-2.1388

Panel B. The time-series momentum using market-weighted return

MW	J =		3				6				9				1:	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL	JA																
CAR (0)		-0.69%	0.35%	0.65%	0.62%	0.30%	0.97%	0.98%	0.82%	0.79%	1.17%	0.95%	0.69%	0.56%	0.69%	0.50%	0.28%
		-1.7230	0.9505	2.0309	2.1740	0.7034	2.5552	2.8631	2.6338	1.9372	3.0862	2.7344	2.1696	1.2036	1.7906	1.4496	0.8982
CAR (1)		-0.50%	0.37%	0.64%	0.49%	0.23%	0.93%	0.80%	0.62%	0.81%	0.93%	0.74%	0.44%	0.09%	0.43%	0.15%	0.02%
		-1.1797	1.0246	2.0495	1.7837	0.5592	2.5128	2.3939	2.0934	2.0838	2.5278	2.2137	1.4430	0.2129	1.1910	0.4682	0.0550
BHAR (0)		-0.69%	-0.11%	0.51%	0.37%	0.16%	0.95%	0.69%	0.26%	1.05%	1.33%	0.58%	0.99%	0.18%	0.40%	0.07%	0.37%
		-1.3275	-0.2351	1.0007	0.6498	0.3285	1.9828	1.2240	0.5848	2.4118	2.8036	1.2693	2.2112	0.2709	0.6709	0.1313	0.5773
BHAR (1)		-0.68%	-0.28%	0.40%	0.48%	0.00%	0.95%	0.13%	-0.01%	0.54%	0.57%	0.36%	0.64%	-0.43%	0.23%	-0.30%	-0.20%
		-1.3586	-0.5479	0.7620	0.8679	0.0001	2.0370	0.2284	-0.0200	1.1077	1.1523	0.8449	1.3217	-0.6704	0.4308	-0.5244	-0.3217
AUSTRI	A																
CAR (0)		-0.55%	-0.06%	0.24%	0.30%	0.25%	0.64%	0.83%	0.63%	0.53%	0.89%	0.65%	0.40%	0.38%	0.54%	0.32%	0.07%
		-1.4116	-0.1723	0.7168	1.0169	0.4393	1.3112	1.8508	1.4870	0.9566	1.6155	1.2429	0.8731	0.6253	0.9315	0.6174	0.1552
CAR (1)		-0.44%	0.04%	0.29%	0.26%	0.26%	0.74%	0.75%	0.51%	0.97%	0.75%	0.57%	0.29%	0.17%	0.40%	0.16%	-0.10%
		-1.0239	0.1050	0.8792	0.9054	0.4344	1.5324	1.6625	1.2184	1.6783	1.3179	1.1149	0.6489	0.2671	0.7135	0.3273	-0.2385
BHAR (0)		-0.63%	0.44%	0.82%	0.50%	0.00%	0.26%	0.16%	0.37%	0.52%	1.17%	0.37%	1.07%	0.22%	-0.02%	0.32%	-0.79%
		-1.1011	0.6874	1.2783	0.9206	-0.0069	0.3660	0.2442	0.7737	0.8364	1.5092	0.5715	1.4999	0.3351	-0.0220	0.4898	-1.2342
BHAR (1)		-0.07%	0.12%	0.97%	0.44%	0.08%	0.37%	0.40%	0.24%	0.46%	0.50%	0.28%	0.51%	-0.23%	-0.23%	-0.16%	-0.81%
		-0.1093	0.1828	1.5253	0.8181	0.0957	0.4985	0.5748	0.5192	0.6562	0.5866	0.4440	0.7351	-0.3022	-0.3269	-0.2584	-1.2516
BELGIU	M																
CAR (0)		0.15%	0.44%	0.61%	0.64%	0.47%	0.66%	0.82%	0.71%	0.60%	0.81%	0.74%	0.61%	1.00%	1.21%	1.01%	0.88%
		0.3587	1.3624	2.2322	2.4126	0.9177	1.4139	1.9735	1.9678	1.2380	1.7702	1.7329	1.5451	1.8089	2.3767	2.1398	1.8961
CAR (1)		0.28%	0.40%	0.68%	0.58%	0.31%	0.59%	0.74%	0.57%	0.66%	0.79%	0.66%	0.51%	1.17%	1.06%	0.94%	0.78%
		0.7392	1.2549	2.3698	2.2799	0.5995	1.2639	1.8049	1.6202	1.3400	1.7268	1.5408	1.2594	2.1870	2.1438	2.0085	1.6827
BHAR (0)		0.30%	0.86%	-0.34%	0.99%	-0.11%	-0.36%	0.43%	0.69%	-0.33%	0.94%	0.63%	1.06%	0.73%	0.69%	-0.06%	0.24%
		0.5355	1.6774	-0.6108	1.6483	-0.1660	-0.5836	0.6769	1.2272	-0.5537	1.5752	1.0490	1.5049	1.1590	1.0881	-0.0967	0.4107
BHAR (1)		0.06%	0.46%	0.02%	1.17%	0.34%	-0.14%	0.30%	0.68%	0.43%	1.19%	0.61%	0.98%	0.54%	0.87%	0.01%	0.42%
		0.1145	0.8080	0.0435	2.0167	0.5530	-0.2292	0.5011	1.3200	0.7653	1.8926	1.1088	1.3732	0.9436	1.4706	0.0223	0.7208
CANADA	4																
CAR (0)		-0.49%	0.42%	0.74%	0.89%	0.38%	0.91%	1.18%	1.17%	1.07%	1.37%	1.35%	1.10%	0.74%	1.30%	1.16%	0.90%
		-1.0811	1.0970	2.0261	2.7772	0.7315	1.8524	2.6887	2.7180	1.8279	2.3805	2.4357	1.9680	1.1100	2.1132	1.9416	1.5016
CAR (1)		-0.35%	0.31%	0.86%	0.76%	0.21%	0.90%	1.17%	0.98%	0.95%	1.19%	1.13%	0.84%	0.76%	1.14%	0.97%	0.71%
		-0.7986	0.7817	2.4815	2.3875	0.4099	1.8526	2.6985	2.2442	1.5062	2.0665	1.9732	1.4459	1.1642	1.8590	1.5953	1.1860
BHAR (0)		-0.73%	-0.01%	0.67%	0.35%	0.14%	1.32%	2.28%	0.66%	1.43%	1.28%	1.52%	0.76%	1.15%	1.74%	1.06%	0.95%
		-1.1206	-0.0160	0.8768	0.5173	0.2199	1.9040	3.4751	0.9680	2.2455	1.8372	2.2800	1.0228	1.5651	2.6903	1.4117	1.4926
BHAR (1)		-0.47%	0.03%	0.99%	0.30%	0.21%	1.30%	1.83%	0.08%	1.05%	1.20%	1.20%	0.52%	0.82%	1.20%	0.76%	0.55%
		-0.7739	0.0477	1.4792	0.4433	0.3208	1.9557	2.5829	0.1109	1.4805	1.7932	1.7292	0.6909	1.1190	1.8570	1.0172	0.7976

MW	J =		3	3			6	j			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	RK																
CAR (0)		0.08%	0.68%	0.75%	0.75%	0.63%	0.86%	1.05%	0.95%	0.69%	1.11%	1.01%	0.99%	0.66%	1.01%	1.03%	1.06%
		0.1829	1.9919	2.6051	3.0308	1.3854	2.0026	2.6845	2.6369	1.2187	2.2634	2.2898	2.3078	1.1826	2.0355	2.1345	2.2791
CAR (1)		0.16%	0.57%	0.73%	0.66%	0.37%	0.89%	0.92%	0.80%	0.83%	1.14%	0.99%	0.95%	0.75%	1.05%	1.01%	1.07%
		0.3963	1.7166	2.6538	2.7400	0.7261	1.9591	2.2986	2.1603	1.4862	2.3848	2.2025	2.2175	1.3612	2.0727	2.0918	2.2864
BHAR (0)		-0.53%	0.29%	-0.23%	0.63%	0.66%	0.37%	0.55%	1.16%	0.79%	0.89%	0.88%	0.63%	0.33%	0.68%	0.12%	0.84%
		-1.1242	0.5239	-0.4427	0.9282	1.3145	0.7074	1.1693	2.6342	1.3642	1.3953	1.7302	1.2288	0.5131	1.1582	0.1814	1.3314
BHAR (1)		-0.13%	0.43%	-0.05%	0.76%	0.48%	0.76%	0.40%	0.94%	1.02%	1.32%	0.96%	0.63%	0.52%	1.16%	0.40%	1.13%
		-0.2682	0.7692	-0.0829	1.1847	0.8558	1.4907	0.7754	2.2556	1.5017	2.1994	1.9702	1.2138	0.8605	2.1842	0.6993	1.9402
FINLAN	D																
CAR (0)		-0.28%	0.37%	0.89%	0.86%	0.54%	1.27%	1.55%	1.46%	0.87%	1.44%	1.42%	1.26%	1.33%	1.39%	1.30%	1.17%
		-0.4585	0.7971	1.9496	2.0599	0.9010	2.3005	2.8893	2.7117	1.2919	2.1863	2.1563	1.9991	1.7770	1.8590	1.7949	1.6895
CAR (1)		-0.37%	0.68%	1.00%	0.95%	0.83%	1.54%	1.57%	1.50%	1.02%	1.40%	1.31%	1.17%	1.11%	1.25%	1.16%	1.12%
		-0.5881	1.3728	2.2263	2.2028	1.3502	2.8037	2.8464	2.7700	1.4554	1.9935	1.9424	1.8430	1.3906	1.6196	1.5697	1.6251
BHAR (0)		-0.73%	-0.42%	1.33%	1.42%	0.07%	1.28%	1.08%	1.12%	0.77%	0.87%	0.67%	-0.05%	0.99%	2.38%	1.52%	2.04%
		-0.9111	-0.5645	1.6725	1.5782	0.0855	1.5127	1.3053	1.3470	0.9814	0.9689	0.7842	-0.0547	1.0897	2.8739	1.7482	2.6202
BHAR (1)		-0.32%	0.11%	1.54%	1.61%	0.27%	1.33%	1.01%	0.95%	0.58%	1.15%	0.44%	0.06%	1.23%	2.07%	1.60%	2.16%
		-0.4109	0.1437	1.9521	1.8066	0.3209	1.5564	1.2355	1.1728	0.7071	1.3458	0.5377	0.0596	1.4358	2.4568	1.8911	2.9845
FRANC	E																
CAR (0)		-1.74%	-0.49%	-0.26%	-0.05%	-1.20%	-0.44%	-0.08%	0.06%	-1.02%	-0.34%	-0.11%	-0.02%	-0.97%	-0.24%	-0.06%	-0.03%
		-3.9001	-1.5654	-0.9742	-0.2160	-2.5575	-1.1389	-0.2368	0.1763	-2.4273	-0.9645	-0.3091	-0.0631	-2.1181	-0.5716	-0.1536	-0.0905
CAR (1)		-1.04%	-0.27%	-0.07%	0.02%	-0.73%	-0.22%	0.06%	0.12%	-0.49%	-0.15%	0.04%	0.04%	-0.68%	-0.12%	-0.02%	-0.01%
		-2.7582	-0.9604	-0.2836	0.0875	-1.7498	-0.6082	0.1811	0.3703	-1.3129	-0.4317	0.1065	0.1173	-1.5369	-0.2913	-0.0584	-0.0383
BHAR (0)		-1.87%	-0.59%	-0.17%	-0.23%	-1.08%	-0.57%	-0.81%	-0.06%	-0.99%	-0.49%	-0.16%	0.51%	-1.16%	-0.18%	0.08%	-0.16%
		-3.5113	-1.1645	-0.3180	-0.3808	-1.9731	-1.0851	-1.4505	-0.1120	-2.0583	-0.9963	-0.4053	1.1884	-2.2809	-0.3646	0.1825	-0.3698
BHAR (1)		-1.11%	-0.42%	-0.21%	0.28%	-0.84%	-0.47%	-0.86%	-0.14%	-0.41%	-0.40%	0.16%	0.30%	-0.95%	-0.35%	0.06%	-0.24%
		-2.1883	-0.8037	-0.4284	0.4579	-1.5752	-0.9530	-1.4638	-0.2418	-0.9313	-0.7770	0.3969	0.6224	-1.8810	-0.7030	0.1286	-0.5275
GERMAN	NY	0.000	0.500/	0.000/	0.0=0/		. =	0.000/	0 ==0.1		0.000/		0		0.6001	. ===./	
CAR (0)		-0.36%	0.59%	0.90%	0.85%	0.02%	0.70%	0.92%	0.67%	0.27%	0.92%	0.65%	0.62%	0.44%	0.69%	0.72%	0.59%
GID (I)		-0.7289	1.5787	2.7897	2.8103	0.0402	1.5165	2.1444	1.6314	0.4696	1.7816	1.2789	1.2529	0.7426	1.1086	1.1727	0.9988
CAR (1)		-0.39%	0.72%	0.86%	0.74%	-0.04%	0.74%	0.76%	0.58%	0.43%	0.85%	0.52%	0.51%	0.30%	0.60%	0.50%	0.40%
D*** D (0)		-0.8200	2.0349	2.7302	2.5201	-0.0751	1.6886	1.7808	1.4345	0.7732	1.6005	0.9989	1.0357	0.4506	0.9189	0.7975	0.6781
BHAR (0)		-0.51%	0.62%	1.16%	0.20%	-0.12%	0.74%	0.99%	1.00%	0.23%	0.93%	-0.21%	1.01%	-0.12%	0.34%	1.17%	0.06%
		-0.8606	1.1235	2.0079	0.3540	-0.1987	1.2392	1.5343	1.9197	0.3267	1.3971	-0.2993	1.6967	-0.1800	0.4832	1.7468	0.0940
BHAR (1)		-0.25%	0.72%	0.85%	0.25%	-0.29%	0.70%	0.70%	0.67%	0.23%	0.79%	-0.21%	0.86%	0.04%	0.22%	0.81%	-0.09%
		-0.4336	1.3145	1.4562	0.4594	-0.5005	1.2174	1.1042	1.2518	0.3374	1.2164	-0.2845	1.4178	0.0672	0.3157	1.1793	-0.1351

MW	J =		3				ϵ	,			9	ı			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREEC	E																
CAR (0)		-0.98%	-0.69%	-0.64%	-0.50%	-1.14%	-0.79%	-0.42%	-0.33%	-1.29%	-0.70%	-0.41%	-0.23%	-1.02%	-0.50%	-0.35%	-0.36%
		-1.5804	-1.2584	-1.3456	-1.1403	-1.5277	-1.1504	-0.7187	-0.5772	-1.6315	-0.9214	-0.5714	-0.3400	-1.2616	-0.6211	-0.4581	-0.4670
CAR (1)		-1.17%	-0.62%	-0.56%	-0.49%	-1.11%	-0.78%	-0.31%	-0.42%	-1.40%	-0.58%	-0.39%	-0.21%	-0.75%	-0.38%	-0.37%	-0.29%
		-1.6755	-1.1347	-1.1996	-1.0605	-1.5020	-1.1877	-0.5362	-0.7160	-1.7737	-0.7872	-0.5613	-0.3067	-0.9459	-0.4543	-0.4672	-0.3624
BHAR (0)		-0.97%	0.42%	0.47%	0.99%	-0.90%	0.16%	-0.32%	-0.16%	-0.64%	0.21%	-0.78%	1.27%	-1.16%	-1.11%	0.18%	-0.43%
		-1.2494	0.5428	0.5506	1.3577	-1.1757	0.1908	-0.3707	-0.1853	-0.6924	0.2461	-0.6688	1.7049	-1.3068	-1.0206	0.2042	-0.4320
BHAR (1)		-0.52%	1.10%	0.71%	1.40%	-0.03%	0.13%	0.26%	-0.52%	-0.39%	0.88%	-0.57%	1.29%	-0.20%	-0.75%	0.38%	-0.46%
		-0.6169	1.3231	0.7965	1.7747	-0.0387	0.1598	0.2660	-0.5993	-0.4202	1.0557	-0.4838	1.6696	-0.2077	-0.7278	0.4618	-0.4769
HONGKO	NG																
CAR (0)		-0.66%	0.32%	0.38%	0.43%	-0.04%	0.38%	0.45%	0.38%	0.17%	0.47%	0.38%	0.32%	0.26%	0.32%	0.20%	0.19%
		-1.4055	0.8427	1.0840	1.3834	-0.0662	0.6615	0.9460	0.8874	0.2738	0.8512	0.8154	0.7379	0.4370	0.6107	0.4230	0.4479
CAR (1)		-0.61%	0.30%	0.41%	0.36%	-0.08%	0.34%	0.26%	0.25%	0.30%	0.20%	0.26%	0.19%	-0.19%	0.06%	0.04%	0.06%
		-1.4244	0.8244	1.2502	1.2104	-0.1297	0.5844	0.5559	0.6130	0.5065	0.3833	0.5818	0.4704	-0.3195	0.1119	0.0829	0.1539
BHAR (0)		-1.31%	0.25%	-0.38%	0.09%	0.32%	0.20%	0.26%	-0.34%	-0.24%	0.28%	0.65%	0.45%	-0.12%	0.51%	0.37%	0.45%
		-2.1286	0.4075	-0.5282	0.1888	0.4902	0.2915	0.3672	-0.5545	-0.2871	0.3325	0.9993	0.4928	-0.1629	0.9316	0.5874	0.8233
BHAR (1)		-1.24%	0.10%	-0.56%	0.11%	-0.52%	-0.22%	0.16%	-0.79%	-0.38%	-0.25%	0.47%	0.58%	-0.71%	-0.28%	-0.37%	-0.05%
		-2.1614	0.1842	-0.8416	0.2467	-0.7421	-0.3128	0.2253	-1.2445	-0.4927	-0.2873	0.7501	0.6825	-1.1857	-0.5852	-0.6628	-0.0851
IRELAN	D	1															
CAR (0)		-0.09%	0.44%	0.17%	0.26%	0.29%	0.70%	0.80%	0.84%	0.48%	0.68%	0.88%	0.98%	0.60%	0.62%	0.72%	0.68%
		-0.1136	0.6677	0.3078	0.5626	0.3286	0.9807	1.2936	1.4904	0.5208	0.8703	1.1778	1.4007	0.6403	0.7856	0.9644	1.0169
CAR (1)		-0.02%	0.08%	0.08%	0.29%	0.31%	0.47%	0.74%	0.73%	0.04%	0.58%	0.82%	0.92%	0.67%	0.69%	0.82%	0.61%
		-0.0295	0.1403	0.1554	0.6623	0.4070	0.7212	1.2934	1.3553	0.0440	0.7721	1.1067	1.3550	0.7820	0.8700	1.1452	0.9757
BHAR (0)		0.07%	-1.36%	-1.15%	-0.64%	-0.09%	1.51%	-1.26%	3.17%	0.29%	0.61%	1.70%	1.09%	0.98%	0.69%	1.34%	0.62%
		0.0745	-1.3084	-1.1210	-0.5920	-0.0875	1.4971	-1.3204	3.0214	0.2718	0.5592	1.6655	1.0431	0.9962	0.8061	1.3534	0.6720
BHAR (1)		-0.77%	-1.66%	-1.93%	-0.34%	0.25%	1.40%	-0.19%	2.67%	-0.22%	0.53%	1.51%	0.40%	0.68%	0.27%	1.19%	0.72%
		-0.8858	-1.5758	-1.8306	-0.3110	0.2719	1.4315	-0.2201	2.7486	-0.2203	0.5082	1.4898	0.4023	0.7853	0.3331	1.1665	0.7821
ISRAEI	Ĺ																
CAR (0)		-1.36%	-0.45%	-0.22%	-0.15%	-0.30%	0.20%	0.36%	0.34%	0.27%	0.50%	0.64%	0.45%	0.30%	0.69%	0.59%	0.31%
~.~		-2.6841	-1.0567	-0.6366	-0.4756	-0.4958	0.4003	0.8342	0.8121	0.4352	0.8772	1.2476	0.9508	0.3854	0.9998	0.9676	0.5542
CAR (1)		-1.44%	-0.40%	-0.14%	-0.15%	-0.19%	0.35%	0.34%	0.23%	0.16%	0.48%	0.53%	0.34%	0.53%	0.71%	0.48%	0.25%
		-2.6542	-0.9230	-0.4194	-0.4705	-0.3142	0.7916	0.7921	0.5701	0.2575	0.8537	1.0590	0.7156	0.6695	1.0653	0.8022	0.4602
BHAR (0)		-1.60%	-0.99%	-0.11%	-0.32%	0.26%	0.57%	0.08%	0.62%	0.73%	1.07%	0.59%	1.59%	0.44%	1.10%	0.80%	1.41%
		-2.6481	-1.7417	-0.1610	-0.5917	0.3826	0.9202	0.1463	0.9899	1.2356	1.7809	0.8520	2.4179	0.5273	1.4168	1.1261	1.6034
BHAR (1)		-2.11%	-0.99%	0.25%	-0.24%	-0.24%	0.90%	-0.05%	0.66%	0.50%	0.82%	0.57%	1.37%	1.03%	1.34%	0.59%	1.79%
		-2.9293	-1.7357	0.3679	-0.4121	-0.3297	1.4662	-0.0893	1.0684	0.7070	1.2025	0.8172	2.1770	1.1389	1.7778	0.8280	2.0709

MW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		-0.26%	0.50%	0.61%	0.73%	0.75%	1.06%	0.92%	0.87%	0.80%	1.36%	1.35%	1.23%	1.32%	1.72%	1.51%	1.36%
		-0.5783	1.3602	1.9760	2.7170	1.4799	2.4776	2.3434	2.4673	1.8226	3.4621	3.4115	3.2925	2.6262	3.7261	3.4387	3.3320
CAR (1)		0.16%	0.69%	0.76%	0.76%	0.84%	1.04%	0.98%	0.78%	1.20%	1.52%	1.31%	1.17%	1.22%	1.61%	1.38%	1.18%
		0.3750	1.8928	2.5178	2.7635	1.8082	2.4116	2.5712	2.1983	2.7108	3.6254	3.2911	3.0797	2.5829	3.3991	3.2010	2.9215
BHAR (0)		-0.23%	-0.48%	0.68%	0.26%	0.83%	0.69%	0.48%	0.27%	0.70%	0.58%	1.17%	0.65%	1.51%	1.90%	1.18%	1.80%
		-0.3647	-0.7687	1.1354	0.4806	1.5067	1.1538	0.8235	0.4840	1.2157	0.9966	1.9886	1.1872	2.3669	3.0967	2.2137	2.8092
BHAR (1)		-0.03%	-0.21%	1.31%	0.76%	0.43%	0.48%	0.47%	0.07%	0.80%	0.98%	0.93%	0.90%	1.16%	1.69%	1.11%	1.67%
		-0.0502	-0.3585	2.2009	1.5061	0.7360	0.7611	0.8073	0.1298	1.3873	1.6161	1.5736	1.6636	1.9708	2.8736	2.0377	2.6575
JAPAN																	
CAR (0)		-0.57%	-0.25%	-0.04%	0.09%	-0.38%	-0.07%	0.18%	0.21%	-0.41%	0.05%	0.14%	0.17%	-0.23%	0.07%	0.17%	0.13%
		-1.7177	-0.8245	-0.1552	0.3859	-0.9147	-0.1683	0.5154	0.7001	-0.9113	0.1263	0.3622	0.4907	-0.5181	0.1697	0.4435	0.3631
CAR (1)		-0.57%	-0.22%	0.04%	0.07%	-0.20%	0.09%	0.26%	0.21%	-0.23%	0.09%	0.17%	0.14%	-0.23%	0.06%	0.15%	0.08%
		-1.7718	-0.7201	0.1326	0.2968	-0.4895	0.2346	0.8028	0.7308	-0.5351	0.2232	0.4694	0.4249	-0.5452	0.1484	0.4187	0.2500
BHAR (0)		-0.48%	0.04%	0.17%	0.85%	-0.35%	0.15%	0.11%	0.58%	-0.17%	0.31%	0.08%	0.35%	-0.01%	0.29%	0.09%	0.18%
		-1.1130	0.0909	0.4254	2.2666	-0.8094	0.3149	0.2484	1.4720	-0.3744	0.7395	0.2063	0.8757	-0.0227	0.6313	0.2046	0.4662
BHAR (1)		-0.36%	-0.23%	-0.10%	0.83%	-0.24%	0.31%	0.10%	0.45%	-0.35%	0.12%	-0.01%	0.11%	-0.15%	0.14%	-0.15%	0.06%
		-0.8880	-0.5446	-0.2457	2.3120	-0.5824	0.7250	0.2381	1.1831	-0.8030	0.2935	-0.0352	0.3031	-0.3231	0.3276	-0.3420	0.1612
NETHERLA	NDS																
CAR (0)		0.44%	0.66%	0.67%	0.60%	-0.11%	0.37%	0.50%	0.49%	0.40%	0.50%	0.61%	0.52%	0.51%	0.75%	0.67%	0.48%
		1.0331	1.8545	2.1525	2.2300	-0.2376	0.8919	1.3082	1.2922	0.8496	1.1821	1.5151	1.2405	1.0060	1.6412	1.5085	1.1302
CAR (1)		0.22%	0.51%	0.56%	0.54%	-0.20%	0.44%	0.35%	0.33%	0.39%	0.43%	0.54%	0.42%	0.16%	0.56%	0.37%	0.32%
		0.4971	1.4097	1.8791	1.9781	-0.4060	0.9857	0.8755	0.8187	0.7920	0.9766	1.2153	0.9631	0.3220	1.1843	0.8039	0.7495
BHAR (0)		0.38%	0.20%	-0.02%	1.09%	-0.24%	0.11%	0.47%	1.82%	0.15%	1.01%	0.16%	1.00%	0.45%	0.96%	0.33%	-0.01%
		0.6638	0.3748	-0.0261	1.7592	-0.4491	0.1894	0.6479	3.4417	0.2837	1.8503	0.3595	1.9946	0.8902	1.7833	0.5799	-0.0125
BHAR (1)		0.15%	-0.08%	-0.20%	1.45%	-0.34%	0.08%	0.41%	1.46%	0.62%	0.93%	0.37%	0.85%	0.02%	0.45%	0.17%	-0.55%
		0.2790	-0.1589	-0.3105	2.1347	-0.6022	0.1367	0.5533	2.7229	1.1515	1.7298	0.7435	1.5415	0.0372	0.8015	0.3017	-0.9271
NEWZEALA	ND																
CAR (0)		0.92%	0.98%	0.73%	0.62%	1.46%	1.10%	1.00%	0.86%	1.09%	1.32%	1.10%	1.00%	1.52%	1.21%	1.09%	0.95%
		1.3230	2.1575	2.0328	2.1293	1.6903	1.7358	2.1362	2.2848	1.1937	2.0863	2.3361	2.4364	2.0443	2.3229	2.5647	2.4717
CAR (1)		0.47%	0.56%	0.56%	0.38%	0.95%	0.71%	0.76%	0.62%	0.89%	1.08%	0.92%	0.85%	1.10%	0.91%	0.91%	0.77%
		0.8575	1.4614	1.8352	1.4803	1.2421	1.3181	1.8537	1.8221	1.1708	2.0558	2.2618	2.3478	1.7577	1.9741	2.2957	2.1168
BHAR (0)		0.81%	0.47%	0.69%	-0.39%	0.96%	0.70%	0.26%	0.60%	0.62%	-0.11%	1.02%	0.09%	2.00%	2.31%	1.60%	0.91%
		1.1830	0.5708	0.9133	-0.4898	1.2196	0.9764	0.4287	0.8515	0.7305	-0.1996	2.1293	0.1800	2.3820	2.9731	2.0823	1.8132
BHAR (1)		0.27%	-0.31%	0.05%	-0.52%	0.29%	-0.19%	0.05%	-0.05%	0.39%	0.06%	0.96%	0.08%	1.57%	1.42%	1.20%	0.70%
		0.4244	-0.3837	0.0858	-0.6828	0.4282	-0.3253	0.0894	-0.0913	0.5451	0.0936	1.8668	0.1597	2.3102	2.2839	1.9455	1.3400

MW	J =		3	3			6	<u> </u>			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	Y																
CAR (0)		-1.03%	0.21%	0.51%	0.64%	-0.63%	0.21%	0.47%	0.43%	-0.86%	-0.04%	0.22%	0.03%	-0.18%	0.11%	0.13%	0.06%
		-1.8469	0.4748	1.4677	2.0312	-1.0628	0.4563	1.1693	1.1925	-1.4275	-0.0737	0.4791	0.0765	-0.2994	0.2014	0.2630	0.1377
CAR (1)		-0.70%	0.34%	0.71%	0.60%	-0.46%	0.41%	0.56%	0.28%	-0.50%	0.06%	0.14%	-0.08%	-0.46%	-0.08%	-0.04%	-0.11%
		-1.1293	0.8058	2.0827	1.8766	-0.8522	0.9127	1.4457	0.8006	-0.8247	0.1140	0.3077	-0.1805	-0.7765	-0.1463	-0.0820	-0.2315
BHAR (0)		-1.44%	-0.55%	-0.64%	-0.24%	-0.86%	-0.17%	0.37%	0.92%	0.05%	0.11%	0.31%	0.52%	0.35%	0.86%	0.41%	0.94%
		-2.0220	-0.8418	-1.0142	-0.3995	-1.1201	-0.2391	0.5103	1.4796	0.0596	0.1557	0.5264	0.7962	0.5030	1.2661	0.6124	1.3915
BHAR (1)		-0.85%	0.15%	-0.23%	-0.12%	-0.21%	0.36%	0.29%	0.72%	0.07%	0.32%	0.34%	0.33%	-0.01%	0.48%	0.63%	0.67%
		-1.1025	0.2461	-0.3757	-0.1955	-0.2805	0.5510	0.4333	1.1195	0.1015	0.4403	0.5377	0.5142	-0.0142	0.6569	1.0002	0.9450
PORTUGA	AL.													1			
CAR (0)		-1.02%	-0.03%	0.36%	0.37%	-0.56%	-0.10%	0.35%	0.15%	-0.79%	0.00%	-0.15%	-0.19%	-0.43%	-0.23%	-0.04%	0.07%
		-1.4140	-0.0611	0.8430	0.9566	-0.6878	-0.1559	0.6507	0.3248	-1.0453	0.0024	-0.2651	-0.3670	-0.5326	-0.3501	-0.0799	0.1269
CAR (1)		-0.28%	0.50%	0.51%	0.56%	-0.38%	0.30%	0.40%	0.34%	-0.48%	0.04%	-0.03%	-0.09%	-0.43%	-0.12%	0.06%	-0.02%
		-0.4450	1.0272	1.2059	1.4980	-0.5207	0.4861	0.7686	0.7123	-0.6621	0.0551	-0.0598	-0.1804	-0.5898	-0.1911	0.1059	-0.0294
BHAR (0)		-0.69%	0.08%	0.90%	1.14%	-0.24%	0.94%	0.97%	1.40%	-1.32%	-0.23%	0.57%	0.28%	-0.38%	-0.37%	-0.65%	-0.39%
		-0.7613	0.0919	1.1321	1.2181	-0.2471	0.9805	1.2045	1.6989	-1.6203	-0.2539	0.6807	0.3660	-0.4423	-0.5388	-0.9195	-0.4923
BHAR (1)		-0.29%	0.70%	0.86%	1.12%	0.96%	1.48%	1.43%	1.43%	-0.88%	0.14%	0.92%	0.04%	-0.19%	-0.65%	-0.61%	-0.81%
		-0.3601	0.7575	1.1151	1.2426	1.2156	1.8129	1.6811	1.8674	-1.2444	0.1714	1.2834	0.0495	-0.2302	-0.9461	-0.8502	-1.0513
SINGAPOI	RE		0.4601	. =	0.=00/	0.000	0.000	0.400/	. ==./	0.040/	0.440/	0 = 40/	0 = 401	0.00/	/	0.=00/	
CAR (0)		-0.61%	0.46%	0.54%	0.58%	-0.32%	0.26%	0.49%	0.57%	0.04%	0.41%	0.54%	0.51%	0.20%	0.52%	0.59%	0.54%
~.~		-1.1760	1.3122	1.8210	2.0852	-0.5764	0.6098	1.3058	1.6458	0.0651	0.7479	1.1076	1.2105	0.3104	0.8917	1.1007	1.1600
CAR (1)		-0.64%	0.47%	0.49%	0.48%	-0.07%	0.29%	0.47%	0.46%	-0.13%	0.44%	0.46%	0.41%	0.02%	0.40%	0.48%	0.43%
DILAD (0)		-1.2254	1.3923	1.6074	1.7119	-0.1330	0.6702	1.1672	1.3364	-0.2201	0.8032	0.9868	0.9866	0.0316	0.6689	0.9377	0.9522
BHAR (0)		-0.83%	0.33%	0.73%	-0.43%	0.00%	-0.16%	0.62%	0.24%	0.10%	-0.32%	0.00%	-0.62%	-0.04%	0.35%	0.86%	0.27%
DILAD (1)		-1.3540	0.6054	1.5616	-0.7781	0.0007	-0.2649	1.1126	0.3766	0.1641	-0.4791	0.0028	-0.8313	-0.0685	0.5348	1.4552	0.4658
BHAR (1)		-1.23%	-0.84%	0.59%	-0.77%	-0.60%	-0.32%	0.99%	0.27%	-0.79%	0.04%	0.05%	-0.83%	-0.27%	0.12%	0.34%	0.03%
SPAIN		-2.0162	-1.5771	1.2021	-1.3201	-0.8343	-0.4892	1.5831	0.4323	-1.1067	0.0483	0.0718	-1.0979	-0.3827	0.1618	0.5295	0.0513
CAR (0)		-1.16%	-0.53%	-0.10%	0.22%	-1.27%	-0.71%	-0.09%	0.06%	-1.49%	-0.52%	-0.10%	-0.06%	-0.25%	-0.02%	0.09%	0.13%
CAR (0)		-2.6783	-0.55% -1.3827	-0.10% -0.3118	0.7537	-1.27% -2.4956	-0.71% -1.5160	-0.2380	0.1793	-1.49% -2.6228	-0.52% -1.0667	-0.10% -0.2401	-0.06% -0.1446	-0.4903	-0.0418	0.09%	0.13%
CAR (1)		-1.18%	-0.37%	0.08%	0.7337	-1.23%	-0.45%	0.05%	0.06%	-2.0228 - 0.95%	-0.23%	-0.2401	0.08%	-0.4903	-0.0478	0.10%	0.12%
CAK (1)		-2.2730	-0.9470	0.2308	0.8500	-2.2431	-0.9655	0.0376	0.1675	-1.6436	-0.4942	-0.0651	0.2071	-0.6722	-0.2442	0.2255	0.1278
BHAR (0)		-1.22%	-1.79%	-0.40%	-0.17%	-2.2431	-1.52%	-0.65%	-0.61%	-1.91%	-0.4942	0.06%	-0.57%	-0.0722	0.68%	-0.26%	0.2728
DIAK (0)		-2.0784	-2.5472	-0.6210	-0.2247	-2.5833	-1.9703	-0.8799	-0.9190	-2.7562	-1.1738	0.1051	-0.7786	-0.4743	1.0997	-0.4312	0.1976
BHAR (1)		-2.0784 -1.26%	-2.34/2 -1.29%	-0.0210 - 0.39%	0.2247	-2.3833 -1.20%	-1.9703 -1.16%	-0.8799 - 0.37%	-0.9190 - 0.64%	-2./302 - 1.04%	-1.1/38 - 0.56%	0.1031	-0.7780 - 0.24%	-0.4743 - 0.57%	0.11%	-0.4312 - 0.22%	0.3024 0.14%
DIIAK (1)		-1.26% -1.8683	-1.29% -1.7651	-0.6022	0.01%		-1.10% -1.7079	-0.5329	-0.9838		-0.7631	0.0975	-0.24% -0.3263	-0.8731	0.11%	-0.22%	0.14%
		-1.0003	-1./031	-0.0022	0.0191	-1.8337	-1./0/9	-0.3329	-0.9036	-1.5345	-0./031	0.09/3	-0.3203	-0.0/31	0.1003	-0.5554	0.2291

MW	J =		3				6	i			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		-0.57%	0.41%	0.52%	0.58%	0.42%	0.92%	1.03%	1.01%	0.79%	1.07%	1.01%	0.79%	0.66%	0.93%	0.89%	0.78%
		-0.9796	0.9071	1.2076	1.4723	0.6996	1.5836	1.9068	1.9625	1.2067	1.6888	1.6812	1.3535	0.9347	1.3997	1.3344	1.1744
CAR (1)		-0.42%	0.40%	0.57%	0.52%	0.71%	1.07%	1.10%	0.99%	0.82%	0.83%	0.76%	0.64%	0.61%	0.89%	0.76%	0.74%
		-0.7749	0.9235	1.4116	1.3170	1.0908	1.8237	1.9848	1.9222	1.2016	1.3046	1.2624	1.0965	0.8790	1.2999	1.1145	1.1141
BHAR (0)		-1.00%	-0.20%	-0.04%	-0.11%	0.11%	0.52%	0.61%	0.75%	0.54%	0.72%	0.69%	-0.05%	0.02%	0.49%	0.84%	1.53%
		-1.0720	-0.2103	-0.0467	-0.1097	0.1523	0.7402	0.6839	1.0580	0.7791	0.9290	1.0801	-0.0625	0.0221	0.6078	1.1263	1.8565
BHAR (1)		-0.80%	0.35%	0.34%	-0.07%	0.52%	0.77%	0.50%	0.66%	0.28%	0.46%	0.77%	-0.01%	0.55%	0.60%	0.90%	2.00%
		-0.9557	0.4049	0.3890	-0.0740	0.6886	1.0283	0.5539	0.8781	0.3560	0.6156	1.1858	-0.0096	0.6835	0.6657	1.1264	2.2877
SWITZERLA	ND																
CAR (0)		-0.62%	0.16%	0.25%	0.36%	0.00%	0.42%	0.47%	0.43%	0.21%	0.55%	0.39%	0.31%	0.62%	0.66%	0.57%	0.38%
		-2.2631	0.6835	1.1645	1.8746	0.0024	1.3914	1.8299	1.7174	0.5607	1.6530	1.3106	1.0561	1.5519	1.7322	1.6337	1.1861
CAR (1)		-0.11%	0.28%	0.42%	0.36%	0.24%	0.50%	0.42%	0.37%	0.35%	0.43%	0.28%	0.20%	0.59%	0.55%	0.46%	0.24%
		-0.4040	1.1988	1.8998	1.8396	0.6531	1.6439	1.6038	1.4621	0.8805	1.3097	0.9538	0.6975	1.3981	1.4602	1.3035	0.7525
BHAR (0)		-0.89%	0.21%	-0.06%	0.94%	-0.22%	0.63%	-0.23%	0.56%	0.04%	0.74%	0.30%	0.58%	0.87%	0.85%	0.42%	0.78%
		-2.5240	0.5491	-0.1667	2.2810	-0.6010	1.7342	-0.5903	1.2047	0.0920	1.5931	0.6169	1.2788	2.0040	1.8164	0.9306	1.7350
BHAR (1)		-0.47%	0.60%	0.03%	0.98%	0.23%	0.64%	-0.36%	0.47%	0.10%	0.71%	-0.04%	0.43%	0.88%	0.97%	0.09%	0.70%
		-1.3595	1.4171	0.0902	2.3278	0.6644	1.7837	-0.9060	0.9850	0.2172	1.5209	-0.0781	0.8808	1.9496	2.1899	0.2314	1.6132
UK																	
CAR (0)		-0.88%	0.11%	0.33%	0.63%	-0.28%	0.25%	0.79%	0.78%	-0.17%	0.78%	0.92%	0.83%	0.09%	0.74%	0.79%	0.67%
		-2.3958	0.3319	1.1435	2.5502	-0.6386	0.6329	2.3947	2.5374	-0.3823	1.9244	2.4871	2.3128	0.2026	1.6964	1.9266	1.7035
CAR (1)		-0.51%	0.21%	0.54%	0.67%	-0.06%	0.55%	0.93%	0.78%	0.33%	0.94%	1.01%	0.75%	0.24%	0.79%	0.76%	0.61%
		-1.4551	0.6737	1.9731	2.8923	-0.1494	1.4604	2.8872	2.5923	0.8022	2.3945	2.7155	2.1197	0.5466	1.8129	1.8658	1.5486
BHAR (0)		-0.93%	0.47%	0.16%	0.58%	-0.13%	0.23%	0.75%	0.90%	0.08%	1.17%	1.26%	1.07%	0.02%	0.44%	0.66%	0.33%
		-1.9268	0.9510	0.3482	1.2284	-0.2745	0.4953	1.5338	2.0298	0.1670	2.3960	2.6388	2.2255	0.0499	0.9175	1.3450	0.7203
BHAR (1)		-0.34%	0.49%	0.17%	0.78%	0.04%	0.47%	0.60%	0.65%	0.56%	1.48%	1.15%	0.82%	0.62%	0.41%	0.62%	0.07%
		-0.7360	0.9901	0.3973	1.7434	0.0863	1.0957	1.2921	1.4303	1.2592	3.3307	2.4847	1.9250	1.2461	0.8197	1.2256	0.1388
US																	
CAR (0)		-0.96%	-0.17%	0.05%	0.15%	-0.38%	0.15%	0.30%	0.31%	-0.25%	0.22%	0.20%	0.19%	-0.13%	0.17%	0.16%	0.12%
		-3.4070	-0.6704	0.2094	0.7041	-1.1038	0.4972	1.0313	1.1085	-0.6938	0.6362	0.6140	0.5945	-0.3256	0.4484	0.4482	0.3360
CAR (1)		-0.60%	-0.03%	0.16%	0.15%	-0.05%	0.28%	0.37%	0.29%	0.08%	0.30%	0.25%	0.16%	-0.05%	0.18%	0.15%	0.08%
		-2.1192	-0.1381	0.6919	0.7404	-0.1483	0.8865	1.2675	1.0509	0.2158	0.8545	0.7430	0.4934	-0.1398	0.4999	0.4079	0.2354
BHAR (0)		-1.10%	0.34%	-0.38%	0.20%	-0.53%	-0.25%	0.14%	0.14%	-0.22%	0.26%	0.25%	0.18%	-0.17%	0.03%	0.26%	0.28%
		-3.1538	0.9708	-1.0304	0.5823	-1.4020	-0.6742	0.3287	0.4644	-0.5890	0.6827	0.7225	0.5242	-0.4069	0.0770	0.6847	0.6186
BHAR (1)		-0.67%	0.08%	-0.36%	0.07%	-0.26%	-0.12%	0.07%	-0.03%	0.05%	0.27%	0.18%	0.10%	-0.31%	-0.19%	0.12%	0.03%
		-2.1532	0.1988	-1.0057	0.1751	-0.6874	-0.3282	0.1585	-0.0790	0.1311	0.6248	0.4798	0.2483	-0.6655	-0.4199	0.3147	0.0587

Panel C. The time-series momentum using inversed-volatility weighted return

IVOL	J =		3	3			6	<u> </u>			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL	IA																
CAR (0)		-2.00%	-0.53%	-0.14%	0.02%	-0.74%	-0.17%	0.06%	-0.02%	-0.16%	0.23%	0.16%	0.04%	-0.17%	-0.08%	-0.09%	-0.22%
		-7.3026	-2.4672	-0.8064	0.1148	-2.5123	-0.7337	0.2564	-0.1132	-0.5745	0.8970	0.6971	0.2066	-0.4947	-0.2633	-0.3603	-0.9304
CAR (1)		-1.59%	-0.26%	0.06%	0.06%	-0.66%	-0.14%	-0.02%	-0.12%	-0.07%	0.19%	0.04%	-0.10%	-0.40%	-0.25%	-0.31%	-0.39%
		-6.1878	-1.2549	0.3584	0.3104	-2.4034	-0.6311	-0.0731	-0.6164	-0.2579	0.8086	0.1925	-0.4770	-1.1439	-0.9143	-1.2854	-1.7374
BHAR (0)		-1.68%	-0.62%	-0.04%	-0.42%	-0.85%	-0.49%	-0.44%	-0.49%	-0.20%	0.02%	0.04%	0.19%	-0.54%	-0.51%	-0.28%	-0.26%
		-5.2936	-2.0734	-0.1137	-1.4278	-2.0360	-1.2546	-0.9837	-1.5302	-0.6381	0.0605	0.1300	0.6039	-1.0483	-1.0708	-0.6132	-0.5112
BHAR (1)		-1.78%	-0.89%	-0.27%	-0.22%	-0.86%	-0.28%	-0.41%	-0.50%	-0.45%	-0.29%	0.00%	-0.20%	-0.73%	-0.54%	-0.62%	-0.64%
		-4.8721	-2.3281	-0.6770	-0.5974	-2.2507	-0.8319	-0.9763	-1.3571	-1.1505	-0.8742	0.0052	-0.5757	-1.5287	-1.3775	-1.4399	-1.4377
AUSTRIA	1																
CAR (0)		-0.13%	0.35%	0.50%	0.54%	0.17%	0.55%	0.82%	0.79%	0.66%	0.94%	0.90%	0.75%	0.98%	0.99%	0.85%	0.61%
		-0.4502	1.2479	2.0375	2.4880	0.3741	1.4993	2.4027	2.4279	1.5318	2.2894	2.3133	2.1420	2.0397	2.2976	2.1116	1.6787
CAR (1)		0.09%	0.42%	0.48%	0.48%	0.20%	0.52%	0.75%	0.66%	0.80%	0.88%	0.79%	0.67%	0.78%	0.77%	0.66%	0.43%
		0.2939	1.5759	1.9680	2.2392	0.4693	1.4778	2.2250	2.0856	1.9304	2.1501	2.1188	2.0476	1.6322	1.7924	1.7100	1.2080
BHAR (0)		-0.01%	0.47%	0.60%	0.60%	0.33%	0.52%	0.25%	0.96%	0.61%	0.78%	0.66%	1.07%	0.91%	0.71%	0.96%	-0.06%
		-0.0239	1.3332	1.3858	1.6942	0.6355	1.0107	0.5534	2.4228	1.2507	1.3239	1.4575	2.1547	1.8139	1.3390	1.9547	-0.1194
BHAR (1)		0.57%	0.50%	0.96%	0.49%	0.47%	0.50%	0.50%	1.03%	0.34%	0.25%	0.63%	0.82%	0.75%	0.66%	0.42%	0.15%
		1.4072	1.3617	2.3070	1.3417	0.9206	0.9621	1.1408	2.4624	0.6695	0.4046	1.3419	1.6573	1.4298	1.2133	0.8571	0.3163
BELGIUM	1												1				
CAR (0)		-0.18%	0.42%	0.45%	0.52%	0.62%	0.75%	0.85%	0.76%	0.80%	1.03%	0.92%	0.85%	1.11%	1.16%	1.03%	0.92%
		-0.7825	2.0614	2.5682	3.0563	2.1395	2.7043	3.1474	3.2086	2.3704	3.2520	3.1634	3.1242	2.8610	3.2594	3.1102	2.9297
CAR (1)		0.14%	0.40%	0.49%	0.52%	0.80%	0.75%	0.80%	0.73%	0.93%	1.01%	0.90%	0.81%	1.22%	1.08%	0.98%	0.86%
		0.5801	2.0478	2.8638	3.2978	2.7994	2.6465	3.0786	3.1373	2.7256	3.2267	3.1495	2.9858	3.2032	3.1313	2.9625	2.7514
BHAR (0)		-0.36%	-0.01%	0.32%	0.18%	0.51%	0.56%	0.64%	0.89%	0.70%	1.26%	1.10%	1.13%	0.95%	0.93%	0.91%	0.45%
		-1.1429	-0.0149	1.1102	0.4955	1.4324	1.4291	1.9841	2.7031	1.7690	2.9527	2.6424	2.7721	2.3919	2.3403	2.6551	1.2756
BHAR (1)		-0.15%	0.07%	0.27%	0.41%	0.80%	0.40%	0.51%	0.84%	0.76%	1.34%	1.01%	0.81%	0.87%	1.00%	0.80%	0.52%
CANADA		-0.4395	0.1800	0.9601	1.0849	2.3173	0.9513	1.5475	2.6004	1.8793	3.3113	2.5588	2.0672	2.3368	2.6371	2.4145	1.4469
CANADA	1	1.200/	0.100/	0.200/	0.240/	0.100/	0.250/	0.650/	0.550/	0.210/	0.5(0/	0.510/	0.250/	0.200/	0.420/	0.250/	0.160/
CAR (0)		-1.29%	-0.19%	0.20%	0.34%	-0.19%	0.35%	0.65%	0.55%	0.21%	0.56%	0.51%	0.35%	0.29%	0.42%	0.35%	0.16%
CAR (1)		-4.1883	-0.7225	0.8849	1.8033	-0.5615	1.1427	2.4596	2.3203	0.5800	1.7111	1.7106	1.2944	0.7800	1.2710	1.1459	0.5469
CAR (1)		-1.22%	-0.15%	0.29%	0.28%	-0.21%	0.34%	0.56%	0.36%	0.20%	0.43%	0.33%	0.14%	0.07%	0.19%	0.13%	-0.08%
DIIAD (0)		-4.1031	-0.5538	1.2859	1.4985	-0.5923	1.0944	2.1393	1.4962	0.5363	1.3448	1.1493	0.5213	0.1957	0.5724	0.4318	-0.2814
BHAR (0)		-1.36%	-0.41%	0.21%	-0.09%	-0.26%	0.35%	0.58%	-0.14%	0.21%	0.50%	0.42%	0.21%	0.28%	0.33%	0.32%	0.08%
DIIAD (1)		-3.2494	-1.0634	0.5742	-0.2261	-0.6147	0.8563	1.3962	-0.3314	0.5127	1.2142	1.1405	0.5632	0.6720	0.8486	0.8346	0.2373
BHAR (1)		-1.36%	-0.31%	0.40%	0.09%	-0.34%	0.26%	0.47%	-0.14%	0.24%	0.43%	0.24%	0.09%	0.06%	0.04%	0.19%	-0.11%
		-3.6934	-0.8874	1.1904	0.2513	-0.8109	0.6662	1.1770	-0.3944	0.6255	1.1111	0.6849	0.2549	0.1563	0.0986	0.5228	-0.3526

IVOL	J =		3				6	i			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAI	RK																
CAR (0)		-0.26%	0.52%	0.70%	$\boldsymbol{0.80\%}$	0.49%	0.75%	0.99%	0.94%	0.56%	1.05%	1.02%	0.91%	0.85%	1.19%	1.14%	1.06%
		-1.1459	2.5903	4.2173	5.2109	1.5526	2.7268	3.9088	3.8126	1.5461	3.3235	3.5132	3.2265	2.3974	3.6541	3.5510	3.4150
CAR (1)		-0.15%	0.52%	0.71%	0.76%	0.34%	0.73%	0.89%	0.80%	0.65%	1.02%	0.91%	$\boldsymbol{0.80\%}$	0.94%	1.15%	1.04%	0.95%
		-0.6555	2.4829	4.1468	4.7627	0.9460	2.6219	3.3762	3.1330	1.9678	3.4402	3.0853	2.8270	2.6824	3.5584	3.2127	3.0711
BHAR (0)		-0.53%	0.19%	0.11%	0.38%	0.25%	0.85%	0.92%	1.30%	0.88%	0.79%	1.15%	1.01%	0.67%	1.09%	0.56%	0.73%
		-1.8117	0.5774	0.3507	0.8757	0.7161	2.5225	3.0589	4.5031	2.7738	1.8605	3.2859	3.2568	1.6096	2.7555	1.3614	1.7219
BHAR (1)		-0.14%	0.51%	0.22%	0.76%	0.24%	0.90%	0.75%	1.13%	1.02%	1.09%	1.13%	0.89%	0.84%	1.31%	0.71%	0.75%
		-0.4694	1.5560	0.6354	1.7814	0.6093	2.5686	2.2491	3.9943	2.7184	2.7468	3.5499	2.8551	2.0256	3.6422	1.8172	1.8473
FINLAN	D																
CAR (0)		-0.40%	0.02%	0.33%	0.41%	0.23%	0.54%	0.70%	0.66%	0.56%	0.87%	0.74%	0.52%	0.81%	0.77%	0.52%	0.41%
		-0.9887	0.0669	0.9936	1.3109	0.6293	1.5957	2.0345	1.8900	1.2989	1.8469	1.5580	1.1276	1.4412	1.3971	0.9669	0.8045
CAR (1)		-0.25%	0.21%	0.44%	0.45%	0.23%	0.66%	0.60%	0.62%	0.57%	0.74%	0.56%	0.38%	0.61%	0.49%	0.34%	0.29%
		-0.6291	0.5688	1.3590	1.4868	0.6631	1.9897	1.7404	1.7867	1.1548	1.4471	1.1395	0.8277	1.0709	0.8702	0.6280	0.5786
BHAR (0)		-0.41%	-0.59%	0.47%	0.62%	0.05%	0.46%	-0.07%	0.30%	0.32%	0.37%	0.60%	0.08%	0.91%	1.50%	0.81%	1.03%
		-0.7459	-0.9960	0.9637	0.9372	0.1074	0.8550	-0.1176	0.5587	0.7157	0.6125	1.0882	0.1436	1.3852	2.5206	1.2646	1.8731
BHAR (1)		-0.15%	-0.54%	0.70%	0.66%	-0.04%	0.51%	-0.15%	0.25%	0.32%	0.42%	0.33%	0.14%	0.57%	1.09%	0.71%	0.97%
		-0.3068	-0.8999	1.4894	1.0111	-0.0773	0.8660	-0.2593	0.4785	0.5923	0.7199	0.5792	0.2498	0.8841	1.7238	1.1069	1.8966
FRANC	E	1															
CAR (0)		-1.32%	-0.23%	-0.04%	0.18%	-0.31%	0.12%	0.41%	0.41%	0.11%	0.50%	0.53%	0.48%	0.30%	0.59%	0.51%	0.45%
		-5.3871	-1.3144	-0.2216	1.3101	-1.2405	0.5393	2.0427	2.2084	0.4075	2.0734	2.2934	2.2530	1.0789	2.2655	2.1176	1.9060
CAR (1)		-0.87%	-0.07%	0.05%	0.19%	-0.17%	0.17%	0.37%	0.31%	0.44%	0.53%	0.51%	0.43%	0.43%	0.59%	0.47%	0.40%
		-3.3626	-0.3848	0.3337	1.3686	-0.6882	0.7216	1.7846	1.6323	1.6891	2.1658	2.1861	2.0370	1.5825	2.2904	1.9419	1.7275
BHAR (0)		-1.03%	-0.56%	0.10%	-0.35%	-0.31%	-0.20%	0.46%	-0.28%	-0.03%	0.47%	0.67%	0.51%	0.26%	0.48%	0.62%	0.37%
		-3.1389	-1.9023	0.3229	-1.0180	-1.1579	-0.6265	1.6216	-0.6798	-0.1205	1.7147	2.5031	2.0155	0.8957	1.6903	2.1755	1.4531
BHAR (1)		-1.16%	-0.23%	0.32%	0.06%	-0.09%	0.09%	0.51%	0.29%	0.43%	0.49%	0.65%	0.23%	0.41%	0.43%	0.49%	0.34%
		-3.6584	-0.7066	0.7323	0.1631	-0.3006	0.3344	1.6501	1.1138	1.5533	1.6945	2.4509	0.8260	1.3817	1.4988	1.8180	1.2922
GERMAN	NY	1															
CAR (0)		-0.71%	0.13%	0.31%	0.45%	-0.13%	0.41%	0.70%	0.62%	0.39%	0.80%	0.79%	0.69%	0.68%	0.90%	0.87%	0.73%
~.~ ···		-2.5666	0.5938	1.6002	2.4676	-0.3901	1.4163	2.6199	2.3019	1.1633	2.6375	2.5827	2.3573	1.9889	2.6388	2.6968	2.3699
CAR (1)		-0.50%	0.18%	0.32%	0.41%	-0.13%	0.43%	0.63%	0.50%	0.48%	0.77%	0.68%	0.58%	0.66%	0.82%	0.72%	0.59%
		-1.7823	0.8683	1.8039	2.3709	-0.4134	1.5425	2.3860	1.9067	1.5329	2.5088	2.1838	1.9811	1.8995	2.3963	2.2437	1.9316
BHAR (0)		-0.86%	0.03%	0.48%	-0.08%	-0.38%	0.54%	0.67%	0.81%	0.35%	0.69%	0.62%	0.71%	0.43%	0.47%	0.70%	0.66%
		-2.5585	0.0931	1.5723	-0.2199	-0.9971	1.6792	1.6469	2.3753	0.9288	1.7385	1.7040	1.8882	1.1730	1.3825	1.9695	1.8783
BHAR (1)		-0.33%	0.22%	0.94%	0.45%	-0.38%	0.59%	0.57%	0.57%	0.32%	0.49%	0.46%	0.65%	0.35%	0.39%	0.36%	0.54%
		-1.0411	0.6846	2.5411	1.4085	-1.0058	1.8010	1.3929	1.5955	0.8742	1.2346	1.2179	1.6256	0.9515	1.1726	1.0689	1.6236

IVOL	J =		3				6	j			9	1			13	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREEC	E																
CAR (0)		-0.94%	-0.27%	-0.32%	-0.33%	-0.43%	-0.15%	-0.13%	-0.27%	-0.42%	-0.24%	-0.35%	-0.41%	-0.48%	-0.57%	-0.69%	-0.74%
		-1.5980	-0.6251	-0.8400	-0.9727	-0.5542	-0.2233	-0.2461	-0.5732	-0.5127	-0.3378	-0.5776	-0.7401	-0.6023	-0.7493	-1.0871	-1.2655
CAR (1)		-1.02%	-0.32%	-0.34%	-0.39%	-0.31%	-0.23%	-0.14%	-0.42%	-0.71%	-0.40%	-0.54%	-0.54%	-0.54%	-0.69%	-0.86%	-0.79%
		-1.8902	-0.8155	-0.9435	-1.1932	-0.4272	-0.3944	-0.2935	-0.8744	-0.9140	-0.6242	-0.9308	-0.9829	-0.6583	-0.9179	-1.3626	-1.3391
BHAR (0)		-1.02%	0.60%	0.18%	0.72%	-0.01%	0.42%	-0.25%	-0.28%	0.50%	0.44%	-0.73%	0.89%	-0.36%	-1.15%	-0.04%	-1.02%
		-1.3619	0.8945	0.2126	1.1003	-0.0074	0.5736	-0.3215	-0.3848	0.5017	0.4804	-0.8848	1.2042	-0.4043	-1.2993	-0.0525	-1.3017
BHAR (1)		-0.42%	0.98%	0.30%	1.19%	0.22%	0.37%	0.04%	-0.59%	0.63%	0.78%	-0.47%	0.77%	0.05%	-1.09%	-0.13%	-1.02%
		-0.5619	1.4081	0.3531	1.8545	0.2760	0.5298	0.0491	-0.8339	0.6639	0.8711	-0.5693	1.0073	0.0545	-1.2924	-0.1678	-1.3715
HONGKO	NG																
CAR (0)		-1.50%	-0.45%	-0.29%	-0.24%	-0.75%	-0.20%	-0.13%	-0.09%	-0.49%	-0.26%	-0.22%	-0.26%	-0.59%	-0.45%	-0.50%	-0.52%
		-4.8392	-1.6111	-1.1388	-1.0701	-1.6970	-0.4487	-0.3538	-0.2868	-0.9842	-0.6248	-0.6854	-0.8633	-1.3829	-1.2076	-1.4834	-1.7026
CAR (1)		-1.55%	-0.47%	-0.30%	-0.33%	-0.76%	-0.25%	-0.25%	-0.22%	-0.57%	-0.46%	-0.40%	-0.42%	-1.04%	-0.75%	-0.72%	-0.68%
		-5.7978	-1.6796	-1.2077	-1.5663	-1.5425	-0.5806	-0.7150	-0.7332	-1.2993	-1.1969	-1.2855	-1.4695	-2.4390	-2.0507	-2.1404	-2.2476
BHAR (0)		-2.06%	-0.98%	-0.76%	-0.45%	-0.43%	0.09%	-0.15%	0.02%	-0.82%	-0.43%	-0.23%	-0.26%	-0.87%	-0.32%	-0.20%	-0.65%
		-5.2313	-2.1736	-1.5276	-1.1601	-0.8534	0.1914	-0.3299	0.0497	-1.2513	-0.6525	-0.4672	-0.3709	-1.5826	-0.6660	-0.4612	-1.5222
BHAR (1)		-2.19%	-1.26%	-0.58%	-0.56%	-0.79%	-0.07%	-0.33%	-0.30%	-1.01%	-0.95%	-0.29%	-0.39%	-1.45%	-0.71%	-0.59%	-0.82%
		-5.7816	-2.9540	-1.2807	-1.3700	-1.4399	-0.1510	-0.7412	-0.7306	-1.6720	-1.4380	-0.6134	-0.5589	-3.0171	-1.6746	-1.4472	-1.8955
IRELAN	D	1															
CAR (0)		-0.91%	-0.36%	-0.13%	0.14%	-0.80%	-0.21%	0.09%	0.19%	0.23%	0.48%	0.59%	0.70%	0.48%	0.61%	0.62%	0.49%
		-2.0178	-0.7993	-0.3424	0.4166	-1.3687	-0.4164	0.2018	0.4549	0.3746	0.8543	1.1008	1.4854	0.6900	0.9904	1.0615	0.9427
CAR (1)		-0.96%	-0.56%	-0.18%	0.11%	-0.74%	-0.18%	0.17%	0.17%	0.01%	0.44%	0.58%	0.60%	0.55%	0.56%	0.54%	0.42%
		-1.9706	-1.2448	-0.4924	0.3136	-1.3597	-0.3770	0.3736	0.4270	0.0130	0.7819	1.1105	1.2578	0.8112	0.8853	0.9358	0.8295
BHAR (0)		-0.54%	-1.86%	-1.01%	-0.03%	-1.19%	0.03%	-1.26%	1.24%	0.10%	0.47%	0.83%	0.53%	0.79%	0.74%	0.55%	0.14%
		-0.8284	-2.2505	-1.3722	-0.0437	-1.6116	0.0425	-1.7129	1.9272	0.1345	0.6010	1.2937	0.7368	1.0588	1.1033	0.7714	0.1840
BHAR (1)		-1.24%	-1.88%	-1.29%	0.27%	-1.14%	-0.09%	-0.98%	1.04%	-0.15%	0.40%	0.65%	0.06%	0.65%	0.30%	0.21%	0.05%
		-1.9683	-2.4680	-1.8326	0.4053	-1.8656	-0.1369	-1.4248	1.7702	-0.1970	0.5812	1.0512	0.0932	0.9681	0.4629	0.2958	0.0565
ISRAEL		1.000/	4.050/	0.020/	0 = 60/	1.000/	0.000/	0.700/	0.740/	0.020/	0.600/	0.200/	0.250/	0.600/	0.200/	0.440/	0.240/
CAR (0)		-1.99%	-1.05%	-0.93%	-0.76%	-1.26%	-0.92%	-0.72%	-0.54%	-0.93%	-0.60%	-0.39%	-0.37%	-0.68%	-0.20%	-0.14%	-0.31%
CAR (1)		-7.2047	-4.7230	-4.6299	-4.1889	-4.0455	-3.1082	-2.6768	-2.1512	-2.8419	-1.8091	-1.2560	-1.2910	-1.5554	-0.5236	-0.4040	-0.9750
CAR (1)		-1.76%	-0.96%	-0.88%	-0.70%	-1.07%	-0.83%	-0.71%	-0.57%	-0.99%	-0.61%	-0.49%	-0.46%	-0.37%	-0.13%	-0.17%	-0.34%
DILAD (0)		-6.0612	-4.0511	-3.9299	-3.4815	-3.0509	-2.8200	-2.5896	-2.2844	-2.8592	-1.7409	-1.5648	-1.5914	-0.9300	-0.3634	-0.4992	-1.1184
BHAR (0)		-1.90%	-1.38%	-0.90%	-0.73%	-1.14%	-0.88%	-0.84%	-0.19%	-0.86%	-0.40%	-0.39%	0.20%	-0.41%	0.29%	-0.02%	0.25%
DILAD (1)		-5.1671	-2.8584	-2.2452	-1.4640	-2.7464	-2.1048	-2.3030	-0.5542	-2.5105	-1.2350	-1.0180	0.5927	-0.9129	0.7169	-0.0463	0.4852
BHAR (1)		-1.86%	-1.29%	-1.15%	-0.77%	-1.15%	-0.67%	-0.82%	-0.52%	-1.11%	-0.69%	-0.47%	0.16%	0.29%	0.53%	-0.29%	0.39%
		-4.7349	-3.2857	-2.4705	-1.5840	-2.5948	-1.7517	-2.1901	-1.3173	-2.7319	-1.8153	-1.0268	0.4911	0.5850	1.3159	-0.6484	0.7641

IVOL	J =		3	3			6	j			9)			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.47%	0.63%	0.79%	0.85%	0.76%	1.15%	1.13%	0.99%	1.15%	1.39%	1.41%	1.19%	1.24%	1.49%	1.32%	1.13%
		1.6727	2.5193	3.4940	3.9339	1.9460	3.8002	3.9481	3.8114	2.9989	4.5264	4.6778	4.2517	3.5100	4.7431	4.5675	4.0737
CAR (1)		0.34%	0.59%	0.76%	0.83%	0.76%	1.10%	1.08%	0.83%	1.09%	1.40%	1.25%	1.06%	1.13%	1.40%	1.14%	1.00%
		1.2403	2.4223	3.3200	3.9314	2.1818	3.7394	3.9180	3.3074	3.2316	4.7406	4.2890	3.8379	3.4063	4.5785	4.0906	3.6097
BHAR (0)		0.27%	0.00%	0.42%	0.27%	0.82%	0.66%	1.00%	0.32%	0.99%	1.12%	1.21%	0.78%	1.19%	1.08%	1.05%	0.69%
		0.7473	0.0088	1.3126	0.7726	1.9174	1.6142	2.9728	0.8314	2.3210	2.4593	3.0310	1.8728	2.7332	2.5192	2.5673	1.3843
BHAR (1)		0.25%	-0.05%	0.75%	0.45%	0.33%	0.63%	0.91%	0.06%	0.84%	1.10%	1.04%	$\boldsymbol{0.88\%}$	0.93%	1.07%	0.91%	0.74%
		0.7781	-0.1361	2.2520	1.2025	0.8583	1.4928	2.5369	0.1513	1.9529	2.4329	2.4841	2.2830	2.1096	2.5259	2.1011	1.5514
JAPAN																	
CAR (0)		-0.78%	-0.43%	-0.30%	-0.09%	-0.75%	-0.40%	-0.12%	-0.09%	-0.61%	-0.19%	-0.09%	-0.12%	-0.33%	-0.17%	-0.15%	-0.16%
		-3.4002	-2.0810	-1.6420	-0.5824	-2.5607	-1.5169	-0.4978	-0.4281	-2.0199	-0.6814	-0.3371	-0.5130	-1.0657	-0.6064	-0.5605	-0.6380
CAR (1)		-0.82%	-0.48%	-0.23%	-0.12%	-0.78%	-0.34%	-0.09%	-0.17%	-0.42%	-0.13%	-0.09%	-0.17%	-0.36%	-0.22%	-0.18%	-0.21%
		-3.8723	-2.4180	-1.3781	-0.8363	-2.7460	-1.3015	-0.3871	-0.8393	-1.4546	-0.4715	-0.3607	-0.7772	-1.1978	-0.7920	-0.7147	-0.8828
BHAR (0)		-0.92%	-0.29%	0.03%	0.03%	-0.59%	-0.25%	-0.05%	0.29%	-0.51%	-0.05%	-0.04%	-0.04%	-0.25%	-0.09%	-0.07%	-0.21%
		-3.4393	-1.0957	0.1195	0.1156	-1.8261	-0.7822	-0.1595	1.0877	-1.6377	-0.1546	-0.1220	-0.1557	-0.8209	-0.2925	-0.2256	-0.8223
BHAR (1)		-1.01%	-0.34%	-0.04%	0.15%	-0.65%	-0.34%	-0.01%	0.03%	-0.50%	-0.01%	-0.12%	-0.22%	-0.38%	-0.24%	-0.30%	-0.30%
		-4.0824	-1.2881	-0.1486	0.5619	-2.1702	-1.1528	-0.0189	0.0925	-1.7548	-0.0442	-0.4186	-0.9000	-1.2019	-0.8018	-0.9988	-1.1306
NETHERLA	NDS																
CAR (0)		0.59%	0.90%	0.96%	1.00%	0.74%	0.90%	1.04%	0.92%	1.31%	1.34%	1.30%	1.15%	1.20%	1.38%	1.25%	1.07%
		1.9010	3.1518	3.7378	4.2045	1.9767	2.6455	3.1690	2.8302	3.6989	3.8916	3.9154	3.2785	3.0318	3.8806	3.4007	2.9906
CAR (1)		0.48%	0.85%	0.86%	0.91%	0.59%	0.89%	0.90%	0.77%	1.12%	1.17%	1.10%	0.97%	0.89%	1.19%	1.02%	0.93%
		1.5135	3.0623	3.5836	3.9233	1.4392	2.4839	2.5897	2.2696	2.9426	3.1994	3.0414	2.6812	2.2405	3.2277	2.7171	2.6476
BHAR (0)		0.47%	0.74%	0.35%	1.37%	0.75%	1.11%	1.21%	1.86%	1.27%	1.90%	1.36%	1.45%	1.01%	1.69%	1.02%	1.05%
		1.3142	1.7221	0.7864	2.7927	1.7449	2.7659	2.6022	5.1031	3.2406	4.9230	3.9450	3.6839	2.4035	3.9298	2.3703	2.4161
BHAR (1)		0.33%	0.46%	0.07%	1.24%	0.53%	1.08%	1.18%	1.71%	1.53%	1.70%	1.16%	1.32%	0.74%	1.22%	0.85%	0.71%
		0.9553	1.2647	0.1834	2.4163	1.2503	2.6043	2.4896	4.5571	3.8800	3.9632	3.3213	3.1994	1.7052	2.7915	1.9695	1.6736
NEWZEALA	ND																
CAR (0)		0.47%	0.87%	0.65%	0.68%	1.54%	1.26%	1.25%	1.07%	1.28%	1.43%	1.19%	1.08%	1.75%	1.37%	1.14%	1.04%
		0.7281	1.8955	1.9137	2.4852	2.4127	2.7464	3.7069	3.9299	2.1412	3.3977	3.4801	3.6515	3.0461	3.4705	3.5109	3.6558
CAR (1)		0.50%	0.65%	0.60%	0.52%	1.30%	1.09%	1.08%	0.89%	1.26%	1.24%	1.05%	0.96%	1.41%	1.04%	0.99%	0.87%
		0.9220	1.6997	2.1201	2.2705	2.3367	2.8349	3.6863	3.6958	2.5548	3.5517	3.5622	3.6301	3.0978	3.0516	3.3765	3.3148
BHAR (0)		0.29%	0.54%	0.77%	0.01%	1.28%	1.14%	0.69%	0.90%	1.11%	0.80%	1.31%	0.93%	2.07%	2.08%	1.53%	0.96%
		0.4611	1.4224	1.2182	0.0315	2.6369	2.9335	1.5144	2.4831	2.2008	2.0203	3.8268	2.4765	3.1135	3.1447	2.3282	2.4095
BHAR (1)		0.41%	0.11%	0.39%	-0.22%	1.22%	0.68%	0.67%	0.55%	1.32%	0.83%	1.36%	1.01%	1.65%	1.38%	1.16%	1.08%
		0.8757	0.2436	0.7753	-0.5377	2.2629	1.5297	1.5127	1.3719	2.8286	2.0856	3.9609	2.7442	3.0967	2.7537	2.4353	2.8419

IVOL	J =		3				6	i			9	1			13	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWA	Y																
CAR (0)		-0.88%	0.16%	0.41%	0.46%	-0.35%	0.31%	0.41%	0.34%	-0.16%	0.28%	0.23%	-0.02%	0.19%	0.29%	0.11%	-0.07%
		-1.9056	0.4247	1.4735	1.8478	-0.6509	0.7427	1.1981	1.0816	-0.3408	0.6443	0.5710	-0.0649	0.3556	0.5996	0.2470	-0.1757
CAR (1)		-0.97%	0.17%	0.45%	0.41%	-0.13%	0.47%	0.45%	0.17%	-0.15%	0.15%	0.03%	-0.27%	-0.22%	-0.06%	-0.17%	-0.33%
		-1.9729	0.5072	1.5896	1.6018	-0.2726	1.2690	1.4000	0.5629	-0.3284	0.3445	0.0771	-0.7442	-0.4195	-0.1176	-0.3894	-0.8310
BHAR (0)		-0.97%	0.24%	0.05%	$\boldsymbol{0.08\%}$	-0.60%	0.01%	-0.12%	0.52%	0.82%	0.47%	0.34%	0.34%	0.52%	0.98%	0.37%	0.44%
		-1.8567	0.4280	0.0950	0.1682	-0.9213	0.0193	-0.1954	1.1741	1.3527	0.7987	0.5807	0.6024	0.8916	1.5947	0.7169	0.7755
BHAR (1)		-0.86%	0.48%	0.01%	-0.15%	0.13%	0.18%	-0.21%	0.22%	0.48%	0.25%	0.18%	-0.07%	0.08%	0.56%	0.35%	0.20%
		-1.5628	1.0270	0.0318	-0.3157	0.2054	0.2995	-0.3452	0.4849	0.8208	0.4155	0.3022	-0.1214	0.1364	0.8720	0.6838	0.3339
PORTUG	AL																
CAR (0)		-1.32%	-0.14%	-0.09%	-0.06%	-0.49%	0.00%	0.15%	$\boldsymbol{0.10\%}$	-0.65%	-0.05%	-0.03%	-0.09%	-0.65%	-0.33%	-0.18%	-0.25%
		-2.6674	-0.3575	-0.2682	-0.2356	-0.9240	-0.0039	0.3714	0.2639	-1.2823	-0.1089	-0.0728	-0.2361	-1.1142	-0.6537	-0.3811	-0.5823
CAR (1)		-0.86%	0.05%	-0.13%	-0.03%	-0.24%	0.16%	0.09%	0.08%	-0.27%	-0.03%	0.02%	-0.09%	-0.55%	-0.29%	-0.20%	-0.32%
		-1.6730	0.1307	-0.3561	-0.0863	-0.4636	0.3494	0.2130	0.2098	-0.5393	-0.0575	0.0364	-0.2201	-1.0305	-0.5796	-0.4370	-0.7513
BHAR (0)		-1.33%	0.37%	0.73%	0.48%	-0.24%	0.15%	0.98%	0.95%	-1.04%	-0.12%	0.17%	0.33%	-0.80%	-0.67%	-0.03%	-0.65%
		-1.9241	0.5087	0.9288	0.6580	-0.3395	0.2136	1.3209	1.3674	-1.9955	-0.2078	0.3064	0.5918	-1.2856	-1.2443	-0.0479	-1.1662
BHAR (1)		-0.85%	0.73%	1.20%	0.68%	0.46%	0.76%	1.28%	0.40%	-0.59%	0.48%	0.28%	0.15%	-0.84%	-1.00%	-0.14%	-0.85%
		-1.2614	1.0122	1.4161	0.9706	0.7459	1.0649	1.7000	0.6029	-1.0900	0.9114	0.5339	0.2370	-1.5249	-1.6096	-0.2685	-1.6159
SINGAPO	RE	1															
CAR (0)		-0.58%	0.54%	0.52%	0.44%	-0.17%	0.47%	0.54%	0.46%	0.23%	0.61%	0.57%	0.51%	0.29%	0.54%	0.57%	0.47%
		-1.2660	1.6532	1.9050	1.7266	-0.3453	1.2130	1.4864	1.4013	0.4580	1.2957	1.3353	1.3735	0.5388	1.1232	1.3123	1.2558
CAR (1)		-0.45%	0.52%	0.50%	0.35%	-0.04%	0.44%	0.45%	0.30%	-0.01%	0.48%	0.46%	0.33%	0.05%	0.47%	0.46%	0.32%
		-0.9923	1.8090	1.9065	1.4914	-0.0860	1.1792	1.1995	0.9537	-0.0209	1.0016	1.0889	0.9258	0.0975	0.9918	1.0999	0.9092
BHAR (0)		-0.92%	0.02%	0.50%	-0.32%	-0.02%	0.20%	0.31%	0.23%	0.32%	0.33%	0.54%	0.30%	0.11%	0.79%	1.05%	0.83%
		-1.6002	0.0362	1.5132	-0.7171	-0.0257	0.4146	0.5712	0.4660	0.5797	0.6045	1.1376	0.5488	0.2124	1.5341	2.1316	1.7898
BHAR (1)		-0.60%	-0.38%	0.64%	-0.47%	-0.40%	0.27%	0.85%	0.37%	-0.43%	0.36%	0.71%	0.18%	-0.01%	0.88%	0.71%	0.64%
		-1.2390	-0.9013	1.5849	-1.1120	-0.7036	0.5602	1.4834	0.8152	-0.6990	0.6174	1.5926	0.3154	-0.0237	1.5826	1.4352	1.3098
SPAIN																	
CAR (0)		-0.87%	-0.20%	0.12%	0.34%	-0.77%	-0.26%	0.30%	0.31%	-0.51%	0.06%	0.33%	0.20%	0.32%	0.32%	0.41%	0.28%
		-2.7793	-0.7322	0.4833	1.6195	-2.1454	-0.7683	1.0229	1.1419	-1.2085	0.1584	0.9944	0.6568	0.7857	0.8389	1.1478	0.8568
CAR (1)		-0.89%	-0.18%	0.16%	0.34%	-0.81%	-0.02%	0.38%	0.27%	-0.23%	0.23%	0.26%	0.17%	-0.08%	0.16%	0.24%	0.13%
		-2.5097	-0.6770	0.6781	1.6953	-2.0915	-0.0628	1.2841	0.9948	-0.5329	0.6318	0.7792	0.5438	-0.1978	0.4427	0.6850	0.4014
BHAR (0)		-0.70%	-1.19%	-0.24%	0.02%	-0.91%	-0.43%	0.16%	-0.42%	-0.19%	0.06%	0.64%	0.04%	0.34%	0.89%	0.27%	0.22%
		-2.1116	-2.5823	-0.6245	0.0348	-1.7385	-0.7457	0.2681	-0.8325	-0.3961	0.1237	1.2711	0.0767	0.7618	1.9752	0.5369	0.4301
BHAR (1)		-0.93%	-0.80%	-0.09%	0.23%	-0.86%	-0.11%	0.47%	-0.57%	0.03%	0.03%	0.51%	-0.05%	-0.39%	0.44%	-0.05%	0.03%
-		-2.1252	-1.6975	-0.1975	0.4596	-1.7425	-0.2123	0.8325	-1.1450	0.0613	0.0448	1.0540	-0.0933	-0.7793	0.9319	-0.0960	0.0638

IVOL	J =		3				6				9	ı			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	V																
CAR (0)		-0.82%	0.34%	0.46%	0.55%	0.32%	0.86%	0.97%	0.89%	1.03%	1.36%	1.13%	0.94%	1.27%	1.32%	1.13%	0.93%
		-1.8697	1.0318	1.5905	2.1945	0.6609	1.9265	2.4080	2.4690	2.0483	2.9015	2.6133	2.5373	2.5855	2.8176	2.6364	2.4064
CAR (1)		-0.51%	0.42%	0.47%	0.50%	0.52%	0.89%	0.94%	0.79%	1.15%	1.09%	0.93%	0.75%	1.26%	1.16%	0.99%	0.80%
		-1.2640	1.3524	1.7062	1.9451	1.0654	2.0105	2.3758	2.2849	2.3154	2.4093	2.2609	2.1097	2.7596	2.6199	2.4655	2.1334
BHAR (0)		-0.93%	0.36%	0.40%	0.49%	0.33%	0.59%	0.56%	0.80%	1.05%	1.40%	1.14%	0.63%	1.09%	1.33%	1.47%	1.48%
		-1.5061	0.8290	0.8455	1.0072	0.5582	1.0999	0.9006	1.5331	1.9552	2.4396	2.4709	1.3125	1.9688	2.4911	2.8636	2.7526
BHAR (1)		-0.68%	0.41%	0.56%	0.93%	0.53%	0.81%	0.57%	0.54%	1.08%	1.29%	1.24%	0.56%	1.57%	1.40%	1.35%	1.66%
		-1.2361	0.9685	1.3554	2.0243	0.9047	1.4677	0.9018	1.0447	1.9043	2.5049	2.9451	1.2014	2.9329	2.6361	2.6817	3.1985
SWITZERL	AND																
CAR (0)		-0.25%	0.37%	0.52%	0.59%	0.55%	0.90%	0.92%	0.74%	0.89%	1.13%	0.82%	0.63%	0.87%	0.78%	0.62%	0.46%
		-1.1653	1.7486	2.8745	3.8092	1.9019	3.5248	4.0286	3.4673	2.9016	4.2257	3.5900	3.0098	2.7962	2.8501	2.6025	2.0931
CAR (1)		-0.08%	0.46%	0.55%	0.52%	0.59%	0.85%	0.77%	0.62%	0.81%	0.87%	0.59%	0.45%	0.62%	0.59%	0.44%	0.31%
		-0.3715	2.1941	3.1251	3.2626	2.0650	3.4294	3.4110	2.9349	2.7486	3.4280	2.7727	2.2379	2.0806	2.2677	1.9185	1.4019
BHAR (0)		-0.41%	0.45%	0.24%	1.09%	0.31%	1.05%	0.70%	1.10%	0.71%	1.22%	1.13%	0.62%	0.84%	0.65%	0.57%	0.61%
		-1.5937	1.3544	0.7384	2.8476	0.9289	3.1368	2.4386	2.8425	1.8047	3.4093	3.4143	1.9569	2.4398	1.9747	1.8025	2.3319
BHAR (1)		-0.20%	0.51%	0.09%	0.93%	0.69%	1.03%	0.69%	1.01%	0.73%	0.84%	0.87%	0.51%	0.70%	0.60%	0.19%	0.63%
		-0.7777	1.4648	0.3001	2.3431	2.0269	3.0826	2.4516	2.6123	1.9383	2.4640	2.7319	1.5237	2.1918	1.9324	0.6336	2.3918
UK																	
CAR (0)		0.07%	0.73%	0.76%	0.91%	0.90%	0.96%	1.07%	1.01%	1.09%	1.26%	1.14%	1.01%	1.36%	1.28%	1.10%	0.90%
		0.3403	3.9636	5.0460	7.1322	3.7492	4.6815	6.1323	6.1205	4.5953	5.7043	5.6032	5.1602	5.3578	5.1654	4.7514	3.9443
CAR (1)		0.13%	0.64%	0.72%	0.81%	0.67%	0.83%	0.94%	0.86%	1.00%	1.11%	1.01%	0.84%	1.15%	1.08%	0.91%	0.74%
		0.6361	3.6598	5.1142	6.4089	2.8976	4.2244	5.6024	5.3961	4.5258	5.0645	4.9625	4.2611	4.5101	4.3852	3.9278	3.2394
BHAR (0)		0.13%	0.87%	1.11%	1.03%	0.98%	1.16%	0.76%	1.13%	1.12%	1.24%	1.13%	0.94%	1.33%	1.40%	1.14%	0.80%
		0.5482	3.3180	5.0243	3.8548	3.9497	5.3097	2.8071	5.0267	4.5442	4.4528	4.9791	3.7737	4.9459	5.4928	4.1280	3.1967
BHAR (1)		0.40%	0.77%	1.01%	0.93%	0.75%	1.02%	0.70%	0.94%	1.09%	1.11%	1.03%	0.67%	1.25%	1.09%	0.84%	0.62%
		1.5402	2.9899	4.2564	3.6582	3.1227	5.1709	2.8272	4.4272	4.7140	3.8946	4.0736	2.7102	4.8698	4.3951	3.0597	2.6164
US																	
CAR (0)		-1.30%	-0.47%	-0.23%	-0.13%	-0.72%	-0.20%	-0.02%	-0.05%	-0.37%	-0.02%	-0.05%	-0.10%	-0.31%	-0.13%	-0.16%	-0.25%
		-6.0176	-2.6214	-1.4333	-0.9098	-3.0540	-0.9527	-0.1077	-0.2725	-1.4576	-0.0727	-0.1971	-0.4738	-1.1573	-0.4720	-0.6230	-1.0345
CAR (1)		-1.03%	-0.33%	-0.12%	-0.13%	-0.56%	-0.14%	-0.03%	-0.10%	-0.21%	-0.03%	-0.09%	-0.19%	-0.34%	-0.20%	-0.25%	-0.33%
		-5.3172	-2.0242	-0.8043	-0.9520	-2.4150	-0.6425	-0.1557	-0.5507	-0.8692	-0.1268	-0.3858	-0.8761	-1.2820	-0.7501	-0.9960	-1.4328
BHAR (0)		-1.30%	-0.08%	-0.24%	-0.02%	-0.74%	-0.32%	-0.18%	-0.01%	-0.34%	0.04%	0.04%	-0.11%	-0.26%	-0.11%	-0.05%	-0.23%
		-5.0449	-0.3608	-0.8440	-0.0719	-2.7280	-1.2041	-0.5870	-0.0577	-1.2649	0.1591	0.1746	-0.4278	-0.9543	-0.3678	-0.1697	-0.8380
BHAR (1)		-1.03%	-0.15%	-0.24%	-0.08%	-0.59%	-0.29%	-0.26%	-0.23%	-0.27%	-0.07%	-0.14%	-0.24%	-0.47%	-0.31%	-0.24%	-0.42%
		-4.7575	-0.6796	-0.8965	-0.3075	-2.4492	-1.2088	-0.8357	-1.0976	-1.0227	-0.2397	-0.5162	-0.8961	-1.5995	-1.0251	-0.8530	-1.4188

Table 7.6. Monthly after-transaction cost return of cross-sectional momentum strategy under different implementations

This table reports the average monthly returns for 16 (J x H) cross-sectional momentum strategies across the 24 stock markets along with an indication of significant levels based on the Newey–West adjusted t-statistics. The reported profits all relate to an implementation where the cut-offs are set at 16%.

At the end of each month if using monthly rebalancing or at the end of each holding period if using buy-and-hold, all stocks are ranked based on their average returns over past J (J = 3, 6, 9 and 12 months). The Winner (loser) portfolio contains top (bottom) 16% stocks. All stocks in the winner and loser portfolios are equally weighted in Panel A, market value weighted in Panel B and inversed volatility weighted in Panel C. Following Moskowitz et al. (2012), inversed volatility weighting scheme is given lower proportion to higher volatile stocks in the portfolio; that is the weight of the stock in portfolio is estimated by an inverse proportion of its *ex ante* volatility from daily returns over J (J = 3, 6, 9 and 12 months). The proportions of stocks in the portfolios remain same during the H (H = 3, 6, 9 and 12 months) holding period. We implement portfolio constructions as in (Jegadeesh & Titman, 1993) for buy-and-hold and monthly-rebalancing. For buy-and-hold (BHAR), the procedure is rolling forward at the end of each H holding period to generate a new winner and loser portfolios. For monthly-rebalancing (CAR), the procedure is rolling forward at the end of each month to produce an overlapping winner (loser) portfolio which contains of winner (loser) portfolio of the past J month. The return of the winner (loser) portfolio is then the simple average return of the H winner (loser) portfolios. CAR (1) and BHAR (1) indicates one-month gap between the formation and the holding periods to avoid the bid-ask bounce, whereas CAR (0) and BHAR (0) indicates no gap between the formation and the holding periods. The return on momentum portfolio is then estimated as return difference return between winner and loser portfolio at each month.

The monthly transaction cost of each stock is inferred from the LOT - Y split model (Goyenko et al., 2009). The transaction costs of winner and loser portfolios are then estimated by $Cost\ of\ portfolio_t = \sum_{i=1}^{i=m} |\Delta weight(t,t-H)_i| \times cost_{i,t}$, the sum product of absolute proportion changes ($\Delta weight(t,t-H)_i$) for each stock in the portfolio and its transaction cost $(cost_{i,t})$ at month t from one holding period (H) to another. After the transaction cost cross-sectional momentum return is calculated by subtracting the transaction costs of winner and loser portfolios from the momentum return at each month.

Panel A. The time-series momentum using equal-weighted return

EW	J =		3				6	<u> </u>			9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL	IA																
CAR (0)		-1.97%	-0.74%	-0.46%	-0.31%	-1.12%	-0.65%	-0.38%	-0.39%	-0.87%	-0.44%	-0.51%	-0.55%	-0.60%	-0.56%	-0.65%	-0.74%
		-6.3758	-3.0309	-2.2848	-1.9263	-3.1941	-2.2050	-1.5898	-1.9404	-2.4558	-1.5050	-2.0342	-2.5387	-1.7681	-1.9022	-2.5785	-3.3178
CAR (1)		-1.49%	-0.56%	-0.33%	-0.31%	-0.86%	-0.52%	-0.39%	-0.45%	-0.58%	-0.44%	-0.55%	-0.63%	-0.69%	-0.67%	-0.77%	-0.86%
		-5.1800	-2.5603	-1.8500	-2.0475	-2.6314	-1.9369	-1.7424	-2.3700	-1.8068	-1.6240	-2.3175	-3.0544	-2.1775	-2.4546	-3.2272	-3.9564
BHAR (0)		-1.95%	-0.67%	-0.66%	-0.62%	-0.98%	-0.71%	-0.80%	-0.55%	-0.85%	-0.53%	-0.52%	-0.57%	-0.59%	-0.62%	-0.60%	-0.61%
		-5.4082	-2.3686	-2.1422	-2.5230	-2.4241	-2.0827	-2.2308	-2.4181	-2.1438	-1.6460	-1.7603	-2.0505	-1.6149	-1.8591	-1.9916	-1.7807
BHAR (1)		-1.50%	-0.81%	-0.71%	-0.70%	-0.85%	-0.66%	-1.02%	-0.75%	-0.77%	-0.78%	-0.55%	-0.77%	-0.77%	-0.82%	-0.91%	-0.81%
		-3.9177	-2.6526	-2.2580	-2.7009	-2.0820	-1.9479	-2.5657	-2.8969	-2.0304	-2.3159	-1.8568	-2.3760	-2.1668	-2.5297	-3.0096	-2.5162
AUSTRIA	1																
CAR (0)		-0.08%	0.25%	0.43%	0.49%	0.35%	0.55%	0.68%	0.69%	0.65%	0.78%	0.77%	0.64%	0.78%	0.77%	0.66%	0.47%
		-0.2824	0.9511	1.7705	2.3371	0.9916	1.6444	2.2929	2.6016	1.6302	2.1090	2.2655	2.1476	1.9128	1.9825	1.8941	1.5134
CAR (1)		0.08%	0.31%	0.48%	0.49%	0.50%	0.60%	0.69%	0.63%	0.84%	0.76%	0.72%	0.52%	0.72%	0.68%	0.55%	0.37%
		0.2725	1.1854	2.0258	2.3708	1.4534	1.8689	2.3944	2.4664	2.1476	2.1043	2.2018	1.8465	1.8169	1.8420	1.6479	1.2443
BHAR (0)		-0.11%	0.05%	0.26%	-0.02%	0.28%	0.29%	0.63%	0.84%	0.61%	1.02%	0.80%	0.93%	0.69%	0.57%	0.54%	0.07%
		-0.3182	0.1418	0.6318	-0.0644	0.7573	0.7319	1.6326	2.6509	1.4771	2.3092	2.2434	2.5529	1.6308	1.3640	1.2812	0.1820
BHAR (1)		0.06%	0.03%	0.16%	0.01%	0.54%	0.44%	0.66%	0.70%	0.76%	0.84%	0.85%	0.76%	0.66%	0.56%	0.27%	-0.01%
-		0.1808	0.0998	0.4005	0.0287	1.4946	1.2128	1.9166	2.2150	1.8492	1.8903	2.4449	2.1134	1.6028	1.4355	0.6433	-0.0289
BELGIUN	Л																
CAR (0)		0.07%	0.52%	0.63%	0.68%	0.77%	0.96%	1.06%	0.94%	0.95%	1.14%	1.01%	0.89%	1.23%	1.18%	1.01%	0.84%
		0.2788	2.2107	3.0099	3.4953	2.4811	3.2753	3.9439	3.8172	2.8260	3.6411	3.5218	3.3108	3.7028	3.7862	3.4430	2.9764
CAR (1)		0.33%	0.59%	0.71%	0.66%	0.85%	1.04%	1.03%	0.87%	1.15%	1.14%	0.99%	0.82%	1.24%	1.10%	0.92%	0.73%
		1.2845	2.5978	3.4149	3.5222	2.8099	3.5961	3.9820	3.6014	3.5359	3.7475	3.5262	3.1416	3.9402	3.6170	3.1779	2.6428
BHAR (0)		0.15%	0.29%	0.35%	0.33%	0.70%	0.93%	0.86%	1.03%	1.08%	1.24%	1.13%	1.09%	1.28%	1.17%	1.14%	0.59%
		0.5033	1.0095	1.2475	1.0573	2.1160	3.0398	2.7786	3.9472	3.1591	3.5282	3.4558	3.5963	3.6302	3.3187	3.5409	1.9049
BHAR (1)		0.22%	0.15%	0.44%	0.25%	0.73%	0.96%	0.81%	0.90%	1.16%	1.07%	1.07%	0.79%	1.19%	1.02%	0.94%	0.50%
		0.7793	0.5086	1.5519	0.8163	2.3692	3.2816	2.7062	3.5831	3.4240	3.0312	3.5198	2.6691	3.7000	3.1051	2.9299	1.6047
CANADA	١																
CAR (0)		-1.89%	-0.72%	-0.23%	0.01%	-0.97%	-0.40%	0.05%	0.00%	-0.40%	0.01%	-0.04%	-0.20%	-0.04%	-0.09%	-0.25%	-0.48%
		-4.8622	-2.4679	-0.9017	0.0610	-2.3735	-1.1286	0.1715	0.0049	-0.9309	0.0398	-0.1277	-0.7094	-0.0974	-0.2489	-0.7601	-1.6156
CAR (1)		-1.69%	-0.59%	-0.08%	-0.02%	-0.76%	-0.26%	0.05%	-0.12%	-0.18%	0.01%	-0.13%	-0.37%	-0.19%	-0.27%	-0.44%	-0.68%
		-4.7249	-2.0212	-0.3454	-0.1259	-1.9034	-0.7520	0.1803	-0.5130	-0.4388	0.0429	-0.4468	-1.3526	-0.4856	-0.7915	-1.4161	-2.4050
BHAR (0)		-1.91%	-1.00%	-0.33%	-0.10%	-1.31%	-0.73%	-0.34%	-0.04%	-0.59%	-0.28%	-0.25%	-0.26%	-0.14%	-0.29%	-0.29%	-0.63%
		-4.1468	-2.2266	-0.8540	-0.2551	-2.7462	-1.7160	-0.7679	-0.1126	-1.2184	-0.5861	-0.6852	-0.7085	-0.3242	-0.7555	-0.7895	-1.6299
BHAR (1)		-1.70%	-0.89%	-0.15%	-0.18%	-0.86%	-0.37%	-0.28%	-0.27%	-0.35%	-0.27%	-0.38%	-0.30%	-0.34%	-0.42%	-0.46%	-0.78%
		-4.2528	-2.2210	-0.4479	-0.4582	-1.9733	-0.9120	-0.6696	-0.7647	-0.7593	-0.6753	-1.1004	-0.8122	-0.8348	-1.1823	-1.3460	-2.1707

EW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARI	K																
CAR (0)		-0.15%	0.50%	0.63%	0.72%	0.66%	0.88%	1.00%	0.91%	1.01%	1.17%	1.03%	0.86%	1.30%	1.20%	0.99%	0.77%
		-0.6913	2.7096	3.7176	4.7082	2.7621	3.7872	4.6074	4.4307	3.7249	4.4824	4.0238	3.5168	4.6636	4.3344	3.6326	3.0078
CAR (1)		-0.02%	0.51%	0.66%	0.67%	0.74%	0.88%	0.95%	0.80%	1.07%	1.09%	0.90%	0.72%	1.16%	1.01%	0.82%	0.61%
		-0.1044	2.7858	3.9334	4.3310	3.0863	3.7302	4.3914	3.8504	3.9663	4.1163	3.5175	2.9319	4.1659	3.6347	2.9976	2.4035
BHAR (0)		-0.15%	0.33%	0.27%	0.69%	0.57%	0.65%	0.75%	1.11%	0.93%	0.79%	1.07%	0.60%	1.31%	1.20%	0.97%	0.55%
		-0.5927	1.3144	1.0672	2.6576	2.1185	2.1585	2.5404	4.1550	3.2473	2.6940	3.4284	2.0658	4.3164	3.9326	3.2504	1.8741
BHAR (1)		-0.16%	0.30%	0.48%	0.66%	0.73%	0.67%	0.78%	0.98%	0.97%	0.90%	0.94%	0.45%	1.09%	0.90%	0.80%	0.30%
		-0.6540	1.2152	1.8235	2.5643	2.7671	2.1768	2.5634	3.9008	3.3662	3.0290	3.1870	1.5314	3.7045	2.9564	2.6256	1.0084
FINLAND)																
CAR (0)		-0.48%	0.10%	0.38%	0.36%	0.25%	0.50%	0.66%	0.51%	0.51%	0.61%	0.50%	0.33%	0.41%	0.36%	0.29%	0.16%
		-1.4110	0.3694	1.7128	1.7201	0.7016	1.5171	2.2691	1.7776	1.3585	1.7040	1.3741	0.9066	0.9703	0.8722	0.6955	0.3918
CAR (1)		-0.22%	0.21%	0.42%	0.34%	0.33%	0.54%	0.59%	0.39%	0.52%	0.51%	0.37%	0.18%	0.36%	0.24%	0.17%	0.07%
		-0.7289	0.8551	1.9926	1.6253	0.9455	1.7558	2.0283	1.3252	1.3872	1.3646	0.9827	0.4835	0.8232	0.5532	0.4138	0.1680
BHAR (0)		-0.84%	-0.33%	0.46%	0.10%	0.12%	0.46%	0.37%	1.00%	0.37%	0.32%	0.29%	0.11%	0.26%	0.50%	0.45%	0.36%
		-1.7694	-0.7207	1.1105	0.2075	0.2762	1.1867	1.0228	2.7586	0.9062	0.7085	0.7344	0.2514	0.5857	1.2201	0.9629	0.9208
BHAR (1)		-0.18%	-0.26%	0.61%	0.12%	0.34%	0.58%	0.30%	0.72%	0.46%	0.16%	0.09%	0.03%	0.25%	0.29%	0.11%	0.20%
		-0.4825	-0.6249	1.6057	0.2338	0.9020	1.6885	0.8236	2.0128	1.1298	0.3563	0.2213	0.0751	0.5534	0.7175	0.2293	0.5377
FRANCE																	
CAR (0)		-1.36%	-0.25%	0.03%	0.22%	-0.41%	0.09%	0.35%	0.38%	-0.08%	0.37%	0.39%	0.34%	0.20%	0.38%	0.33%	0.24%
		-4.2701	-1.0240	0.1509	1.1976	-1.2398	0.3057	1.4154	1.6154	-0.2269	1.1868	1.3289	1.2594	0.5768	1.1551	1.0751	0.8309
CAR (1)		-0.60%	0.09%	0.29%	0.32%	0.09%	0.33%	0.48%	0.41%	0.34%	0.50%	0.43%	0.32%	0.40%	0.42%	0.32%	0.22%
		-2.0955	0.3956	1.5318	1.9039	0.3039	1.2542	1.9487	1.7845	1.0508	1.6667	1.5076	1.1990	1.2188	1.2986	1.0608	0.7628
BHAR (0)		-1.46%	-0.68%	0.11%	-0.43%	-0.45%	0.08%	-0.04%	0.18%	-0.20%	0.09%	0.43%	0.26%	0.13%	0.38%	0.48%	0.17%
		-3.9683	-2.1176	0.3359	-1.2920	-1.2164	0.2460	-0.1129	0.6950	-0.5462	0.2543	1.3914	0.8207	0.3639	1.0687	1.4580	0.5175
BHAR (1)		-0.80%	-0.45%	0.28%	-0.29%	0.03%	0.26%	0.11%	0.16%	0.16%	0.15%	0.47%	0.03%	0.29%	0.39%	0.38%	0.20%
		-2.4776	-1.4543	0.9828	-0.8689	0.0803	0.8445	0.2887	0.6577	0.4636	0.4202	1.5070	0.0900	0.8225	1.1955	1.1443	0.6321
GERMAN	Y																
CAR (0)		-0.96%	-0.06%	0.22%	0.35%	-0.12%	0.23%	0.49%	0.44%	0.23%	0.45%	0.42%	0.35%	0.47%	0.46%	0.37%	0.29%
		-3.0902	-0.2271	1.0416	1.8247	-0.3663	0.8098	1.8708	1.7674	0.6794	1.4222	1.3496	1.2408	1.3401	1.3694	1.2005	1.0060
CAR (1)		-0.60%	0.07%	0.31%	0.35%	0.03%	0.29%	0.47%	0.36%	0.34%	0.43%	0.33%	0.27%	0.46%	0.36%	0.29%	0.22%
		-2.0829	0.2976	1.5043	1.8806	0.0979	1.0304	1.7540	1.4952	1.0035	1.3205	1.0867	0.9622	1.3475	1.0827	0.9472	0.7786
BHAR (0)		-1.09%	-0.30%	0.16%	-0.14%	-0.13%	0.32%	0.43%	0.49%	0.19%	0.36%	0.41%	0.18%	0.47%	0.51%	0.31%	0.14%
		-2.8926	-0.8940	0.4969	-0.3464	-0.3421	0.9994	1.0801	1.4432	0.4924	0.9529	1.2709	0.4805	1.3434	1.5397	0.9412	0.4521
BHAR (1)		-0.64%	-0.34%	0.24%	-0.21%	-0.09%	0.27%	0.39%	0.28%	0.23%	0.24%	0.20%	-0.02%	0.32%	0.27%	0.10%	0.10%
		-1.8460	-1.0851	0.7987	-0.4883	-0.2741	0.8375	0.9861	0.8346	0.6687	0.6404	0.6287	-0.0453	0.9366	0.8746	0.3254	0.3173

EW	J =		3	 			6	<u> </u>			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		-1.06%	-0.30%	-0.21%	-0.16%	-0.59%	-0.32%	-0.18%	-0.25%	-0.53%	-0.31%	-0.44%	-0.48%	-0.60%	-0.53%	-0.57%	-0.63%
		-2.4183	-0.8236	-0.6884	-0.5901	-1.1949	-0.7196	-0.4661	-0.6966	-1.0427	-0.6625	-1.0214	-1.1752	-1.1406	-1.0634	-1.2089	-1.3697
CAR (1)		-0.85%	-0.27%	-0.16%	-0.18%	-0.46%	-0.26%	-0.19%	-0.28%	-0.32%	-0.31%	-0.45%	-0.52%	-0.56%	-0.58%	-0.63%	-0.69%
		-2.0024	-0.7702	-0.5541	-0.6332	-0.9827	-0.6117	-0.4952	-0.7845	-0.6532	-0.6679	-1.0169	-1.2557	-1.0921	-1.1738	-1.3169	-1.4766
BHAR (0)		-1.34%	-0.02%	-0.25%	0.43%	-0.47%	-0.13%	-0.28%	-0.04%	-0.44%	-0.16%	-0.65%	-0.46%	-0.68%	-0.87%	-0.59%	-1.40%
		-2.4572	-0.0379	-0.5557	0.9976	-0.8667	-0.2375	-0.5689	-0.0749	-0.8262	-0.3300	-1.1313	-0.8853	-1.2234	-1.5156	-1.2097	-2.2430
BHAR (1)		-0.72%	0.07%	-0.21%	0.54%	-0.48%	-0.35%	-0.36%	-0.08%	-0.28%	-0.26%	-0.45%	-0.71%	-0.62%	-0.89%	-0.75%	-1.27%
		-1.4259	0.1463	-0.4604	1.1946	-0.9789	-0.7099	-0.7090	-0.1709	-0.5219	-0.5299	-0.8180	-1.4028	-1.1466	-1.5919	-1.7584	-2.2250
HONGKON	G																
CAR (0)		-1.98%	-0.75%	-0.52%	-0.48%	-1.20%	-0.72%	-0.58%	-0.63%	-1.10%	-0.83%	-0.86%	-0.94%	-1.19%	-1.00%	-1.12%	-1.17%
		-5.0804	-2.8249	-2.1902	-2.3411	-3.0421	-2.1032	-1.9237	-2.3447	-2.5532	-2.1403	-2.4507	-2.9679	-2.7153	-2.5353	-3.0656	-3.5844
CAR (1)		-1.91%	-0.72%	-0.55%	-0.56%	-1.08%	-0.75%	-0.69%	-0.76%	-1.21%	-0.96%	-1.04%	-1.07%	-1.32%	-1.16%	-1.27%	-1.27%
		-5.6255	-2.8032	-2.3781	-2.8578	-2.9253	-2.2091	-2.3400	-2.8341	-2.8508	-2.5116	-2.9812	-3.4603	-3.0920	-2.9427	-3.5295	-3.9848
BHAR (0)		-2.19%	-1.15%	-1.00%	-0.67%	-1.28%	-0.77%	-0.81%	-0.65%	-1.16%	-0.98%	-0.89%	-1.13%	-1.38%	-1.02%	-1.31%	-1.16%
		-4.9879	-2.5058	-2.5649	-1.6633	-2.6506	-1.9014	-1.7716	-1.9365	-2.3445	-1.9803	-2.1460	-2.8568	-2.8506	-2.5102	-3.0754	-3.1803
BHAR (1)		-2.36%	-1.19%	-1.07%	-0.79%	-1.44%	-0.95%	-0.97%	-0.86%	-1.40%	-1.18%	-1.16%	-1.22%	-1.65%	-1.23%	-1.44%	-1.32%
		-5.7211	-3.0025	-2.9465	-2.0142	-3.4041	-2.5998	-2.1483	-2.5644	-3.1058	-2.4637	-2.9135	-3.2960	-3.5512	-3.2140	-3.3387	-3.6456
IRELAND	1																
CAR (0)		-0.72%	-0.07%	0.00%	0.15%	-0.30%	-0.17%	0.11%	0.21%	-0.27%	0.05%	0.15%	0.18%	0.11%	0.18%	0.17%	0.06%
		-1.7442	-0.1782	-0.0050	0.5782	-0.5534	-0.3457	0.2521	0.5520	-0.4838	0.0955	0.3130	0.3949	0.1954	0.3311	0.3124	0.1187
CAR (1)		-0.27%	0.05%	0.17%	0.18%	-0.21%	-0.08%	0.14%	0.17%	-0.15%	0.07%	0.15%	0.09%	0.10%	0.15%	0.09%	-0.07%
		-0.6565	0.1225	0.5638	0.6643	-0.3754	-0.1613	0.3387	0.4427	-0.2867	0.1367	0.3039	0.1921	0.1754	0.2671	0.1679	-0.1470
BHAR (0)		-0.30%	-0.87%	-0.96%	-0.06%	-0.62%	0.00%	-0.73%	0.96%	-0.21%	-0.15%	0.45%	0.51%	0.19%	0.36%	0.56%	-0.39%
		-0.5762	-1.5810	-1.7263	-0.1118	-1.0011	0.0024	-1.1234	1.8736	-0.3605	-0.2664	0.7898	0.9570	0.3303	0.6499	0.9356	-0.6975
BHAR (1)		-0.47%	-0.85%	-0.89%	0.45%	-0.55%	-0.05%	-0.46%	0.68%	-0.62%	-0.01%	0.20%	0.05%	-0.15%	0.09%	0.18%	-0.60%
		-0.9173	-1.6889	-1.6074	0.9100	-0.9425	-0.0799	-0.8350	1.3770	-1.0909	-0.0196	0.3443	0.1016	-0.2634	0.1551	0.2805	-0.9853
ISRAEL																	
CAR (0)		-1.89%	-0.83%	-0.54%	-0.45%	-1.07%	-0.62%	-0.47%	-0.47%	-0.91%	-0.58%	-0.56%	-0.57%	-0.71%	-0.56%	-0.57%	-0.66%
		-8.0404	-4.2003	-3.0239	-2.8334	-3.7725	-2.3525	-1.9724	-2.1835	-2.8556	-1.9577	-2.0575	-2.3485	-2.2050	-1.7930	-2.0421	-2.5086
CAR (1)		-1.53%	-0.60%	-0.40%	-0.42%	-0.76%	-0.47%	-0.44%	-0.46%	-0.69%	-0.55%	-0.56%	-0.61%	-0.66%	-0.55%	-0.62%	-0.70%
		-6.3500	-3.0027	-2.2442	-2.5772	-2.6488	-1.8214	-1.9156	-2.2054	-2.2425	-1.8800	-2.1263	-2.5567	-2.0821	-1.8309	-2.3121	-2.7315
BHAR (0)		-1.80%	-0.95%	-0.72%	-0.82%	-1.08%	-0.75%	-0.48%	-0.17%	-0.98%	-0.66%	-0.54%	-0.33%	-0.68%	-0.47%	-0.57%	-0.71%
		-6.6761	-3.6311	-2.1936	-2.8624	-3.2722	-2.5004	-1.4783	-0.6794	-2.7203	-1.8529	-1.7919	-1.2026	-1.9550	-1.4297	-1.6667	-2.2372
BHAR (1)		-1.53%	-0.86%	-0.69%	-0.82%	-0.78%	-0.58%	-0.42%	-0.26%	-0.85%	-0.66%	-0.58%	-0.41%	-0.69%	-0.43%	-0.64%	-0.67%
		-5.2521	-3.1839	-2.0666	-2.8572	-2.4471	-1.9803	-1.4349	-1.0338	-2.4967	-1.9453	-1.9330	-1.5447	-2.0239	-1.3953	-1.9148	-2.0448

EW	J =		3	 			6	<u> </u>			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.04%	0.46%	0.64%	0.67%	0.54%	0.80%	0.92%	0.83%	0.96%	1.09%	0.97%	0.84%	1.11%	1.05%	0.90%	0.74%
		0.1401	1.9900	3.3926	3.8260	1.6822	2.8812	3.6988	3.5485	3.0087	3.5997	3.4282	3.1148	3.3998	3.4325	3.0934	2.6114
CAR (1)		0.16%	0.56%	0.68%	0.67%	0.65%	0.84%	0.89%	0.76%	1.07%	1.05%	0.88%	0.73%	1.05%	0.93%	0.78%	0.64%
		0.6249	2.6927	3.7585	3.9765	2.2389	3.1723	3.6779	3.3273	3.4117	3.5660	3.1294	2.7475	3.3610	3.1045	2.6761	2.2603
BHAR (0)		-0.04%	0.33%	0.74%	0.56%	0.45%	0.77%	0.77%	0.64%	0.87%	0.91%	0.95%	0.60%	0.93%	0.91%	0.92%	0.64%
		-0.1214	1.1427	2.3456	1.9309	1.1986	2.2654	2.2805	2.2352	2.4319	2.6352	2.9921	1.8884	2.7150	2.8736	2.9097	1.9840
BHAR (1)		0.08%	0.35%	0.86%	0.55%	0.53%	0.75%	0.78%	0.56%	1.01%	0.85%	0.79%	0.41%	0.92%	0.84%	0.81%	0.60%
		0.2848	1.2889	2.8238	1.9310	1.6786	2.2371	2.3673	1.9979	2.8651	2.4964	2.5415	1.1951	2.7829	2.6660	2.4767	1.9095
JAPAN																	
CAR (0)		-1.15%	-0.72%	-0.47%	-0.26%	-1.09%	-0.78%	-0.42%	-0.36%	-0.93%	-0.57%	-0.49%	-0.48%	-0.66%	-0.59%	-0.58%	-0.58%
		-4.7992	-3.2701	-2.3638	-1.4959	-3.4774	-2.7713	-1.6622	-1.6200	-2.7649	-1.8274	-1.7184	-1.9225	-1.9758	-1.8885	-2.0231	-2.2476
CAR (1)		-1.03%	-0.65%	-0.34%	-0.25%	-0.95%	-0.62%	-0.34%	-0.38%	-0.66%	-0.45%	-0.45%	-0.49%	-0.59%	-0.61%	-0.59%	-0.60%
		-4.4532	-2.9729	-1.8068	-1.4797	-3.1495	-2.2450	-1.3620	-1.7669	-2.0740	-1.4969	-1.6665	-2.0643	-1.8487	-2.0205	-2.1686	-2.3943
BHAR (0)		-1.27%	-0.47%	-0.39%	-0.08%	-1.01%	-0.80%	-0.47%	0.00%	-0.84%	-0.52%	-0.26%	-0.36%	-0.64%	-0.57%	-0.59%	-0.66%
		-4.4366	-1.5790	-1.3375	-0.2524	-2.8580	-2.3706	-1.4630	0.0031	-2.3828	-1.5133	-0.9368	-1.4227	-1.8576	-1.7060	-1.9498	-2.2702
BHAR (1)		-1.18%	-0.50%	-0.43%	-0.03%	-1.09%	-1.05%	-0.42%	-0.17%	-0.84%	-0.40%	-0.36%	-0.49%	-0.70%	-0.78%	-0.78%	-0.73%
		-4.4627	-1.8305	-1.5477	-0.1312	-3.3265	-3.1372	-1.4179	-0.6631	-2.5695	-1.2937	-1.2982	-2.0339	-2.1400	-2.4223	-2.6516	-2.4607
NETHERLAN	IDS																
CAR (0)		-0.05%	0.48%	0.63%	0.68%	0.68%	0.82%	0.94%	0.85%	0.83%	1.01%	0.92%	0.84%	1.09%	0.99%	0.91%	0.80%
		-0.1686	2.0859	3.0886	3.4070	2.1395	2.9204	3.4118	3.1485	2.4908	3.1381	2.8438	2.7213	2.8616	2.6941	2.5368	2.3210
CAR (1)		-0.03%	0.52%	0.65%	0.61%	0.68%	0.87%	0.87%	0.75%	0.94%	0.97%	0.85%	0.74%	1.01%	0.90%	0.79%	0.72%
		-0.0998	2.3953	3.2607	3.1127	2.2220	3.1001	3.0509	2.7731	2.8591	2.8741	2.5719	2.3978	2.6520	2.4268	2.2142	2.1073
BHAR (0)		0.06%	0.33%	0.70%	0.27%	0.65%	0.87%	0.68%	1.14%	0.78%	0.74%	0.99%	0.94%	0.92%	0.90%	0.88%	0.69%
		0.1468	0.9969	2.1010	0.7120	1.7337	2.6251	1.6746	4.1058	2.1772	1.9154	2.9281	2.5684	2.1628	2.3806	2.3147	1.8258
BHAR (1)		0.07%	0.32%	0.51%	0.19%	0.58%	0.76%	0.63%	0.93%	0.94%	0.70%	0.97%	0.71%	0.79%	0.76%	0.75%	0.66%
		0.1699	1.0059	1.5646	0.5504	1.6206	2.2371	1.6050	3.1159	2.6837	1.7787	2.7947	1.8025	1.8451	1.9667	2.0376	1.7776
NEWZEALA	ND																
CAR (0)		-0.01%	0.62%	0.55%	0.63%	0.79%	0.88%	0.89%	0.79%	0.89%	0.92%	0.78%	0.69%	1.06%	0.94%	0.74%	0.56%
		-0.0482	2.3200	2.4163	3.2943	2.3004	2.8812	3.3568	3.3802	2.5137	2.9503	2.7206	2.6186	3.0354	2.8494	2.4671	2.0454
CAR (1)		0.22%	0.66%	0.64%	0.61%	0.91%	0.91%	0.87%	0.70%	0.97%	0.90%	0.72%	0.57%	0.96%	0.84%	0.63%	0.44%
		0.7300	2.4667	2.9112	3.3108	2.6347	3.0541	3.3807	3.0955	2.9936	2.9945	2.5810	2.2186	2.7563	2.5904	2.1544	1.6435
BHAR (0)		-0.12%	0.66%	0.20%	-0.05%	0.97%	0.98%	0.78%	0.63%	1.19%	1.06%	1.12%	0.97%	1.13%	1.12%	0.67%	0.79%
		-0.3514	1.9008	0.6080	-0.1514	2.4415	2.6328	2.1240	2.0359	3.0661	2.8411	3.1469	2.9909	3.0479	3.2741	2.2444	2.0666
BHAR (1)		0.39%	0.66%	0.20%	0.02%	1.10%	0.88%	0.81%	0.37%	1.21%	1.07%	0.93%	0.89%	1.02%	0.85%	0.47%	0.75%
		0.9539	1.9193	0.5978	0.0562	2.7742	2.4545	2.1825	1.1907	3.0529	2.9897	2.6208	2.9030	2.7051	2.3909	1.6032	2.0230

EW	J =		3	3			6	i			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	7																
CAR (0)		-0.91%	-0.08%	0.20%	0.27%	-0.22%	0.18%	0.46%	0.34%	0.33%	0.51%	0.39%	0.19%	0.47%	0.32%	0.20%	-0.02%
		-2.4385	-0.3119	0.8448	1.1322	-0.5483	0.5323	1.4239	1.0858	0.8392	1.3343	1.0431	0.5443	1.0885	0.7803	0.4991	-0.0561
CAR (1)		-0.95%	-0.01%	0.23%	0.16%	-0.10%	0.29%	0.44%	0.21%	0.30%	0.41%	0.23%	$\boldsymbol{0.00\%}$	0.16%	0.12%	-0.01%	-0.19%
		-2.8366	-0.0577	0.9651	0.6925	-0.2826	0.8744	1.3594	0.6814	0.7494	1.0584	0.5957	0.0033	0.3637	0.2839	-0.0283	-0.5106
BHAR (0)		-0.89%	-0.05%	0.06%	0.34%	-0.27%	0.19%	0.20%	0.92%	0.47%	0.59%	0.49%	0.60%	0.34%	0.33%	0.31%	-0.13%
		-1.9769	-0.1254	0.1704	0.8734	-0.6046	0.4386	0.4740	2.5190	1.0847	1.3684	1.1215	1.3841	0.7061	0.7420	0.7012	-0.2920
BHAR (1)		-0.94%	0.03%	0.24%	0.28%	-0.10%	0.26%	0.14%	0.57%	0.43%	0.51%	0.33%	0.48%	0.17%	-0.01%	0.36%	-0.32%
		-2.3068	0.0986	0.7198	0.7139	-0.2632	0.6327	0.3509	1.5413	1.0507	1.2633	0.7880	1.1804	0.3773	-0.0125	0.8775	-0.7510
PORTUGA	L																
CAR (0)		-1.65%	-0.57%	-0.17%	-0.05%	-0.99%	-0.36%	-0.07%	0.03%	-0.53%	-0.16%	0.00%	0.03%	-0.52%	-0.18%	-0.04%	-0.01%
		-4.6431	-1.8647	-0.6452	-0.2338	-2.2449	-0.8984	-0.1884	0.0937	-1.1683	-0.3702	-0.0043	0.0865	-1.0710	-0.3805	-0.0826	-0.0244
CAR (1)		-1.06%	-0.12%	0.07%	0.15%	-0.32%	0.03%	0.16%	0.20%	-0.14%	0.07%	0.07%	0.11%	-0.12%	0.04%	0.10%	0.07%
		-2.6834	-0.3841	0.2731	0.6028	-0.6897	0.0644	0.4531	0.5905	-0.2953	0.1521	0.1784	0.2723	-0.2366	0.0851	0.2280	0.1719
BHAR (0)		-1.61%	-0.22%	-0.11%	0.00%	-0.98%	-0.29%	0.04%	0.08%	-0.49%	0.15%	0.03%	0.73%	-0.48%	-0.31%	-0.11%	-0.08%
		-3.2327	-0.4554	-0.2374	-0.0090	-1.8845	-0.6102	0.0959	0.1885	-0.9196	0.2623	0.0529	1.5287	-0.9308	-0.6011	-0.2141	-0.1631
BHAR (1)		-1.30%	0.16%	0.10%	0.25%	-0.70%	-0.12%	0.23%	0.16%	-0.24%	-0.05%	-0.03%	0.60%	-0.26%	-0.02%	0.11%	-0.16%
		-2.7090	0.3911	0.2165	0.5163	-1.4237	-0.2638	0.5364	0.3749	-0.4985	-0.0915	-0.0598	1.2556	-0.4848	-0.0435	0.2100	-0.3015
SINGAPOR	E																
CAR (0)		-1.19%	-0.18%	-0.04%	-0.06%	-0.36%	-0.09%	-0.06%	-0.12%	-0.32%	-0.17%	-0.24%	-0.32%	-0.43%	-0.34%	-0.43%	-0.49%
		-2.7624	-0.5910	-0.1504	-0.2387	-0.8665	-0.2507	-0.1672	-0.4119	-0.7083	-0.4177	-0.6674	-0.9546	-0.9369	-0.8217	-1.1493	-1.4607
CAR (1)		-0.96%	-0.07%	-0.03%	-0.07%	-0.18%	-0.08%	-0.12%	-0.17%	-0.31%	-0.23%	-0.35%	-0.40%	-0.46%	-0.43%	-0.53%	-0.53%
		-2.2974	-0.2764	-0.1164	-0.3069	-0.4736	-0.2278	-0.3735	-0.6168	-0.6886	-0.5942	-0.9978	-1.2461	-1.0527	-1.1057	-1.4782	-1.6591
BHAR (0)		-1.28%	-0.52%	0.06%	0.00%	-0.30%	-0.07%	-0.16%	0.18%	-0.23%	-0.27%	-0.12%	-0.50%	-0.29%	-0.05%	-0.22%	-0.39%
		-2.6765	-1.2067	0.1756	0.0045	-0.5893	-0.1802	-0.3686	0.5527	-0.4561	-0.5776	-0.3309	-1.1726	-0.5713	-0.1300	-0.5597	-1.0439
BHAR (1)		-1.03%	-0.59%	0.12%	-0.13%	-0.19%	-0.04%	-0.31%	0.08%	-0.28%	-0.27%	-0.09%	-0.49%	-0.34%	-0.15%	-0.51%	-0.39%
		-2.4378	-1.6910	0.3628	-0.4536	-0.4510	-0.1029	-0.6969	0.2629	-0.5916	-0.6681	-0.2856	-1.2747	-0.7563	-0.3944	-1.3521	-1.0768
SPAIN		0.450/	0.020/	0.250/	0.220/	0.020/	0.200/	0.400/	0.400/	0.430/	0.630/	0.620/	0.550/	0.550/	0.610/	0.500/	0.400/
CAR (0)		-0.47%	0.02%	0.25%	0.33%	0.03%	0.28%	0.49%	0.48%	0.43%	0.63%	0.63%	0.57%	0.57%	0.61%	0.59%	0.49%
GAR (II)		-2.0889	0.0790	1.3842	1.9818	0.1158	1.0620	1.9278	2.0414	1.3414	2.0802	2.1370	2.0862	1.6953	1.8983	1.8732	1.6365
CAR (1)		-0.29%	0.13%	0.33%	0.33%	0.13%	0.39%	0.47%	0.42%	0.50%	0.62%	0.60%	0.49%	0.55%	0.57%	0.53%	0.43%
D11.1 D (0)		-1.4098	0.6768	1.7806	2.0039	0.4584	1.3796	1.8162	1.8098	1.5486	1.9965	2.0375	1.8031	1.6279	1.7532	1.6910	1.4178
BHAR (0)		-0.65%	-0.30%	0.43%	0.41%	-0.13%	0.42%	0.47%	0.42%	0.51%	0.74%	0.70%	0.30%	0.56%	0.68%	0.71%	0.33%
DILAD (1)		-2.3426	-1.1219	1.3448	1.3322	-0.4276	1.2202	1.2080	1.4385	1.4429	2.1245	2.0789	1.0062	1.5963	1.9958	2.1014	0.9364
BHAR (1)		-0.33%	-0.30%	0.37%	0.41%	-0.06%	0.43%	0.42%	0.28%	0.36%	0.53%	0.38%	0.07%	0.47%	0.58%	0.64%	0.27%
		-1.1601	-0.9482	1.1193	1.3260	-0.1886	1.2975	1.0931	1.0339	1.0095	1.4644	1.1316	0.2322	1.3934	1.6666	1.9255	0.7552

EW	J =		3				6				9				12	2	
_	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		-0.60%	0.35%	0.33%	0.44%	0.27%	0.50%	0.56%	0.48%	0.49%	0.68%	0.50%	0.37%	0.65%	0.57%	0.35%	0.22%
		-1.5317	1.0748	1.2107	1.8632	0.5882	1.2783	1.6506	1.5833	1.1071	1.6980	1.3323	1.0806	1.4219	1.3143	0.8519	0.5792
CAR (1)		-0.16%	0.42%	0.42%	0.43%	0.42%	0.51%	0.51%	0.39%	0.61%	0.59%	0.37%	0.25%	0.49%	0.38%	0.17%	0.11%
		-0.4352	1.3860	1.6666	1.9734	0.9936	1.3906	1.5762	1.3195	1.4196	1.5150	0.9967	0.7551	1.0831	0.8806	0.4363	0.2878
BHAR (0)		-0.40%	0.15%	0.34%	0.03%	0.36%	0.65%	0.48%	0.30%	0.54%	0.48%	0.47%	0.15%	0.58%	0.65%	0.27%	0.31%
		-0.9146	0.3985	0.9636	0.0681	0.7253	1.5959	0.9698	0.7866	1.1203	0.9570	1.0340	0.3358	1.2109	1.5144	0.6320	0.8599
BHAR (1)		-0.16%	0.20%	0.37%	0.13%	0.48%	0.58%	0.46%	0.25%	0.50%	0.46%	0.43%	0.02%	0.56%	0.51%	0.11%	0.26%
		-0.3966	0.5400	1.2047	0.3457	1.0486	1.5569	0.9451	0.7021	1.0915	1.0290	0.9819	0.0395	1.1723	1.1887	0.2473	0.6709
SWITZERLA	ND																
CAR (0)		0.13%	0.46%	0.48%	0.55%	0.62%	0.63%	0.70%	0.64%	0.71%	0.77%	0.67%	0.54%	0.89%	0.79%	0.60%	0.43%
		0.5886	2.2547	2.3944	3.0516	2.2383	2.2507	2.6921	2.7102	2.1587	2.4276	2.2684	1.9954	2.6151	2.4019	1.9622	1.5347
CAR (1)		0.15%	0.44%	0.47%	0.49%	0.56%	0.59%	0.63%	0.51%	0.69%	0.71%	0.57%	0.41%	0.79%	0.65%	0.46%	0.30%
		0.7310	2.1060	2.3585	2.7901	1.9734	2.0524	2.4433	2.2256	2.1140	2.2540	1.9629	1.5627	2.3889	2.0206	1.5540	1.0827
BHAR (0)		0.06%	0.40%	0.39%	0.50%	0.62%	0.77%	0.51%	0.98%	0.69%	0.59%	0.78%	0.57%	0.90%	1.01%	0.73%	0.56%
		0.2229	1.2856	1.2701	1.4230	2.0425	2.4683	1.5806	3.5000	1.9983	1.5744	2.5510	1.8609	2.5986	3.0694	2.1743	1.8031
BHAR (1)		0.07%	0.24%	0.37%	0.46%	0.50%	0.66%	0.41%	$\boldsymbol{0.80\%}$	0.55%	0.46%	0.66%	0.34%	0.72%	0.84%	0.50%	0.48%
		0.2791	0.7692	1.2408	1.3481	1.5637	2.0595	1.2655	2.9494	1.6063	1.2770	2.2021	1.0197	2.1747	2.6436	1.5927	1.5903
UK																	
CAR (0)		0.06%	0.60%	0.61%	0.68%	0.81%	0.82%	0.88%	0.80%	0.92%	0.98%	0.83%	0.66%	1.13%	0.97%	0.73%	0.52%
		0.2071	2.4337	2.9355	3.8436	2.4178	2.7942	3.6082	3.6314	2.7140	3.2749	2.9924	2.6161	3.3326	3.0485	2.4554	1.8600
CAR (1)		0.11%	0.55%	0.58%	0.60%	0.69%	0.72%	0.77%	0.65%	0.81%	0.83%	0.66%	0.48%	0.94%	0.76%	0.53%	0.35%
		0.4059	2.3341	3.0188	3.5068	2.1575	2.6756	3.2844	3.0525	2.5237	2.8421	2.4106	1.9343	2.8617	2.4376	1.8289	1.2743
BHAR (0)		-0.11%	0.36%	0.57%	0.31%	0.77%	0.74%	0.59%	0.96%	0.88%	0.84%	0.86%	0.66%	1.00%	0.95%	0.70%	0.39%
		-0.3126	1.1527	1.8639	0.9464	2.1695	2.2666	1.7175	4.2490	2.4018	2.4148	2.9885	2.2133	2.8161	2.9974	2.0723	1.3380
BHAR (1)		-0.01%	0.29%	0.43%	0.24%	0.61%	0.60%	0.52%	0.73%	0.78%	0.65%	0.62%	0.43%	0.79%	0.65%	0.36%	0.14%
		-0.0337	0.9808	1.5411	0.7171	1.8890	2.0570	1.6347	3.3632	2.3272	1.9964	2.1577	1.4373	2.3620	2.1710	1.0687	0.4839
US																	
CAR (0)		-1.29%	-0.53%	-0.29%	-0.25%	-0.71%	-0.35%	-0.22%	-0.31%	-0.42%	-0.27%	-0.36%	-0.46%	-0.47%	-0.45%	-0.55%	-0.65%
		-5.1586	-2.4962	-1.5430	-1.5441	-2.3334	-1.2739	-0.9223	-1.3690	-1.3070	-0.8823	-1.2328	-1.7246	-1.3619	-1.3607	-1.7706	-2.2796
CAR (1)		-1.19%	-0.43%	-0.23%	-0.30%	-0.55%	-0.27%	-0.25%	-0.38%	-0.36%	-0.32%	-0.45%	-0.57%	-0.57%	-0.55%	-0.66%	-0.74%
		-5.1376	-2.1283	-1.3204	-1.8727	-1.9552	-1.0603	-1.0658	-1.7327	-1.1614	-1.0694	-1.5482	-2.1563	-1.7116	-1.7100	-2.2064	-2.7043
BHAR (0)		-1.43%	-0.51%	-0.40%	-0.28%	-0.77%	-0.35%	-0.69%	-0.02%	-0.44%	-0.43%	-0.24%	-0.47%	-0.45%	-0.29%	-0.45%	-0.64%
		-4.7422	-2.0151	-1.2610	-0.9404	-2.1987	-1.0973	-1.8354	-0.0982	-1.2318	-1.2008	-0.8880	-1.6165	-1.2505	-0.8532	-1.3471	-1.9248
BHAR (1)		-1.19%	-0.57%	-0.43%	-0.38%	-0.63%	-0.34%	-0.72%	-0.32%	-0.46%	-0.58%	-0.51%	-0.68%	-0.69%	-0.54%	-0.69%	-0.81%
		-4.5871	-2.1383	-1.4235	-1.2260	-2.1275	-1.2001	-1.9869	-1.4503	-1.3817	-1.6513	-1.6633	-2.2122	-1.9007	-1.6223	-2.1621	-2.3629

Panel B. The time-series momentum using market-weighted return

MW	J =		3	3			6	i			9	1			1:	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAI	LIA																
CAR (0)		-0.88%	0.32%	0.52%	0.48%	-0.02%	0.52%	0.65%	0.50%	0.22%	0.53%	0.37%	0.15%	0.31%	0.37%	0.18%	-0.03%
		-1.8792	0.8038	1.4948	1.6049	-0.0351	1.1062	1.5716	1.3980	0.3884	1.0656	0.8365	0.4009	0.5861	0.7696	0.4301	-0.0698
CAR (1)		-0.74%	0.29%	0.48%	0.31%	0.03%	0.49%	0.52%	0.31%	0.11%	0.35%	0.21%	-0.07%	0.06%	0.19%	-0.04%	-0.22%
		-1.6660	0.7972	1.4197	1.0913	0.0660	1.0813	1.2954	0.9193	0.2085	0.7544	0.5069	-0.1987	0.1164	0.4274	-0.1026	-0.6419
BHAR (0)		-0.68%	0.46%	0.27%	0.32%	0.22%	0.71%	-0.10%	0.24%	0.34%	0.57%	0.25%	0.32%	0.33%	0.35%	-0.36%	0.16%
		-0.9910	0.9631	0.5836	0.5589	0.3468	1.4149	-0.1641	0.5365	0.5523	1.0395	0.4981	0.7362	0.5446	0.6266	-0.6935	0.3049
BHAR (1)		-0.60%	0.21%	0.06%	0.26%	0.01%	0.59%	-0.41%	-0.10%	-0.28%	0.09%	-0.01%	-0.05%	-0.18%	-0.05%	-0.56%	-0.24%
		-1.1713	0.4418	0.1193	0.4871	0.0173	1.1626	-0.7137	-0.2268	-0.4956	0.1716	-0.0174	-0.1076	-0.3333	-0.0990	-1.1424	-0.4718
AUSTRI	Α																
CAR (0)		-0.67%	-0.18%	-0.02%	0.07%	-0.07%	0.20%	0.30%	0.26%	0.26%	0.23%	0.26%	0.12%	0.20%	0.19%	0.09%	-0.03%
		-1.5962	-0.5307	-0.0711	0.2593	-0.1630	0.4577	0.7954	0.7847	0.4835	0.4583	0.5724	0.3028	0.3647	0.3763	0.1968	-0.0618
CAR (1)		-0.95%	-0.30%	-0.04%	0.03%	0.09%	0.30%	0.24%	0.21%	0.21%	0.08%	0.18%	-0.02%	-0.11%	0.01%	-0.05%	-0.14%
		-2.3283	-0.9263	-0.1264	0.1320	0.2000	0.7363	0.6756	0.6604	0.4099	0.1702	0.4198	-0.0395	-0.2054	0.0248	-0.1048	-0.3527
BHAR (0)		-1.01%	-0.33%	-0.18%	-0.41%	-0.19%	-0.42%	-0.06%	0.22%	0.43%	0.75%	0.31%	0.50%	0.39%	0.36%	0.13%	0.27%
		-1.8443	-0.6663	-0.3657	-0.8332	-0.3832	-0.8403	-0.1017	0.4957	0.7948	1.2647	0.6389	1.0554	0.6544	0.6507	0.2363	0.4445
BHAR (1)		-1.18%	-0.48%	-0.19%	-0.26%	-0.04%	-0.03%	0.15%	0.20%	0.39%	0.53%	0.41%	0.21%	-0.15%	0.12%	-0.36%	-0.12%
		-2.4869	-1.0904	-0.3727	-0.5740	-0.0948	-0.0692	0.3115	0.4388	0.7011	0.9309	0.8442	0.4493	-0.2621	0.2307	-0.6372	-0.2009
BELGIU	M																
CAR (0)		-0.47%	0.16%	0.31%	0.39%	0.54%	0.89%	0.94%	0.72%	0.64%	0.83%	0.70%	0.45%	0.60%	0.72%	0.45%	0.27%
		-1.2668	0.5401	1.1421	1.6235	1.4194	2.3960	2.5958	2.2231	1.4109	1.9151	1.7216	1.2011	1.2147	1.5872	1.0647	0.6524
CAR (1)		-0.29%	0.15%	0.40%	0.38%	0.58%	0.90%	0.86%	0.57%	0.71%	0.80%	0.59%	0.35%	0.74%	0.61%	0.38%	0.19%
		-0.8049	0.5106	1.4145	1.6674	1.4257	2.3248	2.3607	1.7507	1.4895	1.7988	1.4555	0.9352	1.5351	1.3782	0.9099	0.4701
BHAR (0)		-0.33%	0.46%	-0.75%	0.51%	0.55%	0.70%	1.00%	0.82%	0.57%	1.50%	1.28%	0.88%	0.49%	0.43%	0.77%	-0.09%
		-0.7000	0.9939	-1.5963	0.9764	1.2275	1.4705	1.7198	1.5216	1.1148	3.2208	2.4759	1.7692	0.9060	0.8448	1.6679	-0.1920
BHAR (1)		-0.30%	0.22%	-0.50%	0.75%	0.49%	0.96%	1.02%	0.56%	0.62%	1.47%	1.13%	0.55%	0.46%	0.43%	0.56%	-0.04%
		-0.6886	0.4660	-1.0059	1.4907	0.9837	1.9294	2.1178	1.0227	1.2474	3.0486	2.3117	1.0666	0.8817	0.8678	1.2345	-0.0937
CANAD	A	0.540/	0.200/	0.550/	0.000/	0.100/	0.5(0/	1.050/	0.050/	0.640/	1 110/	1.000/	0.740/	0.460/	0.600/	0.550/	0.240/
CAR (0)		-0.54%	0.39%	0.75%	0.80%	0.18%	0.76%	1.05%	0.97%	0.64%	1.11%	1.08%	0.74%	0.46%	0.69%	0.55%	0.24%
CAR (1)		-1.0219	0.9022	1.8766	2.4132	0.3296	1.4337	2.2376	2.1914	0.8953	1.7275	1.7871	1.2482	0.6372	1.0239	0.8462	0.3725
CAR (1)		-0.56%	0.31%	0.83%	0.68%	0.12%	0.69%	0.95%	0.74%	0.82%	1.05%	0.94%	0.50%	0.35%	0.52%	0.34%	0.02%
DILAD (0)		-1.1604	0.7057	2.2883	2.1081	0.2051	1.3051	2.0351	1.6581	1.1531	1.6691	1.5546	0.8356	0.4978	0.7724	0.5130	0.0367
BHAR (0)		-0.63%	-0.02%	0.65%	0.03%	-0.08%	0.67%	1.13%	0.73%	0.61%	0.62%	0.87%	0.25%	0.31%	0.81%	0.47%	0.26%
DILAD (1)		-0.9154	-0.0262	0.8668	0.0508	-0.1328	1.0499	1.8569	1.2102	0.7835	0.7659	1.3030	0.3295	0.4022	1.1642	0.6067	0.3729
BHAR (1)		-0.48%	-0.19%	0.75%	-0.08%	0.06%	0.56%	0.91%	0.18%	0.64%	0.43%	0.49%	0.20%	-0.04%	0.33%	0.07%	-0.06%
		-0.8146	-0.2944	1.1327	-0.1223	0.0868	0.8777	1.4290	0.2882	0.8025	0.5567	0.6986	0.2675	-0.0498	0.4757	0.0982	-0.0788

MW	J =		3				6				9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	K																
CAR (0)		-0.02%	0.53%	0.59%	0.66%	0.61%	0.82%	1.04%	1.04%	0.90%	1.09%	1.12%	1.03%	1.05%	1.16%	1.08%	0.89%
		-0.0540	1.6161	2.1118	2.5182	1.5151	2.3401	3.2320	3.3820	2.1288	2.6281	2.7584	2.6278	2.2270	2.5138	2.3877	2.0598
CAR (1)		-0.17%	0.40%	0.57%	0.60%	0.65%	0.88%	1.03%	0.97%	0.95%	1.06%	1.03%	0.91%	0.93%	1.00%	0.89%	0.77%
		-0.4533	1.2457	2.0141	2.3286	1.7040	2.4405	3.1253	3.0358	2.2223	2.4650	2.5179	2.2977	1.9439	2.0948	1.9694	1.7813
BHAR (0)		-0.30%	0.32%	0.29%	0.82%	0.44%	0.43%	0.38%	0.78%	0.42%	0.41%	0.81%	0.13%	0.63%	1.02%	0.76%	0.57%
		-0.6493	0.6006	0.5730	1.5258	0.8408	1.0154	0.6952	2.0757	0.7805	0.6524	1.7849	0.3028	1.0788	2.1192	1.4845	1.1670
BHAR (1)		-0.16%	0.23%	0.63%	0.99%	0.86%	0.69%	0.43%	0.70%	0.75%	0.75%	0.84%	0.03%	0.68%	0.94%	0.64%	0.41%
		-0.3614	0.4673	1.2135	2.0725	1.9686	1.5791	0.8514	2.0447	1.5005	1.2861	1.9574	0.0726	1.2993	1.8972	1.2911	0.8316
FINLANI)																
CAR (0)		-0.06%	0.57%	0.94%	0.98%	0.30%	0.93%	1.41%	1.26%	0.71%	1.33%	1.48%	1.30%	0.78%	1.22%	1.37%	1.12%
		-0.1003	1.1817	2.2180	2.5507	0.4717	1.6049	2.7384	2.5443	1.0773	2.1995	2.4576	2.2773	1.0932	1.7458	2.0849	1.7745
CAR (1)		0.02%	0.66%	1.04%	0.95%	0.41%	1.18%	1.41%	1.19%	0.99%	1.43%	1.49%	1.19%	0.77%	1.16%	1.29%	1.04%
		0.0381	1.3400	2.5019	2.3792	0.6307	2.1191	2.7363	2.3879	1.5398	2.3279	2.4696	2.0865	1.0233	1.6269	1.9510	1.6324
BHAR (0)		-0.60%	0.22%	1.30%	0.21%	-0.10%	0.66%	1.86%	1.47%	0.76%	1.69%	0.68%	1.33%	0.87%	1.25%	1.67%	1.30%
		-0.8712	0.3191	1.6719	0.2510	-0.1186	0.8584	2.6906	2.2075	1.0115	2.3948	0.8857	1.8633	1.1352	1.6279	2.1644	1.8572
BHAR (1)		0.15%	0.68%	1.50%	0.35%	0.43%	0.47%	1.63%	0.85%	0.62%	1.47%	0.50%	1.03%	0.64%	0.85%	1.49%	1.18%
		0.2204	0.9634	2.0209	0.4172	0.6045	0.6561	2.2639	1.2969	0.8045	1.9329	0.6757	1.3941	0.7949	1.1681	1.9946	1.7286
FRANCE	,																
CAR (0)		-1.79%	-0.62%	-0.33%	-0.06%	-1.06%	-0.51%	-0.07%	0.05%	-1.01%	-0.37%	-0.12%	-0.04%	-0.42%	-0.14%	0.00%	-0.02%
		-4.3706	-2.0180	-1.2289	-0.2418	-2.5754	-1.3769	-0.2296	0.1554	-2.0366	-0.8656	-0.2877	-0.0961	-0.8143	-0.2942	-0.0054	-0.0545
CAR (1)		-1.25%	-0.35%	-0.10%	0.01%	-0.73%	-0.16%	0.05%	0.11%	-0.58%	-0.27%	-0.05%	-0.01%	-0.32%	-0.05%	-0.01%	-0.04%
		-3.4178	-1.2558	-0.3882	0.0277	-1.9141	-0.4593	0.1409	0.3427	-1.2522	-0.6236	-0.1212	-0.0149	-0.6600	-0.1132	-0.0168	-0.0852
BHAR (0)		-1.87%	-0.42%	-0.17%	0.02%	-1.09%	-0.40%	-0.46%	0.29%	-1.17%	-0.64%	-0.45%	-0.21%	-0.50%	0.07%	0.21%	0.31%
		-3.9706	-0.9233	-0.3483	0.0305	-2.3241	-0.8503	-0.8846	0.6401	-2.1269	-1.1547	-0.9878	-0.4072	-0.8985	0.1371	0.4109	0.6302
BHAR (1)		-1.55%	-0.44%	-0.41%	0.14%	-0.93%	-0.20%	-0.45%	0.31%	-0.92%	-0.73%	-0.13%	-0.26%	-0.39%	0.12%	0.27%	0.22%
		-3.2815	-1.0379	-0.8297	0.2656	-2.1037	-0.4672	-0.8305	0.6537	-1.7991	-1.3990	-0.3022	-0.4793	-0.7507	0.2492	0.5021	0.4506
GERMAN	Y																
CAR (0)		-0.96%	0.03%	0.37%	0.52%	-0.10%	0.57%	0.77%	0.65%	0.42%	0.81%	0.69%	0.55%	0.51%	0.51%	0.50%	0.39%
		-2.4902	0.1123	1.2749	1.9034	-0.2051	1.4064	1.9177	1.7523	0.7560	1.5278	1.3529	1.1375	0.8565	0.9125	0.9433	0.7717
CAR (1)		-0.93%	0.19%	0.44%	$\boldsymbol{0.48\%}$	0.03%	0.60%	0.70%	0.53%	0.40%	0.72%	0.56%	0.43%	0.21%	0.32%	0.32%	0.24%
		-2.4228	0.6158	1.4969	1.7335	0.0578	1.4394	1.6899	1.4260	0.7061	1.3214	1.0750	0.8705	0.3514	0.5759	0.5968	0.4733
BHAR (0)		-1.10%	0.30%	0.58%	0.45%	-0.06%	0.96%	0.89%	1.07%	0.30%	0.63%	0.57%	0.82%	0.34%	0.60%	0.59%	0.23%
		-2.2596	0.6173	1.2060	0.7953	-0.1123	1.9305	1.3925	2.3552	0.4915	1.0036	0.9670	1.4171	0.5186	0.9155	0.9799	0.3895
BHAR (1)		-0.96%	0.12%	0.54%	0.28%	-0.24%	0.76%	0.58%	0.65%	0.07%	0.36%	0.44%	0.27%	-0.17%	0.33%	0.21%	-0.07%
		-2.1305	0.2665	1.1802	0.4806	-0.5397	1.6545	0.8879	1.3850	0.1105	0.5465	0.7735	0.4319	-0.2598	0.5240	0.3454	-0.1272

MW	J =		3	;			6				9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE	1																
CAR (0)		-0.62%	0.07%	0.08%	0.11%	0.15%	0.19%	0.30%	0.17%	0.00%	0.19%	0.17%	0.12%	-0.18%	0.06%	-0.02%	-0.04%
		-0.9369	0.1162	0.1716	0.2609	0.1940	0.2868	0.5429	0.3323	-0.0050	0.2674	0.2786	0.2247	-0.2394	0.0870	-0.0296	-0.0695
CAR (1)		-0.64%	0.07%	0.00%	0.04%	0.12%	0.20%	0.19%	0.08%	-0.11%	0.13%	0.04%	0.01%	-0.23%	-0.12%	-0.15%	-0.15%
		-0.9697	0.1220	0.0072	0.0973	0.1559	0.3180	0.3656	0.1621	-0.1443	0.1964	0.0647	0.0156	-0.3195	-0.1717	-0.2354	-0.2455
BHAR (0)		-0.10%	0.71%	0.28%	0.99%	0.12%	0.60%	-0.01%	0.50%	0.49%	0.10%	0.47%	-0.41%	-0.09%	-0.13%	-0.52%	-0.98%
		-0.1214	0.8316	0.3726	1.1308	0.1408	0.7353	-0.0109	0.6371	0.5580	0.1346	0.6731	-0.5583	-0.1175	-0.1521	-0.6641	-1.0678
BHAR (1)		-0.55%	0.72%	-0.27%	1.12%	0.41%	0.35%	0.32%	0.31%	0.29%	-0.03%	-0.08%	-0.82%	0.12%	-0.24%	-0.65%	-0.97%
		-0.6764	0.7726	-0.3616	1.2187	0.4640	0.4486	0.3963	0.4001	0.3408	-0.0419	-0.1185	-1.1091	0.1611	-0.2919	-0.8838	-1.1682
HONGKON	VG																
CAR (0)		-0.78%	-0.03%	0.10%	0.08%	-0.45%	-0.04%	0.03%	0.05%	-0.47%	-0.15%	-0.05%	-0.20%	-0.67%	-0.42%	-0.47%	-0.52%
		-1.6060	-0.0690	0.3200	0.2688	-0.8547	-0.0856	0.0755	0.1258	-0.8046	-0.2823	-0.1144	-0.4564	-1.1479	-0.7831	-0.9750	-1.1581
CAR (1)		-0.96%	-0.09%	-0.01%	0.00%	-0.29%	-0.05%	-0.02%	-0.05%	-0.57%	-0.23%	-0.19%	-0.34%	-0.68%	-0.47%	-0.55%	-0.57%
		-1.9281	-0.2185	-0.0285	-0.0117	-0.5579	-0.1001	-0.0560	-0.1397	-0.9534	-0.4391	-0.4023	-0.7991	-1.2197	-0.9228	-1.1748	-1.3508
BHAR (0)		-0.92%	-0.59%	-0.23%	-0.50%	-0.18%	0.25%	0.22%	-0.49%	-0.42%	-0.28%	-0.12%	-0.63%	-0.50%	-0.14%	-0.55%	-0.15%
		-1.5629	-1.0068	-0.3922	-0.9592	-0.3442	0.4343	0.4123	-0.9633	-0.6297	-0.4288	-0.2093	-1.0556	-0.7907	-0.2344	-0.8913	-0.2327
BHAR (1)		-1.40%	-0.66%	-0.59%	-0.66%	-0.52%	-0.16%	-0.04%	-0.79%	-0.86%	-0.58%	-0.53%	-0.48%	-0.78%	-0.42%	-0.89%	-0.25%
		-2.4519	-1.1764	-1.1190	-1.2524	-0.9550	-0.2932	-0.0817	-1.5994	-1.3343	-0.9312	-0.9789	-0.8562	-1.3455	-0.8154	-1.5689	-0.4501
IRELANI)																
CAR (0)		-0.20%	0.25%	-0.14%	0.10%	0.31%	0.24%	0.11%	$\boldsymbol{0.18\%}$	-0.40%	-0.06%	-0.01%	0.09%	-0.12%	-0.27%	-0.20%	-0.18%
		-0.2552	0.4012	-0.2562	0.2224	0.3692	0.3075	0.1731	0.3073	-0.4285	-0.0818	-0.0157	0.1314	-0.1345	-0.3198	-0.2488	-0.2499
CAR (1)		0.00%	0.00%	-0.17%	-0.04%	0.19%	-0.03%	-0.03%	0.06%	-0.60%	-0.30%	-0.13%	-0.09%	-0.75%	-0.53%	-0.38%	-0.45%
		-0.0058	0.0078	-0.3473	-0.0970	0.2388	-0.0464	-0.0425	0.1065	-0.6884	-0.3800	-0.1704	-0.1302	-0.8595	-0.6202	-0.4689	-0.6509
BHAR (0)		-0.47%	-1.85%	-1.36%	-1.09%	-0.17%	0.58%	-1.34%	2.02%	-0.82%	-0.61%	0.50%	0.75%	-0.23%	-0.43%	0.43%	-0.19%
		-0.5837	-2.0110	-1.4793	-1.1501	-0.1662	0.6438	-1.3187	1.9873	-0.8302	-0.5930	0.5646	0.8314	-0.2312	-0.4507	0.4355	-0.2067
BHAR (1)		-1.06%	-1.98%	-1.86%	-0.93%	-0.31%	0.09%	-0.72%	1.66%	-1.07%	-0.94%	0.01%	-0.10%	-1.40%	-0.65%	-0.44%	-0.53%
		-1.3714	-2.2663	-1.8389	-0.9553	-0.3321	0.0998	-0.8089	1.7626	-1.0953	-0.9025	0.0117	-0.1056	-1.6122	-0.7542	-0.4377	-0.5787
ISRAEL																	
CAR (0)		-0.61%	0.11%	0.29%	0.25%	-0.15%	0.30%	0.29%	0.13%	0.33%	0.29%	0.20%	0.06%	0.10%	0.12%	0.00%	-0.22%
		-1.4433	0.2721	0.8293	0.8088	-0.2660	0.5917	0.6476	0.3145	0.6213	0.5539	0.3907	0.1265	0.1622	0.1884	-0.0046	-0.4015
CAR (1)		-0.79%	0.06%	0.30%	0.09%	0.22%	0.40%	0.23%	0.05%	0.38%	0.15%	0.08%	-0.13%	-0.17%	-0.07%	-0.20%	-0.40%
		-1.6417	0.1479	0.8194	0.2641	0.4009	0.8145	0.5100	0.1325	0.7239	0.2681	0.1518	-0.2607	-0.2576	-0.1154	-0.3413	-0.7366
BHAR (0)		-1.35%	-0.45%	0.16%	-0.40%	-0.52%	0.14%	-0.15%	0.56%	0.43%	0.70%	0.65%	1.31%	0.05%	0.11%	0.30%	0.10%
		-2.4484	-0.8381	0.2803	-0.8571	-0.7285	0.2255	-0.2693	1.1715	0.7128	1.1980	1.0164	2.3692	0.0715	0.1541	0.4228	0.1280
BHAR (1)		-1.17%	-0.41%	0.26%	-0.34%	0.40%	0.50%	0.15%	0.38%	0.59%	0.39%	0.54%	0.98%	-0.07%	0.03%	-0.01%	0.26%
		-1.9525	-0.6494	0.4460	-0.6769	0.7092	0.8834	0.2697	0.8092	1.0219	0.6391	0.8991	1.7190	-0.1060	0.0459	-0.0160	0.3637

MW	J =		3				6	ì			9)			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		-0.51%	0.30%	0.38%	0.51%	0.15%	0.51%	0.65%	0.74%	0.36%	0.83%	0.91%	0.89%	0.88%	1.03%	0.96%	0.95%
		-1.1980	0.7826	1.2754	2.0142	0.2974	1.2087	1.8001	2.2110	0.7415	1.8040	2.1526	2.2578	1.6548	2.0955	2.1114	2.2570
CAR (1)		-0.07%	0.49%	0.55%	0.61%	0.36%	0.58%	0.70%	0.74%	0.77%	0.91%	0.89%	0.91%	0.87%	0.99%	0.96%	0.91%
		-0.1832	1.4384	1.9819	2.5656	0.8044	1.4682	1.9903	2.2518	1.5839	2.0303	2.1205	2.3326	1.5872	2.0373	2.1547	2.2246
BHAR (0)		-0.22%	0.01%	0.92%	0.64%	0.35%	0.30%	0.42%	0.79%	0.56%	0.29%	0.85%	0.10%	0.74%	1.12%	1.41%	1.19%
		-0.4147	0.0092	1.5297	1.1236	0.6252	0.5823	0.7794	1.5521	1.0389	0.4643	1.7488	0.2005	1.2675	2.2079	2.6615	2.5359
BHAR (1)		-0.29%	0.26%	1.22%	0.81%	0.10%	0.16%	0.30%	0.85%	0.59%	0.54%	0.53%	-0.04%	0.73%	1.08%	1.30%	1.14%
		-0.5428	0.4776	2.1073	1.4891	0.1872	0.3003	0.5875	1.7068	1.0688	0.8961	1.0956	-0.0673	1.1874	2.2070	2.3466	2.4010
JAPAN																	
CAR (0)		-0.98%	-0.58%	-0.26%	-0.17%	-0.95%	-0.56%	-0.25%	-0.23%	-0.78%	-0.39%	-0.32%	-0.29%	-0.63%	-0.52%	-0.42%	-0.40%
		-2.8438	-1.7208	-0.8841	-0.6911	-2.1400	-1.3849	-0.7235	-0.7959	-1.6620	-0.9196	-0.8718	-0.9127	-1.4015	-1.2554	-1.1116	-1.2311
CAR (1)		-0.87%	-0.47%	-0.18%	-0.15%	-0.73%	-0.36%	-0.14%	-0.22%	-0.48%	-0.26%	-0.26%	-0.29%	-0.56%	-0.53%	-0.41%	-0.39%
		-2.4487	-1.4039	-0.6319	-0.6406	-1.6662	-0.9021	-0.4377	-0.7945	-1.0647	-0.6600	-0.7426	-0.9533	-1.2939	-1.3133	-1.1430	-1.2464
BHAR (0)		-0.99%	-0.35%	-0.42%	0.04%	-0.68%	-0.61%	-0.37%	0.12%	-0.70%	-0.34%	-0.10%	-0.02%	-0.56%	-0.33%	-0.67%	-0.37%
		-2.3177	-0.9146	-1.0681	0.1062	-1.4666	-1.2998	-0.8432	0.3256	-1.4561	-0.7757	-0.2827	-0.0580	-1.1603	-0.7415	-1.6894	-0.9362
BHAR (1)		-0.95%	-0.74%	-0.81%	0.02%	-0.81%	-0.72%	-0.38%	0.04%	-0.74%	-0.34%	-0.24%	-0.28%	-0.76%	-0.69%	-0.92%	-0.65%
		-2.3886	-1.8862	-2.1109	0.0579	-1.8322	-1.7055	-0.9211	0.1073	-1.6830	-0.8574	-0.6641	-0.8535	-1.7044	-1.6123	-2.3810	-1.6003
NETHERLA	NDS	T															
CAR (0)		-0.67%	-0.43%	-0.09%	0.10%	-0.57%	-0.24%	0.14%	0.16%	-0.52%	-0.13%	-0.02%	-0.05%	-0.47%	-0.24%	-0.14%	-0.14%
		-1.6739	-1.3783	-0.3273	0.3995	-1.3182	-0.6347	0.3725	0.4910	-1.0437	-0.2751	-0.0543	-0.1238	-0.8446	-0.4630	-0.2952	-0.3119
CAR (1)		-0.80%	-0.47%	-0.07%	0.02%	-0.70%	-0.16%	0.11%	0.06%	-0.41%	-0.14%	-0.04%	-0.11%	-0.50%	-0.32%	-0.22%	-0.14%
		-2.1032	-1.5156	-0.2487	0.0778	-1.6238	-0.3904	0.3102	0.1837	-0.8017	-0.3012	-0.0822	-0.2817	-0.9273	-0.6183	-0.4774	-0.3314
BHAR (0)		-0.54%	-0.53%	-0.38%	-0.28%	-0.80%	-0.58%	-0.21%	0.57%	-0.73%	-0.40%	0.11%	0.07%	-0.57%	-0.16%	-0.16%	-0.14%
		-1.0883	-1.0738	-0.7376	-0.5363	-1.6185	-1.1934	-0.3696	1.4571	-1.3401	-0.7945	0.2103	0.1409	-0.9527	-0.2741	-0.2979	-0.2504
BHAR (1)		-0.73%	-0.96%	-0.64%	-0.14%	-0.98%	-0.67%	-0.31%	0.17%	-0.71%	-0.62%	0.02%	-0.28%	-0.49%	-0.46%	-0.25%	-0.22%
		-1.3976	-1.9152	-1.2316	-0.2717	-1.9255	-1.3681	-0.5212	0.4027	-1.3213	-1.2112	0.0456	-0.5230	-0.7774	-0.7616	-0.4861	-0.3966
NEWZEALA	ND					. =	. ===./	. =0.01		0 = 404	0.4004		0 ==0/	0.7001	. ===./	0.4004	
CAR (0)		0.57%	0.84%	0.68%	0.69%	0.59%	0.72%	0.78%	0.61%	0.56%	0.69%	0.64%	0.55%	0.68%	0.75%	0.69%	0.53%
		1.3750	2.6735	2.3793	2.7842	1.3434	1.8782	2.2518	1.9375	1.2173	1.6517	1.6087	1.5044	1.2813	1.6079	1.6093	1.3628
CAR (1)		0.11%	0.50%	0.55%	0.48%	0.32%	0.61%	0.67%	0.41%	0.41%	0.62%	0.52%	0.43%	0.51%	0.63%	0.56%	0.38%
		0.2983	1.5644	2.0540	1.9892	0.7054	1.5403	1.9448	1.3119	0.8884	1.4574	1.3360	1.2300	1.0118	1.4022	1.3838	0.9881
BHAR (0)		0.20%	1.07%	0.18%	0.33%	0.55%	0.56%	0.83%	0.08%	0.90%	0.93%	0.93%	0.42%	0.47%	1.05%	0.67%	0.89%
		0.4166	2.3713	0.3990	0.7295	1.1816	1.3265	1.9456	0.2136	1.9588	1.7205	1.9628	1.0808	0.9204	2.0919	1.4417	1.7891
BHAR (1)		-0.32%	0.30%	-0.25%	0.12%	0.05%	0.02%	0.60%	-0.33%	0.80%	0.77%	0.73%	0.21%	0.70%	0.79%	0.42%	0.90%
		-0.6620	0.6979	-0.5873	0.2635	0.0951	0.0496	1.3533	-0.9048	1.6268	1.3445	1.4552	0.5413	1.3567	1.5888	0.8683	1.7686

MW	J =		3	3			6	i			9)			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	Y																
CAR (0)		-1.24%	-0.42%	0.04%	0.19%	-0.62%	0.25%	0.65%	0.57%	0.06%	0.63%	0.67%	0.51%	0.30%	0.53%	0.60%	0.43%
		-3.0878	-1.4157	0.1666	0.7595	-1.3241	0.5969	1.7564	1.6581	0.1311	1.4922	1.6208	1.3657	0.6095	1.1702	1.4077	1.0436
CAR (1)		-1.22%	-0.27%	0.21%	0.18%	-0.29%	0.49%	0.67%	0.50%	0.24%	0.63%	0.59%	0.39%	0.07%	0.43%	0.47%	0.28%
		-3.1111	-0.8773	0.7735	0.6994	-0.6222	1.1855	1.8127	1.4386	0.5390	1.5077	1.4173	1.0276	0.1331	0.9383	1.1020	0.6717
BHAR (0)		-1.24%	-0.48%	0.04%	0.42%	-0.74%	0.53%	0.99%	1.32%	0.38%	0.84%	0.20%	1.31%	0.22%	0.45%	0.39%	0.43%
		-2.3579	-0.9410	0.0856	0.7893	-1.3429	1.0304	2.0567	2.8482	0.7420	1.5832	0.4295	2.5866	0.3698	0.9284	0.7086	0.7235
BHAR (1)		-1.23%	-0.25%	0.27%	0.66%	-0.21%	0.61%	1.02%	1.08%	0.42%	1.02%	0.20%	1.27%	0.05%	0.19%	0.48%	0.44%
		-2.4474	-0.5246	0.6084	1.3154	-0.4272	1.2525	2.2299	2.2743	0.8532	2.0631	0.3922	2.5020	0.0911	0.3774	0.9875	0.8343
PORTUGA	L																
CAR (0)		-0.04%	0.29%	0.48%	0.39%	-0.26%	-0.03%	0.15%	0.15%	0.12%	0.24%	0.34%	0.21%	-0.05%	0.08%	0.14%	0.16%
		-0.0573	0.6001	1.2319	1.0940	-0.3619	-0.0461	0.3217	0.3610	0.1772	0.3902	0.6460	0.4398	-0.0763	0.1332	0.2555	0.3219
CAR (1)		0.23%	0.37%	0.53%	0.43%	-0.31%	0.05%	0.16%	0.17%	0.05%	0.20%	0.25%	0.17%	-0.20%	0.05%	0.10%	0.12%
		0.3935	0.8207	1.3709	1.2361	-0.4406	0.0875	0.3481	0.4286	0.0690	0.3551	0.4975	0.3742	-0.2912	0.0851	0.1972	0.2552
BHAR (0)		-0.08%	0.09%	-0.18%	0.48%	-0.10%	0.20%	0.09%	0.70%	-0.16%	0.27%	0.90%	0.61%	-0.22%	-0.10%	-0.48%	0.18%
		-0.1056	0.1214	-0.3039	0.6469	-0.1444	0.2759	0.1616	1.1472	-0.2160	0.3401	1.2744	0.9831	-0.3126	-0.1390	-0.6722	0.2717
BHAR (1)		0.76%	0.60%	-0.25%	0.61%	-0.49%	0.37%	0.34%	0.53%	-0.09%	0.16%	0.90%	0.37%	-0.24%	-0.14%	-0.33%	0.28%
		1.3004	0.9257	-0.4288	0.8879	-0.6824	0.5433	0.5794	0.9021	-0.1219	0.2111	1.3183	0.5912	-0.3281	-0.2099	-0.4707	0.4268
SINGAPOI	RE																
CAR (0)		-0.95%	-0.37%	-0.23%	-0.20%	-0.65%	-0.39%	-0.23%	-0.29%	-0.76%	-0.48%	-0.40%	-0.37%	-0.58%	-0.39%	-0.32%	-0.27%
		-2.0682	-1.1050	-0.8014	-0.7675	-1.3192	-0.9455	-0.6155	-0.8604	-1.4662	-1.0612	-0.9548	-1.0320	-1.2329	-0.8577	-0.7928	-0.7502
CAR (1)		-1.43%	-0.45%	-0.31%	-0.27%	-0.69%	-0.34%	-0.28%	-0.34%	-0.80%	-0.43%	-0.45%	-0.41%	-0.59%	-0.45%	-0.36%	-0.26%
		-2.9201	-1.4141	-1.0939	-1.0497	-1.4903	-0.8165	-0.7696	-1.0509	-1.5549	-0.9512	-1.1311	-1.1798	-1.2706	-1.0250	-0.9122	-0.7465
BHAR (0)		-1.17%	-0.51%	0.22%	-0.12%	-0.46%	-0.62%	-0.30%	-0.08%	-0.52%	-0.64%	-0.06%	-0.76%	-0.47%	-0.14%	-0.11%	0.00%
		-2.3219	-1.0199	0.5383	-0.2590	-0.8291	-1.2776	-0.6833	-0.1912	-0.8533	-1.1140	-0.1183	-1.3284	-0.8552	-0.2870	-0.2272	0.0020
BHAR (1)		-1.56%	-1.01%	0.25%	-0.26%	-0.63%	-0.70%	-0.48%	-0.04%	-0.86%	-0.48%	0.04%	-0.78%	-0.45%	-0.33%	-0.53%	0.06%
-		-2.9501	-1.9956	0.5899	-0.5931	-1.2730	-1.4085	-1.0032	-0.1055	-1.4710	-0.8678	0.0955	-1.4794	-0.8785	-0.7061	-1.1766	0.1590
SPAIN																	
CAR (0)		-0.80%	-0.39%	-0.03%	0.18%	-0.58%	-0.28%	0.14%	0.36%	-0.27%	0.05%	0.38%	0.54%	-0.02%	0.43%	0.59%	0.65%
		-2.3138	-1.2397	-0.1192	0.7365	-1.3234	-0.6410	0.3610	1.0883	-0.4934	0.1067	0.9220	1.4525	-0.0432	0.9306	1.3247	1.5549
CAR (1)		-0.85%	-0.28%	0.12%	0.22%	-0.54%	-0.20%	0.25%	0.32%	-0.31%	0.22%	0.51%	0.53%	0.21%	0.55%	0.71%	0.68%
		-2.0624	-0.8555	0.3856	0.8963	-1.1931	-0.4321	0.6635	0.9745	-0.5694	0.4854	1.2674	1.4297	0.4487	1.1999	1.6169	1.6257
BHAR (0)		-1.35%	-1.22%	-0.41%	-0.65%	-1.33%	-0.39%	-0.10%	0.33%	-0.50%	-0.25%	0.00%	0.07%	0.14%	0.81%	0.81%	0.81%
		-2.8411	-2.4995	-0.7990	-1.3397	-2.4392	-0.6847	-0.1637	0.6104	-0.8463	-0.4719	0.0105	0.1342	0.2789	1.5802	1.6312	1.5861
BHAR (1)		-0.78%	-1.01%	-0.13%	-0.33%	-0.72%	-0.04%	0.09%	0.29%	-0.63%	-0.25%	-0.18%	-0.18%	0.34%	0.75%	0.94%	0.71%
		-1.5909	-1.9621	-0.2628	-0.6931	-1.4332	-0.0843	0.1408	0.5427	-1.0029	-0.4291	-0.3461	-0.3058	0.6685	1.4409	1.9317	1.4153

MW	J =		3				6				9)			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	I																
CAR (0)		0.17%	0.36%	0.21%	0.23%	0.10%	0.19%	0.19%	0.20%	-0.21%	-0.04%	-0.06%	-0.18%	-0.45%	-0.30%	-0.42%	-0.48%
		0.3186	0.8274	0.5505	0.6636	0.1865	0.3965	0.4299	0.4415	-0.3731	-0.0673	-0.1060	-0.3158	-0.6354	-0.4315	-0.6127	-0.7384
CAR (1)		-0.05%	0.14%	0.11%	0.06%	0.01%	0.11%	0.12%	$\boldsymbol{0.08\%}$	-0.11%	-0.07%	-0.17%	-0.30%	-0.65%	-0.48%	-0.62%	-0.52%
		-0.0931	0.3423	0.3154	0.1691	0.0262	0.2386	0.2633	0.1718	-0.1947	-0.1133	-0.2924	-0.5356	-0.9196	-0.6856	-0.9233	-0.8224
BHAR (0)		0.15%	-0.45%	0.65%	-0.78%	0.03%	0.61%	0.44%	0.04%	-0.12%	-0.32%	-0.19%	-0.58%	-0.70%	-0.44%	-0.83%	-0.24%
		0.2325	-0.7179	1.1030	-1.3716	0.0567	1.2022	0.6755	0.0713	-0.1924	-0.4766	-0.2895	-0.8968	-0.9154	-0.6088	-1.1721	-0.3403
BHAR (1)		0.04%	-0.50%	0.59%	-0.60%	-0.13%	0.37%	0.33%	-0.16%	-0.32%	-0.32%	-0.45%	-0.67%	-0.86%	-0.72%	-0.98%	-0.24%
		0.0643	-0.8181	1.0948	-1.0913	-0.2571	0.7305	0.5155	-0.2526	-0.5333	-0.4885	-0.6761	-1.0633	-1.1519	-0.9613	-1.3338	-0.3348
SWITZERLA	ND																
CAR (0)		-0.52%	0.13%	0.25%	0.40%	-0.10%	0.20%	0.39%	0.35%	0.11%	0.41%	0.38%	0.28%	0.38%	0.49%	0.36%	0.30%
		-1.7522	0.5171	1.0935	2.0628	-0.2948	0.6041	1.2867	1.2596	0.2809	1.1096	1.1062	0.8689	0.9858	1.3509	1.0090	0.8902
CAR (1)		-0.24%	0.24%	0.38%	0.40%	-0.07%	0.32%	0.37%	0.25%	0.26%	0.42%	0.36%	0.18%	0.21%	0.36%	0.27%	0.21%
		-0.8281	0.9282	1.6326	2.1481	-0.1935	0.9409	1.2425	0.9150	0.6762	1.1415	1.0471	0.5586	0.5694	0.9762	0.7759	0.6379
BHAR (0)		-0.78%	-0.27%	-0.21%	-0.06%	-0.33%	0.33%	0.18%	0.80%	0.05%	0.19%	0.46%	0.32%	0.32%	0.95%	0.56%	0.43%
		-2.1772	-0.7687	-0.6082	-0.1748	-0.8242	0.8267	0.4358	2.3110	0.1041	0.4180	1.2547	0.8770	0.7564	2.2715	1.2760	1.1092
BHAR (1)		-0.60%	-0.39%	-0.12%	0.00%	-0.09%	0.46%	-0.02%	0.66%	-0.02%	0.14%	0.25%	-0.04%	0.07%	0.60%	0.53%	0.28%
		-1.6503	-1.0595	-0.3583	0.0113	-0.2052	1.1611	-0.0444	1.8628	-0.0508	0.3176	0.6721	-0.1012	0.1567	1.4888	1.2903	0.7330
UK																	
CAR (0)		-1.00%	-0.21%	0.06%	0.31%	-0.63%	-0.06%	0.37%	0.38%	-0.33%	0.26%	0.41%	0.27%	-0.22%	0.28%	0.27%	0.14%
		-2.3556	-0.5502	0.1700	1.0559	-1.2617	-0.1322	0.9316	1.0761	-0.6017	0.4994	0.8743	0.6187	-0.3741	0.5118	0.5480	0.3018
CAR (1)		-1.00%	-0.13%	0.15%	0.30%	-0.46%	0.13%	0.42%	0.32%	-0.16%	0.36%	0.38%	0.14%	-0.10%	0.32%	0.21%	0.02%
		-2.2784	-0.3303	0.4460	1.0452	-0.9411	0.2943	1.1090	0.9193	-0.2746	0.7067	0.8134	0.3180	-0.1766	0.6135	0.4252	0.0471
BHAR (0)		-1.26%	-0.54%	-0.25%	-0.26%	-0.58%	-0.17%	0.09%	0.70%	-0.26%	0.35%	0.41%	0.38%	-0.29%	0.16%	0.35%	0.05%
		-2.5176	-1.0906	-0.5349	-0.5597	-1.1170	-0.3263	0.1705	1.8318	-0.4231	0.5730	0.7489	0.7721	-0.4684	0.2829	0.6402	0.0924
BHAR (1)		-1.32%	-0.55%	-0.27%	-0.02%	-0.55%	-0.12%	0.21%	0.45%	-0.02%	0.41%	0.31%	0.08%	-0.18%	0.04%	-0.06%	-0.24%
		-2.6976	-1.1535	-0.5737	-0.0389	-1.1232	-0.2526	0.4223	1.1180	-0.0411	0.7562	0.5844	0.1592	-0.3055	0.0706	-0.0972	-0.4125
US																	
CAR (0)		-1.22%	-0.50%	-0.12%	-0.04%	-0.74%	-0.17%	0.08%	0.07%	-0.27%	0.08%	0.09%	0.03%	-0.26%	-0.09%	-0.07%	-0.08%
		-4.0433	-1.8471	-0.5311	-0.1945	-1.8616	-0.4949	0.2515	0.2431	-0.6411	0.2050	0.2506	0.0876	-0.5848	-0.2122	-0.1850	-0.2135
CAR (1)		-1.08%	-0.33%	-0.01%	-0.05%	-0.46%	0.05%	0.15%	0.07%	-0.03%	0.15%	0.10%	-0.01%	-0.26%	-0.08%	-0.10%	-0.12%
		-3.5054	-1.2505	-0.0624	-0.2171	-1.1890	0.1617	0.4860	0.2219	-0.0613	0.3988	0.2739	-0.0290	-0.6152	-0.1931	-0.2733	-0.3381
BHAR (0)		-1.51%	-0.55%	-0.62%	-0.03%	-0.76%	-0.28%	-0.45%	0.45%	-0.26%	-0.03%	0.22%	0.00%	-0.22%	0.13%	-0.04%	0.03%
		-3.7160	-1.4212	-1.4259	-0.0843	-1.6804	-0.6705	-1.0333	1.4154	-0.5403	-0.0571	0.5429	-0.0078	-0.4750	0.2920	-0.1025	0.0664
BHAR (1)		-1.14%	-0.82%	-0.60%	-0.06%	-0.59%	-0.12%	-0.43%	0.24%	-0.09%	-0.06%	0.06%	-0.20%	-0.43%	-0.11%	-0.21%	-0.17%
		-3.0944	-1.8648	-1.4416	-0.1595	-1.3920	-0.3091	-0.9479	0.7099	-0.1943	-0.1156	0.1368	-0.4736	-0.8601	-0.2525	-0.5084	-0.3498

Panel C. The time-series momentum using inversed-volatility weighted return

IVOL	J =		3	3			6	<u> </u>			9)			13	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL	[A																
CAR (0)		-1.69%	-0.50%	-0.13%	0.08%	-0.83%	-0.26%	-0.02%	-0.09%	-0.51%	-0.02%	-0.10%	-0.14%	-0.27%	-0.11%	-0.32%	-0.40%
		-5.1736	-1.5421	-0.4890	0.4351	-1.4442	-0.6537	-0.0683	-0.3367	-0.8553	-0.0434	-0.2824	-0.4940	-0.5819	-0.2714	-0.9736	-1.4600
CAR (1)		-1.53%	-0.24%	-0.06%	0.02%	-0.78%	-0.27%	-0.08%	-0.22%	-0.28%	-0.03%	-0.20%	-0.32%	-0.44%	-0.33%	-0.50%	-0.58%
		-4.7700	-0.8855	-0.2339	0.0946	-1.3674	-0.6717	-0.2609	-0.8180	-0.6123	-0.0646	-0.5889	-1.1537	-0.9546	-0.8469	-1.5882	-2.2343
BHAR (0)		-1.79%	-0.43%	-0.21%	-0.24%	-0.40%	-0.51%	-0.44%	-0.32%	-0.08%	0.24%	0.13%	-0.09%	-0.13%	-0.20%	-0.31%	-0.27%
		-4.3878	-1.2145	-0.5172	-0.7199	-0.8917	-1.1984	-1.0011	-1.0629	-0.1738	0.5634	0.3199	-0.2667	-0.3026	-0.4994	-0.8674	-0.6413
BHAR (1)		-1.52%	-0.44%	-0.21%	-0.03%	-1.54%	-0.28%	-1.57%	-0.31%	-0.86%	-0.70%	-0.02%	-0.87%	-1.07%	-0.46%	-0.66%	-0.46%
		-3.8715	-1.1557	-0.4004	-0.0714	-1.1537	-0.7056	-1.1849	-0.9176	-0.9792	-0.7899	-0.0503	-1.2911	-1.2249	-1.2490	-1.9009	-1.1963
AUSTRIA																	
CAR (0)		-0.01%	0.31%	0.47%	0.51%	0.28%	0.58%	0.74%	0.79%	0.76%	0.92%	0.94%	0.80%	0.86%	0.93%	0.80%	0.62%
		-0.0394	1.2152	1.9540	2.4425	0.8370	1.8001	2.4358	2.8660	1.9028	2.4039	2.5769	2.4231	1.9954	2.2400	2.0464	1.7541
CAR (1)		-0.20%	0.14%	0.34%	0.40%	0.35%	0.59%	0.71%	0.67%	0.79%	0.83%	0.83%	0.63%	0.74%	0.76%	0.64%	0.46%
		-0.7647	0.5640	1.4596	1.9563	1.0803	1.8274	2.3769	2.4513	2.0152	2.2072	2.3481	1.9934	1.7614	1.8713	1.7181	1.3739
BHAR (0)		-0.22%	-0.03%	0.34%	0.32%	0.35%	0.41%	0.49%	0.90%	0.77%	0.98%	0.78%	0.89%	0.82%	0.70%	0.66%	0.29%
		-0.7226	-0.0850	0.8709	0.9712	0.9996	1.0524	1.2864	2.6078	1.8638	2.1650	2.0086	2.4761	1.8872	1.6070	1.5115	0.7128
BHAR (1)		-0.26%	-0.21%	0.35%	0.05%	0.36%	0.72%	0.75%	0.88%	0.57%	0.73%	0.75%	0.71%	0.70%	0.71%	0.46%	0.20%
		-0.8496	-0.6298	0.8152	0.1383	0.9887	1.8818	1.9379	2.4601	1.4005	1.6442	2.0613	1.9880	1.5677	1.7321	1.0601	0.5072
BELGIUM	1																
CAR (0)		0.00%	0.38%	0.49%	0.59%	0.67%	0.91%	1.01%	0.91%	0.91%	1.10%	0.99%	0.87%	1.21%	1.16%	0.99%	0.83%
		-0.0086	1.6550	2.4534	3.1384	2.2923	3.3165	3.9483	3.9325	2.8981	3.6300	3.5597	3.3946	3.8301	3.8634	3.4917	3.0902
CAR (1)		0.05%	0.38%	0.51%	0.53%	0.75%	1.00%	0.97%	0.86%	1.09%	1.08%	0.94%	0.79%	1.21%	1.08%	0.89%	0.71%
		0.2361	1.8277	2.7287	3.0700	2.5518	3.6107	3.8833	3.7367	3.5528	3.6550	3.4880	3.1505	4.0422	3.6755	3.2022	2.7010
BHAR (0)		-0.17%	0.04%	-0.03%	0.29%	0.59%	0.88%	0.88%	1.01%	1.00%	1.25%	1.16%	1.08%	1.23%	1.05%	1.11%	0.56%
		-0.6232	0.1578	-0.0768	0.8152	1.9262	3.1083	2.9912	3.9792	3.0212	3.6132	3.6984	3.6780	3.6256	3.0641	3.6081	1.9314
BHAR (1)		0.01%	0.25%	0.39%	0.29%	0.65%	0.95%	0.81%	0.92%	1.13%	1.09%	1.11%	0.68%	1.14%	0.94%	0.96%	0.44%
		0.0310	0.8629	1.2532	0.9778	2.1880	3.4523	2.8563	3.9124	3.5241	3.1350	3.6675	2.3632	3.7155	2.9929	3.1100	1.5113
CANADA					1				1								
CAR (0)		-1.28%	-0.33%	0.08%	0.25%	-0.41%	0.06%	0.43%	0.33%	0.05%	0.41%	0.32%	0.11%	0.34%	0.24%	0.05%	-0.19%
		-3.5155	-1.1247	0.2957	1.1642	-0.9949	0.1668	1.3525	1.2321	0.1085	1.0419	0.9436	0.3774	0.7950	0.6222	0.1344	-0.6196
CAR (1)		-1.40%	-0.35%	0.12%	0.11%	-0.42%	0.11%	0.35%	0.14%	0.13%	0.30%	0.16%	-0.11%	0.09%	-0.02%	-0.20%	-0.43%
		-4.1275	-1.1801	0.4998	0.5664	-1.0245	0.2963	1.1784	0.5670	0.2993	0.8136	0.5018	-0.3765	0.2215	-0.0465	-0.5980	-1.4689
BHAR (0)		-1.38%	-0.74%	0.03%	0.02%	-0.67%	-0.07%	0.07%	0.36%	-0.18%	0.19%	0.17%	0.12%	0.20%	0.08%	0.02%	-0.36%
		-3.1247	-1.7067	0.0669	0.0655	-1.4073	-0.1536	0.1463	1.0272	-0.3497	0.3842	0.4799	0.3412	0.4325	0.2011	0.0564	-0.9095
BHAR (1)		-1.45%	-0.76%	0.09%	-0.18%	-0.55%	0.16%	0.02%	0.11%	-0.06%	0.02%	-0.05%	0.02%	-0.11%	-0.18%	-0.14%	-0.49%
		-3.7562	-1.9434	0.2596	-0.4622	-1.1972	0.3715	0.0465	0.3138	-0.1337	0.0496	-0.1395	0.0667	-0.2572	-0.4809	-0.3904	-1.3481

IVOL	J =		3				6				9				12	2	
_	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	K																
CAR (0)		-0.12%	0.54%	0.63%	0.74%	0.65%	0.86%	1.01%	0.93%	0.94%	1.12%	1.01%	0.86%	1.29%	1.20%	1.00%	0.79%
		-0.6656	2.9293	3.6274	4.9431	2.7096	3.5905	4.5200	4.5114	3.3502	4.1568	3.8637	3.5011	4.4871	4.2422	3.6288	3.0372
CAR (1)		-0.17%	0.50%	0.65%	0.71%	0.67%	0.83%	0.94%	0.82%	0.95%	1.00%	0.87%	0.70%	1.13%	0.99%	0.80%	0.60%
		-0.8336	2.7249	3.8736	4.8031	2.7292	3.3874	4.2524	3.9601	3.4127	3.6606	3.3255	2.8664	3.9817	3.5101	2.9377	2.3597
BHAR (0)		-0.16%	0.35%	0.30%	0.51%	0.53%	0.61%	0.77%	1.18%	0.87%	0.83%	1.12%	0.68%	1.24%	1.22%	1.00%	0.57%
		-0.6828	1.3350	1.0979	1.9338	1.8620	1.8403	2.5094	4.3053	2.9174	2.7879	3.6281	2.4774	3.7220	3.8704	3.4148	1.9504
BHAR (1)		-0.28%	0.37%	0.46%	0.60%	0.63%	0.65%	0.69%	0.98%	0.93%	0.85%	0.98%	0.49%	1.12%	0.95%	0.85%	0.30%
		-1.1820	1.3869	1.6132	2.1256	2.3970	2.1136	2.4244	3.8296	3.2876	2.8228	3.3589	1.7455	3.9529	3.0135	2.8621	1.0344
FINLAND)																
CAR (0)		-0.47%	0.15%	0.38%	0.38%	0.25%	0.51%	0.69%	0.54%	0.58%	0.68%	0.55%	0.36%	0.49%	0.45%	0.38%	0.26%
		-1.4118	0.5584	1.7581	1.8738	0.7556	1.6283	2.4204	1.9367	1.5609	1.8981	1.5377	1.0137	1.1629	1.0691	0.9096	0.6554
CAR (1)		-0.32%	0.21%	0.40%	0.35%	0.24%	0.54%	0.60%	0.40%	0.56%	0.57%	0.42%	0.19%	0.41%	0.30%	0.26%	0.16%
		-1.0449	0.8691	1.9235	1.6991	0.7279	1.7990	2.1062	1.3872	1.4900	1.5259	1.1171	0.5382	0.9561	0.7071	0.6213	0.4079
BHAR (0)		-0.97%	-0.25%	0.34%	0.04%	0.03%	0.37%	0.51%	0.91%	0.47%	0.42%	0.45%	0.13%	0.45%	0.66%	0.61%	0.56%
		-1.9424	-0.5598	0.9004	0.0810	0.0869	0.9863	1.5178	2.5607	1.1450	0.9587	1.1502	0.3105	1.0279	1.6243	1.3387	1.4414
BHAR (1)		-0.12%	-0.16%	0.63%	-0.06%	0.41%	0.52%	0.44%	0.72%	0.58%	0.30%	0.29%	0.11%	0.42%	0.41%	0.29%	0.37%
		-0.3538	-0.4230	1.8621	-0.1165	1.2240	1.5352	1.2852	2.0390	1.4393	0.6741	0.7133	0.2530	0.9411	1.0477	0.6382	0.9826
FRANCE					1				1				1				
CAR (0)		-1.35%	-0.29%	-0.09%	0.15%	-0.54%	0.04%	0.32%	0.34%	-0.06%	0.31%	0.39%	0.34%	0.32%	0.44%	0.36%	0.27%
		-4.4101	-1.2486	-0.4266	0.8882	-1.5442	0.1514	1.2533	1.4624	-0.1559	0.9576	1.3111	1.2575	0.9142	1.3382	1.1456	0.9369
CAR (1)		-1.08%	-0.26%	-0.09%	0.07%	-0.29%	0.10%	0.36%	0.29%	0.26%	0.42%	0.40%	0.28%	0.36%	0.39%	0.29%	0.20%
		-3.5216	-1.1144	-0.4504	0.4015	-0.9229	0.3728	1.4235	1.2209	0.7669	1.3436	1.3564	1.0641	1.0662	1.1874	0.9549	0.7186
BHAR (0)		-1.27%	-1.03%	0.07%	-1.05%	-0.76%	-0.26%	0.05%	-0.28%	-0.16%	0.12%	0.58%	0.50%	0.30%	0.40%	0.57%	0.30%
		-3.4747	-2.3550	0.1937	-2.1508	-1.5858	-0.6603	0.1246	-0.6305	-0.4598	0.3323	1.9295	1.4449	0.8190	1.1242	1.6734	0.8933
BHAR (1)		-1.28%	-0.87%	-0.09%	-0.83%	-0.34%	0.07%	0.18%	0.33%	-0.03%	0.14%	0.52%	0.16%	0.30%	0.32%	0.38%	0.19%
		-3.3535	-1.9209	-0.2016	-1.7799	-0.9941	0.1869	0.4378	1.0650	-0.0745	0.3554	1.6883	0.4196	0.8421	0.9048	1.1116	0.5388
GERMAN	Y	. ===./	0.000/			0.000/	0.4007	0.5001	0 1	0.001	0.5501	0 <=0/	0.740/	0.6004	0.5001	0.500/	
CAR (0)		-0.72%	0.00%	0.22%	0.34%	0.03%	0.40%	0.68%	0.62%	0.39%	0.66%	0.65%	0.54%	0.68%	0.69%	0.58%	0.49%
~.~		-2.5169	-0.0091	0.9954	1.6175	0.1041	1.3886	2.4564	2.3437	1.1523	2.0323	2.0164	1.8241	1.9262	1.9780	1.7877	1.6186
CAR (1)		-0.57%	0.00%	0.23%	0.29%	0.06%	0.41%	0.62%	0.51%	0.38%	0.59%	0.53%	0.42%	0.59%	0.53%	0.45%	0.39%
		-1.9808	0.0067	1.0272	1.4049	0.1944	1.3901	2.1977	1.9660	1.0895	1.7628	1.6245	1.4341	1.7101	1.5356	1.3948	1.3052
BHAR (0)		-0.90%	-0.37%	0.10%	-0.90%	-0.02%	0.36%	0.72%	0.69%	0.34%	0.60%	0.61%	0.43%	0.57%	0.64%	0.58%	0.35%
		-2.5271	-1.0415	0.2723	-1.7617	-0.0661	1.0572	1.7842	1.9302	0.8843	1.5530	1.7487	1.0674	1.6027	1.8017	1.6826	1.0545
BHAR (1)		-0.60%	-0.26%	0.56%	-0.11%	-0.12%	0.39%	0.62%	0.54%	0.29%	0.40%	0.44%	0.14%	0.41%	0.47%	0.35%	0.35%
		-1.8651	-0.8299	2.0192	-0.2613	-0.3509	1.1485	1.5382	1.4834	0.7836	1.0015	1.2777	0.3361	1.1652	1.4193	1.0484	1.0966

IVOL	J =		3	<u> </u>			6	<u> </u>			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		-0.80%	-0.11%	-0.10%	-0.09%	-0.36%	-0.12%	-0.04%	-0.14%	-0.28%	-0.10%	-0.31%	-0.42%	-0.38%	-0.41%	-0.52%	-0.59%
		-1.8191	-0.2886	-0.3043	-0.3173	-0.7220	-0.2738	-0.0985	-0.3642	-0.5538	-0.2118	-0.7019	-0.9992	-0.7150	-0.7999	-1.0682	-1.2421
CAR (1)		-0.80%	-0.15%	-0.11%	-0.13%	-0.29%	-0.09%	-0.08%	-0.20%	-0.15%	-0.16%	-0.38%	-0.49%	-0.40%	-0.50%	-0.60%	-0.67%
		-1.8010	-0.4207	-0.3549	-0.4495	-0.5966	-0.2178	-0.2020	-0.5342	-0.3000	-0.3354	-0.8520	-1.1577	-0.7522	-0.9937	-1.2298	-1.3937
BHAR (0)		-1.08%	0.16%	-0.20%	0.55%	-0.29%	0.07%	-0.15%	0.15%	-0.19%	-0.07%	-0.53%	-0.34%	-0.43%	-0.71%	-0.51%	-1.32%
		-1.9961	0.3420	-0.3867	1.2125	-0.5309	0.1345	-0.2982	0.3048	-0.3545	-0.1329	-0.9495	-0.6598	-0.7502	-1.2086	-1.0038	-2.0464
BHAR (1)		-0.57%	0.27%	-0.17%	0.72%	-0.31%	-0.15%	-0.24%	-0.04%	-0.10%	-0.16%	-0.38%	-0.61%	-0.33%	-0.78%	-0.70%	-1.16%
		-1.0687	0.5258	-0.3432	1.4740	-0.6130	-0.3212	-0.4636	-0.0910	-0.1791	-0.3015	-0.7097	-1.2148	-0.6028	-1.3495	-1.5688	-1.9745
HONGKON	G																
CAR (0)		-1.68%	-0.59%	-0.40%	-0.42%	-1.02%	-0.55%	-0.51%	-0.61%	-0.96%	-0.78%	-0.79%	-0.89%	-1.17%	-0.95%	-1.08%	-1.12%
		-4.4125	-2.0674	-1.5706	-1.7832	-2.5162	-1.4797	-1.5130	-1.9989	-2.0736	-1.8455	-2.0335	-2.5703	-2.5326	-2.2572	-2.7549	-3.1841
CAR (1)		-1.76%	-0.57%	-0.49%	-0.52%	-0.89%	-0.58%	-0.64%	-0.75%	-1.10%	-0.91%	-0.96%	-1.04%	-1.33%	-1.12%	-1.24%	-1.24%
		-5.0671	-2.0280	-1.8709	-2.3381	-2.2952	-1.5852	-1.9215	-2.5082	-2.3649	-2.1789	-2.5011	-3.0685	-2.9440	-2.6773	-3.2199	-3.6214
BHAR (0)		-1.76%	-0.96%	-0.91%	-0.55%	-1.10%	-0.56%	-0.70%	-0.58%	-1.01%	-0.92%	-0.82%	-0.96%	-1.34%	-0.87%	-1.20%	-0.98%
		-3.9590	-1.9484	-2.1780	-1.2906	-2.2375	-1.3240	-1.4893	-1.6713	-1.9808	-1.7275	-1.8339	-2.2711	-2.6256	-2.0025	-2.5945	-2.5057
BHAR (1)		-2.00%	-1.18%	-0.91%	-0.81%	-1.28%	-0.72%	-0.77%	-0.83%	-1.36%	-1.14%	-1.01%	-1.12%	-1.64%	-1.02%	-1.31%	-1.09%
		-4.5664	-2.5571	-2.3840	-1.9088	-2.7785	-1.7770	-1.6538	-2.4137	-2.6394	-2.2858	-2.4356	-2.7852	-3.3113	-2.5279	-2.8402	-2.9257
IRELAND)																
CAR (0)		-0.61%	-0.04%	0.08%	0.22%	-0.05%	0.14%	0.36%	0.38%	-0.07%	0.24%	0.26%	0.29%	0.24%	0.32%	0.29%	0.19%
		-1.7840	-0.1044	0.2489	0.9096	-0.1102	0.3143	0.9255	1.1029	-0.1524	0.5305	0.5875	0.6902	0.4646	0.6224	0.5885	0.4145
CAR (1)		-0.55%	-0.14%	0.05%	0.11%	-0.12%	0.12%	0.27%	0.23%	-0.11%	0.12%	0.22%	0.16%	0.12%	0.23%	0.16%	0.04%
		-1.4103	-0.3894	0.1752	0.4254	-0.2501	0.2620	0.6934	0.6607	-0.2302	0.2647	0.4976	0.3824	0.2208	0.4336	0.3139	0.0777
BHAR (0)		-0.52%	-0.85%	-0.90%	-0.17%	-0.24%	0.24%	-0.33%	1.15%	0.18%	0.45%	0.55%	1.01%	0.37%	0.63%	0.82%	-0.09%
		-1.1596	-1.5861	-1.6149	-0.3418	-0.4549	0.4304	-0.5584	2.2287	0.3494	0.8661	1.0049	2.1328	0.6537	1.1511	1.4710	-0.1667
BHAR (1)		-0.89%	-0.93%	-0.95%	0.04%	-0.31%	0.19%	-0.24%	0.90%	-0.44%	0.25%	0.20%	0.39%	-0.04%	0.42%	0.33%	-0.32%
		-1.7030	-1.9862	-1.7674	0.0922	-0.6478	0.3237	-0.4452	1.7448	-0.9049	0.4971	0.3558	0.7997	-0.0674	0.7716	0.5444	-0.5601
ISRAEL																	
CAR (0)		-1.50%	-0.80%	-0.60%	-0.52%	-0.88%	-0.53%	-0.48%	-0.51%	-0.69%	-0.49%	-0.51%	-0.52%	-0.48%	-0.33%	-0.35%	-0.45%
		-6.7744	-3.9204	-3.1895	-3.0573	-3.0216	-1.8798	-1.9523	-2.2616	-2.1607	-1.4992	-1.6483	-1.9355	-1.4017	-0.9654	-1.1402	-1.5764
CAR (1)		-1.47%	-0.73%	-0.62%	-0.59%	-0.72%	-0.50%	-0.54%	-0.58%	-0.62%	-0.55%	-0.60%	-0.63%	-0.56%	-0.42%	-0.46%	-0.56%
		-6.2929	-3.3479	-3.0462	-3.3048	-2.4314	-1.7859	-2.1731	-2.6015	-1.9201	-1.6141	-1.9559	-2.3825	-1.6426	-1.2650	-1.5739	-2.0360
BHAR (0)		-1.45%	-1.04%	-0.85%	-0.68%	-1.11%	-0.77%	-0.76%	-0.10%	-0.67%	-0.47%	-0.38%	-0.01%	-0.50%	-0.34%	-0.40%	-0.65%
		-4.5748	-2.5927	-2.2705	-1.7614	-2.9701	-2.3248	-1.9717	-0.4103	-1.8591	-1.1856	-1.2837	-0.0438	-1.3991	-0.9989	-1.1532	-2.0100
BHAR (1)		-1.33%	-0.97%	-0.99%	-0.84%	-0.62%	-0.41%	-0.50%	-0.12%	-0.78%	-0.67%	-0.55%	-0.29%	-0.54%	-0.38%	-0.51%	-0.82%
		-4.7839	-2.9608	-2.5321	-2.0940	-1.9972	-1.2589	-1.6994	-0.3882	-2.1086	-1.7131	-1.7717	-0.9009	-1.4977	-1.1857	-1.4019	-2.3228

IVOL	J =		3	3			6	i			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.04%	0.39%	0.60%	0.63%	0.44%	0.73%	0.85%	0.78%	0.87%	0.97%	0.87%	0.74%	0.93%	0.93%	0.80%	0.65%
		0.1539	1.7663	3.3215	3.6786	1.4210	2.7540	3.5578	3.4295	2.9069	3.3909	3.2183	2.8708	2.9965	3.1597	2.8517	2.3897
CAR (1)		0.03%	0.43%	0.58%	0.58%	0.54%	0.77%	0.82%	0.70%	0.92%	0.91%	0.77%	0.62%	0.91%	0.83%	0.69%	0.55%
		0.1338	2.0375	3.2318	3.4700	1.9653	3.0781	3.5465	3.2132	3.1347	3.2263	2.8103	2.4207	3.0379	2.8955	2.4789	2.0611
BHAR (0)		-0.05%	0.34%	0.65%	0.56%	0.35%	0.70%	0.72%	0.61%	0.78%	0.88%	0.95%	0.55%	0.75%	0.74%	0.87%	0.48%
		-0.1526	1.1692	2.1238	1.9362	0.9886	2.0550	2.1913	2.1930	2.3140	2.5961	2.9708	1.6891	2.3077	2.4621	2.8648	1.5583
BHAR (1)		-0.07%	0.34%	0.84%	0.61%	0.45%	0.70%	0.73%	0.51%	0.86%	0.75%	0.74%	0.26%	0.77%	0.71%	0.76%	0.50%
		-0.2351	1.1575	2.6563	2.0618	1.4451	2.1033	2.2919	1.9276	2.5503	2.2486	2.4131	0.7331	2.4149	2.4000	2.3927	1.7067
JAPAN																	
CAR (0)		-1.08%	-0.69%	-0.46%	-0.27%	-1.05%	-0.76%	-0.41%	-0.36%	-0.90%	-0.55%	-0.47%	-0.47%	-0.63%	-0.58%	-0.56%	-0.57%
		-4.6000	-3.1366	-2.3538	-1.5360	-3.3880	-2.6853	-1.6116	-1.6083	-2.6691	-1.7562	-1.6454	-1.8487	-1.8764	-1.8368	-1.9266	-2.1463
CAR (1)		-0.99%	-0.64%	-0.34%	-0.26%	-0.94%	-0.61%	-0.33%	-0.38%	-0.65%	-0.44%	-0.44%	-0.48%	-0.58%	-0.61%	-0.58%	-0.58%
		-4.4637	-2.9943	-1.8435	-1.5536	-3.1271	-2.1851	-1.3347	-1.7764	-2.0223	-1.4527	-1.6148	-2.0052	-1.7947	-1.9837	-2.0836	-2.2956
BHAR (0)		-1.23%	-0.44%	-0.40%	-0.10%	-1.00%	-0.77%	-0.48%	-0.04%	-0.83%	-0.48%	-0.24%	-0.33%	-0.60%	-0.55%	-0.55%	-0.60%
		-4.4382	-1.5098	-1.3646	-0.3493	-2.8594	-2.2428	-1.4877	-0.1327	-2.3400	-1.3798	-0.8440	-1.3034	-1.7383	-1.6173	-1.8168	-2.0129
BHAR (1)		-1.13%	-0.46%	-0.43%	-0.07%	-1.07%	-1.02%	-0.42%	-0.21%	-0.82%	-0.39%	-0.35%	-0.45%	-0.68%	-0.78%	-0.75%	-0.68%
		-4.4464	-1.6882	-1.5521	-0.2670	-3.2978	-3.0689	-1.4765	-0.8253	-2.5168	-1.2375	-1.2770	-1.8623	-2.0934	-2.4016	-2.5318	-2.2647
NETHERLA	NDS				1				1								
CAR (0)		-0.16%	0.34%	0.49%	0.56%	0.46%	0.67%	0.83%	0.76%	0.67%	0.91%	0.85%	0.77%	0.94%	0.88%	0.83%	0.74%
		-0.5346	1.5148	2.5147	2.8444	1.5309	2.5573	3.2091	2.9740	2.0622	2.9667	2.7467	2.5681	2.5694	2.5190	2.3929	2.1649
CAR (1)		-0.20%	0.35%	0.50%	0.47%	0.43%	0.72%	0.75%	0.65%	0.76%	0.88%	0.78%	0.68%	0.85%	0.78%	0.73%	0.66%
		-0.7454	1.6465	2.5474	2.3985	1.4970	2.7504	2.8218	2.5054	2.3794	2.7551	2.4432	2.2335	2.3377	2.2158	2.0785	1.9631
BHAR (0)		-0.11%	0.31%	0.50%	0.15%	0.52%	0.80%	0.69%	1.16%	0.63%	0.68%	1.03%	0.96%	0.77%	0.81%	0.82%	0.75%
		-0.3053	0.9092	1.5598	0.3884	1.4990	2.4479	1.7237	4.1280	1.7823	1.7566	3.0610	2.5223	1.8899	2.2461	2.1591	2.0295
BHAR (1)		-0.14%	0.20%	0.29%	0.07%	0.30%	0.70%	0.62%	0.88%	0.74%	0.56%	1.00%	0.73%	0.63%	0.65%	0.72%	0.70%
		-0.3792	0.6298	0.8561	0.2045	0.9042	2.1450	1.6515	2.9921	2.1943	1.4519	2.9105	1.8294	1.5295	1.7669	2.0048	1.9755
NEWZEALA	ND																
CAR (0)		0.83%	1.10%	0.89%	0.87%	1.04%	1.04%	1.01%	0.89%	1.00%	1.03%	0.89%	0.78%	1.13%	1.01%	0.82%	0.64%
		1.4481	2.8657	3.0584	3.6690	3.1070	3.6334	3.8904	3.9395	3.0904	3.5399	3.2583	3.1961	3.3020	3.1082	2.8457	2.5256
CAR (1)		0.74%	0.92%	0.81%	0.73%	0.96%	0.96%	0.91%	0.73%	0.95%	0.94%	0.78%	0.63%	0.96%	0.86%	0.69%	0.50%
		1.3726	2.5683	2.9945	3.3035	2.9930	3.5041	3.6487	3.3487	3.1891	3.3087	2.9195	2.6498	2.8916	2.7813	2.4943	2.0159
BHAR (0)		0.69%	0.76%	0.77%	0.11%	1.21%	1.16%	0.86%	0.88%	1.28%	1.08%	1.09%	1.01%	1.13%	1.08%	0.70%	0.72%
		1.1041	2.3195	1.2343	0.3366	3.1566	3.1872	2.3411	3.0102	3.5034	3.0461	3.2785	3.4447	3.1751	3.2066	2.4742	1.9407
BHAR (1)		0.74%	0.59%	0.47%	0.15%	1.20%	0.90%	0.72%	0.60%	1.22%	1.04%	1.01%	0.93%	1.08%	0.80%	0.57%	0.75%
		1.5592	1.8059	0.9702	0.4804	3.2574	2.5233	2.1953	1.9693	3.2540	3.0167	3.0124	3.3364	2.9563	2.3228	2.0396	2.0537

IVOL	J =		3				6				9	1			1:	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	7																
CAR (0)		-0.77%	-0.07%	0.25%	0.32%	-0.16%	0.20%	0.51%	0.39%	0.39%	0.59%	0.45%	0.24%	0.53%	0.36%	0.22%	0.02%
		-2.1754	-0.2662	1.0299	1.3416	-0.4215	0.5722	1.5025	1.2304	0.9217	1.4510	1.1302	0.6614	1.2109	0.8598	0.5275	0.0571
CAR (1)		-0.94%	-0.08%	0.21%	0.18%	-0.10%	0.32%	0.47%	0.25%	0.42%	0.51%	0.29%	0.06%	0.21%	0.11%	0.01%	-0.15%
		-2.9952	-0.3243	0.8451	0.7560	-0.2778	0.9064	1.3944	0.7880	0.9999	1.2160	0.7328	0.1745	0.4722	0.2538	0.0346	-0.3853
BHAR (0)		-0.73%	-0.03%	0.38%	0.41%	-0.21%	0.32%	0.40%	0.99%	0.61%	0.56%	0.45%	0.62%	0.45%	0.42%	0.33%	-0.09%
		-1.5940	-0.0606	1.0380	0.9804	-0.4902	0.7480	0.9004	2.7413	1.3021	1.1810	0.9771	1.3561	0.9218	0.9582	0.7215	-0.1938
BHAR (1)		-1.01%	-0.08%	0.24%	0.12%	-0.14%	0.32%	0.33%	0.62%	0.55%	0.55%	0.38%	0.53%	0.26%	0.12%	0.33%	-0.24%
		-2.6386	-0.2409	0.7541	0.3003	-0.3583	0.7330	0.8228	1.7087	1.2690	1.2337	0.8713	1.2936	0.5750	0.2660	0.7818	-0.5407
PORTUGA	L																
CAR (0)		-0.89%	0.02%	0.22%	0.21%	-0.03%	0.37%	0.50%	0.42%	0.36%	0.45%	0.39%	0.27%	0.36%	0.30%	0.24%	0.18%
		-2.2218	0.0512	0.7288	0.7763	-0.0603	0.9475	1.3980	1.3049	0.8062	1.0277	0.9588	0.7016	0.7678	0.6761	0.5698	0.4683
CAR (1)		-0.85%	0.00%	0.24%	0.19%	0.00%	0.37%	0.41%	0.31%	0.29%	0.35%	0.28%	0.16%	0.25%	0.24%	0.18%	0.09%
		-1.9680	-0.0142	0.6830	0.6344	-0.0064	0.9268	1.1448	0.9552	0.6492	0.8030	0.6861	0.4330	0.5492	0.5454	0.4346	0.2309
BHAR (0)		-1.16%	0.13%	0.11%	0.23%	-0.14%	0.05%	0.45%	0.32%	0.03%	0.66%	0.46%	0.49%	0.38%	0.35%	0.16%	-0.20%
		-1.7990	0.2108	0.1880	0.3318	-0.2629	0.0986	0.7054	0.6791	0.0482	1.1176	0.8898	0.9587	0.7547	0.7542	0.3386	-0.4290
BHAR (1)		-0.90%	0.67%	0.54%	0.67%	-0.42%	0.44%	0.53%	0.20%	0.15%	0.39%	0.18%	0.11%	0.06%	0.22%	0.22%	-0.19%
		-1.5368	1.2230	0.7465	1.0297	-0.7704	0.7750	0.7419	0.4113	0.3161	0.7706	0.3765	0.2072	0.1335	0.4783	0.4486	-0.4063
SINGAPOR	E																
CAR (0)		-1.00%	-0.06%	0.07%	$\boldsymbol{0.00\%}$	-0.36%	-0.01%	0.04%	-0.07%	-0.23%	-0.07%	-0.13%	-0.22%	-0.32%	-0.22%	-0.29%	-0.37%
		-2.2718	-0.1854	0.2388	-0.0131	-0.8524	-0.0315	0.1053	-0.2196	-0.4901	-0.1593	-0.3470	-0.6113	-0.6705	-0.5188	-0.7481	-1.0428
CAR (1)		-0.98%	-0.07%	0.00%	-0.05%	-0.32%	-0.08%	-0.07%	-0.14%	-0.29%	-0.17%	-0.28%	-0.33%	-0.44%	-0.36%	-0.43%	-0.42%
		-2.3326	-0.2678	-0.0182	-0.2041	-0.8172	-0.2041	-0.2046	-0.4781	-0.6343	-0.4018	-0.7485	-0.9578	-0.9729	-0.8829	-1.1640	-1.2805
BHAR (0)		-1.21%	-0.73%	0.08%	-0.08%	-0.24%	0.01%	-0.18%	0.14%	-0.14%	-0.16%	0.12%	-0.31%	-0.21%	0.03%	-0.13%	-0.25%
		-2.3969	-1.4973	0.2428	-0.2604	-0.4673	0.0238	-0.3915	0.3347	-0.2686	-0.3337	0.3343	-0.7034	-0.4174	0.0778	-0.3112	-0.6605
BHAR (1)		-1.05%	-0.67%	0.15%	-0.15%	-0.22%	0.10%	-0.26%	0.25%	-0.28%	-0.27%	0.10%	-0.36%	-0.32%	-0.03%	-0.43%	-0.24%
		-2.4647	-1.8495	0.4543	-0.5190	-0.5083	0.2533	-0.5608	0.7953	-0.5937	-0.6195	0.3238	-0.8704	-0.7067	-0.0697	-1.0982	-0.6407
SPAIN																	
CAR (0)		-0.34%	0.02%	0.30%	0.37%	0.06%	0.37%	0.56%	0.49%	0.55%	0.72%	0.71%	0.64%	0.69%	0.69%	0.68%	0.59%
		-1.5272	0.1171	1.5571	2.1462	0.2287	1.3617	2.1136	2.0187	1.6638	2.2986	2.3187	2.2247	1.9596	2.0246	2.0330	1.8138
CAR (1)		-0.36%	0.06%	0.32%	0.35%	0.13%	0.41%	0.48%	0.42%	0.60%	0.72%	0.68%	0.55%	0.63%	0.63%	0.59%	0.50%
		-1.7013	0.2795	1.6599	2.0489	0.4502	1.4366	1.7867	1.7584	1.7613	2.2201	2.2260	1.9371	1.8121	1.8559	1.7919	1.5773
BHAR (0)		-0.45%	-0.31%	0.29%	0.40%	-0.15%	0.46%	0.77%	0.40%	0.60%	0.82%	0.85%	0.47%	0.67%	0.70%	0.84%	0.44%
		-1.6733	-0.9423	0.8017	1.1354	-0.4917	1.3036	1.8371	1.2969	1.5898	2.2136	2.3351	1.4757	1.8365	1.7971	2.4255	1.1517
BHAR (1)		-0.57%	-0.31%	0.26%	0.19%	-0.06%	0.55%	0.48%	0.23%	0.45%	0.67%	0.56%	0.13%	0.51%	0.51%	0.79%	0.30%
		-1.8547	-0.8219	0.7548	0.5450	-0.1980	1.6949	1.2221	0.7545	1.1911	1.7457	1.5405	0.3987	1.3995	1.3469	2.2662	0.7707

IVOL	J =		3				6	<u> </u>			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		-0.39%	0.30%	0.40%	0.55%	0.40%	0.54%	0.65%	0.57%	0.65%	0.79%	0.62%	0.47%	0.72%	0.57%	0.37%	0.28%
		-1.0277	0.8106	1.3359	2.1687	0.9225	1.3025	1.8143	1.7287	1.4497	1.8729	1.5462	1.2897	1.5058	1.1950	0.8549	0.7028
CAR (1)		-0.38%	0.26%	0.40%	0.48%	0.34%	0.51%	0.56%	0.43%	0.66%	0.70%	0.48%	0.34%	0.47%	0.39%	0.20%	0.17%
		-1.0022	0.7739	1.4468	1.9192	0.7881	1.2795	1.6011	1.3070	1.4379	1.6789	1.2137	0.9691	0.9645	0.8393	0.4693	0.4306
BHAR (0)		-0.15%	0.13%	0.60%	0.04%	0.55%	0.76%	0.74%	0.54%	0.71%	0.59%	0.57%	0.30%	0.63%	0.72%	0.34%	0.43%
		-0.3565	0.2715	1.5847	0.1025	1.1529	1.8119	1.4307	1.3460	1.5021	1.1689	1.2353	0.6455	1.2724	1.6031	0.7637	1.1339
BHAR (1)		-0.20%	-0.04%	0.29%	0.35%	0.53%	0.66%	0.81%	0.38%	0.68%	0.65%	0.51%	0.18%	0.55%	0.53%	0.15%	0.35%
		-0.5219	-0.0826	0.8553	0.7450	1.1692	1.6380	1.6003	1.0025	1.4798	1.3990	1.1407	0.3939	1.1058	1.1867	0.3295	0.8827
SWITZERLA	ND																
CAR (0)		-0.01%	0.35%	0.41%	0.51%	0.43%	0.52%	0.64%	0.60%	0.60%	0.72%	0.67%	0.54%	0.86%	0.81%	0.62%	0.47%
		-0.0450	1.6743	2.0136	2.7879	1.5317	1.7842	2.3634	2.4526	1.7605	2.1629	2.1287	1.8808	2.4020	2.3490	1.9069	1.5381
CAR (1)		-0.13%	0.24%	0.38%	0.42%	0.30%	0.45%	0.57%	0.47%	0.59%	0.69%	0.58%	0.42%	0.74%	0.67%	0.49%	0.34%
		-0.5970	1.1107	1.8429	2.2947	1.0456	1.5092	2.1093	1.9440	1.7050	2.0571	1.8641	1.4804	2.1221	1.9527	1.5068	1.1173
BHAR (0)		-0.05%	0.29%	0.23%	0.45%	0.37%	0.59%	0.50%	0.98%	0.60%	0.61%	0.76%	0.61%	0.89%	0.98%	0.74%	0.49%
		-0.1906	0.8945	0.7009	1.2385	1.2073	1.7942	1.5071	3.3036	1.6536	1.5488	2.3470	1.8950	2.4599	2.8242	2.1021	1.4775
BHAR (1)		-0.25%	0.00%	0.16%	0.37%	0.22%	0.40%	0.36%	0.79%	0.44%	0.44%	0.63%	0.31%	0.66%	0.80%	0.54%	0.44%
		-0.9602	0.0001	0.4903	1.0327	0.6440	1.1645	1.0932	2.6627	1.1741	1.1332	1.9459	0.8891	1.8371	2.3483	1.5626	1.3647
UK																	
CAR (0)		0.07%	0.64%	0.65%	0.76%	0.82%	0.89%	0.99%	0.90%	0.98%	1.11%	0.94%	0.75%	1.20%	1.08%	0.81%	0.60%
		0.3158	2.8915	3.3740	4.4974	2.6901	3.2077	4.0835	4.0345	3.0970	3.7202	3.3602	2.8510	3.7155	3.4221	2.7745	2.1848
CAR (1)		0.05%	0.55%	0.61%	0.68%	0.64%	0.78%	0.86%	0.72%	0.88%	0.97%	0.76%	0.55%	1.03%	0.87%	0.61%	0.43%
		0.2084	2.5761	3.3619	4.1648	2.1696	2.9510	3.6530	3.3261	2.8399	3.2842	2.7514	2.1425	3.2479	2.8077	2.1189	1.5770
BHAR (0)		-0.04%	0.41%	0.78%	0.46%	0.70%	0.77%	0.64%	1.07%	0.88%	0.86%	0.97%	0.74%	1.06%	1.08%	0.91%	0.49%
		-0.1452	1.3915	2.6875	1.4595	2.0493	2.3196	1.8383	4.6558	2.5024	2.4351	3.4621	2.5370	3.1271	3.4437	2.7424	1.6060
BHAR (1)		0.10%	0.10%	0.73%	0.41%	0.57%	0.67%	0.61%	0.91%	0.85%	0.80%	0.86%	0.53%	0.89%	0.79%	0.55%	0.24%
		0.3300	0.3211	2.5975	1.3686	1.8309	2.3596	1.9006	4.3913	2.5398	2.2731	2.8588	1.8038	2.7987	2.7012	1.7006	0.8123
US																	
CAR (0)		-1.46%	-0.67%	-0.34%	-0.27%	-0.96%	-0.39%	-0.19%	-0.23%	-0.55%	-0.24%	-0.25%	-0.33%	-0.57%	-0.41%	-0.42%	-0.49%
		-5.5888	-3.0330	-1.7805	-1.6008	-3.1881	-1.4386	-0.7729	-1.0537	-1.7029	-0.7957	-0.8737	-1.2620	-1.6676	-1.2295	-1.3650	-1.7457
CAR (1)		-1.31%	-0.49%	-0.24%	-0.27%	-0.70%	-0.24%	-0.18%	-0.26%	-0.39%	-0.24%	-0.30%	-0.40%	-0.60%	-0.43%	-0.50%	-0.54%
		-5.5691	-2.4181	-1.3474	-1.6719	-2.4168	-0.9413	-0.7477	-1.1665	-1.2676	-0.7884	-1.0458	-1.5428	-1.7861	-1.3415	-1.6669	-2.0061
BHAR (0)		-1.63%	-0.68%	-0.49%	-0.31%	-0.93%	-0.34%	-0.61%	0.11%	-0.54%	-0.37%	-0.12%	-0.26%	-0.49%	-0.19%	-0.26%	-0.47%
		-5.0809	-2.5571	-1.4253	-1.0416	-2.6908	-1.0911	-1.6427	0.4903	-1.5181	-1.0345	-0.4406	-0.8963	-1.3673	-0.5692	-0.7950	-1.4415
BHAR (1)		-1.38%	-0.68%	-0.52%	-0.35%	-0.77%	-0.32%	-0.63%	-0.16%	-0.50%	-0.46%	-0.36%	-0.45%	-0.68%	-0.41%	-0.49%	-0.62%
		-4.8959	-2.5031	-1.6009	-1.1486	-2.5592	-1.1173	-1.7238	-0.7245	-1.4668	-1.2885	-1.1549	-1.4639	-1.8342	-1.2152	-1.5162	-1.8462

Table 7.7a. Turnover ratios for time-series winner portfolio

EW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRALL	4																
CAR (0)		57.9%	30.0%	20.5%	15.5%	44.4%	29.6%	20.4%	15.4%	38.3%	25.9%	20.1%	15.3%	34.1%	23.6%	18.3%	15.0%
CAR (1)		58.4%	30.2%	20.6%	15.6%	44.8%	29.8%	20.5%	15.5%	38.7%	26.1%	20.2%	15.3%	34.3%	23.8%	18.4%	15.0%
BHAR (0)		57.9%	29.4%	20.5%	14.8%	44.6%	29.2%	20.6%	14.8%	38.4%	25.4%	19.6%	14.9%	34.1%	23.6%	18.0%	15.6%
BHAR (1)		58.5%	29.6%	20.7%	14.8%	45.0%	29.4%	20.7%	14.9%	38.8%	25.7%	19.7%	15.0%	34.3%	23.7%	18.1%	15.7%
AUSTRIA													l.				
CAR (0)		56.1%	29.0%	19.9%	14.8%	44.1%	28.7%	19.6%	14.8%	38.3%	25.2%	19.3%	14.8%	31.9%	21.9%	17.1%	14.4%
CAR (1)		56.5%	29.2%	20.0%	14.8%	44.5%	28.9%	19.8%	14.9%	38.4%	25.3%	19.4%	14.9%	32.2%	22.1%	17.2%	14.4%
BHAR (0)		56.2%	29.0%	20.7%	14.3%	44.9%	29.3%	20.3%	14.0%	39.0%	25.4%	18.7%	14.1%	32.0%	21.7%	17.1%	14.4%
BHAR (1)		56.7%	29.3%	20.7%	14.4%	45.4%	29.9%	20.7%	14.3%	39.2%	25.9%	18.8%	14.1%	32.2%	21.8%	17.2%	14.5%
BELGIUM																	
CAR (0)		58.2%	30.0%	20.2%	15.5%	45.6%	29.5%	20.4%	15.4%	39.7%	26.2%	20.0%	15.3%	37.0%	24.6%	18.6%	15.2%
CAR (1)		58.8%	30.2%	20.4%	15.5%	46.2%	29.9%	20.5%	15.5%	40.3%	26.7%	20.2%	15.4%	37.5%	24.8%	18.8%	15.3%
BHAR (0)		58.0%	29.4%	19.6%	13.8%	46.3%	30.3%	20.3%	15.1%	40.4%	25.8%	20.0%	14.9%	37.1%	23.9%	17.7%	15.0%
BHAR (1)		58.6%	29.7%	20.0%	13.9%	47.3%	30.9%	20.6%	15.4%	41.9%	26.8%	20.4%	15.0%	37.8%	24.1%	17.7%	15.3%
CANADA																	
CAR (0)		57.9%	30.2%	20.1%	15.3%	45.1%	29.3%	19.8%	15.1%	36.9%	24.9%	19.3%	14.8%	32.8%	22.4%	17.5%	14.5%
CAR (1)		58.9%	30.6%	20.3%	15.5%	45.8%	29.6%	20.1%	15.3%	37.2%	25.1%	19.5%	14.9%	33.1%	22.6%	17.6%	14.6%
BHAR (0)		58.1%	29.9%	20.3%	13.6%	45.7%	29.8%	20.3%	14.1%	37.3%	24.5%	19.3%	14.6%	32.7%	22.0%	17.1%	14.9%
BHAR (1)		59.1%	30.3%	20.6%	13.7%	46.7%	30.6%	20.5%	14.2%	37.8%	24.8%	19.4%	14.7%	33.1%	22.3%	17.4%	15.2%

EW J=		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARK																
CAR (0)	58.1%	29.9%	20.0%	15.1%	44.7%	28.9%	19.7%	15.0%	36.9%	25.0%	19.1%	14.6%	34.0%	22.8%	17.8%	14.5%
CAR (1)	58.6%	30.1%	20.1%	15.1%	45.3%	29.1%	19.9%	15.0%	37.3%	25.1%	19.2%	14.7%	34.2%	22.9%	17.8%	14.6%
BHAR (0)	56.6%	29.0%	19.2%	13.3%	43.8%	29.0%	19.2%	13.8%	36.8%	23.5%	18.1%	14.4%	33.3%	22.5%	18.1%	14.7%
BHAR (1)	57.5%	28.9%	19.3%	13.4%	44.5%	29.7%	19.3%	14.0%	37.3%	23.8%	18.1%	14.5%	33.6%	22.6%	18.3%	14.7%
FINLAND																
CAR (0)	57.4%	29.4%	19.3%	14.8%	46.6%	28.5%	19.3%	14.5%	39.5%	25.1%	18.8%	14.2%	36.4%	23.1%	17.5%	13.9%
CAR (1)	57.4%	29.3%	19.3%	14.7%	47.1%	28.9%	19.5%	14.6%	39.8%	25.5%	18.8%	14.2%	36.9%	23.2%	17.5%	14.0%
BHAR (0)	59.0%	30.4%	18.5%	13.7%	46.8%	28.8%	18.1%	14.2%	40.0%	24.4%	19.9%	15.2%	36.5%	22.5%	18.4%	13.6%
BHAR (1)	59.5%	29.7%	18.6%	13.7%	47.4%	29.0%	18.2%	14.3%	40.4%	25.0%	20.1%	15.3%	36.9%	22.7%	18.5%	13.7%
FRANCE																
CAR (0)	59.7%	30.3%	20.7%	15.6%	46.0%	30.0%	20.4%	15.4%	39.8%	26.2%	20.1%	15.2%	35.0%	23.5%	18.2%	15.0%
CAR (1)	60.2%	30.5%	20.9%	15.7%	46.6%	30.3%	20.6%	15.5%	40.2%	26.4%	20.2%	15.3%	35.4%	23.7%	18.3%	15.1%
BHAR (0)	59.4%	30.0%	20.1%	14.4%	45.8%	29.9%	20.0%	14.4%	39.2%	25.3%	19.5%	14.3%	34.4%	23.4%	17.6%	15.1%
BHAR (1)	60.0%	30.3%	20.3%	14.5%	46.3%	30.3%	20.3%	14.6%	39.7%	25.6%	19.6%	14.5%	34.8%	23.6%	17.7%	15.2%
GERMANY																
CAR (0)	58.3%	29.8%	20.1%	15.1%	45.4%	29.5%	20.1%	15.2%	38.6%	25.6%	19.8%	15.2%	34.5%	23.4%	18.2%	15.0%
CAR (1)	58.5%	29.9%	20.2%	15.2%	45.7%	29.7%	20.3%	15.3%	38.8%	25.7%	19.9%	15.2%	34.7%	23.5%	18.3%	15.1%
BHAR (0)	58.2%	28.9%	19.8%	13.9%	45.5%	29.9%	20.1%	14.3%	38.9%	25.0%	19.6%	14.9%	34.2%	23.6%	17.9%	15.2%
BHAR (1)	58.5%	29.0%	19.9%	13.9%	46.1%	30.4%	20.1%	14.4%	39.2%	25.2%	19.8%	15.0%	34.3%	23.7%	18.0%	15.2%

EW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		60.5%	31.0%	21.0%	15.7%	48.5%	30.0%	20.5%	15.6%	42.5%	26.5%	19.6%	14.8%	38.3%	24.3%	17.9%	14.3%
CAR (1)		60.7%	31.1%	21.0%	15.7%	48.7%	30.1%	20.6%	15.6%	42.6%	26.6%	19.6%	14.9%	38.3%	24.3%	17.9%	14.3%
BHAR (0)		60.2%	30.5%	20.5%	15.6%	48.9%	30.4%	21.3%	15.0%	43.4%	24.8%	19.3%	14.5%	36.7%	22.9%	16.5%	13.6%
BHAR (1)		60.5%	30.7%	20.6%	15.6%	49.3%	30.4%	21.7%	15.1%	43.8%	24.9%	19.3%	14.5%	36.6%	23.0%	16.5%	13.6%
HONGKONG																	
CAR (0)		60.1%	30.8%	20.7%	15.6%	48.2%	30.3%	20.7%	15.6%	42.1%	27.3%	20.4%	15.4%	38.3%	25.0%	19.0%	15.2%
CAR (1)		60.5%	30.9%	20.7%	15.7%	48.5%	30.5%	20.8%	15.6%	42.2%	27.4%	20.4%	15.4%	38.4%	25.1%	18.9%	15.2%
BHAR (0)		60.0%	30.2%	20.7%	14.5%	47.9%	30.4%	20.7%	14.7%	42.3%	27.1%	19.7%	15.3%	39.1%	24.6%	18.7%	15.7%
BHAR (1)		60.3%	30.4%	20.8%	14.5%	48.2%	30.5%	20.7%	14.9%	42.4%	27.3%	19.8%	15.4%	39.2%	24.7%	18.7%	15.7%
IRELAND																	
CAR (0)		57.2%	29.7%	20.5%	15.4%	45.4%	29.5%	20.3%	15.3%	39.2%	25.4%	19.5%	14.8%	34.7%	22.7%	17.3%	14.0%
CAR (1)		58.0%	29.9%	20.6%	15.6%	46.2%	29.9%	20.5%	15.5%	40.1%	25.8%	19.7%	15.0%	34.9%	23.1%	17.6%	14.2%
BHAR (0)		58.8%	28.8%	20.8%	14.5%	45.2%	28.9%	21.0%	13.8%	37.1%	24.4%	17.3%	13.6%	34.7%	22.4%	17.6%	14.2%
BHAR (1)		59.0%	28.8%	21.0%	14.5%	45.5%	29.0%	21.3%	14.1%	37.2%	24.7%	17.4%	13.7%	35.0%	22.4%	17.6%	14.3%
ISRAEL																	
CAR (0)		60.2%	30.8%	20.5%	15.6%	48.9%	30.7%	20.6%	15.5%	42.3%	27.3%	20.2%	15.2%	38.7%	25.0%	18.6%	14.9%
CAR (1)		60.7%	30.9%	20.6%	15.7%	49.2%	30.9%	20.7%	15.6%	42.5%	27.3%	20.2%	15.2%	38.8%	25.1%	18.6%	14.9%
BHAR (0)		60.7%	30.5%	20.1%	15.0%	48.2%	30.3%	20.7%	14.6%	42.7%	26.8%	20.2%	15.2%	39.6%	24.9%	19.0%	15.5%
BHAR (1)	-	61.4%	30.8%	20.3%	15.0%	48.8%	30.8%	20.8%	14.7%	43.1%	27.1%	20.3%	15.2%	39.8%	25.0%	19.0%	15.5%

EW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		59.3%	31.1%	21.2%	16.1%	46.8%	29.9%	20.6%	15.6%	41.4%	26.7%	20.3%	15.6%	37.5%	24.3%	18.7%	15.2%
CAR (1)		60.1%	31.5%	21.3%	16.1%	47.5%	30.1%	20.7%	15.6%	41.8%	27.0%	20.5%	15.7%	37.7%	24.6%	18.8%	15.3%
BHAR (0)		59.6%	31.6%	22.1%	15.3%	47.1%	30.8%	20.4%	15.6%	42.1%	25.9%	20.0%	15.2%	37.8%	25.3%	19.0%	16.0%
BHAR (1)		60.8%	32.3%	22.3%	15.4%	47.7%	31.2%	20.6%	15.7%	42.8%	26.1%	20.1%	15.3%	38.2%	25.9%	19.5%	16.1%
JAPAN	<u> </u>																
CAR (0)		59.9%	31.0%	20.4%	15.3%	50.8%	30.9%	20.5%	15.3%	43.5%	27.6%	20.3%	15.2%	39.1%	25.1%	18.8%	15.0%
CAR (1)		60.2%	31.1%	20.4%	15.3%	51.1%	31.0%	20.6%	15.3%	43.6%	27.6%	20.3%	15.2%	39.2%	25.1%	18.8%	15.0%
BHAR (0)		59.9%	29.9%	20.1%	14.7%	50.4%	30.7%	20.2%	13.9%	43.3%	27.1%	19.6%	14.3%	38.4%	24.7%	18.4%	15.1%
BHAR (1)		60.3%	30.1%	20.2%	14.8%	50.6%	30.8%	20.2%	14.0%	43.4%	27.3%	19.6%	14.3%	38.5%	24.7%	18.4%	15.1%
NETHERLA	NDS																
CAR (0)		60.3%	31.4%	21.4%	16.1%	49.2%	31.3%	21.4%	16.0%	42.6%	27.5%	20.4%	15.3%	36.7%	24.0%	18.2%	14.7%
CAR (1)		61.2%	32.0%	21.6%	16.2%	50.4%	31.7%	21.6%	16.1%	43.5%	27.9%	20.6%	15.5%	37.3%	24.2%	18.3%	14.7%
BHAR (0)		57.9%	31.9%	20.3%	14.7%	47.0%	30.1%	20.5%	13.1%	42.9%	26.2%	20.4%	14.7%	35.5%	22.8%	17.5%	14.4%
BHAR (1)		58.3%	32.1%	20.6%	14.8%	47.4%	30.2%	20.6%	13.4%	43.4%	26.5%	20.9%	14.8%	35.7%	23.0%	17.9%	14.6%
NEWZEALA	ND																
CAR (0)		58.1%	30.0%	20.6%	15.7%	43.8%	28.8%	19.9%	15.5%	37.4%	25.2%	19.8%	15.2%	33.5%	23.2%	18.1%	15.0%
CAR (1)		59.1%	30.4%	20.8%	15.8%	44.2%	29.1%	20.2%	15.6%	37.5%	25.6%	20.0%	15.3%	33.9%	23.5%	18.2%	15.1%
BHAR (0)		57.8%	29.3%	20.0%	15.5%	43.1%	28.4%	20.8%	15.6%	36.6%	24.3%	19.3%	14.7%	33.2%	22.2%	17.9%	13.9%
BHAR (1)		58.5%	30.0%	19.8%	15.7%	43.7%	28.6%	21.1%	15.9%	36.9%	24.9%	19.5%	14.8%	33.4%	22.2%	18.1%	13.9%

EW J=		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY																
CAR (0)	59.5%	30.8%	21.0%	16.1%	46.8%	29.5%	20.5%	15.7%	43.3%	27.2%	20.4%	15.7%	37.1%	23.8%	17.9%	14.6%
CAR (1)	60.6%	31.1%	21.2%	16.3%	48.3%	30.0%	20.8%	15.8%	44.0%	27.7%	20.6%	15.9%	37.2%	24.0%	18.0%	14.6%
BHAR (0)	59.2%	29.2%	20.1%	14.6%	46.0%	26.8%	21.0%	15.0%	43.3%	25.9%	20.8%	15.1%	36.5%	23.6%	17.3%	14.4%
BHAR (1)	59.8%	29.4%	19.8%	14.7%	47.5%	27.1%	21.3%	15.3%	44.2%	26.3%	21.1%	15.4%	37.0%	24.0%	17.6%	14.7%
PORTUGAL																
CAR (0)	59.7%	30.8%	21.2%	16.1%	44.7%	30.8%	21.1%	15.9%	40.7%	26.8%	20.8%	15.6%	36.1%	23.7%	18.3%	15.5%
CAR (1)	60.4%	31.2%	21.4%	16.1%	45.4%	31.3%	21.3%	16.0%	41.4%	27.2%	21.0%	15.7%	36.8%	24.0%	18.5%	15.6%
BHAR (0)	59.4%	30.0%	20.9%	15.5%	45.4%	31.5%	22.5%	15.1%	40.6%	25.6%	20.8%	15.3%	36.2%	23.5%	17.6%	15.7%
BHAR (1)	60.1%	30.6%	21.1%	15.5%	46.1%	32.1%	21.7%	15.6%	41.3%	25.6%	21.7%	15.4%	37.5%	24.1%	17.7%	16.1%
SINGAPORE																
CAR (0)	61.0%	31.5%	21.4%	16.1%	49.4%	30.8%	21.0%	15.9%	45.3%	29.1%	21.4%	16.1%	41.2%	27.0%	20.1%	16.0%
CAR (1)	61.4%	31.7%	21.5%	16.2%	50.0%	31.0%	21.2%	15.9%	45.8%	29.4%	21.5%	16.2%	41.4%	27.2%	20.1%	16.1%
BHAR (0)	61.0%	31.4%	20.8%	15.1%	47.9%	30.1%	20.7%	15.0%	43.5%	27.6%	20.5%	16.2%	39.8%	26.7%	19.8%	17.6%
BHAR (1)	61.2%	31.4%	21.0%	15.2%	48.3%	30.1%	20.8%	15.1%	43.8%	28.0%	20.7%	16.3%	40.1%	27.2%	19.9%	17.6%
SPAIN								<u> </u>								
CAR (0)	59.2%	30.3%	20.5%	15.4%	48.5%	29.6%	19.9%	14.9%	40.5%	25.9%	19.5%	14.8%	37.3%	23.6%	17.9%	14.4%
CAR (1)	59.6%	30.5%	20.6%	15.4%	48.9%	29.8%	20.0%	14.9%	40.8%	26.1%	19.5%	14.8%	37.6%	23.7%	18.0%	14.4%
BHAR (0)	59.9%	30.4%	20.7%	14.0%	48.7%	30.6%	20.4%	13.7%	40.4%	25.2%	18.9%	14.6%	35.4%	22.0%	17.6%	14.3%
BHAR (1)	60.5%	30.7%	20.9%	14.1%	48.7%	30.8%	20.6%	13.3%	40.7%	25.7%	19.0%	14.7%	35.6%	22.2%	17.7%	14.4%

EW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		59.9%	31.2%	21.5%	16.4%	49.3%	31.3%	21.7%	16.5%	43.1%	27.7%	20.7%	15.7%	37.5%	24.8%	18.9%	15.2%
CAR (1)		61.3%	31.9%	21.9%	16.6%	50.6%	31.8%	22.1%	16.8%	44.2%	28.1%	20.9%	15.9%	38.1%	24.9%	19.2%	15.5%
BHAR (0)		60.4%	31.5%	21.1%	15.2%	49.6%	31.4%	21.5%	15.1%	43.1%	26.7%	19.9%	15.8%	36.8%	24.0%	18.2%	15.0%
BHAR (1)		61.6%	32.3%	21.4%	15.3%	51.0%	32.3%	21.7%	15.3%	43.8%	27.3%	20.0%	16.0%	37.2%	24.2%	18.3%	15.1%
SWITZERLAN	ND																
CAR (0)		57.2%	29.1%	19.7%	14.9%	45.7%	28.5%	19.5%	14.7%	40.8%	25.8%	19.3%	14.7%	36.3%	23.7%	18.0%	14.5%
CAR (1)		57.6%	29.3%	19.8%	15.0%	46.1%	28.8%	19.7%	14.8%	41.3%	25.9%	19.3%	14.7%	36.3%	23.8%	18.0%	14.5%
BHAR (0)		57.4%	29.2%	19.2%	14.4%	44.2%	26.8%	19.2%	13.3%	40.3%	24.6%	18.9%	14.1%	36.4%	22.5%	17.6%	14.0%
BHAR (1)		57.5%	29.2%	19.3%	14.5%	44.4%	27.0%	19.4%	13.4%	40.6%	25.0%	19.1%	14.1%	36.7%	22.8%	17.6%	14.0%
UK																	
CAR (0)		60.1%	31.0%	21.2%	15.9%	47.4%	30.7%	21.0%	15.9%	40.5%	26.6%	20.3%	15.4%	35.1%	23.8%	18.4%	15.0%
CAR (1)		61.2%	31.5%	21.4%	16.1%	48.2%	31.2%	21.3%	16.0%	41.1%	26.9%	20.5%	15.6%	35.5%	24.1%	18.5%	15.1%
BHAR (0)		60.0%	30.6%	20.1%	14.4%	47.5%	30.6%	20.7%	14.5%	40.2%	25.7%	19.7%	15.2%	34.4%	23.6%	17.7%	15.5%
BHAR (1)		61.0%	31.0%	20.3%	14.5%	48.3%	30.9%	20.9%	14.7%	40.7%	26.2%	19.9%	15.4%	34.7%	23.8%	17.8%	15.6%
US																	
CAR (0)		58.6%	30.1%	20.3%	15.6%	46.0%	29.6%	20.2%	15.4%	38.7%	25.6%	19.9%	15.2%	35.2%	23.3%	18.1%	14.9%
CAR (1)		59.5%	30.5%	20.5%	15.7%	46.8%	30.0%	20.4%	15.6%	39.2%	25.9%	20.0%	15.3%	35.6%	23.6%	18.2%	15.0%
BHAR (0)		58.7%	29.9%	19.7%	14.4%	45.8%	29.2%	20.5%	14.3%	38.7%	25.5%	19.1%	15.2%	34.6%	22.6%	17.5%	15.1%
BHAR (1)		59.7%	30.5%	19.9%	14.5%	46.6%	29.7%	20.8%	14.5%	39.3%	25.9%	19.3%	15.3%	35.0%	22.9%	17.7%	15.2%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRALI	A																
CAR (0)		60.0%	31.0%	20.7%	15.6%	48.0%	29.8%	20.4%	15.4%	40.1%	26.2%	19.9%	15.1%	35.8%	23.9%	18.3%	14.8%
CAR (1)		59.5%	30.9%	20.7%	15.5%	47.5%	29.6%	20.4%	15.3%	39.7%	25.9%	19.7%	15.1%	35.4%	23.7%	18.1%	14.7%
BHAR (0)		60.0%	30.7%	20.3%	14.9%	47.9%	29.7%	20.3%	15.0%	39.3%	25.3%	19.5%	14.6%	35.5%	23.9%	17.9%	14.9%
BHAR (1)		59.6%	30.7%	20.3%	14.8%	47.5%	29.5%	20.3%	14.9%	39.2%	25.2%	19.4%	14.6%	35.2%	23.6%	17.9%	14.9%
AUSTRIA																	
CAR (0)		57.2%	29.3%	19.4%	14.6%	44.3%	27.9%	19.0%	14.4%	38.5%	24.6%	18.5%	14.1%	34.2%	22.4%	16.9%	13.7%
CAR (1)		57.0%	29.2%	19.3%	14.5%	44.1%	27.8%	19.0%	14.3%	38.2%	24.5%	18.4%	14.0%	33.9%	22.3%	16.8%	13.6%
BHAR (0)		57.5%	27.8%	19.8%	14.1%	45.6%	27.9%	18.6%	13.9%	37.6%	23.8%	17.4%	14.0%	34.1%	22.6%	16.9%	13.9%
BHAR (1)		57.3%	28.1%	19.8%	14.0%	45.0%	27.8%	18.6%	13.9%	37.8%	24.7%	17.4%	13.9%	33.7%	22.0%	16.8%	13.8%
BELGIUM	[
CAR (0)		58.7%	29.7%	19.8%	15.1%	49.3%	29.9%	19.7%	14.6%	44.3%	27.2%	19.3%	14.7%	41.8%	25.4%	17.9%	14.5%
CAR (1)		58.4%	29.6%	19.7%	15.1%	49.5%	29.9%	19.6%	14.6%	44.4%	27.1%	19.2%	14.7%	41.5%	25.2%	17.8%	14.4%
BHAR (0)		58.2%	28.5%	20.2%	12.9%	48.5%	29.2%	20.9%	13.7%	43.9%	26.2%	19.8%	14.8%	40.3%	25.1%	17.2%	15.4%
BHAR (1)		58.1%	28.9%	20.1%	13.0%	49.4%	29.6%	20.9%	14.0%	44.4%	26.8%	19.7%	14.8%	40.9%	25.1%	17.3%	15.4%
CANADA																	
CAR (0)		58.5%	29.8%	19.9%	15.2%	46.4%	28.4%	19.4%	14.8%	38.6%	24.8%	18.7%	14.5%	35.4%	22.9%	17.4%	14.3%
CAR (1)		57.9%	29.7%	19.9%	15.2%	45.9%	28.2%	19.3%	14.8%	38.0%	24.5%	18.6%	14.5%	34.8%	22.6%	17.3%	14.2%
BHAR (0)		58.9%	29.6%	19.6%	14.4%	47.1%	28.7%	19.4%	14.1%	39.9%	24.8%	18.5%	14.1%	35.0%	22.6%	16.8%	15.0%
BHAR (1)		58.5%	29.5%	19.6%	14.3%	46.4%	28.5%	19.4%	14.1%	39.5%	24.6%	18.3%	14.2%	34.4%	22.2%	16.7%	14.9%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARK																	
CAR (0)		56.9%	29.0%	19.4%	14.6%	44.3%	28.0%	19.3%	14.7%	36.5%	24.3%	18.4%	14.2%	34.0%	22.5%	17.6%	14.2%
CAR (1)		56.4%	29.0%	19.4%	14.5%	44.1%	27.9%	19.2%	14.7%	36.4%	24.0%	18.3%	14.1%	33.6%	22.4%	17.4%	14.2%
BHAR (0)		55.1%	28.7%	17.6%	12.8%	44.0%	28.1%	19.1%	13.5%	35.5%	22.9%	16.8%	14.5%	32.4%	22.3%	17.7%	14.7%
BHAR (1)		54.8%	28.9%	17.6%	12.8%	43.7%	27.9%	19.0%	13.5%	35.0%	23.0%	16.7%	14.5%	32.0%	22.2%	17.6%	14.7%
FINLAND																	
CAR (0)		57.2%	28.0%	18.3%	14.0%	43.6%	25.7%	17.0%	13.0%	34.3%	21.6%	16.2%	12.3%	31.7%	19.9%	15.2%	12.1%
CAR (1)		56.7%	27.9%	18.2%	13.9%	43.0%	25.5%	17.0%	12.9%	34.0%	21.7%	16.1%	12.2%	31.6%	19.8%	15.0%	12.0%
BHAR (0)		58.4%	29.4%	16.9%	12.8%	44.0%	26.1%	15.6%	13.1%	34.1%	20.4%	16.6%	12.8%	32.9%	19.6%	15.8%	12.3%
BHAR (1)		58.1%	29.0%	16.9%	12.8%	43.6%	26.0%	15.6%	13.0%	33.5%	20.6%	16.4%	12.7%	32.6%	19.5%	15.7%	12.2%
FRANCE																	
CAR (0)		60.3%	30.4%	20.4%	15.1%	47.8%	29.9%	20.1%	14.9%	43.7%	27.0%	19.9%	14.8%	38.4%	24.2%	18.3%	14.7%
CAR (1)		60.1%	30.4%	20.4%	15.0%	47.6%	29.8%	20.1%	14.9%	43.3%	26.9%	19.8%	14.8%	38.2%	24.2%	18.2%	14.7%
BHAR (0)		60.4%	29.7%	19.3%	13.8%	47.4%	29.5%	20.2%	14.2%	43.5%	26.1%	19.5%	14.3%	37.6%	23.1%	17.7%	14.8%
BHAR (1)		60.1%	29.8%	19.3%	13.8%	47.1%	29.5%	20.1%	14.2%	43.3%	26.0%	19.5%	14.4%	37.5%	23.1%	17.5%	14.6%
GERMANY	<u> </u>																
CAR (0)		59.9%	30.3%	20.5%	15.3%	47.7%	29.5%	19.6%	14.9%	40.2%	25.1%	19.1%	14.6%	34.5%	22.4%	17.4%	14.2%
CAR (1)		59.7%	30.3%	20.5%	15.2%	47.3%	29.4%	19.6%	14.9%	39.9%	25.0%	19.0%	14.5%	34.1%	22.2%	17.3%	14.1%
BHAR (0)		59.5%	29.9%	18.9%	14.4%	48.5%	29.3%	19.2%	14.3%	40.5%	24.3%	18.8%	14.7%	35.7%	22.2%	17.4%	14.7%
BHAR (1)		59.1%	29.8%	18.9%	14.3%	48.0%	29.1%	19.3%	14.4%	40.3%	24.5%	18.7%	14.7%	35.5%	22.0%	17.3%	14.6%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE	,																
CAR (0)		62.7%	31.7%	21.2%	15.6%	54.0%	30.8%	20.6%	15.2%	47.3%	27.7%	19.8%	14.6%	43.7%	25.4%	18.0%	14.1%
CAR (1)		62.4%	31.7%	21.1%	15.6%	53.9%	30.8%	20.6%	15.2%	47.2%	27.6%	19.7%	14.6%	43.2%	25.4%	17.9%	14.1%
BHAR (0)		62.8%	31.4%	20.8%	15.1%	55.3%	32.2%	21.0%	14.2%	49.1%	25.7%	19.2%	13.2%	41.6%	24.5%	17.0%	13.3%
BHAR (1)	_	62.3%	31.7%	20.8%	15.1%	55.2%	32.1%	21.0%	14.2%	49.4%	25.7%	19.2%	13.2%	41.4%	24.5%	17.1%	13.3%
HONGKON	NG																
CAR (0)		60.5%	31.1%	20.8%	15.7%	50.2%	30.3%	20.6%	15.4%	44.1%	27.5%	20.0%	15.3%	40.1%	25.3%	18.8%	15.1%
CAR (1)		60.1%	31.1%	20.8%	15.7%	49.9%	30.1%	20.7%	15.4%	43.6%	27.4%	19.9%	15.3%	39.8%	25.1%	18.7%	15.0%
BHAR (0)		60.1%	30.5%	20.9%	14.9%	50.0%	29.9%	20.0%	14.8%	44.8%	27.6%	19.4%	14.9%	41.1%	26.0%	18.1%	15.7%
BHAR (1)	_	59.9%	30.5%	20.9%	14.9%	49.7%	29.9%	19.9%	14.8%	44.3%	27.5%	19.3%	14.9%	40.6%	25.9%	18.0%	15.7%
IRELANI	<u> </u>																
CAR (0)		56.6%	29.4%	20.0%	14.7%	46.1%	28.6%	19.4%	14.4%	39.6%	25.0%	18.7%	14.2%	35.4%	22.2%	17.0%	13.4%
CAR (1)		56.5%	29.3%	20.1%	14.7%	45.7%	28.5%	19.5%	14.4%	39.6%	25.0%	18.7%	14.2%	35.1%	22.2%	17.0%	13.3%
BHAR (0)		57.1%	28.1%	20.6%	14.2%	46.1%	27.4%	19.6%	12.8%	37.2%	24.2%	16.4%	13.2%	37.7%	22.4%	17.2%	12.9%
BHAR (1)		56.9%	28.0%	20.6%	14.3%	46.0%	27.4%	19.5%	13.2%	37.1%	24.2%	16.4%	13.2%	37.7%	22.3%	17.2%	12.8%
ISRAEL									Į.								
CAR (0)		60.3%	30.3%	20.4%	15.3%	48.3%	29.6%	20.0%	15.2%	41.6%	26.0%	20.0%	15.1%	35.4%	23.8%	18.3%	14.9%
CAR (1)		60.0%	30.2%	20.3%	15.3%	48.0%	29.4%	20.0%	15.2%	41.4%	25.9%	19.9%	15.1%	35.2%	23.6%	18.2%	14.8%
BHAR (0)	-	60.7%	30.7%	19.9%	14.9%	47.0%	29.4%	20.0%	14.2%	42.3%	26.4%	19.7%	14.7%	36.2%	23.6%	18.2%	14.9%
BHAR (1)		60.3%	30.7%	19.9%	14.8%	46.4%	29.2%	19.9%	14.2%	41.6%	26.4%	19.7%	14.7%	35.8%	23.4%	18.2%	14.9%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		59.1%	29.7%	20.1%	14.8%	48.4%	29.0%	19.3%	14.4%	41.3%	25.1%	19.0%	14.4%	37.6%	22.6%	17.2%	13.6%
CAR (1)		58.7%	29.8%	20.1%	14.8%	47.8%	28.8%	19.4%	14.3%	40.4%	24.9%	19.0%	14.3%	37.1%	22.6%	17.1%	13.6%
BHAR (0)		59.3%	30.6%	20.0%	14.7%	49.8%	29.4%	19.1%	13.8%	41.3%	22.9%	18.8%	13.3%	35.9%	22.7%	16.5%	13.9%
BHAR (1)		59.1%	30.9%	20.0%	14.6%	49.7%	29.4%	19.1%	13.8%	40.7%	22.5%	18.7%	13.2%	35.1%	22.7%	16.5%	13.9%
JAPAN																	
CAR (0)		60.6%	30.8%	20.4%	15.4%	51.3%	30.6%	20.6%	15.4%	45.2%	28.1%	20.5%	15.3%	41.0%	25.8%	19.0%	15.1%
CAR (1)		60.3%	30.8%	20.3%	15.4%	51.2%	30.5%	20.6%	15.4%	44.7%	28.0%	20.4%	15.3%	40.7%	25.6%	18.9%	15.0%
BHAR (0)		60.6%	30.4%	20.2%	14.8%	51.2%	30.6%	20.3%	14.6%	45.0%	27.9%	19.7%	14.8%	40.0%	25.4%	18.7%	15.1%
BHAR (1)		60.4%	30.4%	20.2%	14.8%	50.7%	30.5%	20.3%	14.6%	44.6%	28.1%	19.6%	14.8%	39.7%	25.3%	18.7%	15.1%
NETHERLA	NDS																
CAR (0)		59.8%	30.1%	19.8%	15.0%	50.6%	29.9%	19.9%	14.8%	44.5%	27.7%	19.8%	14.6%	40.1%	24.4%	17.8%	14.1%
CAR (1)		59.4%	30.2%	19.8%	15.0%	50.4%	29.9%	19.8%	14.8%	44.7%	27.5%	19.7%	14.6%	39.8%	24.1%	17.6%	14.0%
BHAR (0)		57.9%	30.6%	18.6%	13.8%	48.8%	29.1%	19.9%	12.8%	44.2%	27.0%	20.1%	14.6%	38.9%	24.0%	17.6%	14.7%
BHAR (1)		57.6%	30.8%	18.6%	13.8%	48.5%	28.6%	19.9%	13.0%	44.0%	27.3%	20.1%	14.7%	39.1%	23.8%	17.6%	14.7%
NEWZEALA	ND																
CAR (0)		58.5%	30.2%	20.4%	15.3%	45.8%	29.1%	19.9%	14.9%	38.8%	25.9%	19.6%	14.8%	36.7%	24.1%	18.6%	14.7%
CAR (1)		58.2%	30.2%	20.4%	15.3%	45.6%	29.0%	19.9%	14.9%	38.6%	25.9%	19.5%	14.8%	36.8%	24.2%	18.6%	14.6%
BHAR (0)		57.6%	30.1%	20.3%	15.2%	46.1%	28.6%	20.5%	14.7%	40.2%	26.3%	18.7%	14.9%	35.7%	24.1%	17.9%	14.0%
BHAR (1)		57.3%	30.2%	20.3%	15.2%	45.7%	28.5%	20.5%	15.0%	39.6%	26.4%	18.5%	14.9%	35.9%	23.8%	17.9%	14.0%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY																	
CAR (0)		58.0%	29.6%	19.8%	14.8%	45.8%	28.0%	19.1%	14.3%	42.1%	26.3%	19.5%	14.5%	37.8%	23.9%	17.6%	14.0%
CAR (1)		57.5%	29.4%	19.7%	14.7%	45.4%	27.8%	19.0%	14.2%	41.9%	26.2%	19.3%	14.5%	37.3%	23.7%	17.5%	13.9%
BHAR (0)		58.0%	28.4%	18.9%	13.4%	45.7%	26.5%	19.9%	14.1%	42.4%	26.4%	20.1%	14.5%	35.7%	23.2%	16.5%	14.0%
BHAR (1)		57.4%	28.5%	18.5%	13.4%	45.3%	26.3%	19.9%	14.1%	42.2%	26.3%	19.9%	14.5%	35.6%	23.0%	16.4%	13.9%
PORTUGAL																	
CAR (0)		59.7%	30.9%	20.5%	15.2%	45.4%	29.9%	20.3%	15.1%	39.3%	26.5%	19.9%	15.0%	36.5%	23.8%	18.3%	14.8%
CAR (1)		59.4%	30.9%	20.5%	15.1%	45.0%	29.8%	20.3%	15.1%	39.2%	26.4%	19.8%	15.0%	36.4%	23.8%	18.2%	14.6%
BHAR (0)		60.8%	30.4%	20.4%	14.7%	45.4%	30.4%	21.2%	15.2%	36.9%	25.6%	20.2%	14.8%	34.2%	23.2%	18.8%	14.6%
BHAR (1)		60.5%	30.6%	20.3%	14.7%	45.3%	30.0%	21.2%	14.7%	36.5%	26.1%	20.2%	14.7%	33.7%	22.5%	18.5%	14.4%
SINGAPORI	Ξ																
CAR (0)		61.0%	30.9%	20.5%	15.4%	49.8%	30.3%	20.3%	15.0%	45.5%	28.3%	20.5%	15.2%	40.9%	26.2%	19.1%	15.1%
CAR (1)		60.6%	30.9%	20.5%	15.4%	49.4%	30.1%	20.4%	15.0%	45.1%	28.3%	20.4%	15.2%	40.4%	26.0%	18.9%	15.0%
BHAR (0)		60.6%	30.8%	20.1%	15.1%	49.4%	29.3%	20.0%	14.8%	44.6%	27.3%	20.2%	15.4%	40.6%	26.1%	19.0%	15.6%
BHAR (1)		60.4%	30.8%	20.1%	15.1%	48.9%	29.3%	20.0%	14.8%	44.3%	27.5%	20.1%	15.4%	40.3%	25.9%	18.9%	15.6%
SPAIN													L				
CAR (0)		61.1%	30.6%	20.1%	15.0%	51.2%	29.8%	19.5%	14.5%	44.3%	26.2%	19.0%	14.2%	41.0%	24.3%	17.6%	13.9%
CAR (1)		60.9%	30.6%	20.0%	15.0%	50.7%	29.6%	19.5%	14.3%	44.1%	26.1%	18.9%	14.1%	41.0%	24.3%	17.5%	13.8%
BHAR (0)		61.2%	30.4%	19.9%	14.4%	51.5%	30.2%	20.8%	13.9%	45.0%	26.7%	18.3%	13.9%	38.2%	23.6%	17.4%	13.6%
BHAR (1)		61.0%	30.6%	19.7%	14.4%	50.4%	29.7%	20.8%	13.4%	44.3%	27.0%	18.2%	13.9%	37.8%	23.2%	17.1%	13.6%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	N .																
CAR (0)		60.0%	30.4%	20.3%	15.3%	49.9%	29.9%	20.2%	15.2%	42.5%	26.9%	19.6%	14.8%	37.7%	23.9%	17.9%	14.4%
CAR (1)		59.7%	30.4%	20.3%	15.2%	49.6%	29.7%	20.2%	15.2%	42.3%	26.7%	19.5%	14.7%	37.7%	23.6%	17.8%	14.3%
BHAR (0)		60.6%	30.8%	19.8%	14.4%	49.9%	30.0%	20.2%	14.2%	42.5%	26.0%	19.5%	14.7%	38.7%	23.3%	17.0%	14.2%
BHAR (1)		60.3%	30.8%	19.9%	14.5%	49.4%	29.7%	20.2%	14.3%	42.3%	26.1%	19.5%	14.7%	38.8%	23.3%	17.1%	14.2%
SWITZERLA	AND																
CAR (0)		59.5%	29.5%	19.8%	14.6%	48.9%	29.0%	19.5%	14.6%	43.2%	26.2%	19.1%	14.5%	38.2%	24.3%	17.9%	14.4%
CAR (1)		59.2%	29.5%	19.8%	14.6%	48.7%	29.0%	19.5%	14.6%	42.9%	26.1%	19.0%	14.4%	37.7%	24.2%	17.8%	14.3%
BHAR (0)		60.1%	30.1%	19.3%	13.4%	47.8%	27.4%	19.8%	13.3%	42.6%	25.2%	18.2%	14.1%	38.5%	22.8%	17.6%	13.8%
BHAR (1)	_	59.9%	30.2%	19.4%	13.5%	47.7%	27.2%	19.8%	13.4%	42.4%	25.6%	18.2%	14.1%	38.4%	22.7%	17.5%	13.7%
UK																	
CAR (0)		61.6%	30.7%	20.5%	15.3%	50.7%	30.4%	20.5%	15.4%	45.5%	27.6%	20.3%	15.2%	39.7%	25.7%	19.1%	15.0%
CAR (1)		61.4%	30.7%	20.5%	15.3%	50.5%	30.3%	20.5%	15.4%	45.1%	27.5%	20.2%	15.2%	39.6%	25.6%	19.0%	14.9%
BHAR (0)		62.1%	29.5%	19.9%	14.2%	50.9%	30.4%	20.5%	14.8%	45.6%	26.7%	20.0%	14.9%	40.1%	24.7%	18.4%	15.2%
BHAR (1)		61.8%	29.6%	20.0%	14.2%	50.5%	30.3%	20.5%	14.9%	45.1%	26.8%	19.9%	14.9%	39.9%	24.6%	18.3%	15.2%
US																	
CAR (0)		59.5%	29.9%	19.8%	14.9%	47.8%	29.3%	19.6%	14.6%	40.8%	25.6%	19.3%	14.5%	36.8%	23.5%	17.8%	14.3%
CAR (1)		59.1%	29.9%	19.8%	14.9%	47.3%	29.1%	19.6%	14.6%	40.2%	25.5%	19.2%	14.5%	36.5%	23.4%	17.7%	14.2%
BHAR (0)	-	59.9%	29.5%	19.5%	14.4%	47.6%	28.8%	19.9%	14.1%	40.9%	25.3%	18.8%	14.6%	36.4%	22.8%	17.4%	14.5%
BHAR (1)		59.5%	29.5%	19.5%	14.4%	47.1%	28.6%	19.9%	14.1%	40.6%	25.4%	18.7%	14.6%	35.8%	22.6%	17.3%	14.4%

IVOL	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRALIA	1																
CAR (0)		59.1%	29.7%	20.2%	15.1%	45.9%	29.0%	19.8%	14.9%	39.4%	25.6%	19.4%	14.7%	35.2%	23.4%	17.8%	14.4%
CAR (1)		59.7%	29.9%	20.3%	15.1%	46.3%	29.1%	19.9%	14.9%	39.8%	25.6%	19.4%	14.7%	35.8%	23.6%	17.8%	14.4%
BHAR (0)		59.3%	29.2%	19.9%	14.4%	45.9%	28.9%	19.9%	14.6%	39.3%	25.2%	19.0%	14.4%	35.0%	23.4%	17.4%	14.9%
BHAR (1)		59.8%	29.2%	20.0%	14.5%	46.1%	29.0%	19.9%	14.7%	39.6%	25.3%	19.1%	14.5%	35.2%	23.5%	17.4%	14.9%
AUSTRIA					<u>L</u>												
CAR (0)		57.2%	29.0%	19.3%	14.4%	46.2%	28.1%	18.9%	14.2%	39.6%	24.6%	18.4%	13.8%	32.8%	21.4%	16.1%	13.3%
CAR (1)		57.7%	29.0%	19.4%	14.4%	46.3%	28.2%	19.0%	14.1%	40.1%	24.6%	18.4%	13.8%	33.3%	21.6%	16.2%	13.3%
BHAR (0)		57.4%	28.9%	19.8%	14.2%	47.2%	28.6%	19.5%	13.8%	39.3%	24.5%	18.1%	13.6%	33.3%	21.6%	16.3%	13.5%
BHAR (1)		57.8%	29.1%	19.9%	14.3%	46.5%	28.3%	19.2%	14.0%	39.9%	24.5%	18.1%	13.3%	33.6%	21.2%	16.4%	13.5%
BELGIUM																	
CAR (0)		59.2%	29.6%	19.7%	14.7%	46.8%	28.7%	19.2%	14.3%	40.1%	25.2%	18.8%	14.2%	36.8%	23.7%	17.6%	14.0%
CAR (1)		59.7%	29.8%	19.7%	14.7%	47.0%	28.7%	19.2%	14.3%	40.3%	25.2%	18.8%	14.1%	36.9%	23.6%	17.5%	14.0%
BHAR (0)		59.2%	29.0%	19.2%	13.0%	46.6%	29.2%	19.1%	13.3%	40.1%	24.8%	18.4%	14.0%	36.0%	22.8%	16.9%	14.2%
BHAR (1)		59.4%	29.2%	19.5%	13.0%	47.1%	29.3%	19.2%	13.5%	40.5%	25.1%	18.4%	14.1%	36.1%	22.8%	16.9%	14.3%
CANADA																	
CAR (0)		57.7%	29.3%	19.4%	14.7%	45.4%	28.3%	19.1%	14.4%	37.6%	24.6%	18.8%	14.3%	33.6%	22.3%	17.1%	14.0%
CAR (1)		57.9%	29.4%	19.4%	14.7%	45.4%	28.4%	19.1%	14.4%	37.5%	24.5%	18.7%	14.2%	33.5%	22.3%	17.1%	14.0%
BHAR (0)		57.6%	29.2%	19.1%	13.6%	45.8%	28.6%	19.5%	13.9%	38.4%	24.2%	18.6%	14.0%	33.3%	22.1%	16.6%	14.3%
BHAR (1)	-	57.8%	29.0%	19.1%	13.3%	46.1%	28.6%	19.5%	13.7%	38.4%	24.3%	18.6%	14.0%	33.3%	22.1%	16.6%	14.3%

IVOL J =		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARK																
CAR (0)	58.4%	29.3%	19.5%	14.6%	45.9%	28.4%	19.3%	14.6%	38.2%	24.9%	18.8%	14.3%	35.2%	23.0%	17.7%	14.3%
CAR (1)	58.9%	29.5%	19.6%	14.7%	46.3%	28.5%	19.3%	14.6%	38.6%	24.9%	18.8%	14.3%	35.2%	23.0%	17.7%	14.3%
BHAR (0)	57.4%	28.7%	18.9%	13.1%	44.8%	28.3%	18.8%	13.4%	38.0%	23.7%	17.7%	14.1%	34.8%	22.6%	17.9%	14.4%
BHAR (1)	57.9%	28.7%	19.0%	13.2%	45.7%	28.4%	18.8%	13.5%	38.0%	24.0%	17.8%	14.1%	34.9%	22.6%	17.9%	14.4%
FINLAND	<u> </u>															
CAR (0)	57.4%	28.7%	18.6%	14.1%	45.9%	27.4%	18.3%	13.6%	39.2%	24.1%	17.9%	13.4%	35.1%	21.9%	16.5%	13.1%
CAR (1)	57.6%	28.5%	18.7%	14.1%	45.8%	27.3%	18.3%	13.6%	39.1%	24.2%	17.9%	13.4%	35.1%	21.8%	16.4%	13.1%
BHAR (0)	58.6%	29.3%	18.4%	13.3%	45.3%	27.3%	17.0%	13.6%	40.0%	23.4%	18.8%	14.4%	35.3%	21.5%	17.0%	13.0%
BHAR (1)	58.9%	28.9%	18.5%	13.3%	45.5%	27.4%	17.1%	13.6%	40.0%	23.9%	18.8%	14.4%	35.6%	21.5%	17.0%	13.0%
FRANCE																
CAR (0)	61.4%	30.5%	20.5%	15.1%	48.7%	29.5%	19.8%	14.8%	42.6%	26.1%	19.5%	14.5%	37.1%	23.8%	17.9%	14.4%
CAR (1)	62.1%	30.7%	20.7%	15.1%	49.9%	29.8%	20.0%	14.8%	43.3%	26.4%	19.5%	14.6%	37.8%	24.0%	17.9%	14.4%
BHAR (0)	61.0%	30.2%	19.9%	13.8%	48.4%	29.6%	19.9%	13.9%	41.2%	25.2%	18.9%	13.8%	36.0%	23.8%	17.2%	14.5%
BHAR (1)	61.8%	29.9%	20.1%	14.0%	49.6%	29.7%	19.9%	13.9%	42.2%	25.5%	18.9%	13.8%	36.9%	23.9%	17.2%	14.5%
GERMANY																
CAR (0)	59.9%	30.1%	20.2%	15.1%	47.7%	29.4%	19.8%	14.9%	41.2%	25.8%	19.5%	14.7%	36.9%	23.7%	18.0%	14.6%
CAR (1)	60.5%	30.2%	20.3%	15.1%	48.4%	29.6%	19.9%	14.9%	41.8%	26.0%	19.5%	14.7%	37.6%	23.9%	18.0%	14.6%
BHAR (0)	59.6%	29.1%	19.9%	14.1%	47.8%	29.7%	19.9%	14.1%	41.1%	25.2%	19.3%	14.5%	36.2%	23.8%	17.6%	14.8%
BHAR (1)	60.4%	29.5%	19.9%	14.2%	48.4%	29.7%	19.9%	14.2%	42.0%	25.4%	19.3%	14.5%	37.1%	23.8%	17.7%	14.8%

IVOL J	=		3				6				9				12		
Н	I =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		60.2%	30.6%	20.6%	15.4%	49.0%	29.4%	19.9%	15.1%	43.3%	26.4%	19.3%	14.5%	39.0%	24.3%	17.6%	14.0%
CAR (1)		60.0%	30.4%	20.5%	15.4%	48.9%	29.4%	19.9%	15.0%	43.0%	26.3%	19.2%	14.5%	38.6%	24.2%	17.5%	13.9%
BHAR (0)		59.7%	30.1%	20.1%	15.2%	50.2%	30.1%	20.5%	14.7%	44.0%	24.6%	18.9%	14.2%	37.2%	22.9%	16.3%	13.2%
BHAR (1)		59.2%	29.5%	20.1%	15.2%	50.3%	30.3%	20.5%	14.7%	44.0%	24.7%	18.9%	14.2%	37.2%	22.9%	16.3%	13.2%
HONGKONG																	
CAR (0)		60.3%	30.5%	20.4%	15.4%	49.2%	30.1%	20.5%	15.4%	43.1%	27.2%	20.1%	15.2%	39.1%	25.0%	18.8%	15.0%
CAR (1)		60.7%	30.5%	20.4%	15.4%	49.5%	30.2%	20.5%	15.3%	43.4%	27.2%	20.1%	15.2%	39.3%	25.1%	18.7%	15.0%
BHAR (0)		60.5%	30.0%	20.3%	14.4%	49.0%	30.1%	20.1%	14.6%	43.3%	27.0%	19.5%	15.0%	39.9%	24.8%	18.5%	15.6%
BHAR (1)		60.8%	30.1%	20.3%	14.4%	49.3%	30.2%	20.2%	14.7%	43.5%	27.1%	19.6%	15.0%	40.3%	24.8%	18.5%	15.6%
IRELAND																	
CAR (0)		57.0%	29.0%	19.7%	14.6%	46.0%	28.5%	19.3%	14.4%	39.8%	24.6%	18.4%	13.9%	34.4%	22.2%	16.6%	13.1%
CAR (1)		57.6%	29.1%	19.7%	14.6%	46.3%	28.5%	19.3%	14.3%	40.1%	24.7%	18.5%	13.8%	34.3%	22.2%	16.5%	13.0%
BHAR (0)		58.5%	28.0%	20.2%	13.6%	46.5%	27.8%	19.7%	13.7%	38.5%	24.0%	16.5%	13.1%	35.7%	22.1%	17.2%	13.0%
BHAR (1)		58.6%	28.2%	20.3%	13.4%	46.7%	27.8%	19.7%	13.7%	38.5%	24.1%	16.6%	13.1%	35.8%	22.1%	17.2%	13.2%
ISRAEL																	
CAR (0)		60.8%	30.5%	20.4%	15.4%	49.9%	30.1%	20.2%	15.2%	43.5%	27.2%	20.1%	15.0%	39.5%	25.1%	18.5%	14.8%
CAR (1)		61.0%	30.6%	20.4%	15.4%	50.3%	30.2%	20.2%	15.2%	43.8%	27.3%	20.1%	15.0%	39.7%	25.2%	18.5%	14.7%
BHAR (0)		61.1%	30.0%	19.6%	14.8%	49.4%	29.9%	20.3%	14.5%	43.8%	26.6%	19.9%	14.7%	40.1%	24.7%	18.5%	15.2%
BHAR (1)		61.3%	30.2%	19.8%	14.9%	50.0%	30.0%	20.3%	14.6%	44.0%	26.9%	19.9%	14.7%	40.1%	24.7%	18.4%	15.3%

IVOL	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		59.7%	30.2%	20.1%	15.1%	47.1%	28.7%	19.3%	14.4%	40.6%	25.4%	19.1%	14.4%	37.8%	23.7%	17.7%	14.2%
CAR (1)	_	60.1%	30.3%	20.2%	15.0%	47.3%	28.7%	19.4%	14.4%	40.8%	25.4%	19.0%	14.4%	37.7%	23.7%	17.6%	14.2%
BHAR (0)	_	60.1%	30.2%	19.8%	14.4%	47.3%	29.5%	19.2%	14.2%	41.3%	24.6%	19.3%	14.3%	38.3%	24.7%	18.2%	14.9%
BHAR (1)		60.5%	30.3%	19.8%	14.4%	47.1%	29.6%	19.2%	14.3%	41.5%	24.5%	19.3%	14.3%	38.5%	24.9%	18.1%	14.9%
JAPAN																	
CAR (0)		60.5%	30.8%	20.2%	15.1%	51.4%	30.7%	20.3%	15.1%	44.6%	27.7%	20.2%	15.1%	40.0%	25.2%	18.7%	14.9%
CAR (1)		60.8%	30.8%	20.2%	15.1%	51.5%	30.7%	20.3%	15.1%	44.6%	27.7%	20.2%	15.0%	40.1%	25.2%	18.7%	14.9%
BHAR (0)	_	60.7%	29.7%	19.8%	14.5%	51.1%	30.5%	20.0%	13.8%	44.3%	27.3%	19.5%	14.2%	39.3%	24.8%	18.4%	14.9%
BHAR (1)	_	60.9%	29.8%	19.8%	14.5%	51.2%	30.6%	20.0%	13.9%	44.4%	27.4%	19.5%	14.2%	39.4%	24.8%	18.4%	15.0%
NETHERLAN	NDS																
CAR (0)		59.2%	29.7%	19.9%	14.7%	48.3%	28.9%	19.5%	14.3%	42.5%	26.2%	19.0%	14.2%	36.4%	22.7%	16.8%	13.5%
CAR (1)		59.3%	29.8%	19.9%	14.7%	48.6%	29.0%	19.5%	14.4%	42.7%	26.1%	19.0%	14.1%	36.5%	22.6%	16.8%	13.5%
BHAR (0)		58.0%	29.8%	19.1%	13.6%	46.9%	28.4%	19.1%	12.8%	42.9%	25.5%	19.3%	14.0%	35.7%	22.3%	16.7%	13.7%
BHAR (1)	_	58.5%	29.9%	19.2%	13.7%	47.4%	28.5%	19.1%	12.9%	42.9%	25.8%	19.2%	14.0%	35.7%	22.3%	16.7%	13.8%
NEWZEALA	ND																
CAR (0)		58.1%	29.1%	19.7%	14.9%	44.4%	27.9%	19.1%	14.4%	38.0%	24.8%	19.0%	14.3%	34.3%	22.7%	17.3%	14.0%
CAR (1)	_	58.3%	29.3%	19.8%	14.9%	44.5%	28.0%	19.1%	14.4%	38.3%	25.0%	18.9%	14.3%	34.5%	22.9%	17.2%	14.0%
BHAR (0)	-	58.1%	28.8%	19.3%	14.8%	44.1%	27.4%	20.0%	14.3%	37.9%	24.3%	18.5%	14.0%	33.9%	22.5%	16.4%	13.2%
BHAR (1)	-	57.9%	29.0%	19.4%	14.9%	44.3%	27.6%	20.2%	14.4%	38.2%	24.6%	18.5%	14.0%	34.1%	22.5%	16.4%	13.2%

IVOL J =		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY																
CAR (0)	57.9%	29.1%	19.4%	14.7%	46.6%	28.0%	18.9%	14.2%	42.7%	26.0%	19.0%	14.4%	37.4%	23.3%	17.1%	13.7%
CAR (1)	58.3%	29.1%	19.5%	14.7%	46.7%	27.9%	18.9%	14.2%	42.8%	26.0%	18.9%	14.4%	37.2%	23.3%	17.1%	13.7%
BHAR (0)	57.5%	28.0%	18.7%	13.8%	46.1%	26.5%	19.6%	14.0%	42.0%	25.4%	19.4%	13.8%	37.0%	23.1%	16.6%	13.2%
BHAR (1)	57.6%	27.9%	18.8%	13.7%	46.0%	26.4%	19.7%	14.0%	42.1%	25.6%	19.4%	13.9%	37.1%	23.1%	16.6%	13.3%
PORTUGAL																
CAR (0)	61.7%	30.6%	20.6%	15.2%	50.4%	30.0%	20.1%	14.8%	44.8%	27.1%	19.8%	14.7%	39.6%	24.3%	18.0%	14.6%
CAR (1)	62.7%	30.8%	20.5%	15.3%	52.5%	30.6%	20.2%	14.7%	46.0%	27.4%	19.8%	14.7%	40.9%	24.7%	18.1%	14.6%
BHAR (0)	61.4%	30.1%	20.6%	14.8%	50.7%	29.8%	20.1%	14.0%	45.1%	25.9%	19.0%	14.1%	39.1%	23.0%	17.7%	14.8%
BHAR (1)	62.5%	30.2%	20.7%	14.4%	53.7%	30.9%	20.4%	13.6%	46.8%	26.9%	19.5%	14.0%	40.7%	23.4%	17.8%	14.8%
SINGAPORE																
CAR (0)	60.1%	30.4%	20.6%	15.4%	49.1%	29.8%	20.2%	15.1%	45.0%	28.1%	20.5%	15.3%	41.0%	26.1%	19.3%	15.2%
CAR (1)	60.2%	30.5%	20.6%	15.4%	49.3%	29.8%	20.2%	15.1%	45.2%	28.2%	20.5%	15.3%	40.9%	26.1%	19.3%	15.2%
BHAR (0)	60.1%	30.3%	20.1%	14.7%	48.1%	29.1%	20.0%	14.6%	44.1%	27.3%	20.0%	15.4%	40.6%	26.0%	18.6%	15.5%
BHAR (1)	60.2%	30.3%	20.1%	14.8%	48.1%	29.1%	20.0%	14.6%	44.4%	27.7%	20.0%	15.4%	40.8%	26.1%	18.6%	15.6%
SPAIN																
CAR (0)	59.9%	29.9%	19.9%	15.0%	49.1%	29.1%	19.3%	14.4%	41.9%	25.6%	18.9%	14.2%	38.3%	23.5%	17.4%	13.9%
CAR (1)	60.4%	30.2%	19.9%	14.9%	49.2%	29.2%	19.3%	14.3%	41.9%	25.6%	18.9%	14.2%	38.6%	23.5%	17.4%	13.8%
BHAR (0)	59.8%	29.3%	19.7%	13.9%	48.3%	29.5%	20.1%	13.3%	42.1%	25.3%	18.5%	14.1%	36.4%	22.2%	17.5%	13.9%
BHAR (1)	60.9%	30.2%	19.4%	14.0%	48.6%	29.5%	20.1%	13.3%	42.4%	25.7%	18.5%	14.1%	36.6%	22.1%	17.5%	13.9%

IVOL J	=		3				6				9				12		
I	I =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		58.7%	29.6%	20.0%	14.9%	48.5%	29.3%	20.0%	15.0%	41.7%	26.1%	19.3%	14.5%	37.0%	23.7%	17.9%	14.2%
CAR (1)		59.0%	29.7%	20.0%	14.9%	48.5%	29.3%	19.9%	14.9%	41.7%	26.0%	19.2%	14.5%	37.1%	23.6%	17.8%	14.2%
BHAR (0)		59.2%	29.8%	19.6%	14.0%	48.6%	29.3%	19.6%	14.0%	41.8%	25.5%	19.1%	14.6%	36.7%	23.5%	17.4%	14.5%
BHAR (1)		59.5%	29.8%	19.6%	14.0%	48.6%	29.4%	19.6%	14.2%	41.7%	25.6%	19.1%	14.6%	36.7%	23.5%	17.4%	14.5%
SWITZERLAND	1				<u>L</u>												
CAR (0)		58.1%	29.2%	19.6%	14.5%	46.5%	28.2%	19.0%	14.2%	41.8%	25.5%	18.9%	14.3%	37.0%	23.6%	17.7%	14.1%
CAR (1)		58.5%	29.3%	19.6%	14.5%	47.1%	28.4%	19.1%	14.3%	41.9%	25.5%	18.8%	14.2%	36.9%	23.7%	17.6%	14.1%
BHAR (0)		58.3%	29.2%	18.9%	13.6%	45.4%	27.0%	18.9%	13.1%	41.5%	24.5%	18.7%	13.7%	37.4%	22.6%	17.2%	13.7%
BHAR (1)		58.7%	29.3%	19.0%	13.6%	45.8%	27.1%	18.9%	13.2%	41.5%	25.0%	18.6%	13.6%	37.4%	22.6%	17.2%	13.7%
UK																	
CAR (0)		60.4%	29.9%	20.2%	14.9%	48.2%	29.6%	19.8%	14.8%	41.9%	26.1%	19.5%	14.6%	36.3%	23.6%	17.8%	14.4%
CAR (1)		61.1%	30.1%	20.3%	15.0%	48.9%	29.8%	19.9%	14.8%	42.3%	26.2%	19.5%	14.6%	36.6%	23.7%	17.8%	14.4%
BHAR (0)		60.3%	29.4%	19.5%	13.9%	48.2%	29.5%	19.7%	13.8%	41.5%	25.3%	19.0%	14.4%	35.7%	23.4%	17.2%	14.8%
BHAR (1)		61.0%	30.0%	19.7%	14.0%	49.1%	29.8%	19.7%	13.9%	41.7%	25.6%	19.1%	14.4%	36.0%	23.5%	17.2%	14.9%
US					L												
CAR (0)		58.3%	29.3%	19.7%	14.8%	46.8%	29.0%	19.4%	14.6%	40.0%	25.3%	19.2%	14.5%	36.2%	23.2%	17.6%	14.3%
CAR (1)		58.3%	29.3%	19.6%	14.8%	46.9%	29.0%	19.4%	14.6%	40.1%	25.3%	19.1%	14.4%	36.2%	23.2%	17.6%	14.3%
BHAR (0)		58.5%	29.1%	19.2%	13.9%	46.1%	28.6%	19.8%	13.8%	40.3%	25.1%	18.5%	14.3%	35.8%	22.6%	17.1%	14.5%
BHAR (1)		59.2%	29.1%	19.2%	13.9%	46.7%	28.5%	19.7%	13.8%	39.8%	25.2%	18.4%	14.3%	35.8%	22.6%	17.1%	14.5%

Table 7.7b. Turnover ratios for time-series loser portfolio

EW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL	JA																
CAR (0)		58.2%	29.4%	20.2%	15.3%	47.3%	30.1%	20.6%	15.7%	41.4%	27.3%	20.9%	15.9%	37.9%	25.4%	19.5%	15.9%
CAR (1)	-	58.7%	29.6%	20.3%	15.4%	47.9%	30.5%	20.8%	15.8%	41.9%	27.6%	21.0%	16.0%	38.2%	25.7%	19.7%	16.0%
BHAR (0)	-	58.3%	29.2%	20.0%	15.1%	47.5%	30.7%	21.0%	15.1%	42.4%	27.4%	20.4%	15.9%	38.9%	25.6%	19.2%	16.8%
BHAR (1)	-	58.8%	29.6%	20.2%	15.3%	48.4%	31.2%	21.3%	15.6%	42.9%	27.9%	20.7%	16.0%	38.9%	25.9%	19.7%	16.8%
AUSTRI	A																
CAR (0)		57.1%	29.7%	20.2%	15.4%	46.2%	29.6%	20.0%	15.3%	37.8%	25.3%	19.6%	15.2%	33.9%	22.9%	17.9%	15.0%
CAR (1)	=	58.0%	30.0%	20.5%	15.4%	46.7%	29.8%	20.2%	15.4%	38.3%	25.6%	19.8%	15.3%	34.4%	23.2%	18.1%	15.2%
BHAR (0)		57.0%	30.2%	19.8%	16.5%	47.0%	29.7%	19.7%	15.0%	39.3%	25.7%	18.8%	15.9%	33.7%	23.4%	18.5%	16.2%
BHAR (1)	-	57.7%	30.5%	19.8%	16.5%	47.5%	30.2%	20.7%	15.2%	39.6%	25.7%	19.1%	15.9%	34.2%	24.1%	18.3%	17.1%
BELGIU	M																
CAR (0)		58.0%	29.4%	20.1%	15.4%	44.2%	28.8%	19.6%	15.1%	38.5%	24.9%	19.3%	14.9%	35.7%	23.1%	18.0%	14.9%
CAR (1)		58.8%	29.7%	20.3%	15.5%	45.0%	29.1%	19.9%	15.2%	39.0%	25.2%	19.4%	15.0%	36.2%	23.4%	18.1%	15.1%
BHAR (0)		57.2%	29.8%	20.9%	16.8%	45.4%	30.2%	20.1%	16.9%	40.3%	25.3%	19.1%	15.2%	35.0%	22.1%	17.9%	14.4%
BHAR (1)	-	58.6%	30.2%	21.3%	16.9%	47.1%	30.8%	20.4%	17.6%	41.0%	25.7%	19.3%	15.5%	35.6%	22.5%	18.1%	14.6%
CANADA	<u> </u>																
CAR (0)	_	56.8%	29.0%	19.6%	15.0%	45.8%	29.4%	20.1%	15.4%	39.1%	26.1%	20.3%	15.5%	35.2%	24.0%	18.8%	15.6%
CAR (1)	-	57.4%	29.3%	19.8%	15.1%	46.3%	29.8%	20.3%	15.5%	39.6%	26.5%	20.5%	15.7%	35.7%	24.3%	19.0%	15.7%
BHAR (0)	}	57.3%	29.3%	19.5%	15.5%	46.6%	30.2%	20.0%	15.6%	40.2%	26.0%	19.6%	15.5%	35.2%	23.9%	18.6%	16.1%
BHAR (1)	-	57.9%	29.6%	19.6%	15.6%	47.3%	30.6%	20.2%	15.9%	40.9%	26.4%	19.8%	15.7%	35.7%	24.2%	18.8%	16.2%

EW J =		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARK																
CAR (0)	56.9%	29.1%	19.8%	15.2%	45.7%	29.4%	20.2%	15.3%	39.8%	26.0%	19.8%	15.1%	35.7%	23.5%	18.0%	14.7%
CAR (1)	57.5%	29.4%	19.9%	15.3%	45.8%	29.6%	20.4%	15.3%	40.6%	26.4%	20.0%	15.3%	36.0%	23.6%	18.1%	14.8%
BHAR (0)	56.6%	28.5%	20.2%	16.1%	46.3%	29.3%	19.3%	14.7%	40.1%	26.5%	19.3%	14.5%	34.8%	23.6%	17.7%	15.7%
BHAR (1)	57.5%	29.2%	20.4%	16.1%	46.0%	29.6%	19.1%	14.9%	41.5%	27.5%	19.3%	14.7%	35.3%	23.7%	18.1%	15.8%
FINLAND																
CAR (0)	55.2%	28.2%	18.8%	14.5%	44.1%	27.0%	18.1%	13.8%	36.1%	23.7%	17.7%	13.6%	33.0%	21.6%	16.4%	13.3%
CAR (1)	55.3%	28.4%	18.9%	14.6%	44.5%	27.3%	18.2%	13.9%	36.5%	23.8%	17.8%	13.7%	32.9%	21.7%	16.5%	13.4%
BHAR (0)	54.9%	26.7%	19.6%	12.9%	41.5%	26.6%	16.7%	13.6%	36.1%	24.5%	17.3%	15.2%	32.9%	20.1%	16.6%	13.0%
BHAR (1)	54.7%	26.8%	19.6%	13.3%	42.0%	26.9%	16.9%	14.0%	36.4%	24.6%	17.4%	15.4%	33.5%	20.6%	16.5%	13.3%
FRANCE																
CAR (0)	58.5%	29.5%	20.3%	15.5%	46.4%	29.9%	20.3%	15.4%	39.9%	26.1%	20.0%	15.3%	35.6%	23.6%	18.5%	15.4%
CAR (1)	59.2%	29.9%	20.5%	15.6%	47.2%	30.3%	20.6%	15.6%	40.4%	26.5%	20.2%	15.5%	36.0%	23.9%	18.7%	15.5%
BHAR (0)	58.2%	29.7%	20.2%	16.1%	46.3%	30.3%	20.2%	15.9%	39.3%	25.8%	19.2%	15.6%	35.1%	23.4%	18.4%	15.6%
BHAR (1)	58.9%	30.0%	20.5%	16.2%	47.2%	30.8%	20.4%	16.5%	39.8%	26.1%	19.4%	15.9%	35.6%	23.7%	18.7%	15.8%
GERMANY																
CAR (0)	56.7%	29.2%	20.0%	15.3%	46.5%	30.0%	20.4%	15.5%	40.5%	26.7%	20.3%	15.5%	36.6%	24.6%	19.0%	15.5%
CAR (1)	57.3%	29.5%	20.1%	15.4%	47.3%	30.4%	20.6%	15.6%	41.1%	27.0%	20.5%	15.6%	37.3%	24.9%	19.2%	15.6%
BHAR (0)	56.5%	28.7%	19.7%	15.1%	46.7%	30.0%	19.3%	15.2%	40.7%	26.1%	19.5%	15.9%	36.4%	23.8%	18.1%	15.1%
BHAR (1)	57.1%	29.2%	19.8%	15.3%	47.5%	30.5%	19.6%	15.5%	41.5%	26.9%	19.4%	16.0%	37.1%	24.3%	18.5%	15.5%

EW J	T =		3				6				9				12		
I	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		59.4%	29.6%	20.0%	15.4%	47.6%	28.7%	19.4%	14.9%	42.3%	25.4%	19.0%	14.5%	38.5%	23.8%	17.8%	14.1%
CAR (1)		59.6%	29.8%	20.3%	15.5%	48.0%	28.9%	19.6%	14.9%	42.6%	25.7%	19.1%	14.6%	38.8%	23.9%	17.8%	14.2%
BHAR (0)		59.2%	28.8%	20.2%	13.6%	46.7%	28.4%	18.2%	15.2%	44.3%	24.3%	19.3%	14.8%	37.8%	23.0%	18.1%	14.4%
BHAR (1)		59.6%	28.9%	20.7%	13.7%	47.1%	28.9%	17.7%	15.3%	44.8%	24.8%	19.0%	14.9%	38.5%	23.0%	18.7%	14.5%
HONGKONG																	
CAR (0)		60.4%	30.4%	20.5%	15.7%	49.6%	30.6%	20.9%	15.9%	43.0%	27.7%	20.9%	15.9%	40.7%	26.7%	20.0%	15.9%
CAR (1)		60.8%	30.6%	20.7%	15.8%	49.9%	30.8%	21.0%	15.9%	43.4%	27.9%	20.9%	15.9%	41.2%	27.0%	20.2%	16.0%
BHAR (0)		60.3%	29.4%	20.5%	15.5%	48.8%	30.4%	20.8%	15.6%	43.3%	27.3%	20.1%	16.0%	40.7%	25.4%	18.8%	15.8%
BHAR (1)		60.9%	29.7%	20.7%	15.5%	49.2%	30.7%	20.9%	15.7%	43.6%	27.6%	20.2%	16.0%	41.3%	25.9%	19.0%	16.1%
IRELAND																	
CAR (0)		55.5%	28.2%	19.2%	14.6%	43.2%	27.7%	19.0%	14.3%	39.5%	25.0%	18.8%	14.5%	34.3%	23.0%	17.7%	14.5%
CAR (1)		56.1%	28.5%	19.4%	14.8%	43.6%	27.9%	19.1%	14.5%	40.2%	25.4%	19.0%	14.6%	34.8%	23.3%	17.8%	14.6%
BHAR (0)		55.4%	28.4%	19.5%	14.5%	43.6%	28.9%	20.1%	14.3%	38.9%	25.5%	17.5%	15.8%	34.5%	22.0%	19.2%	15.6%
BHAR (1)		56.2%	29.0%	19.8%	15.0%	44.5%	29.0%	20.3%	14.5%	38.5%	25.6%	18.4%	15.5%	34.3%	22.2%	19.1%	15.7%
ISRAEL					<u>L</u>												
CAR (0)		60.3%	30.5%	20.7%	15.8%	49.8%	30.9%	21.1%	16.2%	43.0%	27.6%	20.8%	15.8%	40.8%	26.7%	20.2%	16.2%
CAR (1)		60.9%	30.8%	20.8%	15.9%	50.3%	31.2%	21.4%	16.3%	43.6%	28.0%	20.9%	15.7%	41.1%	27.2%	20.4%	16.3%
BHAR (0)		60.6%	30.5%	20.2%	16.2%	49.0%	30.2%	21.2%	16.7%	42.9%	27.5%	20.9%	15.5%	40.2%	26.1%	20.2%	16.4%
BHAR (1)		61.1%	30.8%	20.2%	16.4%	49.3%	30.3%	21.2%	16.9%	43.7%	28.0%	21.2%	15.5%	40.7%	26.5%	20.4%	16.4%

EW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		59.2%	30.1%	20.5%	15.4%	49.9%	30.0%	20.5%	15.5%	44.4%	27.9%	20.7%	15.5%	40.2%	25.6%	19.1%	15.4%
CAR (1)		59.6%	30.6%	20.7%	15.7%	50.8%	30.3%	21.0%	15.8%	45.2%	28.2%	21.0%	15.8%	41.0%	26.0%	19.3%	15.8%
BHAR (0)	-	61.6%	30.2%	21.2%	15.4%	50.4%	29.7%	20.7%	14.5%	45.5%	28.7%	20.4%	16.4%	41.2%	26.4%	18.5%	16.5%
BHAR (1)	-	62.1%	30.5%	21.2%	16.0%	50.9%	30.2%	21.0%	14.3%	47.0%	29.1%	20.8%	16.5%	42.0%	26.9%	18.3%	17.2%
JAPAN																	
CAR (0)		60.5%	31.0%	20.4%	15.3%	52.8%	31.3%	20.6%	15.3%	46.2%	28.2%	20.4%	15.3%	42.6%	26.1%	19.3%	15.4%
CAR (1)	-	60.9%	31.2%	20.5%	15.4%	53.2%	31.5%	20.8%	15.4%	46.4%	28.4%	20.5%	15.3%	42.8%	26.3%	19.4%	15.4%
BHAR (0)	-	60.6%	29.7%	20.1%	15.5%	52.0%	31.0%	19.9%	16.2%	46.4%	27.8%	19.5%	15.9%	42.4%	26.1%	19.2%	15.8%
BHAR (1)	-	60.9%	30.0%	20.3%	15.6%	52.4%	31.1%	20.0%	16.3%	46.6%	28.1%	19.6%	16.0%	42.5%	26.2%	19.3%	15.8%
NETHERLA	NDS																
CAR (0)		58.1%	30.2%	20.5%	15.6%	47.6%	30.3%	20.5%	15.7%	40.6%	26.5%	20.4%	15.6%	36.4%	23.8%	18.7%	15.3%
CAR (1)		58.8%	30.7%	20.9%	15.8%	48.2%	30.5%	20.7%	15.9%	40.9%	26.9%	20.7%	15.7%	36.7%	24.2%	18.8%	15.5%
BHAR (0)	-	58.0%	29.9%	20.2%	15.1%	46.9%	31.2%	20.2%	15.9%	41.4%	26.1%	19.8%	15.5%	35.2%	22.9%	18.3%	15.8%
BHAR (1)	-	58.5%	30.3%	20.4%	15.4%	47.3%	31.4%	20.5%	16.0%	41.3%	26.2%	19.8%	15.7%	35.3%	23.1%	18.3%	15.9%
NEWZEALA	.ND																
CAR (0)		56.8%	28.8%	19.9%	15.2%	43.5%	28.5%	19.6%	15.0%	38.9%	25.0%	19.4%	15.0%	34.3%	23.2%	17.9%	14.8%
CAR (1)		57.5%	29.2%	20.0%	15.2%	44.0%	28.8%	19.7%	15.1%	39.2%	25.2%	19.5%	15.1%	34.5%	23.4%	18.1%	14.9%
BHAR (0)	-	56.5%	27.9%	19.8%	14.9%	42.7%	28.9%	20.2%	14.4%	37.5%	24.1%	19.1%	14.3%	34.1%	23.3%	18.0%	15.2%
BHAR (1)	-	57.1%	28.1%	19.9%	15.3%	43.0%	28.9%	20.3%	14.5%	37.7%	24.4%	19.0%	14.5%	34.4%	23.6%	18.2%	15.5%

EW J	=		3				6				9				12		
Н	=	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY																	
CAR (0)		59.4%	30.5%	20.7%	15.7%	49.3%	30.2%	20.6%	15.7%	42.1%	26.7%	20.0%	15.2%	39.3%	25.5%	19.4%	15.6%
CAR (1)		60.1%	30.9%	20.8%	15.9%	49.8%	30.4%	20.8%	15.7%	42.4%	27.0%	20.1%	15.4%	39.7%	25.9%	19.6%	15.8%
BHAR (0)		57.2%	29.0%	21.1%	15.0%	49.4%	30.7%	20.8%	15.6%	42.1%	25.5%	19.0%	15.5%	38.5%	25.2%	19.2%	15.6%
BHAR (1)		58.0%	29.2%	21.1%	15.0%	49.8%	30.9%	21.0%	15.7%	42.5%	25.9%	19.3%	15.6%	38.9%	25.5%	19.2%	15.9%
PORTUGAL																	
CAR (0)		57.5%	29.0%	19.8%	15.5%	44.9%	29.2%	19.6%	15.2%	39.2%	25.8%	20.0%	15.3%	36.7%	23.7%	18.4%	15.3%
CAR (1)		58.3%	29.5%	20.1%	15.8%	45.7%	29.5%	19.9%	15.3%	39.6%	26.3%	20.2%	15.3%	37.1%	24.0%	18.6%	15.4%
BHAR (0)		57.5%	29.6%	19.6%	14.9%	44.2%	28.7%	20.1%	14.4%	38.9%	25.1%	19.0%	14.8%	37.9%	24.4%	18.3%	15.5%
BHAR (1)		58.3%	29.8%	19.7%	15.3%	44.5%	28.9%	20.2%	14.3%	39.2%	25.5%	19.0%	15.0%	37.8%	24.5%	18.4%	15.6%
SINGAPORE																	
CAR (0)		58.7%	29.1%	19.7%	15.0%	47.1%	28.2%	19.0%	14.7%	43.0%	26.7%	19.6%	14.7%	38.5%	24.9%	18.3%	14.5%
CAR (1)		59.3%	29.4%	19.8%	15.0%	47.3%	28.3%	19.3%	14.6%	43.4%	26.8%	19.7%	14.8%	38.8%	25.0%	18.3%	14.6%
BHAR (0)		58.1%	29.5%	19.6%	15.3%	47.1%	29.4%	18.8%	14.6%	43.1%	26.6%	19.1%	15.0%	37.1%	24.8%	17.3%	15.1%
BHAR (1)		58.8%	29.9%	20.1%	15.5%	47.3%	29.5%	19.0%	14.7%	43.4%	27.1%	19.3%	15.3%	37.3%	24.8%	17.5%	14.7%
SPAIN																	
CAR (0)		56.3%	28.4%	19.0%	14.3%	46.6%	28.2%	18.6%	13.8%	37.1%	23.9%	18.1%	13.4%	34.3%	21.5%	16.4%	13.1%
CAR (1)		56.5%	28.6%	19.1%	14.4%	46.7%	28.4%	18.6%	13.9%	37.7%	24.2%	18.2%	13.5%	34.4%	21.5%	16.4%	13.1%
BHAR (0)		58.1%	29.0%	19.4%	13.9%	46.9%	29.4%	20.2%	13.4%	37.7%	24.7%	16.9%	14.4%	35.4%	21.0%	15.3%	13.5%
BHAR (1)		58.3%	29.2%	19.4%	14.5%	46.6%	29.4%	20.4%	13.6%	37.9%	24.1%	16.3%	14.4%	35.5%	21.0%	15.3%	13.5%

EW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		57.9%	29.8%	20.8%	15.9%	48.3%	29.9%	20.6%	15.9%	41.5%	26.4%	20.0%	15.4%	37.1%	24.2%	18.4%	15.0%
CAR (1)		58.5%	30.2%	21.0%	16.2%	49.1%	30.2%	21.1%	16.0%	41.6%	26.5%	20.1%	15.4%	37.4%	24.6%	18.6%	15.2%
BHAR (0)		57.9%	29.2%	21.3%	15.3%	48.8%	30.9%	20.7%	16.5%	39.8%	24.9%	18.5%	14.4%	37.7%	24.9%	18.9%	14.8%
BHAR (1)		58.0%	29.5%	21.2%	15.6%	49.1%	31.3%	21.1%	16.6%	40.1%	25.4%	18.6%	14.6%	37.8%	25.5%	19.1%	15.0%
SWITZERLA	ND																
CAR (0)		58.2%	29.7%	20.3%	15.4%	48.5%	30.2%	20.5%	15.6%	43.3%	27.3%	20.6%	15.9%	38.9%	25.2%	19.4%	15.6%
CAR (1)		58.6%	30.1%	20.5%	15.4%	48.4%	30.3%	20.6%	15.7%	43.6%	27.6%	20.8%	16.0%	39.5%	25.6%	19.5%	15.7%
BHAR (0)		58.3%	30.7%	20.0%	16.2%	48.9%	30.0%	19.9%	15.5%	44.4%	27.3%	19.4%	16.0%	37.8%	24.7%	18.2%	15.1%
BHAR (1)		58.7%	30.9%	20.1%	16.0%	48.3%	30.3%	20.0%	15.8%	44.9%	27.5%	19.6%	16.4%	38.3%	25.0%	18.6%	15.1%
UK																	
CAR (0)		56.6%	29.3%	20.5%	15.8%	44.6%	29.6%	20.7%	16.0%	39.3%	26.5%	20.7%	16.0%	35.0%	24.3%	19.1%	15.9%
CAR (1)		57.3%	29.8%	20.8%	15.9%	45.3%	30.0%	21.0%	16.2%	40.0%	27.0%	21.0%	16.2%	35.6%	24.7%	19.4%	16.1%
BHAR (0)		57.0%	29.4%	20.7%	16.0%	44.9%	29.8%	20.7%	15.9%	39.5%	26.4%	20.1%	16.2%	35.5%	24.1%	19.1%	16.5%
BHAR (1)		57.8%	29.9%	20.9%	16.2%	45.7%	30.3%	21.0%	16.2%	40.2%	26.9%	20.4%	16.4%	36.1%	24.5%	19.3%	16.8%
US																	
CAR (0)		58.2%	29.5%	20.0%	15.3%	47.2%	29.8%	20.1%	15.3%	40.5%	26.3%	20.2%	15.3%	37.0%	24.0%	18.6%	15.4%
CAR (1)		58.6%	29.7%	20.1%	15.4%	47.6%	30.1%	20.3%	15.4%	40.8%	26.6%	20.3%	15.5%	37.4%	24.3%	18.7%	15.5%
BHAR (0)		58.3%	28.7%	19.3%	14.8%	46.9%	29.5%	19.8%	15.3%	40.7%	25.9%	19.3%	15.2%	37.2%	23.4%	18.3%	15.8%
BHAR (1)		58.7%	28.9%	19.5%	14.9%	47.3%	29.7%	20.0%	15.5%	41.1%	26.2%	19.4%	15.3%	37.6%	23.6%	18.4%	16.0%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL	IA																
CAR (0)		62.1%	30.8%	21.0%	15.7%	54.3%	31.1%	20.9%	15.7%	47.9%	28.8%	20.8%	15.7%	44.8%	27.6%	20.0%	15.6%
CAR (1)		62.3%	30.8%	21.0%	15.7%	54.7%	31.2%	20.9%	15.7%	48.5%	28.9%	20.8%	15.7%	45.5%	27.7%	20.0%	15.6%
BHAR (0)		62.3%	30.0%	20.6%	15.4%	54.5%	31.2%	21.1%	15.4%	47.2%	28.8%	20.7%	15.6%	45.3%	27.5%	19.9%	16.0%
BHAR (1)		62.5%	30.1%	20.6%	15.4%	55.1%	31.4%	21.1%	15.4%	47.9%	29.1%	20.7%	15.6%	46.1%	27.5%	20.0%	16.0%
AUSTRIA	<u> </u>																
CAR (0)		59.5%	30.2%	19.6%	14.7%	51.7%	30.7%	19.9%	14.6%	44.5%	26.8%	19.6%	14.7%	40.5%	24.5%	18.2%	14.6%
CAR (1)		59.9%	30.2%	19.7%	14.7%	52.1%	30.6%	19.8%	14.6%	44.8%	26.9%	19.6%	14.7%	40.8%	24.7%	18.3%	14.6%
BHAR (0)		59.2%	29.7%	19.7%	14.9%	53.7%	31.9%	19.4%	14.4%	45.9%	27.8%	18.7%	15.5%	39.1%	23.7%	17.7%	15.2%
BHAR (1)		59.6%	29.4%	19.8%	14.9%	53.5%	31.9%	19.5%	14.4%	46.2%	27.4%	18.7%	15.5%	39.6%	24.1%	17.8%	15.2%
BELGIUN	<u></u> И																
CAR (0)		59.9%	29.2%	20.0%	15.1%	50.3%	29.6%	20.1%	15.2%	44.3%	27.3%	20.1%	15.0%	42.6%	25.4%	19.2%	15.2%
CAR (1)		60.5%	29.2%	20.0%	15.1%	50.7%	29.7%	20.1%	15.1%	44.8%	27.4%	20.1%	15.0%	42.9%	25.5%	19.2%	15.2%
BHAR (0)		58.6%	29.5%	20.9%	15.3%	50.2%	31.0%	20.8%	15.0%	46.4%	29.2%	19.8%	15.4%	43.5%	25.1%	19.5%	15.3%
BHAR (1)		59.5%	29.6%	20.9%	15.2%	50.3%	31.1%	20.8%	15.3%	46.7%	29.5%	20.0%	15.5%	43.9%	25.3%	19.7%	15.3%
CANADA																	
CAR (0)		60.5%	30.4%	20.5%	15.3%	51.6%	30.6%	20.5%	15.3%	45.7%	27.8%	20.4%	15.3%	43.5%	26.6%	19.4%	15.1%
CAR (1)	Ī	60.8%	30.4%	20.5%	15.3%	52.2%	30.7%	20.5%	15.2%	46.3%	28.0%	20.4%	15.3%	44.1%	26.7%	19.4%	15.1%
BHAR (0)		60.5%	30.2%	19.7%	14.9%	52.1%	30.2%	19.9%	15.1%	46.6%	28.1%	19.5%	15.5%	42.7%	25.5%	19.1%	15.6%
BHAR (1)		60.8%	30.2%	19.7%	14.9%	52.6%	30.3%	20.0%	15.3%	47.2%	28.3%	19.5%	15.5%	43.3%	25.6%	19.1%	15.5%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARI																	
CAR (0)		58.7%	30.5%	20.0%	15.2%	50.5%	30.2%	20.4%	15.1%	44.9%	27.5%	19.9%	14.9%	42.3%	25.8%	18.7%	14.7%
CAR (1)		59.0%	30.5%	20.0%	15.1%	50.5%	30.3%	20.4%	15.1%	45.4%	27.6%	19.9%	14.8%	42.3%	25.8%	18.7%	14.7%
BHAR (0)		60.0%	29.3%	20.4%	15.0%	50.9%	30.1%	20.6%	14.9%	44.2%	26.7%	19.1%	14.3%	43.8%	26.4%	19.0%	15.2%
BHAR (1)		60.2%	29.3%	20.4%	15.0%	50.4%	30.2%	20.2%	14.9%	44.6%	27.0%	19.2%	14.3%	43.6%	26.5%	19.0%	15.2%
FINLAND																	
CAR (0)		56.5%	28.1%	19.0%	14.5%	46.5%	27.4%	17.8%	13.6%	41.6%	24.4%	17.8%	13.3%	37.7%	22.6%	16.1%	12.8%
CAR (1)		56.5%	28.1%	19.0%	14.5%	47.0%	27.6%	17.8%	13.7%	42.2%	24.6%	17.8%	13.3%	37.8%	22.7%	16.1%	12.8%
BHAR (0)	_	56.2%	25.9%	19.8%	12.4%	43.9%	26.0%	16.2%	13.9%	41.6%	25.6%	17.6%	14.5%	38.7%	21.1%	16.7%	12.3%
BHAR (1)		56.0%	25.9%	19.8%	12.8%	44.2%	26.5%	16.2%	14.3%	42.3%	25.9%	18.0%	14.5%	39.2%	21.6%	16.8%	12.8%
FRANCE																	
CAR (0)		61.6%	30.3%	20.5%	15.4%	52.9%	30.8%	20.5%	15.5%	47.5%	28.5%	20.6%	15.4%	44.9%	26.8%	19.6%	15.4%
CAR (1)		61.7%	30.3%	20.5%	15.4%	53.2%	30.9%	20.4%	15.4%	47.9%	28.6%	20.6%	15.4%	45.3%	26.9%	19.6%	15.4%
BHAR (0)		61.8%	29.9%	20.3%	15.3%	53.4%	30.8%	20.3%	15.3%	48.2%	27.7%	20.4%	15.4%	44.6%	26.1%	19.5%	15.7%
BHAR (1)		61.9%	29.8%	20.3%	15.3%	53.7%	30.9%	20.2%	15.2%	48.4%	27.7%	20.4%	15.4%	44.9%	26.1%	19.5%	15.7%
GERMANY	7																
CAR (0)		61.7%	31.2%	20.8%	15.8%	52.8%	30.8%	20.7%	15.6%	48.0%	28.8%	20.9%	15.6%	45.6%	27.7%	19.9%	15.5%
CAR (1)		62.0%	31.2%	20.9%	15.8%	53.2%	30.9%	20.7%	15.5%	48.5%	28.9%	20.9%	15.5%	46.1%	27.8%	19.9%	15.5%
BHAR (0)	-	61.1%	29.8%	20.7%	15.6%	54.2%	31.2%	20.7%	15.6%	49.2%	28.4%	20.7%	15.7%	46.4%	26.2%	19.7%	15.3%
BHAR (1)		61.3%	29.8%	20.7%	15.6%	54.4%	31.3%	20.7%	15.5%	49.6%	28.5%	20.7%	15.7%	47.0%	26.2%	19.7%	15.4%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE	,																
CAR (0)		60.0%	29.5%	19.7%	14.8%	49.9%	28.7%	19.1%	14.2%	46.1%	26.1%	18.5%	13.5%	41.0%	24.5%	17.3%	13.3%
CAR (1)		60.1%	29.5%	19.7%	14.8%	50.1%	28.6%	19.0%	14.1%	46.3%	26.1%	18.4%	13.5%	40.9%	24.4%	17.1%	13.2%
BHAR (0)		60.0%	29.0%	18.8%	12.8%	49.6%	28.5%	18.7%	13.6%	47.9%	25.8%	19.1%	13.4%	40.9%	23.4%	17.5%	13.8%
BHAR (1)	_	60.2%	29.0%	18.7%	12.8%	49.4%	28.6%	17.8%	13.7%	48.5%	25.8%	18.8%	13.5%	40.9%	23.0%	17.6%	13.8%
HONGKON	NG																
CAR (0)		62.6%	31.1%	20.8%	15.7%	54.3%	31.2%	21.0%	15.8%	49.1%	28.9%	20.7%	15.5%	47.3%	28.1%	20.2%	15.5%
CAR (1)		62.8%	31.1%	20.8%	15.7%	54.6%	31.2%	21.0%	15.7%	49.6%	29.0%	20.7%	15.5%	47.8%	28.2%	20.2%	15.5%
BHAR (0)	_	62.6%	30.9%	20.7%	15.6%	53.7%	31.1%	21.2%	15.6%	49.1%	28.5%	20.4%	15.5%	46.8%	26.7%	19.3%	15.0%
BHAR (1)		62.8%	31.1%	20.7%	15.6%	54.0%	31.1%	21.2%	15.7%	49.4%	28.6%	20.5%	15.5%	47.4%	26.9%	19.4%	15.1%
IRELAND	<u>_</u>																
CAR (0)		57.5%	28.9%	19.6%	14.7%	47.4%	27.7%	18.8%	14.1%	42.9%	25.5%	18.5%	14.2%	40.1%	23.8%	17.7%	13.9%
CAR (1)		57.8%	28.9%	19.6%	14.6%	47.7%	27.7%	18.8%	14.1%	43.3%	25.5%	18.5%	14.2%	40.0%	23.9%	17.6%	13.9%
BHAR (0)		57.4%	29.2%	20.3%	13.7%	47.5%	27.9%	19.3%	13.1%	39.8%	25.4%	16.7%	14.9%	39.4%	22.1%	18.8%	14.5%
BHAR (1)	_	57.8%	29.2%	20.4%	13.8%	48.5%	27.7%	19.3%	13.4%	39.7%	25.2%	17.0%	14.9%	39.8%	21.7%	18.9%	14.5%
ISRAEL																	
CAR (0)		62.2%	30.9%	20.7%	15.6%	53.9%	30.9%	21.0%	15.7%	47.2%	28.5%	20.5%	15.2%	44.8%	27.4%	19.7%	15.3%
CAR (1)		62.3%	30.9%	20.7%	15.6%	54.3%	31.0%	21.0%	15.7%	47.5%	28.6%	20.4%	15.1%	45.2%	27.7%	19.7%	15.3%
BHAR (0)		62.7%	30.7%	20.2%	15.9%	53.7%	30.7%	21.1%	15.2%	46.9%	28.2%	20.6%	14.7%	43.0%	26.9%	19.1%	15.5%
BHAR (1)		62.8%	30.9%	20.2%	15.9%	54.0%	30.7%	21.1%	15.2%	47.3%	28.5%	20.7%	14.7%	43.4%	27.0%	19.2%	15.5%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		60.0%	29.7%	20.0%	14.9%	51.5%	29.7%	20.0%	15.0%	48.3%	28.0%	20.2%	15.0%	45.9%	26.4%	19.1%	15.0%
CAR (1)		59.9%	29.8%	19.9%	14.9%	51.7%	29.8%	20.1%	15.0%	48.7%	28.1%	20.1%	15.0%	46.2%	26.5%	19.1%	15.0%
BHAR (0)		61.2%	29.4%	20.4%	14.7%	52.2%	29.5%	20.6%	14.1%	49.0%	29.0%	20.0%	15.6%	46.3%	26.4%	17.9%	15.1%
BHAR (1)		60.9%	29.5%	20.4%	14.6%	51.8%	29.4%	20.6%	13.8%	49.5%	29.2%	20.0%	15.7%	46.8%	26.5%	17.6%	15.1%
JAPAN																	
CAR (0)		61.5%	31.0%	20.5%	15.4%	54.7%	31.4%	20.6%	15.2%	49.4%	28.9%	20.6%	15.3%	45.9%	27.1%	19.5%	15.3%
CAR (1)		61.8%	31.0%	20.5%	15.4%	54.9%	31.5%	20.6%	15.2%	49.7%	29.0%	20.6%	15.3%	46.3%	27.2%	19.5%	15.3%
BHAR (0)		61.6%	29.5%	20.2%	15.4%	54.5%	31.1%	20.4%	15.4%	50.3%	28.7%	20.0%	15.6%	46.0%	27.1%	19.2%	15.8%
BHAR (1)		61.7%	29.7%	20.3%	15.4%	54.7%	31.2%	20.3%	15.5%	50.6%	28.9%	20.0%	15.6%	46.3%	27.1%	19.3%	15.8%
NETHERLA	NDS																
CAR (0)		61.8%	31.3%	20.6%	15.5%	54.3%	31.4%	20.5%	15.4%	49.0%	28.7%	20.7%	15.4%	45.6%	27.1%	19.4%	15.2%
CAR (1)		61.9%	31.3%	20.6%	15.5%	54.7%	31.4%	20.6%	15.4%	49.1%	28.9%	20.7%	15.4%	45.9%	27.2%	19.5%	15.3%
BHAR (0)		60.6%	31.0%	20.2%	14.2%	52.3%	32.2%	20.7%	15.2%	48.4%	28.5%	20.7%	14.8%	44.2%	26.3%	18.8%	15.7%
BHAR (1)		60.7%	31.0%	20.2%	14.2%	52.7%	32.3%	20.7%	15.3%	48.5%	28.6%	20.7%	14.8%	44.9%	26.4%	19.1%	15.9%
NEWZEALA	ND																
CAR (0)		59.5%	30.4%	20.4%	15.2%	50.0%	30.0%	20.1%	15.2%	46.1%	27.9%	20.1%	15.1%	42.2%	26.3%	19.0%	14.7%
CAR (1)		59.7%	30.4%	20.4%	15.2%	50.3%	30.1%	20.1%	15.1%	46.5%	28.0%	20.1%	15.1%	42.0%	26.4%	19.0%	14.7%
BHAR (0)		59.6%	29.7%	20.9%	15.1%	49.3%	30.1%	20.8%	14.8%	46.0%	27.7%	19.7%	15.4%	43.2%	25.7%	18.7%	15.1%
BHAR (1)		59.8%	29.8%	20.9%	15.1%	49.4%	30.2%	20.8%	14.8%	46.2%	27.7%	19.8%	15.4%	43.2%	25.7%	18.8%	15.1%

MW J	=		3				6				9				12		
I	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY																	
CAR (0)		61.7%	30.9%	20.3%	15.2%	53.7%	30.7%	20.4%	15.2%	48.1%	28.0%	20.0%	14.9%	44.4%	26.4%	19.3%	15.0%
CAR (1)		61.9%	30.9%	20.3%	15.2%	54.0%	30.8%	20.4%	15.2%	48.6%	28.1%	19.9%	14.9%	44.6%	26.5%	19.3%	14.9%
BHAR (0)		61.0%	29.6%	20.3%	15.0%	53.4%	30.6%	20.6%	15.0%	46.9%	27.0%	19.5%	14.9%	45.0%	26.8%	19.2%	14.5%
BHAR (1)		61.2%	29.7%	20.3%	15.0%	53.8%	30.7%	20.6%	15.0%	47.4%	27.4%	19.7%	14.9%	45.4%	26.9%	19.3%	14.4%
PORTUGAL																	
CAR (0)		57.8%	29.1%	19.3%	15.2%	48.1%	28.9%	19.1%	14.6%	42.8%	26.6%	19.7%	15.0%	42.5%	25.6%	18.6%	14.9%
CAR (1)		57.9%	29.1%	19.2%	15.1%	48.4%	29.0%	19.1%	14.5%	43.1%	26.8%	19.8%	14.9%	42.5%	25.7%	18.6%	14.9%
BHAR (0)		56.8%	28.0%	20.4%	14.2%	46.0%	28.2%	20.2%	13.7%	42.2%	25.5%	18.9%	14.7%	43.8%	26.7%	18.2%	15.3%
BHAR (1)		57.3%	28.0%	20.4%	14.1%	46.6%	28.5%	20.3%	13.9%	42.6%	25.7%	19.0%	14.8%	43.8%	26.9%	18.2%	15.3%
SINGAPORE																	
CAR (0)		59.7%	29.6%	19.7%	14.8%	49.6%	28.9%	19.3%	14.4%	44.6%	26.9%	19.4%	14.5%	42.2%	26.2%	18.6%	14.3%
CAR (1)		59.9%	29.7%	19.7%	14.8%	49.8%	28.8%	19.3%	14.3%	44.9%	26.9%	19.4%	14.4%	42.5%	26.4%	18.6%	14.3%
BHAR (0)		60.2%	29.2%	19.8%	14.9%	49.6%	30.4%	19.4%	14.0%	46.9%	27.8%	19.5%	14.9%	41.0%	26.5%	18.3%	14.6%
BHAR (1)		60.4%	29.3%	19.9%	14.9%	49.4%	30.5%	19.3%	14.0%	47.3%	27.8%	19.5%	14.9%	41.3%	26.6%	18.3%	14.6%
SPAIN																	
CAR (0)		58.4%	29.4%	19.1%	14.7%	50.1%	29.5%	19.3%	14.3%	42.9%	25.6%	18.8%	13.8%	41.6%	24.2%	17.4%	13.7%
CAR (1)		58.5%	29.3%	19.1%	14.7%	50.2%	29.6%	19.2%	14.2%	42.9%	25.5%	18.7%	13.7%	41.7%	24.1%	17.3%	13.6%
BHAR (0)		60.0%	30.3%	19.3%	13.1%	49.6%	29.7%	20.0%	13.9%	46.0%	26.5%	17.6%	14.7%	45.6%	24.6%	16.5%	14.2%
BHAR (1)		60.0%	30.3%	19.3%	13.4%	49.9%	29.8%	20.1%	14.1%	45.9%	25.9%	16.9%	14.7%	45.4%	24.8%	16.6%	14.2%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	1																
CAR (0)		60.7%	30.8%	20.5%	15.4%	52.6%	30.5%	20.4%	15.4%	46.4%	27.8%	20.0%	15.1%	42.6%	26.1%	18.9%	14.8%
CAR (1)		60.7%	30.8%	20.5%	15.4%	52.8%	30.5%	20.4%	15.4%	46.4%	27.8%	20.0%	15.0%	43.2%	26.3%	18.9%	14.8%
BHAR (0)		60.4%	28.7%	21.0%	13.7%	52.9%	31.4%	20.4%	15.5%	43.6%	26.4%	19.3%	14.8%	43.5%	27.3%	19.8%	14.8%
BHAR (1)	-	60.5%	28.7%	21.0%	13.7%	53.1%	31.3%	20.6%	15.6%	43.7%	26.6%	19.3%	14.7%	44.3%	27.9%	19.8%	14.8%
SWITZERLA	AND																
CAR (0)		61.7%	30.7%	20.7%	15.4%	53.8%	31.1%	20.9%	15.4%	49.6%	28.9%	20.6%	15.4%	46.7%	27.0%	19.3%	15.1%
CAR (1)		61.8%	30.7%	20.8%	15.4%	53.7%	31.2%	20.9%	15.3%	49.6%	28.9%	20.5%	15.3%	46.9%	27.1%	19.3%	15.1%
BHAR (0)		61.7%	30.8%	20.1%	14.5%	54.1%	31.3%	20.8%	15.3%	51.1%	28.3%	20.0%	15.4%	46.4%	27.0%	19.0%	15.1%
BHAR (1)	-	61.8%	30.8%	20.1%	14.5%	53.9%	31.3%	20.8%	15.5%	51.2%	28.3%	20.1%	15.5%	46.6%	27.1%	19.0%	15.1%
UK																	
CAR (0)		62.2%	30.7%	20.8%	15.6%	53.6%	31.1%	20.8%	15.6%	48.9%	28.8%	20.7%	15.4%	45.4%	26.8%	19.6%	15.4%
CAR (1)		62.4%	30.7%	20.8%	15.6%	54.0%	31.2%	20.7%	15.5%	49.6%	29.0%	20.7%	15.4%	45.8%	27.1%	19.6%	15.4%
BHAR (0)		62.5%	30.1%	20.8%	14.9%	53.8%	31.4%	20.6%	14.9%	48.2%	28.3%	20.4%	15.6%	46.5%	27.1%	19.4%	16.0%
BHAR (1)	-	62.8%	30.1%	20.8%	14.8%	54.1%	31.5%	20.6%	15.1%	48.8%	28.4%	20.5%	15.5%	47.1%	27.3%	19.4%	16.0%
US																	
CAR (0)		61.6%	30.7%	20.5%	15.4%	53.0%	31.0%	20.6%	15.4%	47.7%	28.5%	20.8%	15.4%	43.8%	26.4%	19.4%	15.4%
CAR (1)	-	61.8%	30.7%	20.5%	15.4%	53.4%	31.1%	20.6%	15.4%	48.1%	28.6%	20.7%	15.4%	44.1%	26.6%	19.4%	15.4%
BHAR (0)	-	61.8%	29.7%	20.2%	14.9%	53.0%	30.6%	20.6%	15.1%	47.9%	28.0%	20.1%	15.3%	43.8%	25.6%	19.2%	15.8%
BHAR (1)		62.1%	29.8%	20.3%	14.8%	53.2%	30.7%	20.6%	15.2%	48.2%	28.2%	20.2%	15.3%	44.3%	25.7%	19.3%	15.8%

IVOL	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRALIA	L																
CAR (0)		59.8%	29.7%	20.0%	14.9%	48.6%	29.7%	19.9%	14.9%	42.3%	26.8%	19.9%	15.0%	38.7%	25.1%	18.8%	15.0%
CAR (1)		60.3%	29.9%	20.1%	15.0%	49.3%	29.8%	20.0%	15.0%	42.7%	26.9%	20.0%	15.0%	38.9%	25.1%	18.8%	15.0%
BHAR (0)		60.1%	29.3%	20.1%	14.7%	49.4%	30.1%	20.2%	14.4%	43.1%	27.1%	19.4%	14.7%	39.3%	25.1%	18.6%	15.3%
BHAR (1)		60.5%	29.8%	20.1%	14.7%	49.3%	30.1%	20.1%	14.6%	43.1%	27.3%	19.5%	14.8%	39.6%	25.2%	18.6%	15.3%
AUSTRIA																	
CAR (0)		57.8%	29.0%	19.3%	14.3%	48.8%	29.0%	18.9%	14.2%	40.2%	25.0%	18.6%	14.1%	35.0%	22.8%	17.3%	14.1%
CAR (1)		58.4%	29.2%	19.4%	14.3%	49.0%	29.1%	19.0%	14.2%	40.5%	25.1%	18.7%	14.0%	35.3%	23.0%	17.3%	14.1%
BHAR (0)		57.3%	29.0%	19.1%	15.0%	50.0%	29.4%	18.8%	14.2%	40.9%	24.9%	18.5%	14.6%	34.4%	22.9%	17.3%	14.8%
BHAR (1)		58.0%	29.9%	19.0%	15.0%	50.3%	29.6%	18.8%	14.0%	41.0%	24.9%	18.6%	14.5%	34.7%	23.0%	17.3%	14.8%
BELGIUM																	
CAR (0)		59.6%	29.5%	19.7%	14.8%	46.7%	28.7%	19.1%	14.4%	40.5%	25.2%	19.0%	14.3%	37.6%	23.3%	17.7%	14.3%
CAR (1)		59.9%	29.6%	19.7%	14.8%	47.2%	28.8%	19.2%	14.4%	40.8%	25.3%	19.0%	14.3%	37.9%	23.4%	17.7%	14.3%
BHAR (0)		59.1%	29.7%	20.2%	15.0%	47.7%	29.1%	19.3%	14.7%	42.7%	25.7%	18.4%	14.6%	38.1%	23.0%	17.5%	14.3%
BHAR (1)		59.4%	29.6%	20.2%	15.3%	48.2%	29.3%	19.5%	14.8%	42.9%	25.9%	18.5%	14.6%	37.5%	22.7%	17.5%	14.3%
CANADA																	
CAR (0)		57.6%	28.9%	19.3%	14.4%	46.9%	29.0%	19.3%	14.5%	40.2%	25.8%	19.4%	14.6%	36.5%	23.8%	18.1%	14.6%
CAR (1)		57.9%	29.1%	19.4%	14.5%	47.2%	29.1%	19.4%	14.5%	40.6%	25.9%	19.4%	14.6%	36.7%	23.9%	18.0%	14.6%
BHAR (0)		58.0%	28.8%	19.1%	14.7%	47.6%	29.6%	19.4%	14.6%	41.5%	26.0%	18.8%	14.6%	36.5%	23.6%	17.9%	15.0%
BHAR (1)	-	58.2%	29.1%	19.2%	14.7%	47.8%	29.7%	19.4%	14.7%	41.7%	26.2%	18.8%	14.6%	36.7%	23.7%	17.9%	15.0%

IVOL J	=		3				6				9				12		
Н	[=	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARK																	
CAR (0)		58.1%	29.2%	19.5%	14.7%	47.2%	28.9%	19.5%	14.5%	41.1%	25.6%	19.0%	14.3%	36.4%	23.0%	17.3%	13.8%
CAR (1)		58.4%	29.4%	19.6%	14.8%	47.4%	29.0%	19.6%	14.5%	41.6%	25.8%	19.0%	14.3%	36.3%	23.1%	17.3%	13.8%
BHAR (0)		57.8%	28.8%	19.5%	14.4%	48.0%	29.4%	18.9%	14.1%	41.3%	25.6%	18.5%	13.9%	36.0%	23.0%	17.2%	14.4%
BHAR (1)		58.2%	28.8%	19.6%	14.4%	47.8%	29.4%	18.9%	14.3%	41.9%	25.8%	18.5%	13.9%	35.5%	23.0%	17.3%	14.4%
FINLAND																	
CAR (0)		55.8%	28.4%	18.8%	14.3%	45.4%	27.0%	17.9%	13.5%	37.1%	23.8%	17.4%	13.1%	33.3%	21.5%	16.1%	12.8%
CAR (1)		55.8%	28.4%	18.8%	14.3%	45.7%	27.1%	17.9%	13.5%	37.3%	23.8%	17.4%	13.1%	33.2%	21.5%	16.1%	12.7%
BHAR (0)		55.3%	27.0%	19.5%	12.5%	43.2%	27.0%	17.0%	13.1%	37.2%	24.5%	17.2%	14.5%	33.6%	20.1%	16.5%	12.7%
BHAR (1)		55.0%	27.0%	19.5%	12.9%	43.3%	27.1%	17.0%	13.3%	37.1%	24.7%	17.2%	14.5%	33.7%	20.2%	16.5%	12.7%
FRANCE																	
CAR (0)		60.3%	29.9%	20.1%	15.1%	48.8%	29.4%	19.6%	14.6%	41.4%	25.9%	19.3%	14.4%	36.9%	23.5%	17.9%	14.5%
CAR (1)		60.9%	30.3%	20.3%	15.1%	49.7%	29.6%	19.7%	14.7%	42.1%	26.1%	19.3%	14.5%	37.6%	23.7%	17.9%	14.5%
BHAR (0)		60.2%	29.8%	19.7%	15.1%	49.2%	29.7%	19.5%	14.7%	41.1%	25.4%	18.7%	14.6%	36.8%	23.5%	17.9%	14.7%
BHAR (1)		60.8%	30.5%	19.8%	15.2%	49.8%	29.9%	19.6%	15.1%	41.4%	25.7%	18.8%	14.9%	37.2%	23.5%	18.0%	14.7%
GERMANY					L												
CAR (0)		58.9%	29.8%	19.9%	15.0%	48.1%	29.4%	19.7%	14.8%	42.4%	26.6%	19.6%	14.7%	38.1%	24.2%	18.3%	14.6%
CAR (1)		59.4%	30.0%	20.1%	15.1%	48.5%	29.6%	19.7%	14.8%	42.7%	26.8%	19.6%	14.7%	38.3%	24.3%	18.3%	14.6%
BHAR (0)		59.0%	29.9%	19.7%	15.0%	48.6%	29.4%	19.1%	14.7%	42.8%	26.4%	18.9%	15.0%	38.0%	23.3%	17.7%	14.7%
BHAR (1)		59.1%	30.0%	19.7%	14.9%	48.8%	29.5%	19.2%	14.9%	42.8%	26.5%	18.9%	15.0%	38.3%	23.4%	17.8%	14.7%

IVOL	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		58.3%	28.8%	19.3%	14.5%	47.2%	27.8%	18.5%	14.0%	41.2%	24.5%	17.9%	13.3%	37.2%	22.9%	16.7%	13.0%
CAR (1)		58.5%	29.0%	19.3%	14.5%	47.4%	27.8%	18.4%	13.9%	41.3%	24.6%	17.8%	13.3%	37.4%	22.9%	16.7%	13.0%
BHAR (0)		58.8%	28.1%	19.1%	13.0%	46.8%	27.2%	17.2%	14.2%	43.4%	23.6%	18.9%	13.8%	36.3%	21.9%	17.4%	13.6%
BHAR (1)		58.9%	28.1%	19.1%	12.9%	46.5%	27.2%	16.9%	14.3%	43.5%	23.7%	18.5%	13.8%	36.7%	21.8%	17.4%	13.5%
HONGKONG	3																
CAR (0)		60.2%	30.0%	20.1%	15.3%	49.9%	29.9%	20.2%	15.2%	43.3%	27.1%	20.0%	15.1%	40.8%	26.0%	19.2%	15.0%
CAR (1)		60.4%	30.2%	20.2%	15.3%	50.1%	30.0%	20.3%	15.2%	43.3%	27.2%	20.0%	15.0%	40.9%	26.2%	19.2%	15.1%
BHAR (0)		60.2%	29.1%	19.9%	15.1%	49.1%	29.9%	20.3%	15.1%	43.8%	26.8%	19.5%	15.2%	40.9%	24.9%	18.3%	14.7%
BHAR (1)		60.4%	29.5%	20.1%	15.1%	49.5%	30.0%	20.4%	15.2%	44.0%	26.9%	19.6%	15.3%	41.2%	25.1%	18.4%	14.7%
IRELAND																	
CAR (0)		56.3%	28.4%	19.1%	14.3%	45.0%	27.5%	18.6%	13.8%	40.8%	24.8%	18.1%	13.7%	36.4%	23.0%	17.1%	13.6%
CAR (1)		56.7%	28.6%	19.1%	14.2%	45.1%	27.5%	18.7%	13.9%	41.2%	24.9%	18.0%	13.7%	36.8%	23.1%	17.0%	13.5%
BHAR (0)		55.8%	28.7%	19.4%	14.0%	46.2%	28.5%	19.5%	13.8%	39.4%	24.7%	17.4%	14.6%	35.3%	21.3%	18.6%	14.6%
BHAR (1)		56.7%	28.9%	19.5%	14.1%	47.2%	28.8%	19.6%	14.0%	38.9%	24.7%	17.4%	14.5%	35.2%	21.4%	18.5%	14.6%
ISRAEL																	
CAR (0)		60.9%	30.4%	20.3%	15.3%	50.4%	30.1%	20.4%	15.4%	43.8%	27.2%	19.9%	14.9%	41.2%	26.1%	19.1%	15.0%
CAR (1)		61.4%	30.6%	20.5%	15.4%	51.2%	30.3%	20.5%	15.4%	44.5%	27.4%	19.9%	14.8%	41.9%	26.3%	19.1%	15.0%
BHAR (0)		61.2%	30.4%	20.0%	15.5%	49.9%	29.7%	20.3%	15.2%	43.5%	27.0%	20.2%	14.7%	40.7%	25.3%	19.0%	15.1%
BHAR (1)		61.4%	30.6%	20.3%	15.5%	50.2%	29.8%	20.4%	15.3%	44.1%	27.3%	20.2%	14.7%	41.2%	25.4%	19.0%	15.2%

IVOL	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		57.7%	29.1%	19.5%	14.4%	49.3%	28.9%	19.5%	14.4%	44.3%	26.6%	19.2%	14.3%	39.9%	24.6%	17.9%	14.2%
CAR (1)		57.6%	29.2%	19.4%	14.4%	49.3%	28.9%	19.5%	14.5%	44.3%	26.6%	19.2%	14.3%	40.1%	24.6%	17.9%	14.3%
BHAR (0)	-	59.3%	29.3%	19.6%	14.2%	49.8%	28.6%	19.9%	13.7%	46.2%	27.6%	19.0%	15.0%	40.4%	25.7%	17.3%	15.5%
BHAR (1)	-	58.5%	29.4%	19.7%	14.2%	48.8%	28.0%	19.9%	13.0%	46.0%	27.7%	19.0%	15.0%	40.4%	25.8%	16.9%	15.5%
JAPAN					<u>L</u>												
CAR (0)		60.5%	30.7%	20.2%	15.0%	52.9%	30.9%	20.3%	14.9%	46.7%	28.1%	20.1%	14.9%	42.9%	26.0%	19.0%	15.0%
CAR (1)	-	60.6%	30.8%	20.2%	15.0%	53.0%	30.9%	20.3%	14.9%	46.8%	28.1%	20.1%	14.9%	43.0%	26.0%	19.0%	15.0%
BHAR (0)		60.6%	29.7%	19.8%	15.2%	52.3%	30.7%	19.8%	15.7%	46.9%	27.7%	19.3%	15.5%	42.5%	26.1%	18.9%	15.5%
BHAR (1)	-	60.7%	29.8%	19.8%	15.2%	52.3%	30.7%	19.8%	15.8%	46.9%	27.8%	19.4%	15.5%	42.6%	26.1%	18.9%	15.5%
NETHERLA	NDS																
CAR (0)		58.9%	29.9%	20.0%	14.8%	49.3%	29.9%	19.6%	14.7%	42.0%	26.5%	19.5%	14.6%	37.5%	24.1%	18.0%	14.4%
CAR (1)		59.3%	30.1%	20.0%	14.9%	49.6%	29.9%	19.6%	14.7%	42.3%	26.6%	19.5%	14.6%	37.7%	24.2%	18.0%	14.4%
BHAR (0)	-	58.3%	29.6%	19.6%	14.7%	49.2%	30.8%	19.7%	14.6%	42.7%	26.2%	19.0%	14.3%	36.9%	23.3%	17.7%	14.8%
BHAR (1)	-	58.6%	29.8%	19.6%	14.9%	49.1%	30.8%	19.8%	14.6%	43.0%	26.3%	19.2%	14.4%	37.0%	23.4%	17.6%	14.8%
NEWZEALA	.ND																
CAR (0)		57.9%	28.9%	19.5%	14.6%	45.6%	28.5%	19.2%	14.4%	41.4%	25.5%	19.1%	14.5%	36.5%	23.5%	17.7%	14.2%
CAR (1)		58.2%	28.9%	19.6%	14.6%	45.7%	28.5%	19.2%	14.5%	41.5%	25.5%	19.1%	14.5%	36.7%	23.5%	17.7%	14.2%
BHAR (0)	-	58.0%	28.1%	19.6%	14.7%	44.9%	28.5%	19.9%	13.6%	40.3%	25.2%	18.7%	14.0%	36.6%	23.7%	18.0%	14.7%
BHAR (1)	-	58.4%	28.4%	19.7%	14.7%	45.1%	28.5%	19.9%	13.8%	40.6%	25.2%	18.6%	14.0%	36.7%	23.8%	18.0%	14.7%

IVOL J =		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY																
CAR (0)	59.4%	29.9%	19.9%	14.9%	50.0%	29.7%	19.8%	14.9%	43.4%	26.6%	19.4%	14.5%	40.3%	25.4%	18.9%	14.7%
CAR (1)	59.6%	29.9%	19.9%	14.9%	50.1%	29.8%	19.9%	14.9%	43.5%	26.7%	19.4%	14.5%	40.4%	25.4%	18.8%	14.7%
BHAR (0)	58.2%	28.8%	20.3%	14.4%	51.1%	29.9%	20.2%	14.9%	43.3%	25.4%	18.7%	14.5%	39.8%	25.4%	18.8%	14.5%
BHAR (1)	58.5%	28.8%	20.4%	14.4%	51.1%	29.9%	20.2%	14.9%	43.1%	25.6%	18.7%	14.6%	39.8%	25.3%	18.8%	14.5%
PORTUGAL																
CAR (0)	59.1%	28.9%	19.6%	15.1%	47.2%	28.8%	19.2%	14.6%	40.0%	25.4%	19.3%	14.5%	37.5%	23.5%	17.9%	14.6%
CAR (1)	59.7%	28.9%	19.7%	15.2%	47.6%	29.0%	19.3%	14.6%	40.2%	25.6%	19.3%	14.5%	37.5%	23.6%	17.8%	14.5%
BHAR (0)	59.1%	28.7%	19.1%	14.3%	46.2%	28.5%	19.6%	13.8%	39.5%	24.8%	18.5%	14.2%	37.7%	23.7%	16.9%	15.0%
BHAR (1)	58.8%	28.6%	20.1%	14.5%	46.4%	28.5%	19.9%	13.9%	40.3%	24.9%	18.6%	14.3%	37.9%	23.9%	17.2%	15.0%
SINGAPORE																
CAR (0)	58.3%	28.7%	19.4%	14.6%	47.3%	27.8%	18.6%	14.1%	42.1%	25.7%	18.8%	14.1%	38.3%	24.5%	17.8%	14.0%
CAR (1)	58.5%	28.8%	19.3%	14.5%	47.4%	27.8%	18.7%	14.1%	42.3%	25.7%	18.8%	14.1%	38.6%	24.6%	17.8%	14.0%
BHAR (0)	58.2%	29.0%	19.5%	14.5%	47.4%	29.2%	18.5%	14.2%	43.8%	26.2%	18.9%	14.5%	37.4%	24.7%	17.2%	14.3%
BHAR (1)	58.6%	29.7%	19.7%	14.5%	47.1%	29.2%	18.5%	14.2%	43.9%	26.3%	18.9%	14.5%	37.6%	24.7%	17.2%	14.3%
SPAIN				<u> </u>												
CAR (0)	57.3%	28.6%	18.9%	14.2%	47.5%	28.2%	18.4%	13.6%	38.6%	24.3%	18.0%	13.3%	35.7%	22.1%	16.6%	13.1%
CAR (1)	57.5%	28.7%	19.1%	14.3%	48.1%	28.4%	18.4%	13.6%	38.8%	24.3%	18.0%	13.3%	35.8%	22.1%	16.5%	13.1%
BHAR (0)	59.1%	29.4%	19.7%	13.7%	46.8%	28.6%	19.5%	13.3%	39.1%	25.0%	17.0%	14.6%	36.8%	21.8%	15.6%	13.5%
BHAR (1)	59.2%	29.4%	19.7%	14.2%	47.2%	28.7%	19.6%	13.5%	39.2%	24.9%	16.6%	14.6%	36.9%	21.8%	15.6%	13.5%

IVOL	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		58.3%	29.2%	19.8%	14.9%	49.3%	29.3%	19.7%	14.7%	43.0%	26.4%	19.3%	14.5%	38.3%	24.2%	17.7%	14.1%
CAR (1)		58.5%	29.4%	19.9%	14.9%	49.4%	29.4%	19.8%	14.7%	43.2%	26.4%	19.3%	14.5%	38.5%	24.3%	17.8%	14.1%
BHAR (0)		57.9%	28.5%	20.0%	14.4%	48.7%	30.2%	19.8%	14.7%	40.9%	24.8%	17.7%	13.9%	38.3%	24.9%	18.4%	14.3%
BHAR (1)		58.0%	28.7%	20.0%	14.5%	49.0%	30.3%	19.8%	14.8%	41.5%	25.1%	17.7%	13.9%	38.5%	25.3%	18.5%	14.3%
SWITZERLA	ND																
CAR (0)		59.2%	29.7%	20.0%	14.9%	49.7%	29.8%	19.9%	14.9%	44.6%	26.9%	19.7%	14.8%	39.5%	24.7%	18.2%	14.6%
CAR (1)		59.5%	29.8%	20.0%	14.9%	49.3%	29.8%	19.9%	14.8%	44.8%	26.9%	19.7%	14.8%	39.7%	24.8%	18.2%	14.6%
BHAR (0)		59.0%	29.7%	19.8%	14.7%	50.0%	30.1%	19.7%	14.8%	45.7%	26.8%	19.0%	15.0%	38.9%	24.2%	17.5%	14.5%
BHAR (1)		59.3%	29.8%	19.8%	14.6%	49.4%	30.2%	19.4%	15.0%	46.0%	26.9%	19.0%	15.0%	39.2%	24.2%	17.5%	14.5%
UK																	
CAR (0)		58.3%	29.3%	19.8%	14.8%	46.8%	29.1%	19.7%	14.7%	41.2%	26.0%	19.5%	14.6%	36.4%	23.9%	18.1%	14.5%
CAR (1)		58.9%	29.5%	19.9%	14.9%	47.3%	29.2%	19.7%	14.8%	41.7%	26.2%	19.5%	14.7%	36.8%	24.0%	18.0%	14.5%
BHAR (0)		58.5%	29.1%	19.8%	14.7%	47.2%	29.2%	19.8%	14.5%	41.4%	25.8%	19.0%	14.7%	36.7%	23.8%	17.9%	15.0%
BHAR (1)		59.1%	29.2%	19.9%	14.7%	47.5%	29.4%	19.8%	14.6%	42.2%	26.3%	19.2%	14.8%	37.0%	23.8%	17.9%	15.1%
US																	
CAR (0)		59.5%	29.6%	19.8%	14.8%	49.3%	29.9%	19.8%	14.8%	42.7%	26.6%	19.8%	14.7%	39.0%	24.5%	18.3%	14.8%
CAR (1)		59.6%	29.7%	19.8%	14.8%	49.5%	30.0%	19.8%	14.8%	42.9%	26.7%	19.8%	14.7%	39.2%	24.5%	18.3%	14.7%
BHAR (0)		59.6%	28.9%	19.3%	14.5%	49.2%	29.8%	19.7%	14.6%	42.9%	26.3%	19.1%	14.6%	39.3%	24.0%	18.0%	15.2%
BHAR (1)	-	59.6%	28.9%	19.3%	14.5%	49.1%	29.8%	19.7%	14.7%	43.1%	26.5%	19.1%	14.6%	39.5%	24.0%	18.0%	15.2%

Table 7.8a. Turnover ratios for cross-sectional winner portfolio

EW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRALI	A																
CAR (0)		54.4%	28.0%	19.1%	14.5%	38.1%	27.5%	18.9%	14.4%	31.4%	22.5%	18.6%	14.3%	27.4%	20.0%	16.4%	14.1%
CAR (1)		54.9%	28.2%	19.2%	14.6%	38.4%	27.7%	19.0%	14.5%	31.7%	22.7%	18.7%	14.3%	27.5%	20.1%	16.5%	14.1%
BHAR (0)	-	54.6%	27.8%	19.0%	14.1%	37.8%	27.3%	19.0%	14.0%	31.4%	22.3%	18.3%	14.0%	27.4%	20.1%	16.4%	14.3%
BHAR (1)		55.0%	28.0%	19.1%	14.2%	38.1%	27.5%	19.1%	14.1%	31.6%	22.5%	18.4%	14.0%	27.5%	20.2%	16.5%	14.4%
AUSTRIA	<u> </u>								ı								
CAR (0)		54.0%	28.2%	19.0%	14.5%	38.9%	27.7%	18.7%	14.5%	32.1%	22.8%	18.6%	14.5%	27.7%	20.3%	16.6%	14.6%
CAR (1)		54.3%	28.5%	19.1%	14.5%	39.2%	27.9%	18.9%	14.5%	32.4%	23.0%	18.8%	14.6%	28.0%	20.5%	16.7%	14.7%
BHAR (0)		53.4%	28.8%	18.6%	14.2%	38.7%	28.0%	18.7%	13.8%	31.7%	22.1%	18.5%	14.4%	27.7%	19.9%	16.2%	15.1%
BHAR (1)	-	53.8%	29.2%	18.7%	14.3%	39.0%	28.4%	18.8%	14.1%	32.0%	22.3%	18.7%	14.5%	27.9%	20.3%	16.3%	15.3%
BELGIUM	 1																
CAR (0)		54.0%	27.6%	18.8%	14.2%	38.0%	26.6%	18.1%	13.9%	31.1%	21.9%	17.8%	13.7%	26.6%	19.0%	15.5%	13.3%
CAR (1)		54.5%	27.8%	18.9%	14.3%	38.3%	26.8%	18.2%	14.0%	31.3%	22.0%	17.9%	13.7%	26.9%	19.1%	15.6%	13.4%
BHAR (0)	-	54.1%	27.6%	17.9%	13.4%	37.8%	26.6%	17.7%	13.4%	30.9%	21.2%	17.3%	13.2%	26.5%	19.0%	15.2%	14.0%
BHAR (1)		54.6%	27.9%	17.9%	13.5%	38.2%	26.8%	17.8%	13.6%	31.2%	21.5%	17.5%	13.2%	26.9%	19.1%	15.2%	14.1%
CANADA													<u>l</u> _				
CAR (0)		53.7%	27.9%	18.8%	14.4%	37.6%	27.2%	18.6%	14.2%	30.6%	22.1%	18.2%	14.0%	26.3%	19.3%	15.9%	13.8%
CAR (1)	-	54.3%	28.2%	19.0%	14.5%	38.0%	27.4%	18.7%	14.3%	30.8%	22.2%	18.3%	14.1%	26.5%	19.4%	16.0%	13.9%
BHAR (0)	-	53.5%	27.6%	18.7%	13.8%	37.8%	27.3%	18.7%	13.9%	30.9%	21.8%	18.1%	14.0%	26.6%	19.4%	16.0%	14.0%
BHAR (1)	-	54.1%	28.0%	18.8%	13.9%	38.2%	27.5%	18.8%	14.1%	31.2%	22.1%	18.2%	14.1%	26.8%	19.5%	16.1%	14.2%
-																	

EW J =		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARK																
CAR (0)	53.9%	27.7%	18.9%	14.2%	37.5%	26.6%	18.3%	14.0%	30.4%	21.9%	17.9%	13.8%	25.8%	18.9%	15.6%	13.4%
CAR (1)	54.4%	27.9%	19.0%	14.2%	37.8%	26.8%	18.4%	14.0%	30.6%	22.0%	18.0%	13.9%	26.0%	18.9%	15.6%	13.5%
BHAR (0)	53.7%	27.4%	18.8%	13.8%	37.5%	26.7%	18.4%	13.8%	30.1%	22.0%	17.9%	14.1%	25.6%	18.5%	16.1%	13.7%
BHAR (1)	54.2%	27.7%	19.0%	13.9%	37.9%	26.9%	18.5%	14.0%	30.5%	22.3%	18.0%	14.1%	25.8%	18.6%	16.3%	13.8%
FINLAND																
CAR (0)	55.6%	28.5%	19.0%	14.7%	39.7%	28.1%	19.1%	14.7%	32.8%	23.6%	19.1%	14.5%	29.5%	21.1%	16.9%	14.2%
CAR (1)	55.8%	28.6%	19.1%	14.8%	40.1%	28.3%	19.2%	14.8%	33.0%	23.7%	19.2%	14.6%	29.7%	21.3%	17.0%	14.3%
BHAR (0)	55.7%	28.1%	18.6%	14.7%	39.5%	27.6%	19.7%	13.8%	33.0%	22.9%	18.6%	14.3%	30.2%	20.7%	16.8%	14.7%
BHAR (1)	56.1%	28.3%	18.8%	14.7%	39.9%	27.8%	19.7%	14.0%	33.4%	23.3%	18.8%	14.4%	30.5%	20.8%	16.9%	14.8%
FRANCE																
CAR (0)	55.6%	28.0%	19.1%	14.5%	38.8%	27.6%	18.8%	14.4%	32.0%	22.6%	18.6%	14.2%	27.9%	20.0%	16.3%	14.1%
CAR (1)	56.0%	28.2%	19.3%	14.6%	39.2%	27.9%	19.0%	14.5%	32.2%	22.8%	18.7%	14.3%	28.2%	20.2%	16.4%	14.2%
BHAR (0)	55.4%	27.7%	18.7%	13.9%	38.7%	27.5%	18.6%	14.2%	32.1%	22.1%	18.3%	13.9%	27.9%	19.9%	16.1%	14.3%
BHAR (1)	55.9%	27.9%	18.9%	14.0%	39.1%	27.8%	18.8%	14.4%	32.4%	22.4%	18.4%	14.0%	28.1%	20.0%	16.3%	14.4%
GERMANY																
CAR (0)	54.4%	27.5%	18.7%	14.0%	37.9%	27.0%	18.3%	14.0%	30.8%	21.9%	18.1%	13.9%	26.5%	19.3%	15.9%	13.8%
CAR (1)	54.6%	27.6%	18.7%	14.1%	38.0%	27.0%	18.4%	14.1%	30.9%	22.0%	18.1%	13.9%	26.6%	19.4%	16.0%	13.8%
BHAR (0)	54.7%	27.0%	18.2%	13.5%	38.1%	26.8%	18.2%	13.7%	30.9%	21.3%	17.7%	13.8%	26.2%	19.3%	15.6%	14.1%
BHAR (1)	54.8%	27.2%	18.3%	13.6%	38.2%	26.9%	18.2%	13.9%	31.0%	21.6%	17.7%	13.9%	26.4%	19.4%	15.7%	14.1%

EW J	=		3				6				9				12		
Н	[=	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		55.2%	28.0%	19.2%	14.5%	38.9%	27.8%	18.8%	14.4%	32.5%	23.1%	18.9%	14.3%	28.6%	20.6%	16.7%	14.3%
CAR (1)		55.4%	28.0%	19.2%	14.5%	38.9%	27.9%	18.9%	14.4%	32.5%	23.2%	18.9%	14.3%	28.7%	20.7%	16.7%	14.3%
BHAR (0)		55.2%	27.7%	18.7%	14.1%	38.4%	27.7%	18.7%	14.3%	32.6%	22.8%	18.4%	14.3%	27.9%	20.3%	16.5%	14.8%
BHAR (1)		55.5%	27.9%	18.8%	14.0%	38.5%	27.8%	18.8%	14.4%	32.6%	22.9%	18.5%	14.4%	28.0%	20.3%	16.5%	14.8%
HONGKONG																	
CAR (0)		54.3%	27.9%	19.0%	14.4%	38.0%	27.3%	18.7%	14.3%	31.2%	22.5%	18.6%	14.2%	27.6%	20.0%	16.5%	14.2%
CAR (1)		54.5%	27.9%	19.0%	14.4%	38.1%	27.4%	18.8%	14.3%	31.3%	22.6%	18.6%	14.2%	27.7%	20.0%	16.5%	14.2%
BHAR (0)		54.5%	27.5%	19.1%	13.9%	38.1%	27.2%	18.7%	14.0%	31.1%	22.2%	18.2%	14.3%	27.7%	19.6%	16.6%	14.3%
BHAR (1)		54.7%	27.7%	19.1%	13.9%	38.3%	27.2%	18.8%	14.1%	31.2%	22.4%	18.3%	14.3%	27.7%	19.7%	16.6%	14.3%
IRELAND																	
CAR (0)		56.2%	28.9%	20.1%	14.7%	40.6%	28.4%	19.4%	14.6%	33.6%	23.3%	18.8%	14.3%	29.2%	20.7%	16.7%	14.2%
CAR (1)		57.0%	29.3%	20.3%	14.9%	41.3%	28.8%	19.6%	14.7%	34.0%	23.6%	19.0%	14.4%	29.6%	20.9%	16.8%	14.3%
BHAR (0)		56.2%	29.2%	20.7%	13.9%	40.8%	28.2%	19.5%	13.2%	33.4%	22.5%	18.0%	14.1%	28.5%	20.8%	15.9%	14.8%
BHAR (1)		56.7%	29.8%	20.9%	14.1%	41.3%	28.3%	19.8%	13.7%	33.8%	23.1%	18.3%	14.2%	28.9%	21.1%	15.9%	14.9%
ISRAEL																	
CAR (0)		55.7%	28.2%	19.0%	14.5%	39.6%	27.9%	18.9%	14.4%	32.8%	23.2%	18.8%	14.3%	29.0%	20.4%	16.5%	14.2%
CAR (1)		55.9%	28.3%	19.0%	14.5%	39.9%	28.0%	19.0%	14.4%	32.9%	23.3%	18.9%	14.3%	29.1%	20.5%	16.6%	14.2%
BHAR (0)		55.7%	27.8%	18.6%	14.1%	39.5%	27.9%	18.9%	13.9%	32.6%	22.5%	18.5%	14.1%	28.8%	20.3%	16.4%	14.3%
BHAR (1)		56.1%	28.1%	18.7%	14.2%	39.8%	28.0%	19.0%	14.0%	32.8%	22.8%	18.6%	14.1%	29.0%	20.3%	16.5%	14.4%

EW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		54.9%	28.2%	19.2%	14.7%	38.7%	27.7%	18.9%	14.6%	31.4%	22.7%	18.6%	14.3%	27.3%	20.0%	16.4%	14.1%
CAR (1)		55.3%	28.4%	19.3%	14.7%	39.1%	27.9%	19.1%	14.7%	31.7%	22.9%	18.7%	14.4%	27.6%	20.2%	16.5%	14.1%
BHAR (0)		54.7%	27.8%	19.1%	13.9%	38.8%	27.6%	18.8%	14.3%	32.1%	22.7%	18.6%	14.1%	27.8%	20.1%	16.6%	14.4%
BHAR (1)		55.2%	28.2%	19.3%	14.0%	39.2%	27.8%	18.9%	14.4%	32.4%	23.0%	18.7%	14.2%	28.1%	20.3%	16.7%	14.5%
JAPAN																	
CAR (0)		54.5%	27.7%	18.4%	13.8%	39.0%	27.6%	18.4%	13.8%	32.1%	22.6%	18.4%	13.8%	27.9%	19.9%	16.1%	13.8%
CAR (1)		54.7%	27.8%	18.5%	13.8%	39.1%	27.7%	18.4%	13.8%	32.2%	22.7%	18.4%	13.8%	28.0%	19.9%	16.1%	13.8%
BHAR (0)		54.3%	27.2%	18.1%	13.8%	38.8%	27.7%	18.0%	13.5%	31.9%	22.4%	17.7%	13.8%	27.8%	19.9%	15.7%	14.2%
BHAR (1)		54.4%	27.3%	18.1%	13.8%	38.9%	27.7%	18.1%	13.6%	32.0%	22.6%	17.8%	13.8%	27.9%	19.9%	15.7%	14.2%
NETHERLAN	IDS																
CAR (0)		54.9%	28.3%	19.3%	14.4%	39.0%	27.6%	18.9%	14.3%	32.1%	22.7%	18.6%	14.1%	27.3%	19.8%	16.1%	13.7%
CAR (1)		55.6%	28.7%	19.4%	14.5%	39.5%	27.9%	19.1%	14.4%	32.5%	22.9%	18.7%	14.2%	27.7%	20.0%	16.2%	13.8%
BHAR (0)		54.4%	28.1%	18.7%	13.9%	38.8%	27.9%	19.0%	13.2%	31.4%	22.3%	18.1%	13.8%	27.3%	19.7%	15.7%	14.2%
BHAR (1)		54.8%	28.4%	18.8%	14.0%	39.2%	28.2%	19.1%	13.4%	31.6%	22.6%	18.2%	13.9%	27.6%	19.8%	15.8%	14.2%
NEWZEALA	ND																
CAR (0)		54.5%	28.1%	19.5%	14.8%	38.1%	27.1%	18.8%	14.6%	31.3%	22.7%	18.6%	14.5%	27.7%	20.2%	16.6%	14.2%
CAR (1)		55.4%	28.4%	19.7%	14.9%	38.6%	27.3%	19.0%	14.7%	31.6%	23.0%	18.7%	14.6%	28.0%	20.4%	16.7%	14.3%
BHAR (0)		54.2%	27.5%	18.9%	14.8%	37.6%	26.8%	18.6%	14.5%	30.3%	22.0%	18.2%	14.0%	27.6%	19.8%	16.3%	13.8%
BHAR (1)		54.9%	27.9%	18.9%	14.9%	38.1%	27.0%	18.8%	14.8%	30.7%	22.4%	18.3%	14.1%	27.9%	19.8%	16.4%	13.8%

EW J =		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY																
CAR (0)	55.6%	28.5%	19.5%	15.1%	39.9%	27.7%	18.8%	14.8%	33.1%	23.2%	18.8%	14.6%	29.3%	20.9%	16.9%	14.4%
CAR (1)	56.3%	28.8%	19.8%	15.2%	40.4%	28.0%	19.0%	14.9%	33.5%	23.5%	19.0%	14.8%	29.6%	21.2%	17.0%	14.5%
BHAR (0)	56.0%	28.3%	18.9%	14.2%	39.4%	27.4%	18.7%	14.3%	33.0%	22.5%	18.3%	14.2%	29.4%	20.9%	16.6%	14.7%
BHAR (1)	56.9%	28.7%	19.1%	14.3%	39.9%	27.7%	18.9%	14.5%	33.3%	22.9%	18.5%	14.3%	29.7%	21.2%	16.7%	14.8%
PORTUGAL																
CAR (0)	55.5%	28.2%	19.4%	14.8%	39.2%	28.6%	19.6%	14.9%	32.8%	23.6%	19.4%	14.9%	29.2%	20.5%	16.8%	14.6%
CAR (1)	56.1%	28.5%	19.6%	14.8%	39.9%	28.9%	19.8%	15.0%	33.3%	23.9%	19.5%	15.0%	29.7%	20.8%	17.0%	14.8%
BHAR (0)	55.9%	27.8%	19.1%	14.4%	38.8%	28.3%	20.0%	14.3%	32.6%	23.4%	19.9%	15.0%	29.2%	20.4%	16.6%	15.0%
BHAR (1)	56.5%	28.1%	19.1%	14.4%	39.7%	28.9%	19.9%	14.4%	33.4%	23.9%	20.2%	15.1%	29.8%	20.9%	16.7%	15.5%
SINGAPORE																
CAR (0)	54.3%	27.8%	19.1%	14.5%	38.3%	27.5%	18.9%	14.4%	31.5%	22.8%	18.6%	14.3%	27.8%	20.2%	16.5%	14.0%
CAR (1)	54.7%	27.9%	19.2%	14.5%	38.5%	27.6%	18.9%	14.5%	31.7%	22.9%	18.7%	14.3%	28.0%	20.3%	16.5%	14.1%
BHAR (0)	54.3%	27.8%	18.7%	14.4%	38.2%	26.9%	18.6%	14.3%	31.4%	22.7%	18.2%	14.6%	28.1%	20.0%	16.4%	14.5%
BHAR (1)	54.6%	28.0%	18.8%	14.5%	38.4%	27.0%	18.8%	14.4%	31.5%	22.9%	18.2%	14.7%	28.2%	20.1%	16.4%	14.5%
SPAIN																
CAR (0)	54.6%	28.0%	18.9%	14.3%	39.3%	27.5%	18.7%	14.1%	31.5%	22.5%	18.3%	13.9%	27.3%	19.6%	16.1%	13.8%
CAR (1)	54.9%	28.2%	19.1%	14.3%	39.7%	27.7%	18.8%	14.2%	31.7%	22.7%	18.4%	14.0%	27.5%	19.7%	16.1%	13.8%
BHAR (0)	55.6%	27.8%	18.9%	14.2%	39.4%	27.0%	18.3%	13.9%	30.9%	21.7%	18.0%	14.4%	27.1%	19.4%	16.2%	14.6%
BHAR (1)	56.0%	28.0%	19.0%	14.3%	39.6%	27.3%	18.4%	14.0%	31.3%	21.9%	18.1%	14.4%	27.4%	19.5%	16.3%	14.7%

EW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	<u> </u>																
CAR (0)		55.6%	28.8%	20.1%	15.2%	39.8%	28.4%	19.6%	15.0%	32.9%	23.6%	19.1%	14.6%	28.3%	20.7%	16.8%	14.3%
CAR (1)		56.4%	29.2%	20.3%	15.3%	40.4%	28.7%	19.8%	15.1%	33.2%	23.8%	19.3%	14.7%	28.6%	20.9%	17.0%	14.4%
BHAR (0)		55.0%	28.4%	19.8%	14.9%	39.4%	27.9%	19.7%	14.8%	32.7%	23.0%	18.4%	14.8%	28.6%	20.3%	16.6%	14.4%
BHAR (1)		55.9%	28.9%	20.0%	15.0%	39.9%	28.3%	19.8%	14.9%	33.0%	23.4%	18.6%	15.0%	28.9%	20.5%	16.7%	14.5%
SWITZERLA	ND																
CAR (0)		53.8%	27.0%	18.4%	13.8%	37.2%	26.5%	17.9%	13.6%	30.6%	21.6%	17.6%	13.5%	25.9%	18.8%	15.5%	13.2%
CAR (1)		54.0%	27.1%	18.5%	13.8%	37.4%	26.6%	18.0%	13.6%	30.8%	21.7%	17.6%	13.5%	26.1%	18.9%	15.5%	13.2%
BHAR (0)		53.8%	26.2%	18.0%	12.9%	36.9%	26.6%	18.0%	13.1%	30.3%	21.0%	17.0%	13.4%	26.1%	18.6%	15.2%	13.5%
BHAR (1)	_	54.0%	26.3%	18.0%	12.9%	37.1%	26.8%	18.1%	13.2%	30.5%	21.3%	17.0%	13.4%	26.3%	18.7%	15.3%	13.5%
UK																	
CAR (0)		56.0%	28.6%	19.7%	14.8%	39.5%	28.0%	19.2%	14.6%	32.4%	22.8%	18.5%	14.3%	27.3%	19.7%	16.2%	13.9%
CAR (1)		56.8%	28.9%	19.9%	14.9%	40.0%	28.3%	19.4%	14.7%	32.7%	22.9%	18.7%	14.3%	27.5%	19.9%	16.3%	14.0%
BHAR (0)		56.2%	28.3%	19.0%	14.1%	39.6%	27.9%	19.3%	14.2%	32.3%	22.4%	18.1%	14.3%	27.5%	19.7%	16.0%	14.2%
BHAR (1)	_	57.0%	28.6%	19.2%	14.2%	40.1%	28.2%	19.5%	14.4%	32.6%	22.7%	18.3%	14.4%	27.7%	19.8%	16.1%	14.3%
US																	
CAR (0)		54.3%	27.8%	19.0%	14.6%	38.8%	27.5%	18.9%	14.5%	31.8%	22.7%	18.6%	14.3%	27.9%	20.1%	16.4%	14.1%
CAR (1)		55.0%	28.1%	19.1%	14.7%	39.3%	27.8%	19.0%	14.7%	32.2%	22.9%	18.7%	14.4%	28.1%	20.2%	16.5%	14.2%
BHAR (0)		54.4%	27.6%	18.7%	14.2%	38.7%	27.4%	19.1%	14.1%	31.9%	22.6%	18.2%	14.3%	27.8%	19.9%	16.3%	14.3%
BHAR (1)		55.1%	28.0%	18.9%	14.3%	39.2%	27.7%	19.3%	14.3%	32.3%	23.0%	18.4%	14.5%	28.1%	20.1%	16.4%	14.4%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL	IA																
CAR (0)		59.3%	29.8%	20.4%	15.5%	46.1%	29.5%	20.0%	15.3%	38.8%	25.5%	19.7%	15.1%	34.8%	23.7%	18.4%	14.9%
CAR (1)		58.8%	29.8%	20.4%	15.4%	45.4%	29.2%	20.0%	15.2%	38.3%	25.3%	19.5%	15.1%	34.3%	23.5%	18.3%	14.8%
BHAR (0)		59.4%	29.6%	20.0%	15.3%	45.8%	29.5%	20.2%	15.0%	39.0%	25.3%	19.4%	14.9%	34.9%	23.3%	18.1%	15.2%
BHAR (1)		59.0%	29.6%	20.0%	15.3%	45.4%	29.3%	20.2%	15.0%	38.5%	25.1%	19.3%	14.8%	34.6%	23.0%	18.0%	15.1%
AUSTRIA	<u> </u>																
CAR (0)		56.7%	29.0%	19.1%	14.6%	44.1%	28.0%	19.0%	14.7%	36.6%	24.0%	18.7%	14.6%	33.9%	22.7%	17.4%	14.5%
CAR (1)		56.4%	28.9%	19.0%	14.6%	43.5%	27.8%	18.9%	14.7%	36.4%	24.1%	18.7%	14.6%	33.8%	22.6%	17.3%	14.5%
BHAR (0)		56.5%	28.6%	18.7%	14.1%	44.3%	28.2%	18.1%	14.3%	37.0%	22.5%	18.3%	14.1%	34.5%	23.0%	16.9%	14.7%
BHAR (1)		56.2%	28.7%	18.6%	14.1%	43.8%	28.0%	18.2%	14.3%	37.5%	23.1%	18.2%	14.1%	34.0%	22.7%	16.7%	14.5%
BELGIUN	<u></u>																
CAR (0)		58.8%	29.3%	19.2%	14.7%	46.2%	28.1%	18.7%	14.4%	37.6%	24.1%	18.7%	14.3%	33.8%	22.3%	17.0%	14.0%
CAR (1)		58.6%	29.2%	19.2%	14.7%	46.5%	28.1%	18.8%	14.4%	37.3%	24.2%	18.6%	14.2%	33.8%	22.3%	17.0%	13.9%
BHAR (0)		59.4%	28.2%	19.2%	13.8%	44.2%	27.7%	18.3%	14.2%	36.9%	21.6%	17.6%	13.3%	33.8%	22.7%	16.6%	14.5%
BHAR (1)		59.2%	28.4%	19.1%	14.0%	45.4%	27.4%	18.3%	14.5%	37.1%	22.4%	17.7%	13.3%	34.4%	23.0%	16.5%	14.4%
CANADA																	
CAR (0)		57.4%	29.6%	19.7%	14.9%	43.9%	28.5%	19.3%	14.7%	35.7%	24.0%	18.5%	14.3%	31.4%	21.6%	16.8%	14.1%
CAR (1)	Ī	56.7%	29.5%	19.7%	14.9%	43.3%	28.3%	19.2%	14.7%	35.2%	23.7%	18.3%	14.3%	30.9%	21.4%	16.7%	14.0%
BHAR (0)		57.8%	29.6%	19.2%	15.0%	44.7%	28.9%	19.8%	14.8%	36.5%	23.9%	18.8%	14.4%	32.3%	21.6%	16.9%	14.5%
BHAR (1)		57.0%	29.6%	19.2%	14.9%	43.8%	28.6%	19.8%	14.9%	35.8%	23.6%	18.5%	14.4%	31.6%	21.2%	16.8%	14.4%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARK																	
CAR (0)		54.7%	28.1%	18.9%	14.2%	40.6%	27.1%	18.5%	13.9%	33.0%	22.8%	17.9%	13.5%	27.7%	20.0%	15.6%	13.1%
CAR (1)		54.2%	28.0%	18.9%	14.1%	40.2%	26.9%	18.5%	13.8%	32.7%	22.6%	17.8%	13.5%	27.6%	19.8%	15.5%	13.1%
BHAR (0)		53.4%	27.5%	17.5%	13.5%	39.9%	27.1%	18.8%	14.2%	32.3%	23.1%	17.5%	14.2%	27.3%	18.9%	15.8%	13.5%
BHAR (1)		53.0%	27.4%	17.4%	13.5%	39.4%	26.9%	18.7%	14.2%	32.0%	23.3%	17.5%	14.2%	27.2%	18.7%	15.8%	13.4%
FINLAND																	
CAR (0)		56.5%	27.5%	18.8%	14.2%	43.2%	27.3%	18.1%	14.1%	36.1%	22.9%	17.6%	13.3%	32.7%	21.1%	15.9%	12.8%
CAR (1)		56.3%	27.5%	18.7%	14.1%	42.7%	27.2%	18.0%	14.0%	35.9%	22.9%	17.5%	13.2%	32.5%	20.9%	15.8%	12.7%
BHAR (0)		58.1%	29.4%	17.6%	14.5%	42.2%	26.8%	18.3%	12.6%	36.4%	21.3%	17.0%	12.7%	33.0%	21.9%	15.9%	12.7%
BHAR (1)		57.8%	29.4%	17.5%	14.5%	41.9%	26.7%	18.4%	12.9%	36.5%	21.4%	16.9%	12.6%	32.6%	21.8%	15.8%	12.7%
FRANCE																	
CAR (0)		59.9%	29.6%	19.8%	14.7%	46.7%	29.5%	19.4%	14.5%	39.9%	25.3%	19.2%	14.3%	34.5%	22.3%	17.2%	14.2%
CAR (1)		59.5%	29.5%	19.8%	14.7%	46.4%	29.4%	19.5%	14.5%	39.5%	25.1%	19.1%	14.3%	34.2%	22.2%	17.1%	14.1%
BHAR (0)		60.6%	29.3%	19.5%	14.6%	46.4%	29.0%	19.3%	14.2%	40.6%	25.4%	19.4%	14.2%	35.2%	22.2%	16.9%	14.0%
BHAR (1)		60.2%	29.5%	19.5%	14.6%	46.1%	28.8%	19.4%	14.3%	40.4%	25.3%	19.4%	14.2%	35.1%	22.2%	16.8%	13.9%
GERMANY																	
CAR (0)		58.9%	29.5%	19.5%	14.6%	45.6%	28.6%	18.9%	14.4%	37.2%	23.6%	18.4%	14.1%	32.8%	21.4%	16.7%	13.9%
CAR (1)		58.5%	29.5%	19.5%	14.5%	45.2%	28.5%	18.9%	14.4%	36.8%	23.5%	18.3%	14.1%	32.6%	21.3%	16.7%	13.8%
BHAR (0)	-	59.0%	29.6%	18.5%	14.7%	46.6%	28.8%	18.4%	14.3%	36.8%	23.0%	18.0%	14.4%	32.6%	20.8%	16.4%	14.4%
BHAR (1)	-	58.6%	29.7%	18.5%	14.6%	46.3%	28.7%	18.4%	14.4%	36.6%	23.0%	17.9%	14.4%	32.7%	20.5%	16.3%	14.3%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE	E																
CAR (0)		58.9%	29.5%	20.2%	14.9%	47.3%	29.6%	19.6%	15.0%	41.3%	25.8%	19.8%	14.9%	35.6%	24.0%	18.3%	14.6%
CAR (1)		58.7%	29.7%	20.2%	14.9%	47.0%	29.5%	19.6%	14.9%	40.8%	25.8%	19.7%	14.8%	35.4%	23.8%	18.2%	14.6%
BHAR (0)		57.7%	28.0%	19.8%	13.8%	45.0%	29.3%	19.9%	14.4%	39.4%	25.2%	19.0%	14.7%	33.6%	22.5%	18.9%	14.9%
BHAR (1)		57.5%	29.0%	19.8%	13.8%	44.7%	29.2%	20.0%	14.4%	38.9%	25.2%	19.0%	14.8%	33.3%	22.3%	18.9%	14.9%
HONGKO	NG																
CAR (0)		57.8%	29.6%	19.8%	15.0%	44.7%	29.1%	19.8%	14.9%	37.5%	25.4%	19.6%	14.8%	34.1%	23.1%	18.0%	14.8%
CAR (1)		57.1%	29.5%	19.8%	15.0%	44.1%	29.0%	19.8%	14.9%	37.1%	25.2%	19.5%	14.8%	33.6%	22.9%	17.9%	14.7%
BHAR (0)		58.2%	28.9%	20.0%	14.7%	44.8%	28.9%	19.5%	14.4%	37.9%	24.8%	19.3%	14.8%	34.4%	22.4%	17.7%	14.8%
BHAR (1)		57.6%	29.0%	20.0%	14.7%	44.3%	28.7%	19.5%	14.6%	37.3%	24.7%	19.1%	14.7%	34.0%	22.3%	17.7%	14.8%
IRELANI	<u> </u>																
CAR (0)		58.7%	29.3%	20.2%	14.2%	46.1%	28.9%	19.5%	14.4%	40.0%	24.6%	19.1%	14.4%	35.2%	22.6%	17.8%	14.4%
CAR (1)		58.5%	29.4%	20.2%	14.1%	45.6%	28.9%	19.5%	14.4%	39.6%	24.5%	19.1%	14.4%	34.8%	22.6%	17.7%	14.3%
BHAR (0)		59.5%	29.9%	20.5%	14.7%	45.7%	29.1%	20.2%	13.4%	41.0%	24.9%	17.8%	14.6%	36.9%	23.2%	17.2%	14.8%
BHAR (1)		59.2%	30.4%	20.5%	14.7%	45.2%	29.0%	20.2%	13.8%	40.7%	24.9%	17.8%	14.5%	36.8%	23.1%	17.1%	14.7%
ISRAEL																	
CAR (0)		57.8%	29.2%	19.7%	15.0%	43.9%	28.7%	19.2%	14.6%	37.4%	25.4%	19.3%	14.6%	33.2%	22.8%	17.5%	14.5%
CAR (1)	Ī	57.4%	29.2%	19.7%	14.9%	43.4%	28.6%	19.2%	14.6%	36.9%	25.2%	19.3%	14.5%	32.9%	22.8%	17.4%	14.5%
BHAR (0)		59.7%	29.0%	18.1%	14.3%	43.4%	28.7%	18.2%	14.0%	37.1%	24.5%	18.1%	13.6%	34.6%	22.3%	18.0%	14.6%
BHAR (1)		59.2%	29.4%	18.0%	14.3%	42.7%	28.5%	18.1%	14.0%	36.4%	24.3%	18.1%	13.6%	34.2%	22.1%	18.0%	14.5%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		58.1%	28.5%	19.2%	14.3%	44.0%	28.0%	18.8%	14.1%	36.1%	23.3%	18.0%	13.6%	30.4%	20.7%	15.9%	13.0%
CAR (1)		58.0%	28.4%	19.3%	14.4%	43.6%	27.9%	18.8%	14.1%	35.5%	23.2%	18.0%	13.6%	30.2%	20.7%	15.9%	13.0%
BHAR (0)		58.2%	28.9%	19.0%	13.7%	42.2%	27.4%	17.6%	13.9%	35.2%	22.0%	17.6%	13.4%	30.3%	20.0%	14.8%	13.3%
BHAR (1)		58.0%	29.0%	18.8%	13.7%	41.8%	27.0%	17.6%	13.9%	35.4%	21.7%	17.5%	13.3%	29.8%	20.1%	14.6%	13.4%
JAPAN					<u>L</u>												
CAR (0)		56.8%	29.2%	19.0%	14.4%	45.0%	28.8%	19.2%	14.5%	37.8%	24.8%	19.2%	14.5%	33.6%	22.5%	17.3%	14.2%
CAR (1)		56.4%	29.2%	19.0%	14.4%	44.8%	28.7%	19.2%	14.4%	37.3%	24.7%	19.1%	14.4%	33.4%	22.4%	17.2%	14.2%
BHAR (0)		56.8%	29.2%	19.1%	14.5%	44.8%	28.7%	19.1%	14.5%	37.9%	24.7%	18.5%	14.7%	33.3%	22.5%	16.9%	14.8%
BHAR (1)		56.4%	29.2%	19.1%	14.5%	44.3%	28.5%	19.1%	14.6%	37.5%	24.8%	18.5%	14.7%	32.9%	22.4%	16.8%	14.8%
NETHERLA	NDS																
CAR (0)		58.2%	29.3%	19.4%	14.4%	46.1%	28.6%	19.3%	14.1%	39.0%	24.9%	19.0%	14.4%	34.5%	22.4%	17.4%	14.2%
CAR (1)		58.0%	29.3%	19.4%	14.4%	45.7%	28.5%	19.2%	14.1%	38.8%	24.8%	18.9%	14.4%	34.4%	22.5%	17.3%	14.2%
BHAR (0)		57.5%	28.9%	18.7%	14.2%	45.0%	28.2%	19.7%	12.9%	38.8%	23.4%	18.6%	13.7%	33.4%	21.2%	16.8%	14.9%
BHAR (1)		57.2%	28.9%	18.6%	14.2%	44.8%	28.1%	19.7%	13.0%	38.7%	23.3%	18.5%	13.7%	33.4%	21.0%	16.7%	14.9%
NEWZEALA	ND																
CAR (0)		57.1%	29.6%	20.1%	15.0%	43.6%	28.3%	19.7%	14.9%	37.3%	25.1%	19.5%	14.7%	33.6%	22.9%	17.7%	14.4%
CAR (1)		56.7%	29.5%	20.1%	15.0%	43.4%	28.2%	19.6%	14.9%	37.0%	25.0%	19.4%	14.6%	33.2%	22.7%	17.7%	14.4%
BHAR (0)	Ī	57.4%	29.4%	20.0%	14.6%	43.5%	28.0%	19.5%	14.7%	35.7%	24.4%	19.3%	14.4%	33.9%	23.3%	17.7%	13.7%
BHAR (1)	-	57.2%	29.4%	19.9%	14.7%	43.2%	28.0%	19.5%	14.9%	35.6%	24.5%	19.3%	14.4%	33.9%	23.1%	17.6%	13.6%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY																	
CAR (0)		57.5%	29.2%	19.4%	14.6%	43.3%	27.7%	18.6%	14.2%	37.3%	23.9%	18.4%	14.2%	33.0%	21.5%	16.5%	14.0%
CAR (1)		57.0%	29.1%	19.4%	14.6%	42.8%	27.5%	18.6%	14.2%	36.9%	23.7%	18.3%	14.2%	33.0%	21.4%	16.4%	13.9%
BHAR (0)		57.7%	28.8%	19.0%	13.8%	44.3%	28.1%	18.4%	13.7%	36.9%	23.4%	18.1%	13.6%	32.6%	21.3%	16.3%	13.9%
BHAR (1)		57.3%	28.8%	19.1%	13.7%	43.8%	27.8%	18.3%	13.7%	36.4%	23.1%	18.0%	13.6%	32.3%	21.1%	16.1%	13.8%
PORTUGAI																	
CAR (0)		58.0%	29.7%	20.0%	15.0%	44.6%	28.9%	19.8%	14.8%	37.5%	25.2%	19.2%	14.6%	34.9%	23.2%	18.2%	14.8%
CAR (1)		57.6%	29.6%	19.9%	14.9%	44.5%	28.7%	19.8%	14.8%	37.3%	25.1%	19.0%	14.6%	34.5%	23.1%	18.1%	14.7%
BHAR (0)		59.8%	28.4%	20.7%	15.4%	43.5%	28.6%	19.2%	14.6%	35.2%	25.3%	19.1%	14.9%	35.5%	23.5%	18.1%	15.0%
BHAR (1)		59.5%	28.5%	20.7%	15.4%	43.5%	28.3%	19.2%	14.1%	35.1%	25.4%	18.8%	14.8%	35.3%	22.9%	18.0%	14.7%
SINGAPORI	<u>_</u>																
CAR (0)		57.9%	29.2%	19.5%	14.7%	44.8%	29.1%	19.6%	14.9%	39.6%	25.8%	19.6%	14.7%	36.2%	23.3%	17.7%	14.3%
CAR (1)		57.6%	29.2%	19.6%	14.7%	44.5%	29.0%	19.6%	14.9%	39.3%	25.7%	19.5%	14.7%	36.0%	23.1%	17.6%	14.2%
BHAR (0)		58.3%	29.8%	19.2%	14.6%	44.5%	28.8%	19.5%	14.8%	38.5%	25.8%	19.1%	15.0%	35.5%	23.0%	16.6%	14.3%
BHAR (1)		58.0%	29.9%	19.2%	14.6%	44.2%	28.8%	19.5%	14.9%	38.2%	25.7%	18.9%	15.0%	35.2%	23.0%	16.4%	14.2%
SPAIN					L												
CAR (0)		59.0%	29.9%	19.6%	14.4%	46.8%	29.6%	19.4%	14.3%	40.8%	26.6%	19.6%	14.5%	35.8%	23.0%	17.3%	14.0%
CAR (1)		59.0%	29.9%	19.6%	14.3%	46.8%	29.7%	19.4%	14.3%	41.2%	26.6%	19.5%	14.5%	35.9%	22.7%	17.2%	14.0%
BHAR (0)		60.0%	30.2%	19.5%	14.3%	47.3%	29.2%	18.6%	14.7%	41.2%	26.0%	19.4%	14.7%	36.7%	22.3%	17.1%	14.1%
BHAR (1)		59.9%	30.5%	19.5%	14.3%	46.6%	29.1%	18.5%	14.7%	40.7%	26.2%	19.4%	14.7%	36.1%	22.1%	17.0%	14.1%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		58.5%	30.2%	19.9%	15.0%	47.7%	29.8%	19.5%	14.7%	38.8%	24.7%	18.7%	14.3%	33.8%	22.2%	17.1%	14.2%
CAR (1)		58.1%	30.2%	19.9%	15.0%	47.3%	29.7%	19.5%	14.7%	38.4%	24.5%	18.7%	14.2%	33.4%	22.0%	17.0%	14.1%
BHAR (0)		57.5%	29.8%	19.5%	15.0%	48.4%	30.3%	20.2%	14.9%	39.7%	23.7%	18.6%	13.9%	34.8%	22.5%	17.2%	14.2%
BHAR (1)		57.1%	29.7%	19.5%	14.9%	48.2%	30.2%	20.2%	15.0%	39.4%	23.5%	18.5%	13.9%	34.5%	22.3%	17.2%	14.2%
SWITZERLA	ND												I_				
CAR (0)		59.3%	28.4%	19.8%	14.5%	44.7%	28.0%	19.0%	14.3%	37.4%	23.9%	18.3%	14.0%	32.4%	21.4%	16.7%	13.5%
CAR (1)		59.0%	28.4%	19.7%	14.5%	44.2%	27.9%	19.0%	14.3%	37.0%	23.7%	18.2%	14.0%	32.0%	21.2%	16.6%	13.4%
BHAR (0)		60.3%	29.4%	19.8%	14.2%	45.0%	27.2%	18.9%	14.2%	37.1%	23.3%	17.8%	14.5%	31.7%	20.1%	16.6%	13.2%
BHAR (1)		60.1%	29.4%	19.9%	14.3%	44.8%	27.1%	18.9%	14.3%	36.8%	23.2%	17.6%	14.5%	31.5%	20.1%	16.5%	13.2%
UK																	
CAR (0)		60.7%	30.2%	20.1%	15.1%	47.8%	29.8%	19.8%	15.0%	41.8%	26.0%	19.7%	14.8%	36.2%	23.5%	18.0%	14.7%
CAR (1)		60.4%	30.2%	20.1%	15.0%	47.4%	29.7%	19.8%	15.0%	41.5%	25.9%	19.6%	14.8%	35.7%	23.3%	17.9%	14.7%
BHAR (0)		61.6%	29.0%	19.9%	14.5%	48.3%	30.2%	20.3%	14.9%	42.2%	25.4%	19.3%	14.8%	36.8%	24.0%	18.3%	14.9%
BHAR (1)		61.2%	29.1%	19.9%	14.5%	47.7%	30.0%	20.3%	15.0%	41.8%	25.3%	19.3%	14.8%	36.4%	23.8%	18.2%	14.9%
US																	
CAR (0)		58.3%	29.2%	19.4%	14.7%	44.4%	28.5%	19.2%	14.5%	36.6%	24.4%	18.9%	14.3%	32.7%	22.0%	17.1%	14.1%
CAR (1)		57.8%	29.2%	19.4%	14.6%	43.9%	28.3%	19.2%	14.4%	36.2%	24.2%	18.7%	14.3%	32.3%	21.8%	17.0%	14.0%
BHAR (0)		58.8%	29.0%	19.2%	14.4%	44.6%	28.4%	19.6%	14.1%	36.6%	24.3%	18.7%	14.2%	32.7%	21.9%	17.0%	14.1%
BHAR (1)		58.4%	29.0%	19.2%	14.4%	44.0%	28.2%	19.6%	14.1%	36.2%	24.3%	18.6%	14.2%	32.3%	21.7%	16.8%	14.0%

IVOL	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRALIA	١.																
CAR (0)		58.4%	29.0%	19.4%	14.8%	41.4%	27.6%	18.9%	14.5%	34.1%	23.3%	18.8%	14.3%	30.1%	21.4%	17.0%	14.1%
CAR (1)		59.1%	28.9%	19.6%	14.8%	41.8%	27.6%	18.9%	14.5%	34.4%	23.4%	18.8%	14.3%	30.8%	21.5%	17.0%	14.1%
BHAR (0)		58.8%	29.1%	19.0%	14.4%	40.8%	27.6%	19.3%	14.1%	34.0%	22.9%	18.6%	14.2%	30.1%	21.4%	17.1%	14.5%
BHAR (1)		59.4%	29.0%	19.2%	14.6%	41.4%	27.7%	19.3%	14.2%	34.2%	23.1%	18.6%	14.2%	30.3%	21.4%	17.1%	14.5%
AUSTRIA																	
CAR (0)		57.7%	29.5%	19.5%	14.6%	45.1%	28.7%	19.0%	14.4%	37.1%	24.0%	18.6%	14.2%	32.6%	22.0%	17.0%	14.2%
CAR (1)		58.0%	29.6%	19.5%	14.6%	45.5%	28.8%	19.0%	14.4%	37.5%	24.1%	18.7%	14.2%	33.0%	22.2%	17.1%	14.3%
BHAR (0)		57.4%	29.4%	19.0%	14.2%	44.9%	29.4%	19.4%	13.6%	36.4%	23.6%	18.7%	14.2%	32.4%	21.2%	16.6%	14.7%
BHAR (1)		57.7%	29.3%	19.1%	14.2%	44.5%	29.2%	19.0%	13.8%	37.0%	23.7%	18.7%	14.2%	32.4%	20.8%	16.6%	14.7%
BELGIUM																	
CAR (0)		57.5%	28.6%	19.1%	14.3%	42.1%	27.0%	18.0%	13.7%	34.2%	22.4%	17.6%	13.3%	29.1%	19.4%	15.4%	13.0%
CAR (1)		58.0%	28.8%	19.2%	14.3%	42.7%	27.1%	18.0%	13.7%	34.8%	22.5%	17.6%	13.3%	29.3%	19.5%	15.4%	13.0%
BHAR (0)		58.3%	28.8%	18.2%	13.6%	41.8%	27.2%	17.5%	13.1%	34.2%	22.0%	17.3%	12.9%	28.8%	19.4%	14.9%	13.6%
BHAR (1)		58.2%	29.1%	18.5%	13.6%	42.6%	27.3%	17.6%	13.4%	34.8%	22.3%	17.3%	13.0%	29.0%	19.5%	15.0%	13.7%
CANADA																	
CAR (0)		55.8%	28.4%	18.9%	14.3%	40.7%	27.4%	18.5%	14.0%	33.4%	23.0%	18.2%	13.9%	29.0%	20.3%	16.3%	13.7%
CAR (1)		56.0%	28.4%	18.9%	14.2%	40.9%	27.4%	18.5%	14.0%	33.5%	23.0%	18.2%	13.8%	29.0%	20.3%	16.2%	13.7%
BHAR (0)		55.8%	28.2%	18.6%	13.8%	40.9%	27.3%	18.7%	13.7%	34.0%	22.6%	18.0%	13.7%	29.3%	20.5%	16.3%	13.9%
BHAR (1)		55.9%	28.2%	18.6%	13.8%	41.3%	27.4%	18.7%	13.7%	34.0%	22.8%	18.0%	13.7%	29.3%	20.5%	16.3%	13.9%

IVOL J =		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARK																
CAR (0)	57.0%	28.7%	19.3%	14.4%	41.8%	27.4%	18.6%	14.1%	34.5%	23.2%	18.2%	13.9%	29.0%	20.2%	16.3%	13.6%
CAR (1)	57.5%	28.8%	19.4%	14.4%	42.3%	27.5%	18.7%	14.1%	34.9%	23.3%	18.3%	13.9%	29.1%	20.3%	16.2%	13.6%
BHAR (0)	57.1%	28.3%	18.9%	14.1%	42.1%	27.4%	18.5%	13.9%	34.6%	23.2%	17.9%	14.0%	29.2%	19.9%	16.6%	14.0%
BHAR (1)	57.4%	28.5%	19.0%	14.1%	43.0%	27.5%	18.5%	13.9%	34.8%	23.5%	18.0%	14.1%	28.7%	19.9%	16.7%	14.1%
FINLAND																
CAR (0)	57.6%	28.7%	19.0%	14.5%	42.1%	28.0%	18.8%	14.2%	34.3%	23.4%	18.5%	14.0%	30.4%	20.9%	16.4%	13.6%
CAR (1)	57.8%	28.9%	19.1%	14.5%	42.3%	28.1%	18.8%	14.2%	34.3%	23.4%	18.5%	14.0%	30.6%	21.0%	16.4%	13.6%
BHAR (0)	57.8%	28.5%	18.6%	14.5%	41.8%	27.6%	19.0%	13.5%	34.4%	22.9%	18.0%	13.7%	30.8%	20.4%	16.1%	13.8%
BHAR (1)	58.1%	28.7%	18.7%	14.5%	42.4%	27.6%	19.0%	13.5%	34.4%	23.0%	18.1%	13.7%	30.8%	20.4%	16.1%	13.8%
FRANCE	<u> </u>															
CAR (0)	60.5%	29.9%	20.0%	14.9%	45.7%	28.7%	19.1%	14.4%	37.1%	23.9%	18.6%	14.0%	31.7%	21.0%	16.4%	13.8%
CAR (1)	61.4%	30.2%	20.3%	15.0%	47.4%	29.1%	19.4%	14.5%	38.2%	24.3%	18.7%	14.0%	32.3%	21.3%	16.5%	13.8%
BHAR (0)	60.2%	29.3%	19.7%	14.2%	45.2%	28.8%	18.6%	13.8%	36.4%	23.3%	18.1%	13.6%	31.1%	20.8%	16.2%	13.9%
BHAR (1)	61.1%	29.3%	20.2%	14.3%	47.6%	29.4%	19.1%	13.8%	38.1%	24.0%	18.2%	13.7%	31.6%	21.2%	16.2%	13.9%
GERMANY																
CAR (0)	58.7%	29.2%	19.6%	14.6%	43.6%	28.2%	18.9%	14.3%	35.7%	23.5%	18.4%	14.0%	30.7%	20.9%	16.4%	13.8%
CAR (1)	59.2%	29.2%	19.7%	14.6%	44.5%	28.4%	19.0%	14.3%	36.7%	23.8%	18.5%	14.0%	31.4%	21.0%	16.5%	13.8%
BHAR (0)	58.8%	28.8%	19.2%	14.1%	44.0%	28.3%	18.8%	13.7%	35.7%	22.8%	18.1%	13.9%	30.0%	20.8%	16.0%	14.0%
BHAR (1)	59.4%	28.8%	19.2%	13.9%	44.9%	28.3%	18.9%	13.9%	36.6%	23.0%	18.2%	13.9%	31.0%	20.9%	16.1%	14.1%

IVOL	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		56.9%	28.6%	19.2%	14.6%	42.1%	28.1%	18.9%	14.3%	35.1%	23.9%	19.0%	14.3%	30.7%	21.5%	17.0%	14.2%
CAR (1)		57.1%	28.6%	19.3%	14.6%	42.3%	28.1%	18.9%	14.3%	35.3%	23.9%	19.0%	14.3%	31.0%	21.5%	17.0%	14.2%
BHAR (0)		56.7%	28.0%	18.8%	14.1%	41.6%	28.1%	18.8%	14.1%	35.4%	23.8%	18.6%	14.3%	30.2%	21.2%	16.7%	14.8%
BHAR (1)		57.0%	28.2%	18.9%	14.1%	41.9%	28.2%	18.8%	14.2%	35.5%	23.9%	18.7%	14.3%	30.3%	21.3%	16.7%	14.8%
HONGKONG	}																
CAR (0)		57.7%	28.9%	19.4%	14.6%	42.9%	28.3%	19.2%	14.5%	35.9%	24.0%	19.0%	14.4%	31.6%	21.4%	17.1%	14.3%
CAR (1)		58.1%	28.9%	19.4%	14.6%	43.3%	28.4%	19.2%	14.5%	35.9%	24.0%	19.0%	14.4%	31.8%	21.5%	17.1%	14.3%
BHAR (0)		58.2%	28.8%	19.4%	14.1%	43.2%	28.3%	19.0%	14.1%	36.3%	23.7%	18.6%	14.4%	31.6%	20.7%	17.0%	14.4%
BHAR (1)		58.5%	28.9%	19.4%	14.1%	43.7%	28.3%	19.0%	14.3%	35.9%	23.5%	18.6%	14.4%	32.0%	20.8%	17.0%	14.4%
IRELAND																	
CAR (0)		58.5%	29.1%	19.9%	14.5%	44.7%	28.7%	19.2%	14.3%	38.4%	24.4%	18.8%	14.0%	34.4%	22.3%	17.1%	14.0%
CAR (1)		58.7%	29.2%	20.0%	14.4%	45.2%	28.9%	19.3%	14.3%	38.8%	24.6%	18.8%	14.0%	34.9%	22.4%	17.2%	14.0%
BHAR (0)		58.2%	29.0%	20.1%	13.5%	44.5%	28.4%	18.8%	13.0%	37.5%	22.9%	18.2%	13.3%	32.9%	23.4%	16.5%	14.8%
BHAR (1)		58.8%	29.1%	20.3%	13.4%	45.0%	28.6%	18.8%	13.3%	37.9%	23.2%	18.2%	13.4%	33.2%	23.5%	16.5%	14.8%
ISRAEL																	
CAR (0)		58.8%	29.3%	19.6%	14.8%	44.0%	28.7%	19.3%	14.6%	36.9%	24.5%	19.2%	14.4%	32.1%	21.6%	17.0%	14.3%
CAR (1)	F	59.2%	29.5%	19.8%	14.9%	44.8%	28.9%	19.4%	14.6%	37.4%	24.6%	19.2%	14.4%	32.4%	21.7%	17.0%	14.3%
BHAR (0)		58.8%	29.0%	19.1%	14.5%	44.4%	28.9%	19.2%	14.0%	37.0%	23.8%	18.7%	14.1%	32.0%	21.5%	16.8%	14.4%
BHAR (1)	F	59.3%	29.4%	19.4%	14.6%	44.8%	29.1%	19.2%	14.2%	37.3%	24.1%	18.7%	14.2%	32.3%	21.6%	16.9%	14.5%

IVOL	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		57.2%	28.7%	19.1%	14.4%	42.3%	27.8%	18.6%	14.1%	34.3%	23.2%	18.3%	13.7%	30.1%	20.6%	16.2%	13.5%
CAR (1)		57.7%	28.8%	19.2%	14.5%	42.6%	27.8%	18.6%	14.1%	34.6%	23.3%	18.3%	13.8%	30.3%	20.6%	16.2%	13.5%
BHAR (0)		57.2%	28.4%	18.6%	13.6%	42.3%	27.5%	18.6%	13.8%	35.0%	23.0%	18.4%	13.6%	30.7%	21.1%	16.3%	13.8%
BHAR (1)		57.8%	28.4%	18.6%	13.6%	43.0%	27.6%	18.6%	13.9%	35.2%	23.2%	18.4%	13.6%	30.8%	21.2%	16.3%	13.9%
JAPAN																	
CAR (0)		56.9%	28.6%	18.9%	14.1%	42.4%	28.3%	18.7%	14.0%	35.0%	23.7%	18.7%	14.0%	30.5%	21.0%	16.6%	13.9%
CAR (1)		57.1%	28.6%	18.9%	14.1%	42.5%	28.4%	18.7%	14.0%	35.1%	23.7%	18.7%	13.9%	30.7%	21.0%	16.6%	13.9%
BHAR (0)		56.8%	27.9%	18.5%	14.0%	42.3%	28.5%	18.4%	13.7%	35.0%	23.5%	18.1%	13.9%	30.5%	21.0%	16.2%	14.3%
BHAR (1)		57.1%	28.0%	18.5%	14.1%	42.4%	28.5%	18.4%	13.8%	35.1%	23.6%	18.1%	14.0%	30.6%	21.0%	16.2%	14.3%
NETHERLA	NDS																
CAR (0)		57.2%	28.7%	19.2%	14.2%	42.3%	27.7%	18.6%	13.9%	34.6%	23.1%	18.2%	13.6%	29.5%	20.2%	16.0%	13.3%
CAR (1)		57.5%	28.7%	19.2%	14.2%	42.6%	27.8%	18.7%	13.9%	34.8%	23.1%	18.2%	13.6%	29.7%	20.3%	16.0%	13.3%
BHAR (0)		57.0%	28.6%	18.8%	13.7%	42.2%	27.9%	18.8%	12.9%	34.3%	22.8%	17.7%	13.5%	29.6%	20.0%	16.0%	13.6%
BHAR (1)		57.5%	28.7%	18.8%	13.9%	42.6%	28.0%	18.7%	13.0%	34.2%	22.9%	17.6%	13.5%	29.5%	20.0%	15.9%	13.6%
NEWZEALA	ND																
CAR (0)		56.5%	28.2%	19.4%	14.4%	41.1%	27.2%	18.6%	14.2%	34.6%	23.3%	18.4%	14.0%	30.4%	20.8%	16.4%	13.7%
CAR (1)		57.1%	28.4%	19.5%	14.4%	41.4%	27.3%	18.6%	14.1%	34.7%	23.4%	18.4%	13.9%	30.6%	20.9%	16.4%	13.7%
BHAR (0)		56.7%	27.6%	18.8%	14.4%	40.6%	26.8%	18.3%	13.9%	34.0%	22.9%	18.0%	13.6%	30.1%	20.8%	16.2%	13.7%
BHAR (1)		57.4%	27.6%	18.9%	14.4%	41.3%	27.1%	18.5%	13.9%	34.1%	23.1%	18.0%	13.6%	30.3%	21.0%	16.2%	13.7%

IVOL J =		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY																
CAR (0)	57.0%	28.5%	19.1%	14.4%	42.6%	27.4%	18.3%	14.0%	35.4%	23.3%	18.2%	13.9%	31.2%	21.1%	16.3%	13.7%
CAR (1)	57.4%	28.6%	19.2%	14.4%	42.7%	27.4%	18.3%	14.0%	35.5%	23.4%	18.2%	13.8%	31.4%	21.2%	16.3%	13.7%
BHAR (0)	57.0%	28.2%	18.6%	13.9%	42.3%	27.0%	18.0%	13.4%	35.0%	22.8%	17.9%	13.4%	31.1%	20.7%	15.9%	13.8%
BHAR (1)	57.2%	28.1%	18.7%	13.8%	42.0%	26.8%	18.1%	13.6%	35.0%	22.9%	17.9%	13.4%	31.2%	20.6%	15.9%	13.8%
PORTUGAL																
CAR (0)	60.6%	29.9%	20.0%	14.9%	49.0%	29.1%	19.4%	14.5%	39.8%	24.7%	18.7%	14.2%	34.3%	22.0%	17.0%	14.1%
CAR (1)	61.1%	29.9%	19.9%	15.2%	50.0%	29.4%	19.5%	14.6%	41.1%	25.1%	18.9%	14.3%	35.3%	22.4%	17.2%	14.2%
BHAR (0)	61.1%	29.2%	18.9%	15.0%	49.9%	29.2%	20.1%	14.3%	39.3%	24.5%	19.0%	14.6%	34.9%	22.0%	17.3%	14.6%
BHAR (1)	61.7%	29.4%	19.6%	15.2%	51.6%	29.7%	20.4%	14.3%	40.7%	25.0%	19.3%	14.5%	36.2%	22.3%	17.6%	14.6%
SINGAPORE																
CAR (0)	56.9%	28.4%	19.3%	14.5%	41.9%	27.9%	18.9%	14.4%	35.0%	23.6%	18.6%	14.2%	30.5%	21.0%	16.7%	13.9%
CAR (1)	57.4%	28.5%	19.3%	14.5%	42.2%	28.0%	18.9%	14.4%	35.1%	23.6%	18.6%	14.2%	30.4%	20.9%	16.6%	13.9%
BHAR (0)	57.1%	28.7%	18.7%	14.4%	41.9%	27.7%	18.9%	14.6%	34.7%	23.4%	18.2%	14.4%	30.7%	21.0%	16.5%	14.3%
BHAR (1)	57.0%	28.4%	18.7%	14.3%	41.6%	27.6%	18.8%	14.3%	34.9%	23.5%	18.1%	14.4%	30.5%	21.0%	16.5%	14.3%
SPAIN																
CAR (0)	57.8%	29.1%	19.4%	14.4%	44.6%	28.3%	18.9%	14.2%	35.7%	23.9%	18.6%	13.9%	31.1%	20.8%	16.5%	13.8%
CAR (1)	58.2%	29.2%	19.5%	14.4%	44.9%	28.4%	18.9%	14.1%	36.1%	23.9%	18.5%	13.9%	31.3%	20.7%	16.4%	13.8%
BHAR (0)	58.3%	29.3%	19.3%	14.4%	45.3%	28.1%	18.5%	14.0%	35.1%	23.0%	18.1%	14.5%	30.0%	20.1%	16.4%	14.4%
BHAR (1)	58.9%	29.1%	19.6%	14.3%	45.2%	28.2%	18.1%	14.3%	35.3%	23.1%	18.0%	14.5%	30.3%	20.1%	16.3%	14.4%

IVOL .	J =		3				6				9				12		
]	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		56.9%	28.6%	19.4%	14.5%	42.3%	27.9%	18.8%	14.1%	34.3%	23.4%	18.4%	13.8%	30.0%	20.7%	16.4%	13.7%
CAR (1)		57.3%	28.6%	19.5%	14.5%	42.5%	28.0%	18.9%	14.1%	34.4%	23.4%	18.4%	13.8%	30.0%	20.7%	16.3%	13.6%
BHAR (0)		56.4%	28.3%	19.0%	14.3%	41.8%	27.6%	18.9%	14.0%	33.9%	22.8%	17.8%	13.7%	29.6%	20.1%	16.2%	13.7%
BHAR (1)		56.9%	28.4%	19.1%	14.3%	41.7%	27.6%	18.9%	14.1%	34.0%	22.9%	17.8%	13.7%	29.7%	20.2%	16.2%	13.8%
SWITZERLAND	<u> </u>																
CAR (0)		57.0%	28.3%	19.1%	14.1%	42.0%	27.6%	18.4%	13.8%	34.6%	23.1%	18.0%	13.7%	29.5%	20.4%	16.1%	13.4%
CAR (1)		57.4%	28.4%	19.2%	14.1%	42.1%	27.7%	18.4%	13.7%	34.7%	23.1%	18.0%	13.6%	29.5%	20.4%	16.1%	13.3%
BHAR (0)		57.0%	27.8%	18.6%	13.3%	41.7%	28.0%	18.4%	13.1%	34.2%	22.5%	17.5%	13.6%	29.7%	20.1%	15.8%	13.8%
BHAR (1)		57.5%	28.1%	18.8%	13.4%	42.0%	28.1%	18.4%	13.2%	34.3%	22.6%	17.5%	13.6%	29.6%	20.0%	15.8%	13.8%
UK																	
CAR (0)		59.0%	29.0%	19.6%	14.5%	43.6%	28.2%	18.9%	14.2%	36.1%	23.5%	18.4%	13.9%	30.2%	20.6%	16.4%	13.7%
CAR (1)		59.8%	29.2%	19.8%	14.6%	44.5%	28.4%	19.0%	14.2%	36.4%	23.6%	18.4%	13.9%	30.4%	20.7%	16.4%	13.7%
BHAR (0)		59.1%	28.7%	19.0%	13.9%	43.6%	28.0%	18.9%	13.7%	36.2%	22.9%	18.0%	13.8%	30.4%	1.8%	1.5%	1.7%
BHAR (1)		59.9%	29.1%	19.2%	14.0%	44.7%	28.3%	18.9%	13.9%	36.6%	23.2%	18.0%	13.8%	30.7%	20.7%	16.2%	14.0%
US																	
CAR (0)		56.5%	28.4%	19.1%	14.4%	42.1%	27.8%	18.6%	14.1%	35.1%	23.4%	18.4%	13.9%	30.5%	20.8%	16.4%	13.7%
CAR (1)		56.5%	28.4%	19.1%	14.4%	42.3%	27.8%	18.6%	14.1%	35.0%	23.3%	18.3%	13.9%	30.4%	20.8%	16.4%	13.7%
BHAR (0)		56.7%	28.2%	18.7%	13.9%	41.6%	27.6%	19.0%	13.6%	35.4%	23.2%	17.9%	13.7%	30.3%	20.6%	16.2%	13.9%
BHAR (1)		57.3%	28.2%	18.7%	13.9%	42.1%	27.4%	18.8%	13.7%	34.6%	23.2%	17.9%	13.7%	30.3%	20.6%	16.2%	13.9%

Table 7.8b. Turnover ratios for cross-sectional loser portfolio

EW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL	IA																
CAR (0)		53.7%	26.9%	18.7%	14.3%	39.6%	27.5%	18.7%	14.4%	33.4%	23.4%	19.0%	14.5%	29.2%	21.1%	17.1%	14.6%
CAR (1)		54.1%	27.1%	18.8%	14.4%	39.9%	27.7%	18.9%	14.5%	33.7%	23.6%	19.1%	14.6%	29.5%	21.2%	17.2%	14.6%
BHAR (0)	_	53.6%	26.7%	18.5%	14.1%	39.7%	27.7%	18.8%	14.0%	33.4%	23.3%	18.7%	14.4%	29.3%	21.1%	17.0%	14.9%
BHAR (1)	_	54.0%	26.9%	18.6%	14.2%	40.0%	28.0%	19.0%	14.3%	33.6%	23.6%	18.9%	14.5%	29.5%	21.3%	17.1%	15.0%
AUSTRIA	4				J												
CAR (0)		52.3%	27.3%	18.3%	14.2%	38.6%	27.0%	18.2%	13.9%	31.3%	22.4%	18.0%	13.9%	27.5%	19.7%	15.9%	13.7%
CAR (1)	-	52.9%	27.5%	18.5%	14.3%	39.1%	27.3%	18.4%	14.0%	31.7%	22.7%	18.1%	13.9%	27.9%	19.9%	16.1%	13.8%
BHAR (0)	_	52.5%	28.0%	18.2%	14.2%	38.8%	27.4%	17.9%	13.9%	31.7%	21.4%	17.6%	13.8%	27.8%	19.9%	16.1%	14.0%
BHAR (1)	=	53.0%	28.3%	18.4%	14.3%	39.4%	27.9%	18.2%	14.2%	32.3%	21.8%	17.8%	13.9%	28.2%	20.3%	16.2%	14.3%
BELGIUN	M																
CAR (0)		52.0%	26.4%	18.0%	13.7%	36.6%	25.7%	17.3%	13.5%	29.7%	20.9%	17.1%	13.2%	26.1%	18.3%	15.3%	13.3%
CAR (1)	_	52.3%	26.6%	18.1%	13.8%	36.9%	26.0%	17.5%	13.6%	30.0%	21.1%	17.2%	13.3%	26.3%	18.5%	15.4%	13.4%
BHAR (0)	_	51.9%	26.7%	18.3%	14.0%	36.9%	25.8%	17.3%	13.8%	30.0%	20.5%	17.1%	13.4%	26.1%	18.3%	15.1%	13.4%
BHAR (1)	=	52.3%	27.1%	18.4%	14.2%	37.4%	26.0%	17.5%	14.1%	30.3%	20.9%	17.2%	13.5%	26.3%	18.5%	15.4%	13.5%
CANADA	L												<u>l</u> _				
CAR (0)		52.8%	26.8%	18.4%	14.1%	38.9%	27.2%	18.6%	14.3%	32.2%	22.9%	18.8%	14.5%	28.3%	20.8%	17.1%	14.7%
CAR (1)	-	53.2%	27.1%	18.5%	14.2%	39.3%	27.5%	18.7%	14.4%	32.6%	23.2%	18.9%	14.6%	28.6%	21.0%	17.2%	14.8%
BHAR (0)	_	52.9%	26.7%	18.2%	14.2%	39.4%	27.4%	18.5%	14.4%	32.6%	23.0%	18.6%	14.5%	28.6%	20.9%	17.0%	15.0%
BHAR (1)	-	53.3%	27.1%	18.3%	14.4%	39.8%	27.7%	18.7%	14.7%	33.0%	23.5%	18.8%	14.6%	29.0%	21.2%	17.2%	15.1%

EW J =		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARK																
CAR (0)	51.4%	26.1%	18.0%	13.8%	36.4%	25.8%	17.8%	13.8%	29.9%	21.3%	17.5%	13.6%	25.5%	18.8%	15.7%	13.5%
CAR (1)	51.9%	26.3%	18.2%	13.9%	36.8%	26.0%	18.0%	13.8%	30.2%	21.5%	17.6%	13.7%	25.8%	19.0%	15.8%	13.6%
BHAR (0)	51.7%	26.3%	18.3%	14.0%	36.5%	26.5%	18.5%	13.5%	30.5%	21.5%	16.9%	13.8%	25.5%	18.8%	15.6%	13.5%
BHAR (1)	52.2%	26.8%	18.4%	14.1%	36.8%	26.6%	18.7%	13.8%	30.9%	21.9%	17.0%	13.9%	25.9%	19.0%	15.8%	13.7%
FINLAND																
CAR (0)	53.7%	27.0%	18.3%	14.1%	39.1%	26.9%	18.1%	13.9%	32.3%	22.4%	18.3%	14.1%	28.2%	20.5%	16.6%	14.2%
CAR (1)	54.0%	27.1%	18.4%	14.1%	39.4%	27.0%	18.3%	14.0%	32.5%	22.6%	18.4%	14.2%	28.4%	20.7%	16.7%	14.3%
BHAR (0)	53.9%	26.1%	18.2%	13.3%	39.2%	27.4%	18.3%	13.4%	32.2%	21.8%	18.6%	13.7%	28.1%	20.4%	16.0%	13.7%
BHAR (1)	54.2%	26.4%	18.4%	13.4%	39.5%	27.6%	18.5%	13.6%	32.5%	22.2%	18.7%	13.8%	28.4%	20.6%	16.2%	13.9%
FRANCE																
CAR (0)	53.3%	26.6%	18.5%	14.2%	38.7%	26.8%	18.2%	14.0%	31.7%	22.2%	18.1%	13.9%	27.4%	19.6%	16.1%	13.9%
CAR (1)	53.8%	26.9%	18.6%	14.2%	39.1%	27.1%	18.4%	14.1%	32.0%	22.4%	18.3%	14.0%	27.7%	19.8%	16.2%	14.0%
BHAR (0)	53.0%	27.0%	18.3%	14.3%	38.3%	26.6%	18.0%	14.2%	31.8%	22.2%	17.7%	13.9%	27.4%	19.6%	16.0%	14.1%
BHAR (1)	53.6%	27.3%	18.6%	14.5%	38.8%	26.9%	18.1%	14.4%	32.1%	22.5%	17.9%	14.0%	27.8%	19.8%	16.2%	14.3%
GERMANY				<u> </u>												
CAR (0)	51.9%	26.2%	17.8%	13.6%	37.6%	26.2%	17.6%	13.5%	31.2%	22.0%	17.8%	13.5%	27.0%	19.5%	15.8%	13.5%
CAR (1)	52.2%	26.3%	17.9%	13.7%	37.8%	26.4%	17.7%	13.6%	31.4%	22.1%	17.8%	13.5%	27.2%	19.6%	15.9%	13.5%
BHAR (0)	51.9%	26.2%	17.9%	13.6%	37.3%	26.0%	17.5%	13.7%	30.8%	21.8%	17.5%	13.6%	27.1%	19.4%	16.0%	13.7%
BHAR (1)	52.1%	26.4%	18.0%	13.6%	37.6%	26.2%	17.6%	13.8%	31.1%	22.0%	17.6%	13.7%	27.3%	19.5%	16.0%	13.8%

EW J	=		3				6				9				12		
	I =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE									-								
CAR (0)		55.2%	27.8%	19.0%	14.5%	40.6%	27.9%	19.1%	14.6%	34.2%	23.6%	19.1%	14.6%	30.5%	21.6%	17.5%	14.7%
CAR (1)		55.6%	28.0%	19.1%	14.6%	40.8%	28.2%	19.2%	14.7%	34.4%	23.9%	19.2%	14.7%	30.8%	21.8%	17.6%	14.8%
BHAR (0)		55.5%	27.6%	18.8%	14.0%	40.5%	27.8%	19.1%	14.4%	34.6%	23.3%	18.9%	14.9%	30.6%	21.7%	17.2%	15.0%
BHAR (1)		56.0%	27.9%	19.0%	14.2%	40.9%	28.0%	19.2%	14.6%	34.7%	23.7%	19.0%	14.9%	30.9%	21.9%	17.4%	15.1%
HONGKONG																	
CAR (0)		54.5%	27.1%	18.5%	14.2%	40.3%	27.6%	18.7%	14.3%	34.0%	23.7%	18.9%	14.2%	30.2%	21.4%	17.0%	14.3%
CAR (1)		54.8%	27.2%	18.6%	14.2%	40.5%	27.8%	18.8%	14.3%	34.2%	23.8%	19.0%	14.3%	30.4%	21.5%	17.1%	14.3%
BHAR (0)		54.4%	26.6%	18.4%	14.1%	40.1%	27.4%	18.8%	14.2%	34.1%	23.4%	18.7%	14.2%	30.4%	21.2%	17.1%	14.5%
BHAR (1)		54.7%	26.8%	18.5%	14.0%	40.4%	27.7%	18.8%	14.4%	34.4%	23.7%	18.8%	14.2%	30.6%	21.3%	17.2%	14.6%
IRELAND																	
CAR (0)		53.6%	26.8%	18.6%	14.2%	39.4%	27.4%	18.6%	14.2%	33.8%	23.6%	18.9%	14.5%	29.3%	20.9%	17.0%	14.5%
CAR (1)		54.2%	27.0%	18.8%	14.4%	39.8%	27.7%	18.8%	14.4%	34.2%	23.8%	19.1%	14.7%	29.7%	21.1%	17.1%	14.7%
BHAR (0)		52.8%	27.1%	18.4%	13.7%	39.0%	27.2%	18.7%	13.4%	34.7%	24.3%	18.7%	15.0%	29.2%	20.9%	17.0%	14.4%
BHAR (1)		53.2%	27.3%	18.6%	14.0%	39.6%	27.5%	19.3%	13.8%	35.2%	25.0%	19.2%	15.2%	29.3%	20.8%	17.2%	14.6%
ISRAEL																	
CAR (0)		55.6%	27.8%	19.0%	14.4%	40.8%	28.3%	19.2%	14.5%	34.8%	24.2%	19.4%	14.6%	30.6%	21.6%	17.3%	14.6%
CAR (1)		55.9%	28.0%	19.1%	14.5%	41.1%	28.5%	19.3%	14.5%	35.0%	24.3%	19.5%	14.6%	30.8%	21.8%	17.4%	14.6%
BHAR (0)		55.4%	27.7%	18.5%	14.2%	40.6%	28.2%	19.0%	14.1%	35.0%	23.9%	19.0%	14.6%	30.7%	21.7%	17.2%	15.1%
BHAR (1)		55.7%	27.9%	18.6%	14.3%	40.9%	28.4%	19.1%	14.3%	35.2%	24.3%	19.1%	14.7%	30.9%	21.9%	17.3%	15.1%

EW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		54.0%	27.1%	18.5%	14.2%	38.9%	26.8%	18.0%	13.9%	32.3%	22.1%	17.7%	13.5%	27.9%	19.5%	15.7%	13.4%
CAR (1)		54.5%	27.3%	18.6%	14.3%	39.2%	27.0%	18.2%	14.0%	32.5%	22.2%	17.8%	13.7%	28.2%	19.6%	15.8%	13.6%
BHAR (0)		53.5%	26.6%	17.8%	13.7%	38.9%	26.7%	17.4%	13.7%	32.2%	21.7%	17.2%	13.3%	28.4%	19.3%	15.5%	13.7%
BHAR (1)		54.1%	26.8%	17.9%	13.8%	39.4%	27.0%	17.5%	14.0%	32.6%	22.0%	17.4%	13.4%	28.7%	19.4%	15.6%	13.8%
JAPAN																	
CAR (0)		55.2%	27.6%	18.3%	13.8%	40.9%	27.9%	18.4%	13.8%	34.2%	23.5%	18.7%	13.9%	30.1%	21.0%	16.8%	14.1%
CAR (1)		55.4%	27.7%	18.4%	13.8%	41.1%	28.0%	18.5%	13.8%	34.3%	23.6%	18.7%	14.0%	30.2%	21.1%	16.8%	14.1%
BHAR (0)		55.2%	26.8%	17.8%	13.6%	40.7%	27.8%	18.0%	13.7%	34.3%	23.3%	18.1%	14.0%	30.2%	21.0%	16.5%	14.4%
BHAR (1)		55.4%	26.9%	17.9%	13.6%	40.8%	27.8%	18.1%	13.8%	34.5%	23.6%	18.2%	14.0%	30.3%	21.1%	16.5%	14.4%
NETHERLA	NDS																
CAR (0)		52.3%	26.4%	18.2%	13.9%	37.4%	26.1%	18.0%	13.9%	30.6%	21.7%	17.8%	13.7%	26.9%	19.3%	15.9%	13.8%
CAR (1)		52.8%	26.7%	18.4%	14.0%	37.7%	26.4%	18.2%	14.0%	30.9%	21.9%	18.0%	13.8%	27.1%	19.6%	16.1%	13.9%
BHAR (0)		51.8%	26.2%	17.8%	13.5%	37.7%	25.5%	17.4%	13.4%	30.9%	21.4%	17.4%	13.8%	27.3%	18.9%	16.1%	13.8%
BHAR (1)	_	52.2%	26.5%	17.9%	13.5%	38.0%	25.7%	17.5%	13.5%	31.2%	21.7%	17.5%	14.0%	27.5%	19.0%	16.3%	13.9%
NEWZEALA	ND																
CAR (0)		52.1%	26.9%	18.7%	14.2%	37.8%	26.9%	18.4%	13.9%	31.8%	22.6%	18.0%	13.7%	27.3%	19.7%	16.0%	13.6%
CAR (1)		52.7%	27.1%	18.8%	14.3%	38.3%	27.2%	18.6%	14.0%	32.3%	22.8%	18.1%	13.8%	27.7%	19.9%	16.1%	13.7%
BHAR (0)	-	52.4%	26.1%	18.8%	13.9%	37.3%	27.5%	18.0%	13.9%	31.7%	21.3%	18.0%	13.5%	27.1%	19.2%	15.7%	13.4%
BHAR (1)		53.0%	26.4%	19.1%	14.3%	37.5%	27.5%	18.2%	14.0%	31.9%	21.5%	17.9%	13.6%	27.1%	19.5%	15.8%	13.7%

EW J =	:		3				6				9				12		
H :		3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY																	
CAR (0)		53.6%	27.7%	19.0%	14.6%	39.6%	27.5%	18.9%	14.4%	32.8%	23.3%	19.0%	14.6%	29.0%	21.3%	17.3%	14.6%
CAR (1)		54.1%	28.1%	19.1%	14.7%	40.0%	27.8%	19.1%	14.5%	33.3%	23.6%	19.1%	14.7%	29.4%	21.5%	17.4%	14.7%
BHAR (0)		53.0%	27.4%	18.4%	13.8%	39.6%	27.0%	18.8%	13.6%	32.6%	23.2%	18.1%	14.1%	28.9%	21.3%	16.6%	15.1%
BHAR (1)		53.5%	27.6%	18.7%	13.8%	39.9%	27.4%	19.0%	14.0%	32.9%	23.6%	18.3%	14.2%	29.3%	21.6%	16.8%	15.2%
PORTUGAL																	
CAR (0)		54.9%	27.6%	18.7%	14.3%	40.5%	27.6%	18.6%	14.3%	33.3%	23.1%	18.5%	14.0%	29.8%	20.7%	16.5%	14.1%
CAR (1)		55.4%	28.0%	18.9%	14.5%	40.8%	27.8%	18.8%	14.4%	33.6%	23.3%	18.6%	14.1%	30.0%	20.8%	16.6%	14.2%
BHAR (0)		54.8%	27.6%	18.2%	14.4%	40.5%	26.6%	18.7%	14.1%	33.0%	22.5%	18.0%	13.2%	29.8%	21.0%	16.2%	14.1%
BHAR (1)		55.3%	27.8%	18.2%	14.5%	40.6%	26.7%	18.7%	14.1%	33.1%	22.7%	18.1%	13.3%	29.9%	21.1%	16.3%	14.1%
SINGAPORE																	
CAR (0)		55.0%	27.2%	18.4%	14.2%	39.9%	27.4%	18.7%	14.2%	33.7%	23.5%	18.8%	14.3%	30.2%	21.1%	17.0%	14.3%
CAR (1)		55.3%	27.3%	18.5%	14.3%	40.2%	27.6%	18.7%	14.3%	33.9%	23.6%	18.8%	14.3%	30.3%	21.2%	17.0%	14.4%
BHAR (0)		55.2%	26.9%	17.9%	14.0%	39.6%	27.5%	18.6%	13.8%	33.3%	23.1%	18.4%	14.1%	30.1%	21.0%	16.7%	14.7%
BHAR (1)		55.4%	27.0%	18.0%	14.0%	39.8%	27.6%	18.6%	14.0%	33.4%	23.5%	18.5%	14.2%	30.3%	21.1%	16.9%	14.8%
SPAIN	1																
CAR (0)		53.3%	27.0%	18.1%	13.7%	38.6%	26.6%	17.7%	13.3%	32.1%	22.3%	17.7%	13.2%	27.6%	19.2%	15.4%	13.0%
CAR (1)		53.6%	27.1%	18.2%	13.7%	38.8%	26.7%	17.8%	13.4%	32.2%	22.4%	17.8%	13.3%	27.7%	19.3%	15.5%	13.1%
BHAR (0)		53.9%	26.4%	18.0%	13.3%	38.8%	26.1%	17.3%	13.6%	32.0%	21.9%	17.2%	13.5%	27.5%	18.8%	15.0%	12.9%
BHAR (1)		54.2%	26.5%	18.0%	13.3%	38.9%	26.1%	17.3%	13.8%	32.1%	22.2%	17.2%	13.5%	27.6%	19.0%	15.0%	13.0%

EW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	<u> </u>																
CAR (0)		52.8%	27.1%	18.8%	14.4%	39.3%	27.2%	18.7%	14.6%	32.4%	23.0%	18.8%	14.6%	28.3%	20.6%	17.0%	14.5%
CAR (1)		53.3%	27.3%	18.9%	14.5%	39.7%	27.5%	18.9%	14.7%	32.7%	23.2%	19.0%	14.7%	28.6%	20.8%	17.2%	14.7%
BHAR (0)	-	52.3%	27.1%	18.9%	14.2%	39.0%	27.0%	18.4%	14.4%	32.7%	23.2%	18.4%	14.3%	28.5%	20.4%	17.0%	14.7%
BHAR (1)	-	52.8%	27.5%	19.2%	14.4%	39.4%	27.3%	18.7%	14.7%	33.1%	23.7%	18.6%	14.5%	28.9%	20.6%	17.1%	14.8%
SWITZERLA	AND																
CAR (0)		52.2%	26.4%	18.2%	13.8%	37.4%	26.3%	17.9%	13.7%	31.0%	21.7%	17.7%	13.6%	26.3%	18.9%	15.6%	13.4%
CAR (1)		52.5%	26.5%	18.3%	13.9%	37.7%	26.5%	18.0%	13.7%	31.1%	21.8%	17.8%	13.6%	26.4%	19.0%	15.7%	13.5%
BHAR (0)		52.2%	26.2%	18.4%	13.6%	37.6%	26.5%	17.7%	13.4%	31.3%	22.0%	17.4%	13.9%	26.1%	18.5%	15.2%	13.3%
BHAR (1)	-	52.5%	26.5%	18.5%	13.7%	37.8%	26.6%	17.8%	13.6%	31.4%	22.2%	17.5%	13.9%	26.2%	18.7%	15.3%	13.3%
UK																	
CAR (0)		51.8%	26.9%	18.9%	14.6%	37.6%	27.0%	18.9%	14.8%	31.5%	23.0%	19.1%	14.8%	27.8%	20.6%	17.2%	14.9%
CAR (1)		52.4%	27.3%	19.1%	14.8%	38.0%	27.4%	19.2%	14.9%	32.0%	23.4%	19.3%	15.0%	28.2%	20.9%	17.4%	15.1%
BHAR (0)		51.9%	26.7%	18.8%	14.6%	37.6%	27.0%	19.0%	14.6%	31.6%	22.9%	18.8%	14.8%	27.9%	20.5%	17.0%	15.2%
BHAR (1)		52.6%	27.1%	19.0%	14.7%	38.2%	27.4%	19.2%	14.9%	32.1%	23.3%	19.1%	14.9%	28.4%	20.9%	17.2%	15.4%
US																	
CAR (0)		53.8%	27.1%	18.4%	14.2%	39.4%	27.4%	18.6%	14.3%	32.8%	23.1%	18.8%	14.4%	29.2%	20.7%	16.9%	14.5%
CAR (1)		54.1%	27.3%	18.6%	14.3%	39.7%	27.6%	18.7%	14.4%	33.1%	23.3%	18.9%	14.5%	29.4%	20.9%	17.0%	14.6%
BHAR (0)	-	53.8%	26.3%	18.0%	13.8%	39.2%	27.2%	18.4%	14.1%	32.7%	22.7%	18.4%	14.2%	29.1%	20.5%	16.7%	14.6%
BHAR (1)	-	54.1%	26.6%	18.1%	13.9%	39.5%	27.4%	18.5%	14.3%	33.0%	23.0%	18.5%	14.4%	29.3%	20.6%	16.9%	14.7%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		59.7%	29.2%	19.6%	14.8%	48.4%	29.5%	19.7%	14.9%	44.3%	26.7%	19.7%	14.8%	39.5%	24.5%	18.5%	14.5%
CAR (1)		60.0%	29.2%	19.7%	14.8%	48.6%	29.6%	19.7%	14.9%	44.3%	26.8%	19.7%	14.7%	39.4%	24.7%	18.5%	14.6%
BHAR (0)		58.8%	28.4%	19.6%	14.1%	48.3%	30.0%	19.4%	14.9%	43.8%	26.3%	19.6%	14.9%	40.4%	22.5%	18.5%	14.3%
BHAR (1)		59.2%	28.3%	19.6%	14.1%	48.6%	30.1%	19.1%	15.1%	44.1%	26.6%	19.7%	14.8%	40.1%	23.2%	18.6%	14.4%
JAPAN																	
CAR (0)		59.1%	29.6%	19.5%	14.6%	48.3%	29.7%	19.6%	14.5%	42.6%	26.8%	19.8%	14.7%	38.8%	24.6%	18.5%	14.9%
CAR (1)		59.4%	29.7%	19.5%	14.5%	48.7%	29.8%	19.6%	14.5%	43.0%	26.9%	19.8%	14.7%	39.3%	24.8%	18.6%	14.9%
BHAR (0)		59.4%	28.4%	19.1%	14.2%	48.2%	30.1%	19.4%	14.1%	42.8%	26.5%	19.3%	14.5%	38.3%	24.6%	18.3%	15.2%
BHAR (1)		59.5%	28.5%	19.1%	14.2%	48.4%	30.2%	19.4%	14.3%	43.2%	26.9%	19.4%	14.5%	38.6%	24.7%	18.4%	15.2%
NETHERLA	NDS																
CAR (0)		60.7%	30.6%	19.8%	14.9%	50.7%	30.7%	20.4%	15.0%	44.8%	27.8%	20.5%	15.3%	43.3%	26.2%	19.1%	15.2%
CAR (1)		60.8%	30.7%	19.8%	14.9%	51.0%	30.8%	20.5%	15.0%	45.2%	27.9%	20.5%	15.3%	43.6%	26.4%	19.1%	15.2%
BHAR (0)		61.4%	30.4%	19.6%	13.9%	50.8%	31.0%	20.0%	14.0%	47.7%	27.9%	20.7%	15.3%	41.8%	24.8%	18.9%	15.0%
BHAR (1)		61.4%	30.7%	19.7%	13.9%	51.0%	31.2%	20.0%	14.0%	48.1%	28.1%	20.7%	15.2%	42.2%	24.9%	18.9%	14.9%
NEWZEALA	ND																
CAR (0)		59.5%	29.9%	19.9%	14.7%	48.0%	29.6%	19.4%	14.4%	41.3%	26.1%	19.0%	14.3%	38.5%	23.6%	17.9%	14.3%
CAR (1)		59.7%	29.9%	19.9%	14.7%	48.4%	29.7%	19.5%	14.4%	41.6%	26.4%	19.0%	14.3%	38.7%	23.7%	17.9%	14.3%
BHAR (0)		60.2%	29.2%	20.5%	14.3%	47.0%	29.9%	19.7%	14.9%	42.3%	25.3%	18.4%	14.9%	40.8%	23.8%	18.3%	14.5%
BHAR (1)	-	60.3%	29.4%	20.6%	14.3%	47.3%	30.0%	19.7%	14.9%	42.4%	25.8%	18.4%	14.8%	41.1%	23.9%	18.3%	14.3%

MW J	T =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY																	
CAR (0)		59.4%	29.8%	19.6%	15.0%	49.0%	29.6%	19.9%	14.7%	43.1%	26.9%	19.8%	14.8%	38.0%	24.3%	18.1%	14.6%
CAR (1)		59.8%	29.8%	19.6%	14.9%	49.4%	29.7%	20.0%	14.7%	43.4%	27.0%	19.8%	14.7%	38.4%	24.4%	18.1%	14.6%
BHAR (0)		58.8%	29.2%	17.6%	14.3%	48.9%	28.9%	19.1%	13.9%	43.7%	26.6%	19.9%	14.7%	37.8%	24.3%	18.4%	14.7%
BHAR (1)		59.2%	29.4%	17.6%	14.3%	49.2%	29.0%	19.0%	14.1%	44.1%	26.8%	20.0%	14.8%	38.0%	24.3%	18.4%	14.7%
PORTUGAL													l				
CAR (0)		58.0%	28.8%	19.6%	15.0%	49.7%	29.5%	19.8%	14.8%	43.2%	26.0%	19.5%	14.8%	39.8%	24.5%	18.0%	14.6%
CAR (1)		58.3%	29.0%	19.6%	14.9%	50.0%	29.6%	19.8%	14.8%	43.5%	26.2%	19.5%	14.8%	40.3%	24.6%	18.0%	14.6%
BHAR (0)		57.1%	27.7%	20.0%	14.1%	49.7%	29.0%	19.0%	14.2%	43.6%	25.3%	18.8%	15.0%	39.5%	23.8%	18.7%	14.8%
BHAR (1)		57.4%	28.0%	20.0%	14.0%	50.3%	29.0%	19.0%	14.2%	44.4%	25.5%	18.9%	15.0%	39.9%	23.8%	18.8%	14.8%
SINGAPORE																	
CAR (0)		59.5%	30.1%	19.8%	15.2%	48.4%	30.1%	20.3%	15.4%	43.9%	27.7%	20.5%	15.3%	41.5%	25.6%	19.2%	15.2%
CAR (1)		59.8%	30.1%	19.8%	15.1%	48.8%	30.2%	20.3%	15.3%	44.3%	27.8%	20.5%	15.2%	41.8%	25.7%	19.2%	15.2%
BHAR (0)		60.7%	29.6%	19.2%	15.2%	48.8%	30.4%	19.9%	14.8%	43.3%	27.6%	19.8%	15.5%	41.3%	26.6%	19.5%	15.6%
BHAR (1)		60.9%	29.9%	19.2%	15.2%	49.0%	30.5%	19.9%	15.0%	43.6%	27.6%	19.9%	15.5%	41.6%	26.8%	19.5%	15.6%
SPAIN	I								ı				l				
CAR (0)		58.9%	29.6%	19.9%	14.8%	48.4%	30.1%	20.0%	14.6%	43.2%	27.1%	20.1%	14.8%	40.5%	25.1%	18.9%	14.8%
CAR (1)		59.2%	29.6%	19.9%	14.8%	49.0%	30.2%	20.0%	14.6%	43.8%	27.4%	20.1%	14.8%	41.3%	25.3%	19.0%	14.8%
BHAR (0)		59.1%	28.5%	19.9%	14.2%	49.4%	30.5%	20.1%	15.1%	43.4%	26.9%	19.2%	14.3%	39.6%	24.8%	18.0%	14.9%
BHAR (1)		59.4%	28.6%	19.8%	14.1%	49.6%	30.6%	20.0%	15.0%	44.1%	27.2%	19.2%	14.3%	39.9%	24.7%	18.1%	15.0%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	1																
CAR (0)		60.7%	30.6%	20.6%	15.5%	51.1%	31.0%	20.6%	15.4%	47.2%	28.6%	20.7%	15.4%	42.1%	26.3%	19.5%	15.3%
CAR (1)		60.9%	30.7%	20.6%	15.5%	51.6%	31.1%	20.6%	15.4%	47.6%	28.8%	20.7%	15.4%	42.6%	26.5%	19.5%	15.3%
BHAR (0)		60.9%	30.3%	20.1%	14.9%	51.6%	31.1%	20.2%	14.7%	47.1%	27.7%	20.2%	15.3%	43.2%	26.4%	20.0%	15.6%
BHAR (1)	-	61.1%	30.4%	20.1%	14.8%	52.1%	31.1%	20.1%	14.8%	47.4%	27.8%	20.4%	15.3%	43.5%	26.5%	20.0%	15.5%
SWITZERLA	AND				I												
CAR (0)		60.2%	29.6%	19.6%	14.8%	49.5%	29.5%	19.4%	14.8%	42.2%	25.7%	19.7%	14.8%	38.0%	23.6%	18.1%	14.7%
CAR (1)		60.4%	29.6%	19.6%	14.8%	49.7%	29.6%	19.5%	14.8%	42.6%	25.8%	19.7%	14.8%	38.3%	23.7%	18.2%	14.7%
BHAR (0)		60.6%	28.8%	20.4%	14.6%	50.1%	29.5%	18.2%	14.3%	42.8%	25.7%	19.3%	14.5%	39.3%	21.8%	18.2%	14.1%
BHAR (1)	-	60.7%	28.9%	20.3%	14.6%	50.3%	29.6%	18.3%	14.3%	43.2%	26.1%	19.4%	14.6%	39.6%	21.9%	18.2%	14.1%
UK																	
CAR (0)		61.3%	30.6%	20.4%	15.2%	52.2%	30.6%	20.3%	15.4%	46.4%	27.8%	20.5%	15.3%	42.7%	26.0%	19.4%	15.4%
CAR (1)		61.5%	30.6%	20.4%	15.2%	52.5%	30.7%	20.3%	15.4%	47.0%	27.9%	20.5%	15.3%	43.2%	26.1%	19.3%	15.4%
BHAR (0)		61.6%	31.1%	20.3%	14.7%	52.6%	30.2%	20.6%	15.3%	46.0%	27.6%	20.2%	15.3%	43.0%	25.1%	19.4%	15.8%
BHAR (1)	-	61.8%	31.1%	20.3%	14.7%	53.1%	30.2%	20.6%	15.3%	46.6%	27.9%	20.2%	15.3%	43.3%	25.2%	19.4%	15.8%
US																	
CAR (0)		60.1%	29.8%	19.9%	15.0%	48.9%	30.2%	19.9%	15.0%	42.2%	26.7%	20.0%	15.0%	39.0%	24.8%	18.6%	14.9%
CAR (1)		60.5%	29.9%	19.9%	14.9%	49.4%	30.3%	19.9%	15.0%	42.7%	26.8%	20.0%	14.9%	39.5%	24.9%	18.6%	14.9%
BHAR (0)	-	60.2%	28.9%	19.6%	14.0%	48.8%	30.4%	20.2%	14.2%	42.0%	25.8%	19.7%	14.6%	39.1%	24.6%	18.2%	15.0%
BHAR (1)		60.6%	28.9%	19.6%	14.0%	49.3%	30.5%	20.2%	14.3%	42.6%	26.1%	19.8%	14.6%	39.7%	24.7%	18.3%	15.0%

IVOL	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRALIA																	
CAR (0)		57.3%	28.4%	19.2%	14.4%	43.9%	28.2%	19.0%	14.3%	37.7%	24.8%	19.1%	14.4%	34.0%	22.6%	17.6%	14.4%
CAR (1)		58.1%	28.7%	19.4%	14.5%	44.4%	28.4%	19.1%	14.3%	38.2%	24.9%	19.1%	14.4%	34.3%	22.6%	17.5%	14.3%
BHAR (0)		57.2%	28.1%	18.9%	14.1%	43.9%	28.5%	19.0%	13.9%	37.5%	24.5%	18.8%	14.1%	34.1%	22.5%	17.2%	14.6%
BHAR (1)		57.7%	28.5%	19.0%	14.2%	45.4%	28.7%	19.3%	14.0%	37.6%	24.7%	18.8%	14.1%	34.1%	22.6%	17.2%	14.6%
AUSTRIA																	
CAR (0)		56.7%	28.8%	19.0%	14.2%	45.7%	28.7%	18.7%	14.0%	38.4%	24.9%	18.7%	14.0%	34.1%	22.1%	17.0%	14.0%
CAR (1)		57.4%	29.1%	19.1%	14.3%	46.5%	28.8%	18.8%	14.0%	38.3%	24.8%	18.6%	14.0%	34.3%	22.1%	17.0%	14.0%
BHAR (0)		56.9%	29.5%	18.7%	14.6%	45.8%	29.2%	18.6%	14.2%	38.7%	24.3%	18.5%	14.1%	34.4%	22.0%	17.3%	14.2%
BHAR (1)		57.8%	30.1%	18.9%	14.6%	46.3%	29.2%	18.6%	14.4%	38.2%	24.2%	18.5%	14.2%	34.0%	22.0%	17.3%	14.2%
BELGIUM																	
CAR (0)		56.9%	28.4%	18.9%	14.3%	42.5%	27.5%	18.2%	13.7%	34.6%	22.9%	17.9%	13.4%	30.8%	20.3%	16.1%	13.4%
CAR (1)		57.3%	28.5%	19.1%	14.3%	43.1%	27.6%	18.3%	13.7%	35.2%	23.1%	17.9%	13.4%	30.7%	20.2%	16.0%	13.4%
BHAR (0)		56.6%	28.5%	19.2%	14.1%	42.9%	27.6%	18.1%	13.8%	35.4%	22.8%	17.6%	13.7%	31.5%	20.7%	15.9%	13.9%
BHAR (1)		57.2%	28.4%	19.0%	14.3%	43.9%	28.0%	18.2%	14.2%	36.4%	23.4%	17.7%	14.0%	31.3%	20.5%	15.9%	14.1%
CANADA					<u>L</u>												
CAR (0)		55.8%	27.9%	18.7%	14.0%	43.0%	27.9%	18.7%	14.0%	36.0%	24.1%	18.7%	14.2%	32.0%	22.1%	17.2%	14.2%
CAR (1)		56.0%	28.0%	18.8%	14.0%	43.3%	28.0%	18.7%	14.0%	36.5%	24.2%	18.8%	14.2%	32.2%	22.1%	17.2%	14.2%
BHAR (0)		55.6%	27.7%	18.4%	14.0%	43.6%	28.0%	18.6%	14.0%	36.8%	24.4%	18.5%	14.1%	32.7%	22.6%	17.3%	14.5%
BHAR (1)		56.0%	27.9%	18.5%	14.0%	43.8%	28.1%	18.6%	14.1%	37.0%	24.6%	18.6%	14.2%	32.8%	22.6%	17.3%	14.6%

IVOL	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	K																
CAR (0)		55.7%	27.9%	18.9%	14.2%	42.2%	27.3%	18.5%	13.9%	34.8%	23.1%	17.9%	13.6%	29.4%	20.5%	16.2%	13.4%
CAR (1)		56.2%	28.0%	19.0%	14.3%	42.4%	27.4%	18.5%	14.0%	34.9%	23.1%	17.9%	13.7%	29.6%	20.6%	16.2%	13.4%
BHAR (0)		56.0%	28.3%	18.9%	14.4%	42.4%	27.7%	19.1%	13.7%	35.6%	23.2%	17.5%	13.9%	29.4%	20.4%	16.3%	13.3%
BHAR (1)	_	56.2%	27.9%	19.0%	14.5%	42.2%	27.7%	19.1%	13.8%	35.7%	23.3%	17.6%	14.0%	29.5%	20.6%	16.3%	13.3%
FINLANI	<u> </u>																
CAR (0)		56.2%	28.1%	18.9%	14.3%	42.4%	27.7%	18.5%	14.0%	35.3%	23.5%	18.5%	14.0%	30.6%	21.5%	16.8%	14.0%
CAR (1)		56.3%	28.1%	18.9%	14.3%	42.5%	27.7%	18.5%	14.0%	35.5%	23.5%	18.5%	14.0%	30.8%	21.6%	16.9%	14.0%
BHAR (0)		56.3%	26.9%	18.9%	13.8%	42.4%	28.1%	18.5%	13.6%	35.1%	22.7%	18.7%	13.7%	30.4%	21.4%	16.4%	13.8%
BHAR (1)	_	56.0%	26.9%	18.9%	13.5%	42.3%	28.0%	18.5%	13.6%	35.1%	22.9%	18.7%	13.7%	30.5%	21.4%	16.4%	13.8%
FRANCE	,																
CAR (0)		58.7%	28.9%	19.6%	14.6%	45.9%	28.3%	18.8%	14.1%	38.0%	24.3%	18.6%	13.9%	32.7%	21.5%	16.7%	13.8%
CAR (1)		59.4%	29.2%	19.7%	14.6%	46.9%	28.6%	19.0%	14.2%	38.7%	24.5%	18.6%	13.9%	33.8%	21.9%	16.8%	13.8%
BHAR (0)		59.0%	29.3%	19.2%	15.0%	46.2%	28.2%	18.5%	14.3%	38.8%	24.7%	17.9%	14.1%	32.9%	21.4%	16.2%	14.0%
BHAR (1)		59.3%	29.5%	19.3%	14.9%	47.2%	28.6%	18.6%	14.8%	39.5%	25.2%	17.9%	14.4%	33.6%	21.9%	16.3%	14.3%
GERMAN	Y																
CAR (0)		56.9%	28.4%	18.9%	14.3%	44.4%	28.1%	18.4%	14.0%	38.0%	24.4%	18.5%	14.0%	32.3%	21.9%	17.0%	14.0%
CAR (1)	_	57.6%	28.7%	19.1%	14.4%	44.9%	28.2%	18.4%	14.1%	37.9%	24.3%	18.5%	14.0%	32.5%	21.9%	17.0%	14.0%
BHAR (0)		57.0%	28.6%	19.0%	14.5%	43.7%	27.8%	18.4%	14.1%	37.0%	24.2%	18.2%	14.0%	32.9%	22.2%	17.3%	14.3%
BHAR (1)	_	57.3%	28.7%	18.9%	14.5%	44.0%	27.9%	18.3%	14.3%	37.2%	24.4%	18.2%	14.0%	33.3%	22.2%	17.3%	14.3%

IVOL	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		56.5%	28.2%	19.0%	14.4%	42.5%	28.0%	18.9%	14.2%	36.0%	23.9%	18.8%	14.2%	32.0%	21.9%	17.2%	14.2%
CAR (1)		56.8%	28.3%	19.0%	14.4%	42.6%	28.1%	19.0%	14.2%	36.2%	24.0%	18.8%	14.2%	32.2%	22.0%	17.2%	14.2%
BHAR (0)		56.8%	27.9%	18.9%	14.2%	42.5%	27.9%	18.9%	14.0%	36.6%	23.5%	18.5%	14.1%	32.6%	22.1%	17.0%	14.6%
BHAR (1)		57.0%	28.0%	18.9%	14.2%	42.5%	27.9%	18.9%	14.0%	36.5%	23.7%	18.5%	14.1%	32.5%	21.9%	17.0%	14.5%
HONGKONG																	
CAR (0)		57.1%	28.2%	19.0%	14.4%	43.9%	28.3%	19.0%	14.3%	37.5%	24.8%	19.1%	14.3%	33.5%	22.6%	17.5%	14.3%
CAR (1)		57.4%	28.3%	19.2%	14.4%	44.1%	28.3%	19.1%	14.3%	37.9%	25.0%	19.1%	14.3%	33.7%	22.7%	17.5%	14.3%
BHAR (0)		56.9%	27.7%	18.8%	14.1%	43.6%	28.1%	19.1%	14.2%	37.4%	24.5%	18.8%	14.2%	33.4%	22.4%	17.5%	14.5%
BHAR (1)		57.2%	28.0%	19.0%	14.2%	43.9%	28.2%	19.2%	14.3%	38.0%	24.8%	18.9%	14.2%	33.9%	22.5%	17.6%	14.5%
IRELAND																	
CAR (0)		57.1%	28.3%	19.3%	14.5%	45.9%	29.0%	19.3%	14.2%	40.3%	25.6%	19.3%	14.5%	34.4%	22.9%	17.8%	14.4%
CAR (1)		57.4%	28.4%	19.5%	14.6%	45.9%	29.0%	19.3%	14.3%	40.6%	25.8%	19.3%	14.6%	34.5%	22.9%	17.7%	14.4%
BHAR (0)		56.7%	28.4%	19.0%	14.1%	45.5%	29.2%	19.7%	13.8%	40.7%	25.4%	19.4%	14.6%	33.4%	22.7%	17.6%	14.8%
BHAR (1)		57.4%	28.7%	19.5%	14.3%	46.2%	29.1%	19.6%	13.9%	41.3%	25.7%	19.4%	14.6%	33.4%	22.9%	17.7%	14.8%
ISRAEL																	
CAR (0)		58.6%	29.0%	19.5%	14.6%	44.6%	28.8%	19.3%	14.5%	38.8%	25.3%	19.4%	14.5%	34.3%	23.1%	17.7%	14.5%
CAR (1)		59.1%	29.3%	19.7%	14.7%	45.5%	29.0%	19.4%	14.5%	39.6%	25.5%	19.5%	14.5%	35.1%	23.2%	17.7%	14.5%
BHAR (0)		58.5%	28.9%	19.1%	14.5%	44.3%	28.8%	19.1%	14.1%	38.3%	25.0%	18.9%	14.5%	34.7%	22.6%	17.4%	14.9%
BHAR (1)		58.8%	29.3%	19.5%	14.6%	44.7%	28.9%	19.1%	14.3%	39.0%	25.2%	19.0%	14.5%	34.9%	22.9%	17.5%	14.9%

IVOL	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		56.1%	27.8%	18.7%	14.1%	41.9%	27.5%	18.3%	13.8%	35.1%	23.2%	18.0%	13.5%	30.6%	20.6%	16.1%	13.4%
CAR (1)		56.5%	27.9%	18.8%	14.1%	42.1%	27.6%	18.3%	13.8%	35.3%	23.2%	18.1%	13.5%	30.6%	20.6%	16.1%	13.4%
BHAR (0)		55.7%	27.5%	18.1%	13.7%	41.9%	27.3%	17.9%	13.6%	35.3%	22.7%	17.6%	13.3%	31.4%	20.5%	15.9%	13.7%
BHAR (1)		56.3%	27.6%	18.4%	13.6%	42.0%	27.4%	17.9%	13.7%	35.3%	22.8%	17.6%	13.2%	31.3%	20.5%	16.0%	13.7%
JAPAN																	
CAR (0)		57.3%	28.5%	18.8%	14.0%	43.8%	28.6%	18.8%	14.0%	36.8%	24.6%	19.0%	14.1%	32.5%	22.1%	17.2%	14.2%
CAR (1)		57.4%	28.6%	18.9%	14.1%	43.9%	28.6%	18.8%	14.0%	36.8%	24.6%	19.0%	14.1%	32.6%	22.1%	17.2%	14.2%
BHAR (0)		57.3%	27.7%	18.3%	13.7%	43.6%	28.4%	18.6%	13.9%	36.9%	24.3%	18.5%	14.1%	32.6%	22.1%	16.9%	14.5%
BHAR (1)		57.5%	27.8%	18.4%	13.8%	43.6%	28.4%	18.6%	13.9%	36.9%	24.5%	18.5%	14.1%	32.7%	22.1%	16.9%	14.5%
NETHERLAN	IDS																
CAR (0)		56.4%	28.0%	18.8%	14.1%	42.5%	27.6%	18.5%	13.9%	36.0%	23.8%	18.4%	13.8%	31.7%	21.4%	16.6%	13.8%
CAR (1)		56.6%	28.1%	18.9%	14.1%	42.8%	27.7%	18.5%	13.9%	36.4%	23.9%	18.4%	13.8%	32.0%	21.5%	16.6%	13.8%
BHAR (0)		55.8%	27.4%	18.4%	13.7%	42.9%	27.3%	18.3%	13.5%	36.4%	23.5%	18.0%	13.6%	31.8%	21.1%	16.7%	13.8%
BHAR (1)		56.2%	27.7%	18.7%	13.7%	43.2%	27.3%	18.4%	13.6%	36.6%	23.8%	17.8%	13.7%	31.9%	21.0%	16.7%	13.8%
NEWZEALA	ND																
CAR (0)		55.7%	28.0%	18.9%	14.1%	41.6%	27.6%	18.4%	13.6%	35.0%	23.6%	17.9%	13.5%	30.5%	20.8%	16.3%	13.4%
CAR (1)		55.9%	28.1%	18.9%	14.1%	41.8%	27.7%	18.5%	13.6%	35.2%	23.6%	17.9%	13.5%	30.7%	20.8%	16.2%	13.4%
BHAR (0)		56.0%	27.2%	18.8%	13.8%	41.1%	28.0%	18.5%	13.5%	35.1%	22.7%	17.8%	13.5%	30.4%	20.5%	16.1%	13.5%
BHAR (1)		56.3%	27.5%	19.0%	13.8%	41.2%	28.0%	18.4%	13.7%	35.4%	22.9%	17.8%	13.6%	30.5%	20.6%	16.1%	13.6%

IVOL J =		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY																
CAR (0)	56.4%	28.4%	18.9%	14.3%	43.6%	28.2%	18.9%	14.1%	36.4%	24.3%	18.9%	14.1%	32.0%	22.2%	17.3%	14.2%
CAR (1)	56.6%	28.6%	19.0%	14.3%	43.7%	28.3%	19.0%	14.1%	36.6%	24.3%	18.8%	14.1%	32.2%	22.3%	17.3%	14.2%
BHAR (0)	55.8%	27.9%	18.3%	13.4%	43.0%	27.6%	18.6%	13.5%	35.9%	24.4%	18.3%	13.9%	31.8%	22.1%	16.8%	14.5%
BHAR (1)	56.1%	28.0%	18.3%	13.5%	43.3%	27.8%	18.6%	13.6%	36.1%	24.4%	18.3%	13.8%	32.0%	22.2%	16.8%	14.5%
PORTUGAL	<u> </u>															
CAR (0)	58.7%	29.0%	19.6%	14.8%	45.3%	28.4%	19.2%	14.4%	38.0%	24.5%	18.9%	14.0%	35.5%	23.0%	17.4%	14.1%
CAR (1)	59.4%	29.0%	19.8%	14.9%	46.1%	28.6%	19.3%	14.5%	38.6%	24.7%	18.9%	14.1%	35.7%	23.1%	17.4%	14.2%
BHAR (0)	58.5%	28.7%	18.5%	14.7%	45.3%	28.2%	19.3%	14.3%	37.1%	24.2%	18.2%	13.7%	34.5%	22.7%	17.2%	14.5%
BHAR (1)	58.2%	28.5%	19.7%	14.8%	46.1%	28.6%	20.0%	14.3%	38.5%	24.7%	18.4%	13.7%	34.4%	22.9%	17.4%	14.5%
SINGAPORE	1															
CAR (0)	57.0%	28.2%	18.9%	14.4%	42.9%	28.1%	19.0%	14.3%	36.4%	24.6%	19.0%	14.3%	32.8%	22.2%	17.3%	14.3%
CAR (1)	57.0%	28.2%	18.9%	14.4%	43.1%	28.2%	19.0%	14.3%	36.9%	24.7%	19.0%	14.3%	33.0%	22.3%	17.3%	14.3%
BHAR (0)	57.1%	27.8%	18.6%	14.0%	42.8%	28.1%	19.0%	13.9%	36.0%	24.1%	18.5%	14.2%	32.8%	22.1%	17.1%	14.6%
BHAR (1)	57.3%	28.1%	18.6%	14.1%	43.0%	28.2%	19.0%	14.0%	36.5%	24.2%	18.6%	14.2%	33.2%	22.2%	17.1%	14.6%
SPAIN																
CAR (0)	57.2%	28.7%	19.0%	14.3%	45.0%	28.4%	18.7%	14.0%	38.3%	24.9%	18.7%	13.9%	33.2%	21.8%	16.8%	13.8%
CAR (1)	57.4%	28.8%	19.2%	14.3%	45.2%	28.6%	18.8%	14.0%	38.7%	24.8%	18.7%	13.9%	33.3%	21.8%	16.9%	13.8%
BHAR (0)	58.0%	27.8%	19.2%	13.8%	44.9%	27.9%	18.4%	14.2%	38.8%	24.8%	18.3%	14.0%	33.8%	21.6%	16.7%	13.4%
BHAR (1)	58.2%	28.1%	19.3%	14.0%	45.5%	28.0%	18.4%	14.3%	39.1%	25.3%	18.3%	14.0%	34.1%	21.7%	16.6%	13.6%

IVOL	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		55.7%	28.0%	18.9%	14.1%	42.6%	27.8%	18.6%	14.1%	35.3%	23.8%	18.6%	14.0%	31.0%	21.5%	16.9%	14.0%
CAR (1)		56.0%	28.2%	19.0%	14.1%	42.8%	27.9%	18.7%	14.1%	35.6%	23.9%	18.6%	14.0%	31.2%	21.5%	16.9%	14.0%
BHAR (0)		54.9%	27.5%	18.9%	13.9%	42.2%	27.5%	18.2%	13.8%	35.5%	24.2%	18.2%	13.9%	31.1%	21.2%	16.8%	14.3%
BHAR (1)		55.0%	27.8%	18.9%	13.9%	42.6%	27.6%	18.2%	13.9%	35.8%	24.4%	18.3%	13.9%	31.3%	21.2%	16.8%	14.3%
SWITZERLA	ND				<u>L</u>												
CAR (0)		56.0%	27.9%	18.9%	14.2%	42.1%	27.7%	18.5%	13.9%	35.7%	23.5%	18.3%	13.8%	30.4%	20.7%	16.4%	13.7%
CAR (1)		56.3%	28.0%	19.0%	14.2%	42.3%	27.7%	18.6%	13.9%	35.8%	23.5%	18.3%	13.8%	30.4%	20.7%	16.4%	13.7%
BHAR (0)		55.8%	27.9%	19.0%	14.0%	42.6%	27.7%	18.1%	13.5%	35.8%	23.8%	18.0%	13.9%	30.1%	20.1%	16.0%	13.6%
BHAR (1)		56.0%	27.8%	19.0%	13.9%	43.0%	27.8%	18.2%	13.6%	36.2%	24.2%	17.9%	14.0%	30.2%	20.2%	16.1%	13.6%
UK																	
CAR (0)		56.8%	28.5%	19.3%	14.5%	43.7%	28.1%	19.0%	14.3%	37.4%	24.6%	18.9%	14.2%	32.3%	21.9%	17.1%	14.1%
CAR (1)		57.5%	28.8%	19.5%	14.6%	44.3%	28.2%	19.0%	14.3%	38.1%	24.8%	18.9%	14.2%	32.7%	21.9%	17.1%	14.1%
BHAR (0)		57.0%	28.2%	19.3%	14.3%	43.9%	28.0%	19.1%	14.0%	37.5%	24.4%	18.5%	14.1%	32.5%	1.9%	1.5%	1.8%
BHAR (1)		57.5%	28.4%	19.4%	14.4%	44.2%	28.2%	19.2%	14.0%	38.4%	25.0%	18.7%	14.1%	32.8%	21.9%	16.8%	14.5%
US					L												
CAR (0)		57.5%	28.6%	19.0%	14.4%	44.8%	28.8%	19.1%	14.3%	37.9%	24.9%	19.1%	14.3%	34.0%	22.6%	17.4%	14.3%
CAR (1)		57.7%	28.6%	19.1%	14.4%	45.0%	28.9%	19.1%	14.3%	38.2%	25.0%	19.1%	14.3%	34.3%	22.7%	17.4%	14.3%
BHAR (0)		57.4%	27.6%	18.6%	13.9%	44.4%	28.6%	19.0%	14.0%	37.5%	24.4%	18.6%	14.1%	33.2%	22.1%	17.0%	14.3%
BHAR (1)	-	57.5%	27.7%	18.6%	13.8%	44.2%	28.6%	19.0%	14.1%	37.5%	24.6%	18.6%	14.1%	33.3%	22.1%	17.0%	14.4%

Table 7.9a. Break-even transaction costs for time-series momentum strategy

EW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL	[A																
CAR (0)		0.2%	0.5%	0.6%	0.6%	0.7%	0.8%	0.9%	0.5%	0.9%	1.1%	0.9%	0.3%	0.8%	0.5%	0.2%	-0.4%
CAR (1)		0.7%	0.9%	1.0%	0.7%	0.9%	0.9%	0.8%	0.3%	1.1%	1.0%	0.7%	0.0%	0.6%	0.3%	-0.2%	-0.8%
BHAR (0)		0.3%	0.5%	0.4%	0.3%	0.6%	0.8%	0.1%	-0.5%	0.8%	0.9%	1.0%	0.9%	0.3%	-0.1%	-0.2%	-0.2%
BHAR (1)		0.7%	0.4%	0.1%	0.1%	0.9%	0.9%	-0.3%	-1.0%	0.8%	0.5%	1.0%	0.5%	0.2%	0.0%	-1.1%	-1.2%
AUSTRIA	<u> </u>																
CAR (0)		0.7%	1.5%	2.0%	2.6%	1.2%	1.9%	2.9%	3.2%	1.7%	2.6%	2.8%	2.9%	2.2%	2.8%	2.9%	2.4%
CAR (1)		1.2%	1.8%	2.4%	2.7%	1.3%	1.9%	2.8%	2.9%	2.0%	2.5%	2.7%	2.7%	2.1%	2.4%	2.4%	1.9%
BHAR (0)		1.0%	1.8%	2.6%	2.5%	1.5%	2.1%	2.8%	4.2%	1.8%	2.2%	2.8%	4.4%	2.0%	1.8%	3.0%	0.2%
BHAR (1)		1.7%	1.8%	3.2%	2.4%	1.7%	1.9%	2.4%	3.8%	1.4%	1.3%	2.9%	3.3%	1.7%	1.7%	1.7%	0.6%
BELGIUN	1																
CAR (0)		0.8%	1.7%	2.3%	2.9%	1.5%	2.1%	2.9%	3.2%	1.6%	2.6%	2.9%	3.2%	2.2%	3.0%	3.3%	3.5%
CAR (1)		1.1%	1.7%	2.5%	2.9%	1.6%	2.1%	2.8%	3.0%	1.8%	2.5%	2.7%	3.0%	2.3%	2.8%	3.2%	3.3%
BHAR (0)		1.0%	1.3%	1.8%	2.5%	1.4%	1.9%	2.1%	3.8%	1.5%	2.8%	3.3%	4.6%	2.2%	3.1%	3.2%	2.2%
BHAR (1)		0.9%	0.9%	1.6%	2.3%	1.6%	1.6%	1.8%	3.6%	1.5%	2.7%	3.1%	3.8%	1.9%	2.9%	2.7%	2.2%
CANADA																	
CAR (0)		0.7%	1.3%	2.0%	2.6%	1.4%	2.0%	2.8%	2.8%	1.9%	2.5%	2.5%	2.1%	2.1%	2.3%	2.1%	1.5%
CAR (1)		1.0%	1.5%	2.3%	2.5%	1.6%	2.2%	2.8%	2.3%	2.0%	2.4%	2.2%	1.5%	1.9%	1.9%	1.6%	0.8%
BHAR (0)		0.8%	1.1%	2.1%	2.3%	1.2%	1.6%	2.5%	1.7%	2.1%	2.5%	2.4%	2.0%	2.1%	2.0%	2.1%	1.6%
BHAR (1)		0.9%	1.4%	2.5%	2.2%	1.5%	1.9%	2.5%	1.1%	2.2%	2.6%	2.1%	1.9%	1.9%	1.6%	1.6%	0.9%

EW J =		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARK			2.00/	2.00/	4.00/	• • • •	* * * * * * * * * * * * * * * * * * * *	4.00/		2.40/	2.00/	4.40/		2.00/		4.00
CAR (0)	1.1%	2.1%	3.0%	3.8%	1.9%	2.6%	3.8%	4.3%	2.2%	3.4%	3.9%	4.4%	2.5%	3.8%	4.4%	4.8%
CAR (1)	1.3%	2.3%	3.2%	3.7%	1.7%	2.6%	3.5%	3.8%	2.4%	3.4%	3.7%	4.0%	2.6%	3.7%	4.1%	4.4%
BHAR (0)	1.0%	1.8%	1.9%	3.0%	1.7%	2.7%	3.9%	5.9%	2.5%	3.0%	4.4%	4.5%	2.4%	3.6%	3.1%	3.6%
BHAR (1)	1.3%	2.2%	2.3%	3.6%	1.6%	2.8%	3.1%	5.3%	2.6%	3.3%	4.2%	4.3%	2.5%	3.9%	3.4%	3.6%
FINLAND																
CAR (0)	0.8%	1.0%	1.7%	2.1%	1.4%	2.0%	2.8%	3.1%	1.9%	2.8%	2.9%	2.7%	2.2%	2.6%	2.4%	2.2%
CAR (1)	0.9%	1.2%	1.9%	2.3%	1.4%	2.2%	2.6%	3.0%	1.8%	2.5%	2.4%	2.3%	2.0%	2.1%	2.0%	1.9%
BHAR (0)	0.7%	-0.2%	2.8%	3.2%	1.2%	2.0%	0.6%	2.5%	1.5%	2.0%	2.7%	1.1%	2.3%	4.4%	3.1%	4.0%
BHAR (1)	1.0%	-0.3%	3.0%	3.6%	1.1%	2.4%	0.5%	2.1%	1.5%	2.1%	1.8%	1.4%	1.9%	3.4%	2.8%	3.8%
FRANCE																
CAR (0)	-0.1%	0.6%	1.1%	1.6%	0.5%	1.2%	2.0%	2.4%	0.8%	1.8%	2.1%	2.4%	1.2%	2.1%	2.3%	2.3%
CAR (1)	0.7%	1.3%	1.8%	2.1%	1.1%	1.7%	2.4%	2.6%	1.5%	2.1%	2.3%	2.5%	1.7%	2.2%	2.3%	2.2%
BHAR (0)	-0.1%	0.4%	1.6%	0.5%	0.6%	1.1%	1.7%	1.7%	0.8%	1.8%	2.4%	2.7%	1.2%	1.8%	2.4%	2.0%
BHAR (1)	0.7%	1.1%	2.2%	1.5%	1.2%	1.6%	2.0%	1.8%	1.4%	2.0%	2.4%	1.9%	1.5%	1.8%	2.4%	1.9%
GERMANY																
CAR (0)	0.9%	1.7%	2.2%	2.6%	1.3%	1.9%	2.6%	2.6%	1.8%	2.5%	2.7%	2.9%	2.3%	2.9%	3.1%	3.0%
CAR (1)	1.2%	1.9%	2.3%	2.6%	1.3%	2.0%	2.5%	2.3%	2.0%	2.5%	2.5%	2.6%	2.2%	2.7%	2.7%	2.5%
BHAR (0)	1.0%	1.8%	2.8%	2.0%	1.3%	2.2%	2.6%	3.2%	1.9%	2.3%	3.0%	3.3%	2.1%	2.3%	3.0%	2.7%
BHAR (1)	1.4%	1.9%	2.7%	2.3%	1.2%	2.2%	2.5%	2.3%	1.7%	1.9%	2.4%	2.9%	1.8%	1.8%	1.8%	2.1%

EW J =		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																
CAR (0)	0.4%	0.7%	0.3%	0.0%	0.7%	0.9%	0.6%	-0.2%	0.4%	0.5%	0.1%	-0.5%	0.1%	-0.2%	-0.9%	-1.5%
CAR (1)	0.4%	0.6%	0.4%	-0.1%	0.9%	0.6%	0.5%	-0.5%	0.2%	0.3%	-0.3%	-0.7%	0.3%	-0.2%	-1.1%	-1.4%
BHAR (0)	0.6%	2.0%	2.0%	4.5%	1.2%	2.0%	0.6%	0.2%	1.4%	2.1%	-1.2%	3.7%	0.4%	-1.4%	1.2%	-2.6%
BHAR (1)	0.9%	2.5%	2.2%	5.4%	1.3%	1.6%	0.8%	-0.6%	1.6%	2.6%	-0.5%	3.4%	0.8%	-1.4%	1.5%	-3.3%
HONGKONG																
CAR (0)	0.6%	1.1%	1.0%	1.0%	0.9%	1.2%	1.1%	0.9%	1.1%	1.1%	0.9%	0.5%	0.9%	0.6%	0.1%	-0.5%
CAR (1)	0.6%	1.0%	0.8%	0.4%	0.9%	1.1%	0.8%	0.5%	0.9%	0.7%	0.5%	0.0%	0.3%	0.1%	-0.4%	-1.0%
BHAR (0)	0.2%	0.5%	0.1%	0.5%	1.3%	1.6%	1.3%	1.8%	0.9%	1.1%	1.1%	0.5%	0.8%	0.8%	0.8%	-1.3%
BHAR (1)	0.0%	0.0%	0.0%	0.0%	0.8%	1.3%	0.9%	0.6%	0.5%	0.0%	0.8%	0.0%	-0.2%	-0.2%	-0.5%	-1.9%
IRELAND																
CAR (0)	0.0%	0.1%	0.3%	1.0%	0.3%	0.6%	1.2%	1.8%	1.0%	1.6%	2.3%	3.1%	1.7%	2.2%	2.4%	2.3%
CAR (1)	0.4%	0.4%	0.8%	1.5%	0.4%	0.7%	1.4%	1.7%	0.9%	1.7%	2.5%	2.9%	2.1%	2.2%	2.3%	2.1%
BHAR (0)	0.4%	-2.1%	-1.6%	0.7%	0.0%	1.0%	-2.2%	7.1%	0.9%	1.7%	3.8%	3.0%	2.1%	2.6%	2.1%	1.7%
BHAR (1)	0.1%	-1.6%	-1.8%	2.4%	0.0%	0.9%	-1.1%	5.4%	0.7%	2.2%	3.2%	2.4%	2.4%	1.7%	2.6%	1.9%
ISRAEL	1															
CAR (0)	-0.4%	-0.4%	-0.8%	-0.8%	-0.1%	-0.2%	-0.3%	-0.4%	0.0%	0.2%	0.4%	0.2%	0.5%	0.8%	0.8%	0.2%
CAR (1)	-0.1%	-0.2%	-0.4%	-0.5%	0.2%	0.2%	0.0%	-0.1%	0.1%	0.3%	0.4%	0.0%	0.8%	1.0%	0.8%	0.2%
BHAR (0)	-0.3%	-0.7%	-1.0%	-1.8%	0.1%	0.1%	-0.6%	0.5%	0.0%	0.3%	0.1%	1.9%	0.7%	1.7%	0.8%	2.1%
BHAR (1)	-0.3%	-0.5%	-0.7%	-1.0%	0.0%	-0.1%	-0.5%	0.5%	0.0%	0.4%	-0.1%	2.1%	1.4%	1.9%	0.7%	2.3%

EW J=		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																
CAR (0)	1.2%	2.0%	2.9%	3.7%	1.6%	2.8%	3.5%	4.0%	2.2%	3.5%	4.3%	4.6%	2.6%	3.9%	4.3%	4.5%
CAR (1)	1.2%	2.0%	2.9%	3.7%	1.5%	2.6%	3.4%	3.5%	2.2%	3.5%	3.8%	4.1%	2.3%	3.6%	3.8%	3.9%
BHAR (0)	1.0%	0.6%	1.8%	1.5%	1.6%	2.1%	3.3%	1.9%	2.0%	2.7%	3.9%	3.2%	2.5%	3.1%	3.5%	3.9%
BHAR (1)	0.9%	0.5%	2.6%	2.0%	1.2%	2.0%	3.2%	1.2%	1.9%	2.7%	3.5%	3.5%	2.1%	3.0%	3.1%	3.5%
JAPAN																
CAR (0)	0.2%	0.1%	0.1%	0.5%	0.2%	0.2%	0.5%	0.5%	0.2%	0.5%	0.6%	0.4%	0.5%	0.5%	0.4%	0.2%
CAR (1)	0.2%	0.1%	0.3%	0.5%	0.1%	0.3%	0.6%	0.3%	0.4%	0.6%	0.6%	0.2%	0.4%	0.4%	0.3%	0.0%
BHAR (0)	0.2%	0.4%	0.7%	1.4%	0.4%	0.5%	0.7%	2.2%	0.3%	0.9%	0.9%	0.8%	0.6%	0.7%	0.6%	0.0%
BHAR (1)	0.1%	0.4%	0.6%	1.8%	0.3%	0.3%	0.7%	1.4%	0.3%	0.9%	0.7%	0.1%	0.4%	0.4%	0.0%	-0.3%
NETHERLANDS																
CAR (0)	1.6%	2.7%	3.5%	4.4%	2.0%	2.6%	3.6%	4.0%	2.4%	3.4%	4.1%	4.6%	2.6%	3.8%	4.3%	4.5%
CAR (1)	1.5%	2.6%	3.3%	4.1%	1.8%	2.6%	3.2%	3.5%	2.3%	3.1%	3.6%	4.1%	2.2%	3.5%	3.7%	4.0%
BHAR (0)	1.7%	2.4%	2.5%	5.2%	1.9%	2.7%	4.0%	7.0%	2.5%	4.5%	4.2%	5.8%	2.5%	4.4%	4.2%	4.3%
BHAR (1)	1.5%	2.1%	1.9%	5.2%	1.9%	2.8%	4.1%	6.6%	2.8%	4.1%	3.9%	5.3%	2.0%	3.6%	3.9%	3.3%
NEWZEALAND																
CAR (0)	0.7%	1.7%	1.9%	2.5%	2.2%	2.6%	3.4%	3.7%	2.4%	3.4%	3.6%	4.1%	2.9%	3.4%	3.6%	3.7%
CAR (1)	1.1%	1.8%	2.2%	2.3%	2.1%	2.5%	3.3%	3.3%	2.5%	3.2%	3.4%	3.8%	2.7%	2.9%	3.2%	3.2%
BHAR (0)	0.7%	1.9%	1.5%	0.7%	1.8%	2.5%	1.7%	3.1%	2.3%	2.9%	4.2%	4.3%	3.4%	4.6%	3.7%	4.0%
BHAR (1)	1.1%	1.7%	1.4%	0.3%	2.0%	2.1%	1.9%	1.9%	2.8%	3.2%	4.2%	4.5%	2.9%	3.3%	2.7%	3.6%

EW J =		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY																
CAR (0)	0.7%	1.5%	2.1%	2.4%	0.9%	1.6%	1.9%	1.9%	1.3%	1.8%	1.8%	1.0%	1.6%	1.8%	1.5%	0.9%
CAR (1)	0.6%	1.6%	2.2%	2.2%	1.1%	1.8%	2.0%	1.3%	1.3%	1.5%	1.3%	0.3%	1.1%	1.2%	0.8%	0.1%
BHAR (0)	0.6%	1.9%	0.7%	1.3%	0.8%	1.2%	0.7%	3.6%	2.5%	2.7%	2.3%	2.4%	2.2%	3.2%	1.9%	3.1%
BHAR (1)	0.7%	2.4%	1.2%	1.0%	1.5%	1.5%	0.4%	2.2%	2.1%	2.1%	1.7%	1.2%	1.6%	2.4%	2.1%	2.1%
PORTUGAL																
CAR (0)	-0.7%	0.0%	0.4%	0.4%	-0.3%	0.2%	0.7%	0.6%	-0.6%	0.2%	0.4%	0.4%	-0.6%	-0.3%	0.2%	0.2%
CAR (1)	0.2%	1.2%	1.1%	1.4%	0.6%	1.1%	1.2%	1.2%	0.3%	0.8%	0.7%	0.9%	-0.1%	0.3%	0.6%	0.4%
BHAR (0)	-0.3%	1.4%	1.8%	2.2%	0.2%	1.1%	2.2%	2.3%	-1.0%	-0.1%	0.2%	1.8%	-0.8%	-0.9%	0.5%	-0.1%
BHAR (1)	0.1%	1.7%	2.4%	2.3%	1.2%	1.5%	2.8%	2.0%	0.1%	1.1%	0.8%	2.1%	-0.3%	-0.7%	0.4%	-0.7%
SINGAPORE																
CAR (0)	0.9%	2.0%	2.3%	2.4%	1.1%	1.8%	2.1%	2.1%	1.5%	1.9%	2.0%	2.0%	1.4%	1.9%	1.9%	1.7%
CAR (1)	1.1%	2.1%	2.3%	2.1%	1.3%	1.8%	1.9%	1.6%	1.2%	1.6%	1.7%	1.4%	1.2%	1.7%	1.6%	1.3%
BHAR (0)	0.7%	1.6%	2.0%	0.9%	1.3%	1.8%	1.7%	2.2%	1.5%	1.3%	1.2%	0.1%	1.4%	2.7%	3.4%	2.3%
BHAR (1)	1.0%	0.8%	2.3%	0.2%	0.8%	1.7%	2.6%	2.2%	0.8%	1.3%	1.6%	-0.3%	1.2%	2.3%	2.1%	1.1%
SPAIN																
CAR (0)	0.1%	0.7%	1.3%	2.1%	0.2%	0.6%	1.7%	2.0%	0.3%	1.1%	1.9%	1.8%	1.5%	1.8%	2.3%	2.2%
CAR (1)	0.2%	0.9%	1.5%	2.1%	0.2%	1.0%	1.9%	1.9%	0.7%	1.4%	1.7%	1.7%	0.9%	1.5%	1.8%	1.8%
BHAR (0)	0.2%	-0.6%	1.0%	1.4%	0.0%	0.3%	0.9%	-0.4%	0.6%	1.1%	2.9%	0.9%	1.4%	3.0%	2.3%	1.8%
BHAR (1)	0.2%	-0.3%	0.4%	1.1%	0.2%	0.9%	1.8%	-0.7%	0.8%	0.9%	2.4%	0.7%	0.5%	2.2%	1.5%	1.5%

EW J:	=		3				6				9				12		
Н	=	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		0.9%	2.2%	2.5%	3.1%	1.9%	2.8%	3.5%	3.8%	2.5%	3.6%	3.7%	3.7%	3.1%	3.8%	4.0%	3.8%
CAR (1)		1.3%	2.4%	2.6%	3.0%	2.2%	2.9%	3.5%	3.6%	2.7%	3.1%	3.3%	3.1%	3.0%	3.4%	3.5%	3.3%
BHAR (0)		0.8%	2.0%	1.8%	2.9%	1.8%	2.7%	2.5%	3.0%	2.6%	3.9%	3.8%	2.7%	2.9%	3.7%	5.2%	5.5%
BHAR (1)		1.2%	2.3%	2.4%	2.9%	2.3%	3.0%	2.3%	2.6%	2.8%	3.6%	4.0%	2.3%	3.5%	3.9%	4.8%	6.3%
SWITZERLAND																	
CAR (0)		0.9%	1.8%	2.4%	3.0%	1.6%	2.5%	3.3%	3.4%	2.2%	3.2%	3.1%	3.1%	2.3%	2.8%	2.8%	2.5%
CAR (1)		1.1%	2.0%	2.4%	2.8%	1.8%	2.5%	3.0%	3.1%	2.0%	2.7%	2.5%	2.5%	2.0%	2.3%	2.2%	1.9%
BHAR (0)		0.7%	1.9%	2.0%	4.9%	1.5%	3.0%	2.4%	4.9%	2.1%	3.6%	4.1%	3.4%	2.3%	2.5%	2.6%	3.4%
BHAR (1)		1.0%	2.2%	1.6%	4.8%	1.8%	3.0%	2.4%	4.5%	2.1%	3.0%	3.4%	2.9%	2.1%	2.5%	1.3%	3.4%
UK																	
CAR (0)		1.2%	2.2%	2.7%	3.5%	2.0%	2.5%	3.4%	3.9%	2.3%	3.1%	3.4%	3.8%	2.8%	3.4%	3.5%	3.4%
CAR (1)		1.3%	2.1%	2.6%	3.3%	1.8%	2.3%	3.1%	3.4%	2.1%	2.8%	3.1%	3.2%	2.5%	3.0%	3.0%	2.9%
BHAR (0)		1.1%	2.5%	3.4%	3.5%	2.1%	2.9%	2.6%	4.4%	2.3%	3.0%	3.5%	3.7%	2.7%	3.6%	3.6%	3.1%
BHAR (1)		1.4%	2.4%	3.0%	3.4%	1.8%	2.6%	2.4%	3.6%	2.2%	2.6%	2.9%	2.7%	2.6%	3.0%	2.8%	2.5%
US																	
CAR (0)		0.2%	0.5%	0.6%	0.6%	0.6%	0.8%	0.9%	0.6%	0.8%	1.0%	0.7%	0.2%	0.7%	0.6%	0.2%	-0.4%
CAR (1)		0.3%	0.6%	0.7%	0.4%	0.7%	0.8%	0.8%	0.3%	0.9%	0.8%	0.5%	-0.2%	0.5%	0.3%	-0.2%	-0.8%
BHAR (0)		0.2%	1.1%	0.8%	1.1%	0.5%	0.7%	0.5%	0.9%	0.8%	1.1%	1.0%	0.3%	0.8%	0.7%	0.4%	-0.2%
BHAR (1)		0.4%	1.0%	0.9%	0.6%	0.6%	0.6%	0.2%	0.0%	0.9%	0.8%	0.4%	-0.2%	0.4%	0.1%	-0.2%	-0.8%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRALIA																	
CAR (0)		1.4%	2.5%	3.5%	3.9%	2.3%	3.5%	4.3%	4.5%	2.9%	4.0%	4.2%	4.1%	2.7%	3.3%	3.2%	2.8%
CAR (1)		1.5%	2.5%	3.4%	3.5%	2.2%	3.5%	3.8%	3.9%	2.9%	3.6%	3.7%	3.3%	2.1%	2.8%	2.3%	1.9%
BHAR (0)		1.4%	1.7%	3.1%	3.1%	2.1%	3.5%	3.7%	2.8%	3.2%	4.4%	3.4%	5.2%	2.2%	2.8%	2.1%	3.2%
BHAR (1)		1.5%	1.6%	2.9%	3.4%	2.1%	3.6%	2.8%	2.0%	2.7%	3.2%	2.8%	4.6%	1.5%	2.5%	1.1%	1.4%
AUSTRIA																	
CAR (0)		0.3%	0.7%	1.4%	1.8%	1.1%	1.9%	2.9%	3.0%	1.5%	2.6%	2.5%	2.2%	1.4%	2.0%	1.7%	1.0%
CAR (1)		0.4%	0.9%	1.5%	1.7%	1.1%	2.1%	2.7%	2.5%	2.0%	2.3%	2.3%	1.8%	1.1%	1.7%	1.2%	0.4%
BHAR (0)		0.3%	1.6%	2.9%	2.6%	0.8%	1.3%	1.2%	2.1%	1.5%	3.1%	1.9%	4.5%	1.2%	0.8%	1.8%	-1.8%
BHAR (1)		0.8%	1.0%	3.3%	2.4%	0.9%	1.5%	1.9%	1.7%	1.4%	1.8%	1.6%	2.6%	0.5%	0.4%	0.4%	-2.0%
BELGIUM																	
CAR (0)		0.8%	1.4%	2.2%	2.8%	1.2%	1.8%	2.7%	3.1%	1.4%	2.2%	2.5%	2.7%	1.9%	3.1%	3.4%	3.6%
CAR (1)		0.9%	1.3%	2.4%	2.6%	1.0%	1.7%	2.5%	2.6%	1.4%	2.1%	2.3%	2.4%	2.1%	2.8%	3.2%	3.3%
BHAR (0)		0.9%	2.2%	-0.1%	4.2%	0.6%	0.1%	1.8%	3.1%	0.3%	2.4%	2.3%	4.2%	1.6%	2.1%	0.5%	1.5%
BHAR (1)		0.8%	1.5%	0.8%	4.8%	1.0%	0.5%	1.5%	3.0%	1.2%	2.8%	2.2%	3.9%	1.3%	2.5%	0.7%	2.1%
CANADA																	
CAR (0)		1.5%	2.6%	3.7%	4.8%	2.3%	3.4%	4.8%	5.8%	3.2%	4.5%	5.3%	5.5%	2.9%	4.5%	5.0%	4.9%
CAR (1)		1.6%	2.4%	4.0%	4.4%	2.2%	3.5%	4.8%	5.1%	3.1%	4.2%	4.8%	4.6%	2.9%	4.2%	4.5%	4.3%
BHAR (0)		1.3%	1.9%	3.6%	3.2%	2.1%	4.2%	7.8%	4.2%	3.6%	4.4%	6.0%	4.6%	3.4%	5.6%	4.9%	5.1%
BHAR (1)		1.5%	1.9%	4.4%	3.0%	2.2%	4.3%	6.6%	2.3%	3.2%	4.2%	5.1%	3.7%	3.0%	4.5%	4.1%	3.8%

MW J =		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARK																
CAR (0)	1.1%	2.2%	2.9%	3.5%	1.8%	2.6%	3.7%	4.2%	2.0%	3.2%	3.7%	4.4%	2.0%	3.2%	3.9%	4.7%
CAR (1)	1.2%	2.0%	2.9%	3.2%	1.5%	2.6%	3.3%	3.7%	2.2%	3.3%	3.6%	4.3%	2.1%	3.2%	3.8%	4.7%
BHAR (0)	0.6%	1.6%	0.5%	3.3%	1.8%	1.8%	2.4%	5.1%	2.1%	2.9%	3.6%	3.3%	1.6%	2.6%	1.5%	3.9%
BHAR (1)	1.0%	1.8%	0.9%	3.8%	1.6%	2.4%	2.0%	4.4%	2.4%	3.8%	3.8%	3.3%	1.8%	3.5%	2.2%	4.9%
FINLAND																
CAR (0)	0.8%	1.7%	3.5%	4.1%	1.7%	3.5%	5.6%	6.5%	2.3%	4.2%	5.2%	6.0%	3.1%	4.4%	5.2%	5.7%
CAR (1)	0.7%	2.3%	3.7%	4.4%	2.1%	4.0%	5.6%	6.7%	2.5%	4.1%	4.9%	5.7%	2.7%	4.1%	4.8%	5.6%
BHAR (0)	0.5%	0.4%	4.7%	6.9%	1.2%	3.6%	4.5%	5.3%	2.2%	3.1%	3.1%	1.0%	2.5%	7.0%	5.8%	9.4%
BHAR (1)	0.8%	1.3%	5.3%	7.5%	1.5%	3.7%	4.3%	4.6%	1.9%	3.6%	2.4%	1.3%	2.8%	6.2%	6.0%	9.8%
FRANCE																
CAR (0)	-0.3%	0.3%	0.4%	0.8%	-0.1%	0.3%	0.9%	1.2%	0.0%	0.5%	0.8%	1.0%	-0.1%	0.6%	0.9%	0.9%
CAR (1)	0.2%	0.6%	0.8%	1.1%	0.4%	0.7%	1.2%	1.4%	0.6%	0.8%	1.1%	1.2%	0.3%	0.8%	1.0%	1.0%
BHAR (0)	-0.4%	0.1%	0.7%	0.3%	0.0%	0.2%	-0.9%	0.9%	0.0%	0.2%	0.7%	2.9%	-0.3%	0.8%	1.3%	0.6%
BHAR (1)	0.2%	0.4%	0.6%	2.0%	0.3%	0.3%	-1.0%	0.6%	0.7%	0.4%	1.5%	2.1%	-0.1%	0.4%	1.2%	0.3%
GERMANY																
CAR (0)	1.2%	2.4%	3.6%	4.0%	1.5%	2.6%	3.7%	3.6%	1.8%	3.2%	3.0%	3.4%	2.0%	2.8%	3.3%	3.3%
CAR (1)	1.2%	2.6%	3.5%	3.7%	1.5%	2.7%	3.3%	3.3%	2.0%	3.0%	2.7%	3.0%	1.9%	2.7%	2.8%	2.7%
BHAR (0)	1.1%	2.5%	4.5%	2.1%	1.4%	2.8%	4.0%	4.8%	1.8%	3.3%	1.0%	4.8%	1.4%	2.2%	4.7%	1.7%
BHAR (1)	1.3%	2.7%	3.7%	2.3%	1.3%	2.7%	3.2%	3.7%	1.8%	3.0%	1.0%	4.3%	1.6%	2.0%	3.8%	1.3%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		0.4%	0.1%	-0.3%	-0.4%	0.2%	0.0%	0.2%	0.1%	-0.1%	0.0%	0.2%	0.4%	0.0%	0.2%	0.2%	-0.2%
CAR (1)		0.2%	0.2%	-0.1%	-0.4%	0.2%	-0.1%	0.4%	-0.2%	-0.2%	0.2%	0.2%	0.5%	0.3%	0.5%	0.2%	0.0%
BHAR (0)		0.4%	1.9%	2.3%	4.7%	0.4%	1.5%	0.5%	0.9%	0.6%	1.6%	-0.9%	5.9%	-0.1%	-1.0%	1.7%	-0.3%
BHAR (1)		0.7%	3.0%	2.9%	6.1%	1.2%	1.4%	1.9%	-0.6%	0.8%	2.9%	-0.4%	5.9%	1.0%	-0.4%	2.2%	-0.4%
HONGKON	G																
CAR (0)		1.2%	2.2%	2.5%	3.0%	1.7%	2.3%	2.8%	2.8%	2.0%	2.6%	2.6%	2.6%	2.0%	2.3%	2.2%	2.2%
CAR (1)		1.2%	2.2%	2.6%	2.8%	1.7%	2.3%	2.3%	2.4%	2.1%	2.1%	2.3%	2.3%	1.5%	1.8%	1.7%	1.8%
BHAR (0)		0.7%	2.2%	0.8%	2.0%	2.1%	2.2%	2.4%	0.7%	1.6%	2.3%	3.4%	3.3%	1.6%	2.7%	2.8%	3.3%
BHAR (1)		0.8%	1.9%	0.4%	2.0%	1.3%	1.5%	2.2%	-0.8%	1.4%	1.4%	3.0%	3.8%	0.9%	1.3%	0.8%	1.7%
IRELAND																	
CAR (0)		1.1%	1.9%	1.6%	2.0%	1.5%	2.4%	3.2%	4.1%	1.8%	2.5%	3.5%	4.6%	2.0%	2.5%	3.2%	3.6%
CAR (1)		1.2%	1.3%	1.3%	2.1%	1.6%	2.0%	3.1%	3.7%	1.2%	2.3%	3.3%	4.3%	2.1%	2.6%	3.5%	3.3%
BHAR (0)		1.2%	-1.3%	-1.6%	-1.2%	1.1%	4.0%	-2.1%	13.6%	1.6%	2.3%	6.3%	4.9%	2.5%	2.8%	4.9%	3.5%
BHAR (1)		0.6%	-1.6%	-3.4%	0.0%	1.5%	3.7%	0.6%	11.2%	0.9%	2.4%	5.7%	2.6%	2.1%	1.8%	4.6%	3.9%
ISRAEL	<u> </u>																
CAR (0)		0.3%	0.7%	0.9%	0.9%	1.1%	1.7%	2.3%	2.5%	1.7%	2.3%	3.0%	2.9%	1.8%	2.7%	2.9%	2.4%
CAR (1)		0.2%	0.7%	1.1%	0.9%	1.2%	2.0%	2.2%	2.1%	1.6%	2.3%	2.7%	2.5%	2.1%	2.8%	2.6%	2.2%
BHAR (0)		0.1%	-0.3%	1.0%	0.3%	1.7%	2.4%	1.6%	3.4%	2.2%	3.3%	3.0%	6.8%	2.0%	3.6%	3.4%	6.3%
BHAR (1)		-0.3%	-0.1%	2.1%	0.9%	1.2%	2.8%	1.3%	3.6%	2.0%	3.1%	2.9%	6.2%	2.7%	4.0%	3.1%	7.3%

MW J =		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																
CAR (0)	0.5%	1.5%	2.1%	3.1%	1.4%	2.5%	3.0%	3.6%	1.6%	3.2%	4.1%	4.8%	2.3%	4.2%	4.8%	5.4%
CAR (1)	0.8%	1.8%	2.5%	3.2%	1.6%	2.4%	3.1%	3.3%	2.0%	3.5%	4.0%	4.6%	2.2%	4.0%	4.5%	4.8%
BHAR (0)	0.5%	-0.1%	2.3%	1.5%	1.5%	1.9%	1.8%	1.6%	1.5%	1.8%	3.7%	2.9%	2.6%	4.6%	4.1%	6.9%
BHAR (1)	0.7%	0.4%	3.9%	3.3%	1.2%	1.5%	1.9%	0.9%	1.6%	2.6%	3.1%	3.8%	2.2%	4.2%	3.9%	6.5%
JAPAN																
CAR (0)	0.3%	0.3%	0.6%	1.0%	0.4%	0.7%	1.2%	1.4%	0.4%	0.9%	1.1%	1.3%	0.5%	0.9%	1.2%	1.1%
CAR (1)	0.3%	0.4%	0.8%	0.9%	0.6%	0.9%	1.4%	1.4%	0.5%	0.9%	1.1%	1.2%	0.5%	0.9%	1.1%	1.0%
BHAR (0)	0.4%	0.8%	1.2%	3.6%	0.5%	1.0%	1.1%	2.7%	0.6%	1.4%	1.0%	1.9%	0.8%	1.4%	1.0%	1.4%
BHAR (1)	0.5%	0.4%	0.5%	3.5%	0.6%	1.3%	1.0%	2.3%	0.4%	1.0%	0.8%	1.2%	0.6%	1.1%	0.4%	1.0%
NETHERLANDS																
CAR (0)	1.3%	2.0%	2.6%	2.9%	0.8%	1.5%	2.1%	2.5%	1.4%	1.8%	2.4%	2.6%	1.6%	2.4%	2.7%	2.5%
CAR (1)	1.1%	1.7%	2.3%	2.7%	0.8%	1.6%	1.8%	2.0%	1.4%	1.7%	2.2%	2.3%	1.2%	2.0%	1.9%	2.0%
BHAR (0)	1.3%	1.3%	0.9%	4.9%	0.7%	1.2%	2.2%	7.5%	1.1%	2.8%	1.4%	4.4%	1.6%	2.9%	1.9%	1.0%
BHAR (1)	1.1%	0.8%	0.4%	6.2%	0.6%	1.1%	2.0%	6.2%	1.6%	2.7%	1.9%	3.9%	1.1%	1.9%	1.5%	-0.8%
NEWZEALAND																
CAR (0)	1.8%	2.6%	2.8%	3.0%	2.5%	2.8%	3.5%	3.8%	2.3%	3.4%	3.7%	4.3%	3.0%	3.4%	3.9%	4.2%
CAR (1)	1.4%	1.9%	2.4%	2.2%	2.0%	2.2%	2.9%	3.0%	2.1%	3.0%	3.3%	3.8%	2.4%	2.8%	3.4%	3.6%
BHAR (0)	1.7%	1.8%	2.7%	-0.2%	2.0%	2.2%	1.7%	3.0%	1.7%	0.8%	3.7%	1.3%	3.6%	5.7%	5.4%	4.2%
BHAR (1)	1.2%	0.5%	1.1%	-0.7%	1.3%	0.7%	1.2%	0.8%	1.5%	1.1%	3.5%	1.3%	3.0%	3.9%	4.3%	3.4%

$MW \qquad J =$		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	1															
CAR (0)	0.4%	1.6%	2.5%	3.3%	0.7%	1.6%	2.4%	2.7%	0.4%	1.2%	1.8%	1.3%	1.1%	1.5%	1.6%	1.5%
CAR (1)	0.7%	1.8%	3.0%	3.2%	0.8%	2.0%	2.7%	2.2%	0.8%	1.4%	1.6%	1.0%	0.8%	1.1%	1.2%	0.9%
BHAR (0)	0.1%	0.3%	-0.3%	0.4%	0.5%	1.0%	2.2%	4.5%	1.4%	1.5%	2.1%	3.1%	1.8%	3.1%	2.5%	4.7%
BHAR (1)	0.6%	1.5%	0.7%	0.8%	1.1%	1.9%	2.0%	3.8%	1.4%	1.9%	2.1%	2.5%	1.4%	2.3%	3.2%	3.8%
PORTUGAL																
CAR (0)	0.1%	0.9%	1.9%	2.2%	0.4%	0.8%	1.9%	1.5%	0.0%	1.0%	0.6%	0.3%	0.4%	0.5%	0.8%	1.1%
CAR (1)	0.7%	1.8%	2.3%	2.8%	0.6%	1.5%	2.0%	2.1%	0.4%	1.0%	0.9%	0.6%	0.4%	0.8%	1.1%	0.8%
BHAR (0)	0.4%	1.2%	3.2%	5.1%	0.8%	2.6%	3.3%	6.0%	-0.7%	0.6%	2.5%	1.9%	0.5%	0.3%	-0.8%	-0.3%
BHAR (1)	0.7%	2.2%	3.0%	4.8%	2.0%	3.6%	4.4%	6.2%	-0.1%	1.2%	3.3%	1.1%	0.7%	-0.2%	-0.7%	-1.7%
SINGAPORE																
CAR (0)	0.8%	2.0%	2.6%	3.2%	1.0%	1.8%	2.5%	3.2%	1.4%	2.1%	2.6%	3.0%	1.6%	2.3%	2.8%	3.1%
CAR (1)	0.8%	2.1%	2.5%	2.8%	1.3%	1.8%	2.5%	2.8%	1.2%	2.1%	2.4%	2.6%	1.4%	2.1%	2.6%	2.7%
BHAR (0)	0.6%	1.9%	3.2%	-0.1%	1.4%	1.1%	2.9%	2.2%	1.5%	0.8%	1.3%	-0.7%	1.3%	2.0%	3.7%	2.3%
BHAR (1)	0.3%	0.0%	2.8%	-1.3%	0.8%	0.8%	3.8%	2.3%	0.5%	1.4%	1.5%	-1.4%	1.0%	1.6%	2.2%	1.5%
SPAIN																
CAR (0)	-0.2%	-0.1%	0.5%	1.4%	-0.5%	-0.5%	0.5%	0.9%	-0.9%	-0.2%	0.5%	0.5%	0.5%	0.7%	1.0%	1.2%
CAR (1)	-0.2%	0.2%	0.9%	1.5%	-0.4%	0.0%	0.9%	0.9%	-0.3%	0.3%	0.7%	1.0%	0.4%	0.6%	1.0%	1.2%
BHAR (0)	-0.2%	-2.1%	-0.2%	0.2%	-0.9%	-1.7%	-0.8%	-1.4%	-1.3%	-0.7%	1.0%	-1.1%	0.5%	2.2%	0.0%	1.5%
BHAR (1)	-0.3%	-1.3%	-0.2%	0.8%	-0.4%	-1.1%	-0.1%	-1.5%	-0.3%	-0.3%	1.0%	0.1%	0.2%	1.1%	0.2%	1.3%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	·																
CAR (0)		0.8%	2.0%	2.6%	3.2%	1.8%	2.8%	3.9%	4.5%	2.2%	3.3%	3.8%	3.9%	2.2%	3.2%	3.7%	3.9%
CAR (1)		1.0%	2.0%	2.7%	2.9%	2.1%	3.1%	4.0%	4.5%	2.3%	2.8%	3.2%	3.4%	2.1%	3.1%	3.4%	3.7%
BHAR (0)		0.6%	1.1%	1.2%	1.2%	1.5%	2.2%	2.9%	3.8%	2.0%	2.8%	3.2%	1.1%	1.4%	2.3%	3.6%	6.7%
BHAR (1)		0.7%	1.9%	2.1%	1.2%	1.9%	2.7%	2.6%	3.5%	1.7%	2.2%	3.3%	1.1%	2.0%	2.5%	3.7%	8.4%
SWITZERLA	ND																
CAR (0)		0.2%	1.0%	1.3%	1.9%	0.8%	1.5%	1.9%	2.2%	1.1%	1.8%	1.8%	1.8%	1.5%	2.1%	2.3%	2.1%
CAR (1)		0.7%	1.2%	1.8%	1.9%	1.0%	1.6%	1.8%	1.9%	1.2%	1.6%	1.5%	1.4%	1.5%	1.9%	2.0%	1.6%
BHAR (0)		0.0%	1.1%	0.6%	4.2%	0.6%	1.9%	0.2%	2.7%	0.9%	2.2%	1.6%	2.8%	1.9%	2.5%	2.0%	3.5%
BHAR (1)		0.4%	1.8%	0.8%	4.3%	1.0%	1.9%	-0.1%	2.4%	0.9%	2.1%	0.7%	2.2%	1.9%	2.7%	1.1%	3.2%
UK																	
CAR (0)		0.3%	1.1%	1.7%	3.0%	0.8%	1.4%	2.9%	3.5%	0.9%	2.4%	3.2%	3.7%	1.2%	2.4%	3.0%	3.2%
CAR (1)		0.6%	1.3%	2.3%	3.1%	1.0%	1.9%	3.2%	3.5%	1.4%	2.7%	3.4%	3.5%	1.3%	2.5%	3.0%	3.0%
BHAR (0)		0.2%	1.8%	1.4%	3.0%	0.9%	1.4%	2.8%	4.0%	1.2%	3.2%	4.2%	4.5%	1.1%	1.9%	2.8%	2.1%
BHAR (1)		0.7%	1.8%	1.4%	3.7%	1.1%	1.8%	2.5%	3.2%	1.7%	3.8%	3.9%	3.7%	1.8%	1.9%	2.7%	1.3%
US																	
CAR (0)		0.1%	0.6%	1.0%	1.4%	0.5%	1.2%	1.7%	1.9%	0.6%	1.3%	1.4%	1.5%	0.8%	1.2%	1.3%	1.3%
CAR (1)		0.4%	0.8%	1.3%	1.4%	0.8%	1.4%	1.8%	1.9%	1.0%	1.4%	1.5%	1.4%	0.8%	1.3%	1.3%	1.1%
BHAR (0)		0.0%	1.5%	-0.1%	1.6%	0.4%	0.5%	1.3%	1.4%	0.7%	1.4%	1.6%	1.5%	0.7%	1.0%	1.7%	1.9%
BHAR (1)	-	0.4%	1.0%	0.0%	1.2%	0.7%	0.7%	1.1%	0.8%	1.0%	1.4%	1.4%	1.2%	0.5%	0.6%	1.3%	1.0%

IVOL $J =$		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRALIA												1				
CAR (0)	0.4%	1.2%	1.7%	2.1%	1.3%	1.8%	2.2%	1.9%	1.9%	2.5%	2.4%	2.2%	1.8%	1.9%	1.8%	1.2%
CAR (1)	0.8%	1.7%	2.2%	2.2%	1.4%	1.8%	2.0%	1.6%	2.0%	2.4%	2.1%	1.7%	1.5%	1.5%	1.2%	0.7%
BHAR (0)	0.7%	1.0%	1.9%	0.6%	1.2%	1.3%	1.0%	0.4%	1.8%	2.1%	2.2%	2.7%	1.3%	1.0%	1.2%	1.3%
BHAR (1)	0.8%	0.8%	1.4%	1.4%	1.3%	1.7%	1.6%	0.5%	1.7%	1.8%	2.1%	1.9%	1.3%	1.0%	0.3%	0.0%
AUSTRIA																
CAR (0)	0.7%	1.4%	2.1%	2.7%	1.0%	1.8%	3.0%	3.6%	1.7%	2.7%	3.3%	3.5%	2.3%	3.1%	3.4%	3.1%
CAR (1)	0.9%	1.6%	2.1%	2.5%	1.1%	1.8%	2.8%	3.1%	1.8%	2.6%	3.0%	3.2%	2.0%	2.6%	2.8%	2.4%
BHAR (0)	0.9%	1.7%	2.4%	2.9%	1.2%	1.8%	1.5%	4.3%	1.7%	2.5%	2.7%	4.7%	2.2%	2.5%	3.8%	0.7%
BHAR (1)	1.4%	1.7%	3.4%	2.6%	1.4%	1.8%	2.2%	4.6%	1.3%	1.4%	2.6%	3.9%	2.0%	2.4%	2.2%	1.4%
BELGIUM																
CAR (0)	0.6%	1.5%	1.9%	2.5%	1.4%	2.1%	3.0%	3.4%	1.7%	2.8%	3.2%	3.7%	2.3%	3.2%	3.7%	4.0%
CAR (1)	0.9%	1.4%	2.0%	2.5%	1.6%	2.0%	2.8%	3.3%	1.9%	2.7%	3.1%	3.6%	2.4%	3.1%	3.5%	3.7%
BHAR (0)	0.5%	0.8%	1.6%	1.4%	1.3%	1.7%	2.4%	4.0%	1.6%	3.3%	3.7%	4.7%	2.0%	2.8%	3.4%	2.4%
BHAR (1)	0.7%	0.9%	1.5%	2.2%	1.6%	1.5%	2.1%	3.7%	1.7%	3.4%	3.5%	3.6%	1.9%	3.0%	3.1%	2.6%
CANADA																
CAR (0)	1.2%	1.9%	2.7%	3.3%	2.1%	2.8%	3.9%	4.1%	2.5%	3.3%	3.5%	3.3%	2.6%	3.1%	3.1%	2.7%
CAR (1)	1.2%	2.0%	2.9%	3.1%	2.0%	2.8%	3.6%	3.4%	2.5%	3.1%	3.1%	2.6%	2.3%	2.6%	2.5%	1.8%
BHAR (0)	1.2%	1.6%	2.9%	2.0%	2.1%	3.0%	3.9%	1.8%	2.6%	3.3%	3.4%	3.1%	2.7%	3.0%	3.2%	2.7%
BHAR (1)	1.2%	1.8%	3.3%	2.6%	2.0%	2.8%	3.6%	1.9%	2.6%	3.2%	3.0%	2.7%	2.4%	2.4%	2.8%	2.0%

IVOL	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARI	K																
CAR (0)		1.0%	2.1%	3.0%	3.9%	1.8%	2.5%	3.8%	4.4%	2.0%	3.3%	3.9%	4.4%	2.4%	3.8%	4.4%	4.9%
CAR (1)		1.1%	2.1%	3.0%	3.7%	1.6%	2.5%	3.5%	3.9%	2.1%	3.2%	3.6%	4.0%	2.5%	3.7%	4.1%	4.5%
BHAR (0)		0.8%	1.6%	1.5%	2.6%	1.5%	2.7%	3.6%	5.9%	2.3%	2.9%	4.4%	4.9%	2.2%	3.6%	2.8%	3.8%
BHAR (1)		1.1%	2.2%	1.8%	4.0%	1.5%	2.8%	3.2%	5.3%	2.5%	3.4%	4.4%	4.4%	2.4%	4.1%	3.2%	3.8%
FINLAND)																
CAR (0)		0.8%	1.2%	2.0%	2.6%	1.5%	2.2%	3.1%	3.6%	1.9%	3.0%	3.2%	3.1%	2.4%	2.9%	2.7%	2.7%
CAR (1)		1.0%	1.5%	2.3%	2.7%	1.5%	2.4%	2.8%	3.4%	2.0%	2.7%	2.7%	2.6%	2.1%	2.3%	2.2%	2.2%
BHAR (0)		0.8%	0.2%	2.4%	3.7%	1.3%	2.1%	1.0%	2.3%	1.6%	2.0%	2.8%	1.5%	2.5%	4.8%	3.6%	5.2%
BHAR (1)		1.1%	0.3%	3.0%	3.8%	1.2%	2.2%	0.7%	2.1%	1.6%	2.1%	2.1%	1.7%	2.0%	3.8%	3.3%	5.0%
FRANCE																	
CAR (0)		0.1%	0.8%	1.0%	1.7%	0.9%	1.4%	2.2%	2.5%	1.3%	2.1%	2.5%	2.8%	1.6%	2.4%	2.6%	2.6%
CAR (1)		0.5%	1.0%	1.2%	1.7%	1.0%	1.4%	2.1%	2.2%	1.7%	2.1%	2.4%	2.6%	1.7%	2.4%	2.4%	2.5%
BHAR (0)		0.3%	0.3%	1.5%	0.0%	0.9%	0.9%	2.4%	0.2%	1.2%	2.2%	3.0%	3.0%	1.6%	2.2%	3.0%	2.5%
BHAR (1)		0.3%	0.8%	2.0%	1.4%	1.1%	1.3%	2.5%	2.2%	1.7%	2.2%	2.9%	2.0%	1.7%	2.1%	2.6%	2.4%
GERMAN	Y																
CAR (0)		1.0%	1.7%	2.2%	2.9%	1.4%	2.2%	3.2%	3.5%	2.0%	3.0%	3.5%	3.7%	2.5%	3.4%	3.8%	3.9%
CAR (1)		1.2%	1.8%	2.3%	2.8%	1.4%	2.2%	3.0%	3.1%	2.1%	2.9%	3.2%	3.4%	2.4%	3.2%	3.4%	3.4%
BHAR (0)		0.9%	1.7%	2.8%	1.3%	1.2%	2.5%	3.3%	4.4%	2.0%	2.9%	3.2%	4.0%	2.2%	2.6%	3.7%	3.9%
BHAR (1)		1.3%	2.0%	4.0%	3.1%	1.2%	2.6%	3.0%	3.5%	2.0%	2.6%	2.8%	3.8%	2.1%	2.5%	2.7%	3.5%

IVOL J =		3				6				9				12		
H =	:	3	6 9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																
CAR (0)	0.5%	6 0.8%	0.5%	0.1%	0.9%	1.1%	1.0%	0.3%	0.9%	0.9%	0.4%	-0.2%	0.6%	0.1%	-0.8%	-1.6%
CAR (1)	0.49	6 0.7%	0.4%	-0.1%	1.0%	0.9%	0.9%	-0.2%	0.5%	0.6%	-0.1%	-0.7%	0.5%	-0.2%	-1.3%	-1.8%
BHAR (0)	0.5%	2.3 %	ú 1.7%	3.8%	1.3%	2.1%	0.8%	0.6%	1.9%	2.2%	-0.7%	4.3%	0.9%	-1.1%	1.1%	-2.5%
BHAR (1)	0.99	6 2.9%	2.0%	5.4%	1.5%	1.9%	1.4%	-0.7%	2.0%	2.9%	0.0%	3.9%	1.4%	-1.1%	0.9%	-2.5%
HONGKONG																
CAR (0)	0.8%	6 1.2%	1.2%	1.1%	1.2%	1.6%	1.6%	1.6%	1.4%	1.5%	1.3%	1.0%	1.2%	1.0%	0.6%	0.1%
CAR (1)	0.79	6 1.2%	1.1%	0.8%	1.2%	1.5%	1.3%	1.1%	1.3%	1.1%	0.9%	0.5%	0.7%	0.5%	0.0%	-0.4%
BHAR (0)	0.3%	6 0.4%	0.2%	0.5%	1.6%	2.2%	1.7%	2.1%	1.1%	1.3%	1.5%	1.2%	1.0%	1.4%	1.5%	-0.1%
BHAR (1)	0.3%	6 -0.1%	0.6%	0.1%	1.3%	2.0%	1.2%	1.1%	0.9%	0.3%	1.3%	0.8%	0.2%	0.6%	0.4%	-0.6%
IRELAND																
CAR (0)	0.4%	6 0.6%	0.9%	1.7%	0.4%	0.8%	1.5%	1.8%	1.5%	2.2%	2.8%	3.7%	1.9%	2.5%	3.0%	3.0%
CAR (1)	0.49	0.3 %	0.7%	1.5%	0.5%	0.9%	1.7%	1.8%	1.3%	2.1%	2.8%	3.3%	2.0%	2.4%	2.8%	2.7%
BHAR (0)	0.89	√o -2.2%	-1.3%	1.0%	-0.1%	1.4%	-2.0%	5.8%	1.4%	2.1%	3.7%	3.0%	2.4%	3.1%	2.7%	1.9%
BHAR (1)	0.29	√o -2.0%	-1.8%	2.2%	0.1%	1.1%	-1.3%	4.9%	1.1%	2.2%	3.1%	1.6%	2.2%	1.9%	2.0%	1.5%
ISRAEL																
CAR (0)	-0.29	√o -0.3%	-0.8%	-1.0%	0.2%	-0.1%	-0.3%	-0.3%	0.4%	0.4%	0.5%	0.2%	0.6%	1.1%	1.0%	0.4%
CAR (1)	0.0%	6 -0.1%	-0.7%	-0.8%	0.4%	0.1%	-0.3%	-0.4%	0.3%	0.3%	0.2%	-0.1%	1.0%	1.2%	1.0%	0.3%
BHAR (0)	-0.1%	6 -0.9%	-1.0%	-1.0%	0.3%	0.0%	-0.5%	0.7%	0.5%	0.6%	0.6%	2.1%	0.9%	2.1%	1.2%	2.5%
BHAR (1)	0.0%	6 -0.5%	-1.3%	-0.9%	0.3%	0.3%	-0.5%	-0.3%	0.2%	0.3%	0.3%	2.1%	1.8%	2.5%	0.8%	2.7%

IVOL	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		1.1%	1.7%	2.7%	3.5%	1.5%	2.7%	3.6%	4.1%	2.1%	3.3%	4.3%	4.8%	2.3%	3.8%	4.4%	4.6%
CAR (1)		1.0%	1.7%	2.6%	3.5%	1.5%	2.6%	3.5%	3.5%	2.0%	3.4%	3.9%	4.3%	2.2%	3.6%	3.9%	4.1%
BHAR (0)		1.0%	0.7%	1.8%	1.7%	1.6%	1.9%	3.2%	1.9%	1.9%	2.9%	3.9%	3.3%	2.3%	2.9%	3.7%	3.0%
BHAR (1)		1.0%	0.6%	2.6%	2.3%	1.1%	1.8%	3.0%	0.9%	1.7%	2.8%	3.5%	3.7%	1.9%	2.8%	3.3%	3.2%
JAPAN																	
CAR (0)		0.3%	0.2%	0.2%	0.6%	0.2%	0.3%	0.6%	0.6%	0.3%	0.6%	0.7%	0.5%	0.5%	0.6%	0.5%	0.3%
CAR (1)		0.2%	0.1%	0.3%	0.5%	0.2%	0.4%	0.7%	0.3%	0.5%	0.7%	0.6%	0.3%	0.5%	0.5%	0.4%	0.2%
BHAR (0)		0.2%	0.5%	1.0%	1.1%	0.4%	0.5%	0.8%	1.9%	0.4%	0.9%	0.8%	0.8%	0.6%	0.8%	0.8%	0.2%
BHAR (1)		0.1%	0.4%	0.9%	1.4%	0.3%	0.4%	0.9%	1.0%	0.4%	0.9%	0.6%	0.2%	0.5%	0.5%	0.1%	0.0%
NETHERLAN	DS																
CAR (0)		1.5%	2.5%	3.4%	4.4%	1.8%	2.5%	3.6%	4.1%	2.5%	3.5%	4.3%	4.9%	2.6%	3.9%	4.5%	4.8%
CAR (1)		1.4%	2.4%	3.1%	4.0%	1.6%	2.5%	3.2%	3.6%	2.3%	3.2%	3.8%	4.3%	2.2%	3.5%	3.9%	4.3%
BHAR (0)		1.4%	2.3%	1.9%	5.9%	1.8%	2.9%	4.2%	7.9%	2.5%	4.7%	4.5%	6.1%	2.4%	4.8%	4.0%	4.7%
BHAR (1)		1.3%	1.8%	1.2%	5.5%	1.6%	2.8%	4.1%	7.3%	2.8%	4.4%	4.0%	5.7%	2.1%	3.7%	3.5%	3.5%
NEWZEALAN	ND																
CAR (0)		1.4%	2.5%	2.7%	3.4%	2.7%	3.3%	4.3%	4.7%	2.7%	3.9%	4.2%	4.8%	3.5%	4.0%	4.3%	4.7%
CAR (1)		1.5%	2.1%	2.6%	2.8%	2.5%	3.0%	3.9%	4.1%	2.6%	3.5%	3.8%	4.3%	3.0%	3.3%	3.8%	4.1%
BHAR (0)		1.3%	2.0%	3.0%	1.1%	2.5%	3.1%	2.8%	4.3%	2.5%	2.7%	4.6%	4.4%	4.0%	5.6%	5.5%	4.6%
BHAR (1)		1.4%	1.2%	2.0%	0.3%	2.4%	2.3%	2.7%	3.0%	2.7%	2.7%	4.7%	4.7%	3.4%	4.0%	4.4%	4.9%

IVOL J =		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY																
CAR (0)	0.7%	1.7%	2.4%	2.9%	1.1%	1.9%	2.5%	2.5%	1.3%	2.0%	2.0%	1.3%	1.7%	2.0%	1.7%	1.1%
CAR (1)	0.6%	1.7%	2.5%	2.7%	1.3%	2.2%	2.6%	1.9%	1.3%	1.7%	1.5%	0.4%	1.2%	1.3%	0.9%	0.2%
BHAR (0)	0.6%	1.9%	1.6%	1.8%	0.9%	1.5%	1.2%	3.3%	2.4%	2.4%	2.4%	2.7%	2.2%	3.5%	2.6%	3.1%
BHAR (1)	0.7%	2.3%	1.5%	1.0%	1.6%	1.8%	1.0%	2.2%	2.0%	2.0%	1.9%	1.3%	1.6%	2.7%	2.5%	2.3%
PORTUGAL																
CAR (0)	-0.1%	0.8%	0.8%	0.8%	0.5%	1.0%	1.4%	1.3%	0.3%	0.9%	0.9%	0.7%	0.2%	0.3%	0.5%	0.1%
CAR (1)	0.4%	1.1%	0.7%	0.9%	0.8%	1.3%	1.3%	1.3%	0.7%	1.0%	1.0%	0.7%	0.3%	0.4%	0.4%	-0.1%
BHAR (0)	0.0%	1.7%	2.8%	2.9%	0.8%	1.3%	3.5%	4.5%	-0.2%	0.9%	1.6%	2.2%	0.0%	-0.4%	1.0%	-1.1%
BHAR (1)	0.4%	2.3%	3.9%	3.4%	1.5%	2.4%	4.2%	2.5%	0.3%	1.9%	1.7%	1.5%	0.0%	-1.0%	0.6%	-1.8%
SINGAPORE																
CAR (0)	1.0%	2.3%	2.7%	2.8%	1.3%	2.3%	2.8%	3.0%	1.7%	2.6%	2.9%	3.1%	1.8%	2.5%	2.9%	3.0%
CAR (1)	1.1%	2.3%	2.6%	2.5%	1.4%	2.2%	2.6%	2.4%	1.5%	2.3%	2.6%	2.5%	1.5%	2.4%	2.6%	2.5%
BHAR (0)	0.7%	1.6%	2.8%	0.4%	1.5%	1.9%	2.3%	2.3%	1.9%	2.1%	2.9%	2.5%	1.6%	3.1%	4.5%	4.3%
BHAR (1)	1.0%	0.9%	3.1%	-0.1%	1.1%	2.0%	3.7%	2.8%	1.0%	2.2%	3.4%	2.1%	1.5%	3.2%	3.5%	3.7%
SPAIN																
CAR (0)	0.1%	0.5%	1.1%	1.9%	0.0%	0.3%	1.6%	1.8%	0.2%	0.9%	1.7%	1.5%	1.2%	1.5%	2.0%	1.8%
CAR (1)	0.1%	0.5%	1.2%	1.9%	0.0%	0.8%	1.8%	1.7%	0.5%	1.3%	1.5%	1.4%	0.7%	1.2%	1.5%	1.2%
BHAR (0)	0.3%	-1.2%	0.2%	0.9%	-0.1%	0.1%	1.2%	-0.7%	0.6%	1.0%	2.6%	1.0%	1.3%	2.9%	1.6%	1.6%
BHAR (1)	0.1%	-0.5%	0.6%	1.7%	0.0%	0.7%	2.0%	-1.3%	0.9%	0.9%	2.3%	0.7%	0.3%	1.8%	0.7%	0.9%

IVOL J =		3				6				9				12		
H :	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																
CAR (0)	0.9%	2.2%	2.7%	3.4%	2.0%	3.1%	4.0%	4.5%	2.9%	4.2%	4.4%	4.7%	3.3%	4.3%	4.7%	4.7%
CAR (1)	1.2%	2.3%	2.7%	3.2%	2.2%	3.1%	4.0%	4.2%	3.0%	3.6%	3.9%	4.0%	3.3%	4.0%	4.3%	4.3%
BHAR (0)	0.9%	2.3%	2.6%	3.5%	2.1%	2.7%	3.1%	4.4%	2.9%	4.5%	4.8%	3.8%	3.1%	4.4%	5.7%	6.9%
BHAR (1)	1.1%	2.3%	3.0%	5.0%	2.3%	3.1%	3.2%	3.5%	3.0%	4.2%	5.0%	3.5%	3.7%	4.5%	5.3%	7.6%
SWITZERLAND																
CAR (0)	0.7%	1.5%	2.2%	2.9%	1.4%	2.4%	3.2%	3.4%	1.9%	3.0%	3.0%	3.0%	2.0%	2.5%	2.6%	2.4%
CAR (1)	0.8%	1.6%	2.2%	2.6%	1.5%	2.3%	2.8%	3.0%	1.8%	2.5%	2.4%	2.4%	1.7%	2.1%	2.1%	1.9%
BHAR (0)	0.5%	1.7%	1.5%	4.8%	1.2%	2.7%	2.7%	4.8%	1.7%	3.3%	3.9%	3.1%	2.0%	2.3%	2.6%	3.1%
BHAR (1)	0.7%	1.8%	1.1%	4.2%	1.6%	2.7%	2.7%	4.5%	1.7%	2.5%	3.2%	2.7%	1.8%	2.2%	1.5%	3.1%
UK								<u> </u>				<u> </u>				
CAR (0)	1.1%	2.3%	2.9%	4.1%	2.0%	2.7%	3.8%	4.5%	2.4%	3.5%	4.0%	4.5%	3.0%	3.8%	4.1%	4.2%
CAR (1)	1.2%	2.1%	2.9%	3.7%	1.8%	2.5%	3.4%	3.9%	2.3%	3.2%	3.6%	3.9%	2.6%	3.3%	3.6%	3.6%
BHAR (0)	1.2%	2.6%	3.9%	4.7%	2.1%	3.1%	3.0%	5.1%	2.4%	3.5%	4.1%	4.3%	2.9%	4.1%	4.4%	3.8%
BHAR (1)	1.4%	2.4%	3.7%	4.3%	1.9%	2.8%	2.9%	4.4%	2.4%	3.3%	3.8%	3.4%	2.8%	3.4%	3.5%	3.2%
US																
CAR (0)	0.0%	0.3%	0.5%	0.7%	0.4%	0.8%	1.0%	0.9%	0.7%	1.1%	1.0%	0.7%	0.7%	0.8%	0.6%	0.2%
CAR (1)	0.2%	0.5%	0.8%	0.7%	0.5%	0.9%	1.0%	0.7%	0.8%	1.0%	0.9%	0.4%	0.6%	0.7%	0.4%	-0.1%
BHAR (0)	0.1%	1.0%	0.5%	1.1%	0.4%	0.6%	0.7%	1.1%	0.7%	1.2%	1.3%	0.8%	0.8%	0.9%	1.0%	0.4%
BHAR (1)	0.3%	0.9%	0.5%	0.9%	0.5%	0.7%	0.5%	0.3%	0.8%	1.0%	0.8%	0.3%	0.5%	0.5%	0.5%	-0.2%

Table 7.9b. Break-even transaction costs for cross-sectional momentum strategy

$\mathbf{E}\mathbf{W}$ $\mathbf{J} =$		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRALIA		0.501	0.50/	0.00/	0.607	0.00/	0.00/	0.504	0.70/	1.00/	0.501	0.00/	0.00/	0.507	0.00/	
CAR (0)	0.2%	0.6%	0.7%	0.8%	0.6%	0.8%	0.9%	0.6%	0.7%	1.0%	0.6%	0.0%	0.9%	0.6%	0.0%	-0.7%
CAR (1)	0.7%	1.0%	1.1%	0.8%	0.9%	1.0%	0.9%	0.3%	1.1%	1.0%	0.5%	-0.3%	0.8%	0.3%	-0.4%	-1.1%
BHAR (0)	0.2%	0.8%	0.2%	-0.2%	0.7%	0.7%	-0.1%	0.1%	0.7%	0.8%	0.6%	0.1%	0.9%	0.5%	0.1%	-0.1%
BHAR (1)	0.8%	0.8%	0.1%	-0.5%	1.1%	0.9%	-0.1%	-0.5%	1.0%	0.5%	0.5%	-0.2%	0.8%	0.1%	-0.7%	-0.8%
AUSTRIA																
CAR (0)	0.8%	1.3%	2.0%	2.5%	1.3%	1.8%	2.7%	3.2%	1.9%	2.5%	2.9%	3.0%	2.2%	2.7%	2.8%	2.5%
CAR (1)	0.9%	1.4%	2.1%	2.5%	1.5%	1.9%	2.7%	3.0%	2.1%	2.5%	2.7%	2.6%	2.1%	2.5%	2.5%	2.1%
BHAR (0)	0.8%	0.9%	1.6%	0.8%	1.2%	1.4%	2.6%	3.9%	1.8%	3.2%	3.1%	4.1%	2.1%	2.3%	2.6%	1.1%
BHAR (1)	0.9%	0.9%	1.3%	0.9%	1.5%	1.6%	2.6%	3.3%	2.0%	2.8%	3.2%	3.5%	2.0%	2.2%	1.7%	0.8%
BELGIUM																
CAR (0)	0.8%	1.7%	2.4%	3.1%	1.8%	2.5%	3.7%	4.1%	2.3%	3.4%	3.6%	4.0%	3.1%	3.9%	4.0%	3.8%
CAR (1)	1.0%	1.8%	2.6%	3.0%	1.9%	2.7%	3.6%	3.8%	2.6%	3.3%	3.5%	3.7%	3.0%	3.6%	3.6%	3.4%
BHAR (0)	0.9%	1.3%	1.7%	1.9%	1.7%	2.5%	3.2%	4.5%	2.5%	3.7%	4.0%	4.9%	3.2%	3.9%	4.5%	2.9%
BHAR (1)	0.9%	1.0%	2.0%	1.6%	1.7%	2.6%	3.0%	4.0%	2.6%	3.3%	3.8%	3.7%	3.0%	3.5%	3.8%	2.6%
CANADA																
CAR (0)	0.6%	0.9%	1.6%	2.2%	1.0%	1.5%	2.3%	2.1%	1.6%	2.2%	2.1%	1.4%	2.2%	2.0%	1.4%	0.4%
CAR (1)	0.8%	1.2%	2.0%	2.0%	1.3%	1.8%	2.3%	1.7%	2.0%	2.2%	1.8%	0.8%	1.9%	1.5%	0.8%	-0.3%
BHAR (0)	0.6%	0.6%	1.5%	2.0%	0.7%	1.1%	1.5%	2.2%	1.4%	1.8%	1.7%	1.5%	2.1%	1.6%	1.5%	0.2%
BHAR (1)	0.8%	0.8%	2.0%	1.7%	1.3%	1.7%	1.6%	1.5%	1.8%	1.8%	1.3%	1.4%	1.7%	1.3%	1.0%	-0.3%

EW J=		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARK																
CAR (0)	1.1%	2.1%	2.8%	3.7%	2.1%	2.8%	3.9%	4.4%	2.9%	3.8%	4.0%	4.2%	3.7%	4.3%	4.3%	4.0%
CAR (1)	1.2%	2.1%	2.9%	3.5%	2.2%	2.8%	3.7%	4.0%	2.9%	3.7%	3.7%	3.7%	3.4%	3.8%	3.7%	3.3%
BHAR (0)	1.1%	1.9%	2.0%	3.7%	2.0%	2.4%	3.2%	5.3%	2.7%	3.1%	4.3%	3.4%	3.8%	4.4%	4.3%	3.2%
BHAR (1)	1.1%	1.8%	2.5%	3.5%	2.2%	2.4%	3.3%	4.8%	2.8%	3.3%	3.9%	2.9%	3.3%	3.6%	3.7%	2.3%
FINLAND																
CAR (0)	0.7%	1.3%	2.1%	2.3%	1.4%	2.0%	2.9%	2.8%	1.9%	2.4%	2.4%	2.2%	1.8%	1.9%	1.9%	1.6%
CAR (1)	0.9%	1.5%	2.2%	2.2%	1.5%	2.1%	2.7%	2.4%	1.9%	2.2%	2.0%	1.7%	1.7%	1.6%	1.6%	1.3%
BHAR (0)	0.4%	0.5%	2.3%	1.6%	1.3%	2.0%	2.1%	4.8%	1.7%	1.9%	1.9%	1.5%	1.6%	2.4%	2.5%	2.4%
BHAR (1)	1.0%	0.7%	2.7%	1.6%	1.5%	2.2%	1.9%	3.8%	1.8%	1.5%	1.4%	1.2%	1.5%	1.8%	1.5%	1.8%
FRANCE																
CAR (0)	-0.1%	0.7%	1.2%	1.8%	0.6%	1.3%	2.1%	2.4%	1.0%	1.9%	2.2%	2.3%	1.5%	2.1%	2.1%	1.9%
CAR (1)	0.6%	1.3%	1.9%	2.2%	1.3%	1.7%	2.4%	2.5%	1.7%	2.2%	2.3%	2.2%	1.9%	2.2%	2.1%	1.8%
BHAR (0)	-0.1%	0.0%	1.5%	-0.3%	0.6%	1.4%	1.1%	1.9%	0.9%	1.4%	2.4%	2.2%	1.4%	2.2%	2.7%	1.8%
BHAR (1)	0.5%	0.4%	1.9%	0.2%	1.2%	1.7%	1.5%	1.8%	1.4%	1.5%	2.5%	1.3%	1.7%	2.2%	2.4%	1.9%
GERMANY																
CAR (0)	0.7%	1.5%	2.1%	2.7%	1.5%	2.0%	2.9%	3.0%	2.0%	2.6%	2.6%	2.7%	2.5%	2.7%	2.7%	2.5%
CAR (1)	1.1%	1.7%	2.3%	2.7%	1.7%	2.1%	2.8%	2.7%	2.1%	2.5%	2.4%	2.4%	2.4%	2.4%	2.4%	2.2%
BHAR (0)	0.7%	1.1%	2.2%	1.2%	1.5%	2.3%	2.8%	3.4%	2.0%	2.5%	2.8%	2.4%	2.6%	3.0%	2.7%	2.2%
BHAR (1)	1.1%	1.0%	2.4%	0.9%	1.6%	2.2%	2.7%	2.7%	2.1%	2.2%	2.2%	1.6%	2.3%	2.4%	2.0%	2.0%

EW J=		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																
CAR (0)	0.2%	0.6%	0.5%	0.5%	0.4%	0.5%	0.6%	0.2%	0.3%	0.4%	-0.1%	-0.6%	0.1%	-0.2%	-0.6%	-1.1%
CAR (1)	0.4%	0.6%	0.6%	0.4%	0.5%	0.6%	0.6%	0.1%	0.6%	0.4%	-0.1%	-0.8%	0.1%	-0.3%	-0.8%	-1.3%
BHAR (0)	0.0%	1.1%	0.5%	2.7%	0.6%	0.9%	0.4%	1.0%	0.5%	0.8%	-0.6%	-0.5%	0.0%	-0.9%	-0.6%	-3.5%
BHAR (1)	0.5%	1.3%	0.6%	3.1%	0.6%	0.6%	0.2%	0.9%	0.7%	0.6%	-0.1%	-1.3%	0.1%	-0.9%	-1.1%	-3.0%
HONGKONG												l l				
CAR (0)	0.2%	0.5%	0.5%	0.1%	0.4%	0.6%	0.3%	-0.4%	0.3%	0.1%	-0.5%	-1.5%	-0.1%	-0.6%	-1.5%	-2.3%
CAR (1)	0.2%	0.6%	0.4%	-0.2%	0.6%	0.5%	0.0%	-0.9%	0.1%	-0.2%	-0.9%	-2.0%	-0.3%	-0.9%	-1.9%	-2.6%
BHAR (0)	0.0%	-0.1%	-0.6%	-0.4%	0.4%	0.6%	-0.1%	-0.3%	0.3%	-0.1%	-0.4%	-1.9%	-0.4%	-0.5%	-1.9%	-2.0%
BHAR (1)	-0.1%	-0.1%	-0.8%	-0.8%	0.2%	0.3%	-0.5%	-1.0%	-0.1%	-0.5%	-1.1%	-2.2%	-0.8%	-1.0%	-2.2%	-2.5%
IRELAND																
CAR (0)	0.5%	1.0%	1.1%	1.6%	0.8%	0.8%	1.4%	1.8%	0.8%	1.2%	1.5%	1.7%	1.4%	1.6%	1.6%	1.3%
CAR (1)	0.9%	1.2%	1.6%	1.7%	0.9%	1.0%	1.5%	1.7%	0.9%	1.3%	1.5%	1.4%	1.3%	1.5%	1.4%	0.8%
BHAR (0)	0.9%	-0.5%	-1.2%	0.8%	0.4%	1.3%	-0.7%	4.9%	0.8%	0.7%	2.4%	2.8%	1.5%	2.1%	2.9%	-0.1%
BHAR (1)	0.8%	-0.2%	-0.9%	2.8%	0.5%	1.1%	0.0%	3.6%	0.3%	1.3%	1.7%	1.5%	0.9%	1.4%	1.9%	-0.8%
ISRAEL																
CAR (0)	-0.4%	-0.2%	-0.1%	-0.3%	0.0%	0.2%	0.1%	-0.4%	0.0%	0.1%	-0.2%	-0.7%	0.1%	0.0%	-0.4%	-1.0%
CAR (1)	0.0%	0.2%	0.3%	-0.2%	0.4%	0.5%	0.1%	-0.3%	0.3%	0.1%	-0.2%	-0.8%	0.2%	0.0%	-0.6%	-1.2%
BHAR (0)	-0.3%	-0.4%	-0.7%	-1.6%	0.0%	0.0%	0.1%	0.7%	-0.1%	-0.1%	-0.1%	0.2%	0.2%	0.2%	-0.5%	-0.9%
BHAR (1)	0.0%	-0.1%	-0.5%	-1.4%	0.4%	0.3%	0.2%	0.4%	0.1%	0.0%	-0.2%	0.0%	0.2%	0.2%	-0.5%	-1.0%

EW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.7%	1.5%	2.3%	3.0%	1.4%	2.1%	3.1%	3.5%	2.2%	3.1%	3.3%	3.6%	2.7%	3.3%	3.4%	3.3%
CAR (1)		0.8%	1.7%	2.4%	2.9%	1.5%	2.2%	3.0%	3.3%	2.3%	3.0%	3.0%	3.2%	2.5%	3.0%	3.0%	2.9%
BHAR (0)		0.7%	1.3%	2.7%	2.7%	1.3%	2.1%	2.8%	3.0%	2.0%	2.7%	3.4%	2.9%	2.3%	3.0%	3.6%	3.0%
BHAR (1)		0.8%	1.3%	3.0%	2.7%	1.4%	2.1%	2.8%	2.7%	2.3%	2.6%	2.9%	2.2%	2.3%	2.8%	3.2%	2.8%
JAPAN																	
CAR (0)		-0.1%	-0.4%	-0.4%	-0.1%	-0.5%	-0.5%	-0.3%	-0.5%	-0.5%	-0.4%	-0.5%	-0.9%	-0.2%	-0.6%	-0.9%	-1.2%
CAR (1)		0.0%	-0.3%	-0.1%	0.0%	-0.3%	-0.2%	0.0%	-0.5%	-0.1%	-0.1%	-0.4%	-0.9%	-0.1%	-0.6%	-1.0%	-1.3%
BHAR (0)		-0.2%	0.1%	-0.2%	0.7%	-0.3%	-0.5%	-0.4%	0.9%	-0.3%	-0.2%	0.2%	-0.4%	-0.2%	-0.5%	-0.9%	-1.4%
BHAR (1)		-0.1%	0.0%	-0.3%	0.8%	-0.4%	-1.0%	-0.2%	0.3%	-0.3%	0.1%	-0.1%	-0.8%	-0.3%	-1.0%	-1.5%	-1.6%
NETHERLAN	DS																
CAR (0)		0.9%	1.8%	2.6%	3.3%	1.9%	2.5%	3.5%	3.9%	2.3%	3.2%	3.5%	3.9%	3.0%	3.5%	3.8%	3.8%
CAR (1)		1.0%	1.9%	2.7%	3.1%	1.9%	2.6%	3.3%	3.6%	2.5%	3.1%	3.3%	3.6%	2.8%	3.2%	3.4%	3.5%
BHAR (0)		1.1%	1.6%	2.9%	2.0%	1.9%	2.6%	2.9%	5.3%	2.3%	2.7%	3.8%	4.4%	2.7%	3.4%	3.8%	3.5%
BHAR (1)		1.1%	1.6%	2.4%	1.8%	1.8%	2.4%	2.7%	4.5%	2.5%	2.6%	3.7%	3.6%	2.4%	3.0%	3.4%	3.4%
NEWZEALAN	ID																
CAR (0)		1.0%	2.1%	2.4%	3.1%	2.0%	2.6%	3.4%	3.7%	2.4%	3.0%	3.1%	3.4%	2.9%	3.3%	3.2%	3.0%
CAR (1)		1.2%	2.2%	2.6%	3.1%	2.2%	2.6%	3.3%	3.4%	2.5%	2.9%	2.9%	3.0%	2.7%	3.0%	2.9%	2.5%
BHAR (0)		0.9%	2.2%	1.5%	0.8%	2.3%	2.8%	3.2%	3.2%	2.9%	3.5%	4.1%	4.5%	3.1%	3.9%	3.1%	3.9%
BHAR (1)		1.4%	2.2%	1.5%	1.1%	2.4%	2.6%	3.2%	2.3%	2.9%	3.4%	3.6%	4.2%	2.8%	3.2%	2.4%	3.7%

EW J=		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY																
CAR (0)	0.6%	1.2%	1.9%	2.2%	1.1%	1.7%	2.5%	2.4%	1.9%	2.4%	2.3%	1.9%	2.2%	2.1%	1.9%	1.2%
CAR (1)	0.5%	1.3%	1.9%	1.8%	1.3%	1.9%	2.5%	2.0%	1.8%	2.2%	1.9%	1.3%	1.6%	1.6%	1.3%	0.6%
BHAR (0)	0.6%	1.4%	1.6%	2.7%	1.1%	1.8%	1.9%	4.7%	2.1%	2.7%	2.8%	3.6%	2.0%	2.2%	2.4%	0.9%
BHAR (1)	0.6%	1.5%	2.1%	2.4%	1.3%	1.9%	1.8%	3.5%	2.1%	2.5%	2.3%	3.1%	1.7%	1.4%	2.5%	0.3%
PORTUGAL																
CAR (0)	-0.6%	-0.1%	0.4%	0.7%	-0.3%	0.3%	0.7%	1.0%	0.1%	0.6%	0.9%	1.0%	0.1%	0.5%	0.8%	0.8%
CAR (1)	0.0%	0.7%	1.1%	1.4%	0.5%	1.0%	1.3%	1.5%	0.7%	1.1%	1.1%	1.2%	0.7%	1.0%	1.2%	1.1%
BHAR (0)	-0.5%	0.6%	0.6%	1.1%	-0.2%	0.5%	1.0%	1.3%	0.2%	1.3%	1.1%	3.5%	0.2%	0.2%	0.6%	0.7%
BHAR (1)	-0.2%	1.2%	1.2%	1.7%	0.1%	0.8%	1.5%	1.6%	0.6%	0.8%	0.9%	3.1%	0.5%	0.9%	1.3%	0.4%
SINGAPORE																
CAR (0)	0.3%	1.1%	1.2%	1.1%	1.0%	1.2%	1.2%	0.9%	0.9%	1.0%	0.7%	0.2%	0.7%	0.6%	0.1%	-0.4%
CAR (1)	0.6%	1.2%	1.3%	1.1%	1.2%	1.2%	1.0%	0.7%	0.9%	0.9%	0.4%	-0.1%	0.6%	0.3%	-0.2%	-0.5%
BHAR (0)	0.3%	0.5%	1.6%	1.5%	1.1%	1.3%	1.0%	2.1%	1.1%	0.9%	1.2%	-0.3%	1.0%	1.3%	0.8%	0.1%
BHAR (1)	0.5%	0.4%	1.7%	1.0%	1.2%	1.4%	0.6%	1.7%	1.0%	0.9%	1.2%	-0.2%	0.9%	1.1%	-0.1%	0.1%
SPAIN																
CAR (0)	0.4%	0.8%	1.4%	1.9%	0.8%	1.3%	2.1%	2.5%	1.5%	2.2%	2.5%	2.8%	1.8%	2.3%	2.6%	2.6%
CAR (1)	0.5%	1.0%	1.6%	1.9%	1.0%	1.5%	2.0%	2.3%	1.6%	2.1%	2.4%	2.5%	1.8%	2.2%	2.4%	2.3%
BHAR (0)	0.2%	0.3%	2.0%	2.3%	0.7%	1.6%	2.2%	2.4%	1.7%	2.5%	2.8%	1.9%	1.9%	2.6%	3.1%	2.0%
BHAR (1)	0.5%	0.3%	1.8%	2.3%	0.8%	1.6%	2.0%	1.9%	1.4%	2.0%	1.9%	1.1%	1.7%	2.3%	2.9%	1.8%

EW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		0.9%	2.0%	2.2%	2.8%	1.8%	2.3%	2.8%	2.9%	2.2%	2.8%	2.6%	2.5%	2.5%	2.7%	2.3%	2.0%
CAR (1)		1.3%	2.1%	2.4%	2.7%	1.9%	2.3%	2.6%	2.6%	2.3%	2.6%	2.3%	2.1%	2.3%	2.2%	1.8%	1.6%
BHAR (0)		1.1%	1.8%	2.4%	1.5%	1.9%	2.6%	2.7%	2.5%	2.3%	2.5%	2.7%	2.0%	2.5%	3.0%	2.2%	2.5%
BHAR (1)		1.4%	1.8%	2.4%	1.9%	2.1%	2.5%	2.7%	2.3%	2.2%	2.5%	2.6%	1.5%	2.4%	2.7%	1.8%	2.3%
SWITZERLANI)																
CAR (0)		1.0%	1.7%	2.1%	2.8%	1.7%	2.0%	2.8%	3.1%	2.0%	2.6%	2.7%	2.8%	2.5%	2.9%	2.7%	2.4%
CAR (1)		1.0%	1.6%	2.1%	2.6%	1.6%	1.9%	2.6%	2.6%	1.9%	2.4%	2.4%	2.3%	2.3%	2.5%	2.3%	1.9%
BHAR (0)		0.9%	1.6%	1.9%	2.8%	1.7%	2.3%	2.3%	4.5%	2.0%	2.2%	3.1%	2.9%	2.6%	3.6%	3.2%	2.9%
BHAR (1)		0.9%	1.3%	1.9%	2.6%	1.5%	2.1%	2.0%	3.9%	1.7%	1.9%	2.7%	2.1%	2.2%	3.1%	2.4%	2.6%
UK																	
CAR (0)		1.1%	2.1%	2.6%	3.3%	2.1%	2.5%	3.4%	3.7%	2.5%	3.2%	3.2%	3.3%	3.1%	3.5%	3.2%	2.8%
CAR (1)		1.2%	2.0%	2.5%	3.0%	2.0%	2.3%	3.0%	3.2%	2.3%	2.8%	2.8%	2.7%	2.8%	2.9%	2.6%	2.2%
BHAR (0)		1.0%	1.8%	2.6%	2.2%	2.1%	2.4%	2.6%	4.4%	2.5%	3.0%	3.4%	3.4%	2.9%	3.4%	3.2%	2.4%
BHAR (1)		1.1%	1.6%	2.3%	1.9%	1.9%	2.2%	2.4%	3.6%	2.3%	2.5%	2.7%	2.6%	2.5%	2.7%	2.2%	1.6%
US																	
CAR (0)		0.0%	0.2%	0.3%	0.2%	0.2%	0.5%	0.5%	0.0%	0.5%	0.5%	0.1%	-0.5%	0.3%	0.0%	-0.6%	-1.2%
CAR (1)		0.1%	0.4%	0.5%	0.1%	0.4%	0.6%	0.4%	-0.2%	0.6%	0.4%	-0.1%	-0.9%	0.1%	-0.2%	-0.9%	-1.5%
BHAR (0)		-0.1%	0.3%	0.1%	0.3%	0.2%	0.6%	-0.6%	1.2%	0.5%	0.2%	0.5%	-0.4%	0.4%	0.5%	-0.2%	-1.0%
BHAR (1)		0.1%	0.2%	0.0%	-0.1%	0.3%	0.6%	-0.7%	0.1%	0.5%	-0.1%	-0.2%	-1.2%	0.0%	-0.2%	-0.9%	-1.6%

$MW \qquad J =$		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRALIA																
CAR (0)	1.1%	2.3%	3.0%	3.3%	1.8%	2.7%	3.4%	3.4%	2.1%	2.8%	2.7%	2.2%	2.2%	2.5%	2.2%	1.7%
CAR (1)	1.2%	2.3%	2.9%	2.8%	1.9%	2.6%	3.0%	2.8%	2.0%	2.4%	2.3%	1.5%	1.9%	2.2%	1.7%	1.0%
BHAR (0)	1.3%	2.6%	2.4%	2.9%	2.0%	3.0%	1.6%	2.6%	2.3%	2.9%	2.5%	2.9%	2.3%	2.5%	0.8%	2.3%
BHAR (1)	1.5%	2.4%	2.0%	2.7%	2.0%	2.9%	1.3%	1.7%	1.7%	2.2%	1.8%	2.2%	1.7%	1.8%	0.3%	1.0%
AUSTRIA																
CAR (0)	0.2%	0.4%	0.7%	1.0%	0.7%	1.1%	1.5%	1.6%	1.1%	1.2%	1.4%	1.1%	1.0%	1.2%	1.0%	0.6%
CAR (1)	-0.1%	0.2%	0.6%	0.8%	0.8%	1.2%	1.4%	1.4%	1.0%	0.9%	1.2%	0.7%	0.6%	0.8%	0.6%	0.2%
BHAR (0)	-0.1%	0.3%	0.3%	-0.6%	0.6%	0.1%	0.6%	1.5%	1.4%	2.4%	1.6%	2.5%	1.3%	1.6%	1.2%	1.7%
BHAR (1)	-0.3%	-0.1%	0.3%	-0.2%	0.7%	0.7%	1.1%	1.5%	1.3%	1.9%	1.8%	1.6%	0.6%	1.0%	-0.2%	0.4%
BELGIUM																
CAR (0)	0.2%	0.9%	1.4%	1.9%	1.2%	2.2%	3.1%	3.1%	1.5%	2.3%	2.4%	2.2%	1.5%	2.2%	1.9%	1.5%
CAR (1)	0.4%	0.9%	1.6%	1.9%	1.2%	2.2%	2.9%	2.5%	1.5%	2.2%	2.2%	1.8%	1.7%	1.9%	1.7%	1.3%
BHAR (0)	0.3%	1.4%	-1.2%	2.4%	1.2%	1.8%	3.3%	3.5%	1.4%	3.8%	4.1%	3.8%	1.3%	1.5%	2.9%	0.4%
BHAR (1)	0.4%	1.0%	-0.6%	3.2%	1.1%	2.3%	3.3%	2.6%	1.4%	3.6%	3.7%	2.6%	1.3%	1.6%	2.3%	0.5%
CANADA																
CAR (0)	1.3%	2.4%	3.6%	4.4%	2.0%	3.1%	4.4%	5.0%	2.6%	4.0%	4.5%	4.2%	2.4%	3.2%	3.3%	2.5%
CAR (1)	1.3%	2.3%	3.8%	4.0%	1.9%	3.0%	4.1%	4.2%	2.9%	3.8%	4.2%	3.4%	2.3%	2.9%	2.7%	1.8%
BHAR (0)	1.3%	1.8%	3.5%	2.0%	1.8%	3.0%	4.7%	4.3%	2.6%	3.1%	4.1%	2.8%	2.3%	3.6%	3.1%	2.8%
BHAR (1)	1.4%	1.5%	3.7%	1.6%	1.9%	2.9%	4.2%	2.5%	2.7%	2.7%	3.2%	2.6%	1.8%	2.6%	2.0%	1.7%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	K																
CAR (0)		0.9%	1.8%	2.4%	3.1%	1.7%	2.4%	3.6%	4.5%	2.2%	3.2%	3.9%	4.5%	2.6%	3.6%	4.2%	4.1%
CAR (1)		0.8%	1.6%	2.4%	2.9%	1.7%	2.5%	3.6%	4.3%	2.2%	3.1%	3.7%	4.1%	2.4%	3.3%	3.6%	3.7%
BHAR (0)		0.7%	1.5%	1.8%	3.8%	1.5%	1.8%	1.9%	3.7%	1.6%	1.9%	3.2%	1.5%	2.0%	3.5%	3.3%	3.1%
BHAR (1)		0.8%	1.4%	2.6%	4.5%	2.0%	2.2%	2.1%	3.5%	2.0%	2.5%	3.3%	1.2%	2.1%	3.3%	2.9%	2.5%
FINLAND																	
CAR (0)		0.9%	2.0%	3.4%	4.4%	1.3%	2.6%	4.8%	5.3%	1.9%	3.8%	5.0%	5.7%	2.1%	3.7%	5.1%	5.1%
CAR (1)		1.0%	2.1%	3.7%	4.2%	1.4%	3.1%	4.8%	5.1%	2.3%	4.0%	5.0%	5.3%	2.1%	3.6%	4.9%	4.8%
BHAR (0)		0.5%	1.4%	4.7%	1.8%	0.9%	2.2%	6.4%	6.3%	2.0%	4.9%	2.9%	6.2%	2.2%	3.8%	6.3%	6.0%
BHAR (1)		1.1%	2.2%	5.3%	2.3%	1.5%	1.9%	5.7%	4.0%	1.8%	4.3%	2.4%	5.0%	1.9%	2.9%	5.7%	5.5%
FRANCE	,																
CAR (0)		-0.5%	0.0%	0.1%	0.8%	0.0%	0.2%	0.8%	1.1%	-0.1%	0.3%	0.7%	0.9%	0.5%	0.7%	1.0%	0.9%
CAR (1)		0.0%	0.4%	0.7%	1.0%	0.3%	0.7%	1.1%	1.3%	0.4%	0.5%	0.8%	1.0%	0.6%	0.9%	0.9%	0.8%
BHAR (0)		-0.5%	0.3%	0.6%	1.1%	-0.1%	0.4%	-0.1%	2.0%	-0.3%	-0.1%	-0.1%	0.4%	0.4%	1.2%	1.6%	2.1%
BHAR (1)		-0.3%	0.3%	0.0%	1.5%	0.1%	0.7%	-0.1%	2.1%	0.0%	-0.3%	0.7%	0.2%	0.5%	1.3%	1.8%	1.8%
GERMAN	Y												l l				
CAR (0)		0.6%	1.4%	2.3%	3.0%	1.3%	2.3%	3.3%	3.5%	2.0%	3.0%	3.1%	3.2%	2.1%	2.5%	2.7%	2.6%
CAR (1)		0.6%	1.6%	2.4%	2.9%	1.4%	2.4%	3.1%	3.1%	2.0%	2.8%	2.8%	2.7%	1.7%	2.1%	2.2%	2.1%
BHAR (0)		0.5%	2.0%	3.0%	2.9%	1.4%	3.0%	3.8%	5.0%	1.9%	2.7%	2.9%	4.3%	2.0%	2.8%	3.1%	2.2%
BHAR (1)		0.6%	1.6%	2.9%	2.3%	1.2%	2.7%	2.9%	3.6%	1.6%	2.2%	2.6%	2.3%	1.3%	2.2%	2.1%	1.2%

MW J	T =		3				6				9				12		
I	I =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		0.4%	1.1%	1.2%	1.4%	1.1%	1.3%	1.8%	1.5%	0.9%	1.3%	1.4%	1.4%	0.7%	1.2%	1.0%	0.8%
CAR (1)		0.4%	1.1%	1.0%	1.1%	1.1%	1.3%	1.5%	1.2%	0.8%	1.2%	1.1%	1.0%	0.6%	0.8%	0.6%	0.5%
BHAR (0)		0.9%	2.3%	1.7%	4.4%	1.1%	2.0%	1.0%	2.7%	1.6%	1.1%	2.2%	-0.5%	0.9%	0.8%	-0.4%	-2.1%
BHAR (1)		0.5%	2.2%	0.3%	4.9%	1.4%	1.6%	1.7%	2.0%	1.3%	0.9%	0.7%	-1.8%	1.1%	0.5%	-0.8%	-2.1%
HONGKONG													l l				
CAR (0)		0.9%	1.5%	1.7%	1.7%	1.1%	1.5%	1.6%	1.6%	1.0%	1.3%	1.3%	0.8%	0.7%	0.6%	0.2%	-0.3%
CAR (1)		0.7%	1.4%	1.4%	1.4%	1.3%	1.5%	1.5%	1.3%	0.9%	1.1%	1.0%	0.3%	0.7%	0.6%	0.0%	-0.4%
BHAR (0)		0.8%	0.6%	1.0%	-0.1%	1.4%	2.0%	2.1%	0.0%	1.1%	1.1%	1.3%	-0.4%	0.9%	1.3%	0.2%	1.2%
BHAR (1)		0.4%	0.5%	0.1%	-0.6%	1.1%	1.4%	1.5%	-1.0%	0.6%	0.6%	0.3%	0.1%	0.6%	0.8%	-0.8%	0.8%
IRELAND																	
CAR (0)		0.9%	1.5%	0.7%	1.3%	1.4%	1.4%	1.3%	1.6%	0.6%	0.9%	1.0%	1.3%	0.9%	0.5%	0.5%	0.4%
CAR (1)		1.1%	1.1%	0.6%	0.9%	1.3%	1.0%	0.9%	1.2%	0.4%	0.5%	0.7%	0.7%	0.0%	-0.1%	0.0%	-0.5%
BHAR (0)		0.7%	-2.2%	-2.2%	-2.8%	0.9%	2.1%	-2.2%	8.5%	0.1%	-0.1%	2.4%	3.6%	0.8%	0.3%	2.3%	0.5%
BHAR (1)		0.2%	-2.2%	-3.3%	-2.0%	0.8%	1.2%	-0.7%	6.8%	-0.1%	-0.6%	1.1%	0.9%	-0.7%	-0.3%	0.0%	-0.7%
ISRAEL																	
CAR (0)		0.7%	1.4%	1.9%	2.0%	1.1%	1.7%	1.9%	1.6%	1.6%	1.8%	1.7%	1.4%	1.3%	1.4%	1.2%	0.5%
CAR (1)		0.6%	1.3%	1.9%	1.5%	1.5%	1.9%	1.7%	1.4%	1.7%	1.5%	1.4%	0.7%	1.0%	1.0%	0.7%	-0.2%
BHAR (0)		0.1%	0.4%	1.6%	-0.1%	0.7%	1.6%	0.8%	3.1%	1.8%	2.6%	3.0%	5.8%	1.3%	1.5%	2.0%	1.7%
BHAR (1)		0.3%	0.6%	1.9%	0.2%	1.7%	2.1%	1.6%	2.5%	2.0%	2.0%	2.6%	4.8%	1.1%	1.3%	1.3%	2.1%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.2%	1.1%	1.5%	2.3%	0.8%	1.5%	2.3%	3.1%	1.1%	2.3%	3.0%	3.7%	1.9%	2.9%	3.4%	4.0%
CAR (1)		0.5%	1.4%	2.0%	2.6%	1.0%	1.6%	2.4%	3.1%	1.6%	2.4%	2.9%	3.8%	1.9%	2.8%	3.4%	3.9%
BHAR (0)		0.4%	0.7%	3.0%	2.9%	1.0%	1.2%	1.7%	3.4%	1.4%	1.2%	2.9%	1.0%	1.7%	3.2%	4.9%	4.9%
BHAR (1)		0.4%	1.1%	3.8%	3.5%	0.8%	0.9%	1.5%	3.6%	1.4%	1.8%	2.1%	0.5%	1.7%	3.1%	4.5%	4.7%
JAPAN									L								
CAR (0)		-0.1%	-0.3%	0.0%	0.1%	-0.3%	-0.3%	0.0%	-0.1%	-0.3%	-0.1%	-0.1%	-0.3%	-0.2%	-0.4%	-0.5%	-0.7%
CAR (1)		-0.1%	-0.1%	0.2%	0.1%	-0.1%	0.1%	0.3%	-0.1%	0.1%	0.2%	0.0%	-0.3%	-0.1%	-0.4%	-0.5%	-0.7%
BHAR (0)		-0.1%	0.1%	-0.4%	0.9%	0.0%	-0.3%	-0.2%	1.2%	-0.1%	0.1%	0.5%	0.7%	0.0%	0.1%	-1.2%	-0.4%
BHAR (1)		-0.1%	-0.6%	-1.4%	0.8%	-0.1%	-0.5%	-0.3%	0.8%	-0.2%	0.1%	0.1%	-0.2%	-0.3%	-0.7%	-1.9%	-1.4%
NETHERLA	NDS																
CAR (0)		0.3%	0.1%	0.6%	1.1%	0.2%	0.4%	1.2%	1.3%	0.2%	0.6%	0.7%	0.6%	0.2%	0.3%	0.4%	0.3%
CAR (1)		0.2%	0.0%	0.6%	0.8%	0.1%	0.6%	1.1%	1.0%	0.4%	0.6%	0.7%	0.4%	0.2%	0.2%	0.2%	0.3%
BHAR (0)		0.4%	0.0%	-0.2%	-0.2%	0.0%	-0.1%	0.3%	3.0%	0.0%	0.1%	1.1%	1.1%	0.1%	0.5%	0.4%	0.4%
BHAR (1)		0.2%	-0.7%	-0.8%	0.4%	-0.2%	-0.3%	0.1%	1.5%	0.1%	-0.3%	0.9%	-0.1%	0.2%	-0.1%	0.2%	0.1%
NEWZEALA	ND								1				l l				
CAR (0)		1.4%	2.3%	2.6%	3.2%	1.6%	2.2%	2.9%	3.0%	1.7%	2.3%	2.6%	2.8%	1.9%	2.5%	2.9%	2.8%
CAR (1)		1.0%	1.8%	2.3%	2.5%	1.3%	1.9%	2.6%	2.3%	1.5%	2.1%	2.3%	2.4%	1.7%	2.3%	2.5%	2.2%
BHAR (0)		1.1%	2.8%	1.4%	2.1%	1.6%	1.9%	3.1%	1.2%	2.2%	2.9%	3.4%	2.5%	1.6%	3.2%	2.8%	4.2%
BHAR (1)	-	0.7%	1.5%	0.3%	1.4%	1.0%	1.0%	2.5%	-0.1%	2.0%	2.5%	2.9%	1.7%	1.9%	2.6%	2.1%	4.2%

MW J	ſ =		3				6				9				12		
I	I =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY																	
CAR (0)		0.1%	0.4%	1.2%	1.7%	0.5%	1.6%	2.8%	3.0%	1.3%	2.4%	2.9%	2.9%	1.6%	2.3%	2.9%	2.6%
CAR (1)		0.1%	0.7%	1.6%	1.7%	0.9%	2.0%	2.9%	2.8%	1.5%	2.4%	2.7%	2.5%	1.3%	2.1%	2.5%	2.1%
BHAR (0)		0.1%	0.4%	1.3%	2.7%	0.4%	2.1%	3.8%	6.0%	1.7%	2.9%	1.7%	5.8%	1.5%	2.2%	2.3%	2.7%
BHAR (1)		0.1%	0.7%	1.9%	3.6%	1.0%	2.3%	3.9%	5.1%	1.7%	3.3%	1.7%	5.7%	1.3%	1.7%	2.6%	2.8%
PORTUGAL																	
CAR (0)		0.8%	1.3%	2.0%	2.1%	0.6%	0.8%	1.2%	1.3%	1.0%	1.3%	1.7%	1.5%	0.8%	1.0%	1.2%	1.3%
CAR (1)		1.0%	1.4%	2.1%	2.2%	0.5%	0.9%	1.2%	1.4%	0.9%	1.2%	1.4%	1.4%	0.6%	0.9%	1.0%	1.2%
BHAR (0)		0.8%	1.1%	0.4%	2.6%	0.8%	1.2%	1.1%	3.3%	0.7%	1.5%	3.3%	2.9%	0.6%	0.7%	-0.5%	1.5%
BHAR (1)		1.5%	1.9%	0.3%	2.9%	0.3%	1.6%	1.7%	2.8%	0.8%	1.1%	3.3%	2.1%	0.5%	0.6%	-0.1%	1.8%
SINGAPORE																	
CAR (0)		0.4%	0.5%	0.6%	0.4%	0.5%	0.5%	0.6%	0.2%	0.3%	0.2%	0.1%	-0.1%	0.4%	0.4%	0.3%	0.2%
CAR (1)		0.0%	0.4%	0.4%	0.2%	0.4%	0.6%	0.4%	0.0%	0.2%	0.3%	0.0%	-0.3%	0.4%	0.2%	0.2%	0.3%
BHAR (0)		0.2%	0.4%	1.8%	0.9%	0.7%	0.2%	0.5%	0.9%	0.6%	0.0%	1.1%	-1.3%	0.6%	1.0%	0.9%	1.3%
BHAR (1)		-0.1%	-0.5%	1.9%	0.4%	0.5%	0.1%	0.0%	1.0%	0.2%	0.3%	1.3%	-1.4%	0.6%	0.6%	-0.3%	1.5%
SPAIN													I				
CAR (0)		0.0%	0.0%	0.6%	1.3%	0.1%	0.2%	1.0%	1.9%	0.4%	0.8%	1.6%	2.5%	0.7%	1.6%	2.3%	2.9%
CAR (1)		0.0%	0.2%	1.0%	1.4%	0.1%	0.4%	1.3%	1.8%	0.4%	1.1%	1.9%	2.5%	1.0%	1.8%	2.6%	3.0%
BHAR (0)		-0.4%	-1.3%	-0.3%	-1.5%	-0.7%	0.1%	0.5%	1.8%	0.2%	0.3%	0.8%	1.0%	0.9%	2.5%	3.1%	3.5%
BHAR (1)		0.1%	-1.0%	0.4%	-0.4%	0.0%	0.7%	1.0%	1.7%	0.0%	0.3%	0.3%	0.1%	1.2%	2.3%	3.4%	3.2%

MW	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	1																
CAR (0)		1.2%	1.6%	1.5%	1.7%	1.1%	1.3%	1.5%	1.6%	0.8%	0.9%	0.8%	0.3%	0.5%	0.4%	-0.2%	-0.7%
CAR (1)		1.0%	1.2%	1.3%	1.1%	1.0%	1.2%	1.3%	1.2%	0.9%	0.9%	0.5%	-0.1%	0.2%	0.0%	-0.7%	-0.8%
BHAR (0)		1.2%	0.3%	2.6%	-1.6%	1.1%	2.0%	2.2%	1.2%	0.9%	0.4%	0.6%	-0.9%	0.2%	0.2%	-1.2%	0.3%
BHAR (1)		1.1%	0.2%	2.5%	-1.0%	0.9%	1.6%	1.9%	0.5%	0.7%	0.5%	-0.1%	-1.2%	0.0%	-0.4%	-1.5%	0.3%
SWITZERLA	AND																
CAR (0)		0.3%	0.9%	1.3%	2.1%	0.6%	1.0%	1.7%	1.8%	0.9%	1.5%	1.7%	1.6%	1.3%	1.8%	1.7%	1.7%
CAR (1)		0.5%	1.1%	1.6%	2.0%	0.6%	1.3%	1.7%	1.5%	1.1%	1.5%	1.6%	1.3%	1.0%	1.5%	1.4%	1.4%
BHAR (0)		0.1%	0.3%	0.2%	0.5%	0.4%	1.3%	1.2%	3.5%	0.8%	1.1%	2.0%	1.8%	1.2%	3.0%	2.4%	2.3%
BHAR (1)		0.2%	0.0%	0.4%	0.7%	0.6%	1.5%	0.7%	3.0%	0.7%	1.0%	1.4%	0.6%	0.8%	2.2%	2.3%	1.8%
UK																	
CAR (0)		0.1%	0.6%	1.0%	1.9%	0.3%	0.8%	1.8%	2.1%	0.6%	1.4%	2.0%	1.8%	0.7%	1.5%	1.7%	1.4%
CAR (1)		0.1%	0.7%	1.3%	1.9%	0.5%	1.1%	2.0%	1.9%	0.8%	1.6%	1.9%	1.4%	0.9%	1.6%	1.5%	1.0%
BHAR (0)		-0.1%	0.1%	0.3%	0.0%	0.4%	0.7%	1.2%	3.2%	0.7%	1.6%	2.0%	2.2%	0.6%	1.3%	1.9%	1.2%
BHAR (1)		-0.1%	0.1%	0.3%	0.9%	0.4%	0.8%	1.5%	2.4%	1.0%	1.8%	1.8%	1.3%	0.8%	1.1%	0.9%	0.3%
US													L				
CAR (0)		-0.2%	0.0%	0.5%	0.7%	0.0%	0.5%	1.0%	1.1%	0.5%	1.0%	1.1%	0.9%	0.5%	0.7%	0.6%	0.5%
CAR (1)		-0.1%	0.3%	0.8%	0.7%	0.3%	0.9%	1.2%	1.0%	0.8%	1.1%	1.1%	0.8%	0.5%	0.7%	0.5%	0.4%
BHAR (0)		-0.4%	-0.1%	-0.7%	0.8%	0.1%	0.4%	-0.2%	2.5%	0.6%	0.8%	1.5%	0.9%	0.6%	1.2%	0.7%	1.0%
BHAR (1)	-	-0.1%	-0.6%	-0.7%	0.6%	0.2%	0.7%	-0.2%	1.7%	0.8%	0.7%	1.0%	0.2%	0.3%	0.7%	0.3%	0.3%

IVOL J =		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRALIA																
CAR (0)	0.5%	1.4%	1.9%	2.2%	1.4%	1.8%	2.2%	1.9%	1.8%	2.3%	1.9%	1.4%	1.9%	1.9%	1.2%	0.6%
CAR (1)	0.7%	1.5%	2.0%	1.9%	1.5%	1.8%	2.0%	1.4%	1.9%	2.1%	1.5%	0.9%	1.6%	1.4%	0.7%	-0.1%
BHAR (0)	0.4%	1.2%	1.3%	1.1%	1.5%	1.2%	0.8%	0.8%	1.9%	2.4%	2.5%	1.6%	1.8%	1.6%	1.0%	1.3%
BHAR (1)	0.8%	1.4%	1.4%	1.9%	1.7%	1.6%	1.3%	1.1%	1.9%	2.1%	1.8%	0.9%	1.5%	1.0%	-0.1%	0.3%
AUSTRIA																
CAR (0)	0.8%	1.3%	2.0%	2.6%	1.1%	1.8%	2.8%	3.6%	1.8%	2.7%	3.3%	3.6%	2.1%	2.9%	3.1%	3.0%
CAR (1)	0.6%	1.0%	1.7%	2.2%	1.2%	1.8%	2.7%	3.1%	1.8%	2.5%	3.0%	3.0%	1.9%	2.5%	2.7%	2.4%
BHAR (0)	0.6%	0.8%	1.8%	2.0%	1.2%	1.5%	2.1%	4.0%	1.9%	2.9%	2.9%	4.0%	2.0%	2.5%	2.8%	1.9%
BHAR (1)	0.6%	0.5%	1.7%	1.0%	1.2%	2.1%	2.8%	3.9%	1.6%	2.4%	2.8%	3.4%	1.9%	2.5%	2.2%	1.5%
BELGIUM																
CAR (0)	0.7%	1.4%	2.0%	2.7%	1.5%	2.4%	3.5%	4.0%	2.0%	3.1%	3.5%	3.9%	2.7%	3.6%	3.8%	3.8%
CAR (1)	0.8%	1.4%	2.0%	2.5%	1.6%	2.5%	3.4%	3.8%	2.3%	3.0%	3.3%	3.6%	2.7%	3.4%	3.5%	3.4%
BHAR (0)	0.6%	0.8%	0.7%	1.7%	1.4%	2.3%	3.2%	4.5%	2.2%	3.5%	4.0%	4.8%	2.8%	3.3%	4.4%	2.8%
BHAR (1)	0.7%	1.2%	1.8%	1.7%	1.5%	2.4%	3.0%	4.1%	2.3%	3.1%	3.9%	3.3%	2.6%	3.1%	3.8%	2.3%
CANADA																
CAR (0)	1.0%	1.5%	2.2%	2.9%	1.6%	2.2%	3.2%	3.2%	2.2%	2.9%	2.9%	2.4%	2.6%	2.6%	2.1%	1.3%
CAR (1)	0.9%	1.5%	2.4%	2.4%	1.6%	2.2%	3.0%	2.5%	2.3%	2.7%	2.4%	1.6%	2.2%	2.0%	1.4%	0.4%
BHAR (0)	1.0%	0.9%	2.3%	2.3%	1.4%	2.1%	2.4%	3.5%	1.9%	2.6%	2.6%	2.6%	2.4%	2.3%	2.2%	1.0%
BHAR (1)	0.9%	0.8%	2.4%	1.6%	1.5%	2.5%	2.2%	2.6%	2.0%	2.2%	2.0%	2.3%	1.9%	1.7%	1.7%	0.4%

IVOL J =		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARK																
CAR (0)	1.0%	2.1%	2.7%	3.7%	1.9%	2.7%	3.8%	4.4%	2.5%	3.5%	3.9%	4.2%	3.3%	4.0%	4.2%	4.0%
CAR (1)	1.0%	2.0%	2.8%	3.5%	1.9%	2.6%	3.6%	4.0%	2.5%	3.3%	3.5%	3.6%	3.0%	3.5%	3.5%	3.3%
BHAR (0)	1.0%	1.8%	2.0%	3.0%	1.8%	2.3%	3.2%	5.4%	2.4%	3.0%	4.3%	3.7%	3.3%	4.2%	4.2%	3.2%
BHAR (1)	0.9%	1.8%	2.4%	3.2%	1.9%	2.3%	3.0%	4.7%	2.5%	3.0%	3.9%	2.9%	3.1%	3.5%	3.7%	2.2%
FINLAND																
CAR (0)	0.7%	1.3%	2.1%	2.4%	1.4%	2.0%	2.9%	2.9%	1.9%	2.5%	2.5%	2.3%	1.9%	2.1%	2.2%	2.0%
CAR (1)	0.8%	1.4%	2.1%	2.2%	1.4%	2.0%	2.7%	2.4%	1.9%	2.3%	2.2%	1.7%	1.7%	1.8%	1.8%	1.6%
BHAR (0)	0.3%	0.7%	2.0%	1.3%	1.1%	1.8%	2.5%	4.5%	1.8%	2.0%	2.3%	1.6%	1.8%	2.7%	3.0%	3.2%
BHAR (1)	1.0%	0.8%	2.7%	1.0%	1.6%	2.0%	2.3%	3.8%	1.9%	1.8%	1.9%	1.5%	1.8%	2.1%	2.0%	2.4%
FRANCE																
CAR (0)	0.0%	0.6%	0.9%	1.6%	0.6%	1.2%	1.9%	2.2%	1.0%	1.7%	2.1%	2.3%	1.6%	2.1%	2.1%	2.0%
CAR (1)	0.3%	0.7%	0.8%	1.3%	0.8%	1.3%	2.0%	2.0%	1.4%	1.9%	2.1%	2.0%	1.6%	2.0%	1.9%	1.8%
BHAR (0)	0.1%	-0.6%	1.3%	-2.5%	0.6%	0.7%	1.3%	0.1%	0.9%	1.4%	2.7%	3.0%	1.6%	2.1%	2.9%	2.2%
BHAR (1)	0.1%	-0.3%	0.9%	-1.7%	0.8%	1.3%	1.7%	2.3%	1.1%	1.4%	2.6%	1.7%	1.6%	1.9%	2.3%	1.8%
GERMANY																
CAR (0)	0.9%	1.5%	2.0%	2.6%	1.5%	2.2%	3.2%	3.6%	2.0%	2.8%	3.2%	3.3%	2.6%	3.0%	3.1%	3.1%
CAR (1)	1.0%	1.5%	2.0%	2.4%	1.6%	2.2%	3.0%	3.2%	2.0%	2.7%	2.8%	2.9%	2.4%	2.7%	2.7%	2.8%
BHAR (0)	0.8%	0.9%	1.9%	-1.6%	1.5%	2.2%	3.5%	4.0%	2.0%	2.8%	3.2%	3.1%	2.4%	3.0%	3.3%	2.8%
BHAR (1)	1.1%	1.1%	3.1%	1.1%	1.4%	2.2%	3.2%	3.4%	1.9%	2.4%	2.7%	2.1%	2.2%	2.6%	2.6%	2.8%

IVOL J =		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																
CAR (0)	0.4%	0.9%	0.8%	0.7%	0.7%	0.8%	0.9%	0.5%	0.7%	0.8%	0.2%	-0.5%	0.5%	0.1%	-0.5%	-1.1%
CAR (1)	0.4%	0.8%	0.7%	0.5%	0.8%	0.9%	0.8%	0.3%	0.9%	0.7%	0.0%	-0.7%	0.4%	-0.1%	-0.7%	-1.4%
BHAR (0)	0.2%	1.4%	0.6%	3.1%	0.8%	1.3%	0.7%	1.6%	0.8%	1.0%	-0.3%	-0.2%	0.4%	-0.5%	-0.4%	-3.3%
BHAR (1)	0.6%	1.6%	0.7%	3.6%	0.8%	0.9%	0.5%	0.9%	1.0%	0.8%	0.0%	-1.1%	0.6%	-0.7%	-1.0%	-2.8%
HONGKONG												l l				
CAR (0)	0.4%	0.8%	0.7%	0.3%	0.7%	0.8%	0.4%	-0.4%	0.6%	0.2%	-0.3%	-1.4%	0.1%	-0.4%	-1.4%	-2.2%
CAR (1)	0.4%	0.8%	0.5%	-0.1%	0.9%	0.8%	0.1%	-0.9%	0.4%	0.0%	-0.8%	-1.9%	-0.2%	-0.7%	-1.8%	-2.6%
BHAR (0)	0.4%	0.3%	-0.4%	0.0%	0.7%	0.9%	0.1%	-0.1%	0.6%	0.0%	-0.2%	-1.4%	-0.1%	-0.1%	-1.5%	-1.4%
BHAR (1)	0.2%	-0.1%	-0.4%	-0.9%	0.5%	0.7%	-0.1%	-1.0%	0.1%	-0.4%	-0.7%	-1.9%	-0.6%	-0.4%	-1.8%	-1.8%
IRELAND																
CAR (0)	0.6%	1.0%	1.3%	1.8%	1.1%	1.3%	2.0%	2.4%	1.0%	1.6%	1.8%	2.1%	1.5%	1.8%	1.9%	1.8%
CAR (1)	0.7%	0.9%	1.2%	1.5%	1.0%	1.3%	1.8%	1.9%	1.0%	1.3%	1.7%	1.6%	1.3%	1.6%	1.5%	1.2%
BHAR (0)	0.7%	-0.4%	-1.2%	0.4%	0.9%	1.7%	0.3%	5.5%	1.4%	2.0%	2.6%	4.7%	1.7%	2.6%	3.5%	0.9%
BHAR (1)	0.4%	-0.4%	-1.1%	1.3%	0.8%	1.4%	0.5%	4.4%	0.6%	1.8%	1.7%	2.7%	1.1%	2.0%	2.3%	0.1%
ISRAEL																
CAR (0)	0.0%	-0.1%	-0.2%	-0.5%	0.3%	0.4%	0.0%	-0.5%	0.4%	0.3%	0.0%	-0.5%	0.6%	0.5%	0.2%	-0.3%
CAR (1)	0.1%	0.1%	-0.3%	-0.7%	0.5%	0.4%	-0.1%	-0.7%	0.5%	0.2%	-0.3%	-0.9%	0.4%	0.3%	-0.1%	-0.7%
BHAR (0)	0.1%	-0.5%	-1.0%	-1.1%	0.1%	0.0%	-0.6%	0.9%	0.4%	0.3%	0.3%	1.3%	0.5%	0.6%	0.0%	-0.8%
BHAR (1)	0.2%	-0.2%	-1.2%	-1.4%	0.6%	0.6%	0.0%	0.9%	0.3%	0.0%	-0.2%	0.4%	0.5%	0.4%	-0.2%	-1.5%

IVOL	J =		3				6				9				12		
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.7%	1.3%	2.2%	2.8%	1.2%	2.0%	2.9%	3.4%	1.9%	2.7%	3.0%	3.3%	2.2%	2.9%	3.1%	3.0%
CAR (1)		0.7%	1.4%	2.1%	2.6%	1.3%	2.0%	2.8%	3.1%	2.0%	2.6%	2.7%	2.9%	2.1%	2.6%	2.7%	2.6%
BHAR (0)		0.6%	1.3%	2.4%	2.7%	1.1%	2.0%	2.6%	2.9%	1.8%	2.6%	3.3%	2.7%	1.9%	2.4%	3.4%	2.4%
BHAR (1)		0.6%	1.3%	3.0%	2.9%	1.2%	1.9%	2.7%	2.5%	1.9%	2.3%	2.7%	1.6%	1.9%	2.4%	3.0%	2.5%
JAPAN																	
CAR (0)		-0.1%	-0.4%	-0.4%	-0.1%	-0.4%	-0.5%	-0.3%	-0.5%	-0.4%	-0.3%	-0.4%	-0.9%	-0.2%	-0.5%	-0.8%	-1.2%
CAR (1)		0.0%	-0.3%	-0.1%	-0.1%	-0.2%	-0.2%	-0.1%	-0.6%	-0.1%	-0.1%	-0.4%	-0.9%	-0.1%	-0.6%	-0.9%	-1.3%
BHAR (0)		-0.2%	0.1%	-0.2%	0.5%	-0.3%	-0.5%	-0.4%	0.7%	-0.3%	-0.1%	0.2%	-0.3%	-0.1%	-0.4%	-0.8%	-1.2%
BHAR (1)		-0.1%	0.1%	-0.3%	0.6%	-0.4%	-0.9%	-0.3%	0.1%	-0.3%	0.1%	-0.1%	-0.7%	-0.2%	-0.9%	-1.4%	-1.5%
NETHERLA	NDS																
CAR (0)		0.8%	1.5%	2.2%	2.8%	1.5%	2.1%	3.1%	3.6%	1.9%	2.9%	3.2%	3.7%	2.5%	3.0%	3.4%	3.6%
CAR (1)		0.7%	1.5%	2.2%	2.5%	1.4%	2.2%	2.9%	3.2%	2.0%	2.8%	3.0%	3.3%	2.3%	2.8%	3.1%	3.3%
BHAR (0)		0.9%	1.5%	2.3%	1.5%	1.6%	2.4%	2.8%	5.4%	1.8%	2.4%	3.9%	4.5%	2.2%	2.9%	3.4%	3.7%
BHAR (1)		0.8%	1.3%	1.7%	1.3%	1.3%	2.2%	2.7%	4.3%	2.0%	2.2%	3.8%	3.7%	2.0%	2.5%	3.2%	3.5%
NEWZEALA	ND												l .				
CAR (0)		1.7%	2.9%	3.3%	4.1%	2.2%	2.9%	3.7%	4.2%	2.4%	3.2%	3.4%	3.8%	2.8%	3.4%	3.5%	3.3%
CAR (1)		1.6%	2.6%	3.1%	3.5%	2.1%	2.7%	3.4%	3.6%	2.3%	3.0%	3.1%	3.2%	2.5%	3.0%	3.1%	2.8%
BHAR (0)		1.6%	2.4%	3.0%	1.4%	2.5%	3.1%	3.4%	4.2%	2.8%	3.4%	4.0%	4.8%	2.9%	3.6%	3.2%	3.7%
BHAR (1)		1.6%	2.1%	2.2%	1.5%	2.4%	2.6%	3.0%	3.2%	2.7%	3.3%	3.8%	4.4%	2.7%	2.9%	2.7%	3.7%

IVOL J =		3				6				9				12		
H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY																
CAR (0)	0.7%	1.2%	2.0%	2.4%	1.2%	1.7%	2.6%	2.6%	1.9%	2.5%	2.5%	2.1%	2.2%	2.1%	1.9%	1.3%
CAR (1)	0.5%	1.2%	1.8%	1.9%	1.2%	1.9%	2.6%	2.1%	1.9%	2.4%	2.1%	1.5%	1.7%	1.5%	1.3%	0.7%
BHAR (0)	0.7%	1.3%	2.4%	2.9%	1.1%	1.9%	2.4%	5.1%	2.2%	2.6%	2.6%	3.6%	2.1%	2.3%	2.4%	1.0%
BHAR (1)	0.5%	1.3%	2.1%	1.8%	1.2%	2.0%	2.3%	3.7%	2.2%	2.5%	2.4%	3.4%	1.8%	1.7%	2.4%	0.5%
PORTUGAL																
CAR (0)	0.2%	0.9%	1.4%	1.6%	0.9%	1.5%	2.2%	2.3%	1.4%	1.8%	1.9%	1.8%	1.4%	1.5%	1.6%	1.5%
CAR (1)	0.2%	0.9%	1.5%	1.5%	0.9%	1.5%	1.9%	1.9%	1.3%	1.6%	1.6%	1.4%	1.3%	1.4%	1.4%	1.2%
BHAR (0)	0.0%	1.3%	1.2%	1.9%	0.8%	1.0%	2.1%	2.0%	1.0%	2.3%	2.2%	2.6%	1.5%	1.7%	1.4%	0.3%
BHAR (1)	0.2%	2.1%	2.3%	3.2%	0.5%	1.8%	2.2%	1.6%	1.1%	1.7%	1.4%	1.3%	1.0%	1.4%	1.5%	0.3%
SINGAPORE																
CAR (0)	0.5%	1.3%	1.5%	1.3%	1.0%	1.3%	1.4%	1.0%	1.1%	1.2%	1.0%	0.5%	0.9%	0.8%	0.5%	0.0%
CAR (1)	0.5%	1.2%	1.3%	1.1%	1.0%	1.2%	1.1%	0.8%	1.0%	1.0%	0.6%	0.1%	0.7%	0.5%	0.0%	-0.2%
BHAR (0)	0.4%	0.1%	1.6%	1.2%	1.2%	1.5%	0.9%	1.9%	1.2%	1.1%	1.8%	0.3%	1.1%	1.5%	1.0%	0.5%
BHAR (1)	0.5%	0.2%	1.8%	0.9%	1.2%	1.6%	0.7%	2.3%	1.0%	0.9%	1.7%	0.2%	0.9%	1.3%	0.1%	0.6%
SPAIN																
CAR (0)	0.5%	0.8%	1.5%	2.0%	0.8%	1.4%	2.2%	2.5%	1.5%	2.2%	2.6%	3.0%	1.8%	2.4%	2.8%	2.8%
CAR (1)	0.5%	0.8%	1.5%	1.9%	0.9%	1.5%	2.0%	2.2%	1.6%	2.2%	2.6%	2.7%	1.7%	2.2%	2.5%	2.5%
BHAR (0)	0.4%	0.3%	1.5%	2.2%	0.6%	1.6%	2.9%	2.2%	1.6%	2.5%	3.1%	2.4%	1.8%	2.5%	3.3%	2.4%
BHAR (1)	0.3%	0.3%	1.5%	1.5%	0.7%	1.8%	2.1%	1.6%	1.4%	2.2%	2.3%	1.3%	1.6%	2.0%	3.2%	1.9%

IVOL J =	:		3				6				9				12		
Н	=	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)	1.0	%	1.8%	2.3%	3.1%	1.8%	2.3%	3.0%	3.3%	2.3%	2.9%	2.9%	2.9%	2.5%	2.6%	2.3%	2.2%
CAR (1)	1.0	%	1.8%	2.3%	2.9%	1.7%	2.2%	2.7%	2.7%	2.3%	2.7%	2.5%	2.4%	2.1%	2.2%	1.8%	1.8%
BHAR (0)	1.3	%	1.6%	3.0%	1.5%	2.0%	2.7%	3.4%	3.3%	2.4%	2.6%	2.9%	2.5%	2.4%	3.1%	2.4%	2.9%
BHAR (1)	1.2	%	1.3%	2.1%	2.6%	2.0%	2.6%	3.6%	2.8%	2.3%	2.8%	2.8%	2.0%	2.2%	2.6%	1.8%	2.6%
SWITZERLAND																	
CAR (0)	0.8	%	1.4%	1.8%	2.6%	1.3%	1.7%	2.5%	2.9%	1.6%	2.3%	2.6%	2.7%	2.2%	2.7%	2.7%	2.5%
CAR (1)	0.7	%	1.2%	1.8%	2.2%	1.2%	1.6%	2.3%	2.5%	1.6%	2.2%	2.4%	2.3%	2.0%	2.4%	2.3%	2.0%
BHAR (0)	0.8	%	1.3%	1.4%	2.5%	1.3%	1.9%	2.2%	4.5%	1.7%	2.1%	3.0%	3.0%	2.3%	3.3%	3.2%	2.6%
BHAR (1)	0.6	%	0.8%	1.2%	2.2%	1.1%	1.5%	1.8%	3.8%	1.4%	1.8%	2.6%	1.9%	1.9%	2.8%	2.5%	2.4%
UK																	
CAR (0)	1.1	%	2.1%	2.7%	3.6%	2.0%	2.6%	3.6%	4.2%	2.4%	3.3%	3.5%	3.6%	3.0%	3.6%	3.4%	3.2%
CAR (1)	1.1	%	2.0%	2.6%	3.3%	1.8%	2.4%	3.3%	3.5%	2.2%	3.0%	3.0%	3.0%	2.7%	3.1%	2.8%	2.5%
BHAR (0)	1.0	%	1.8%	3.1%	2.7%	1.9%	2.4%	2.7%	4.9%	2.2%	2.9%	3.7%	3.7%	2.7%	41.4%	41.7%	22.6%
BHAR (1)	1.2	%	1.3%	3.0%	2.5%	1.7%	2.3%	2.7%	4.3%	2.2%	2.7%	3.4%	3.0%	2.5%	2.9%	2.8%	1.9%
US																	
CAR (0)	-0.2	%	-0.1%	0.1%	0.1%	-0.1%	0.3%	0.5%	0.2%	0.3%	0.5%	0.3%	-0.2%	0.1%	0.1%	-0.3%	-0.8%
CAR (1)	-0.1	%	0.2%	0.4%	0.1%	0.2%	0.6%	0.5%	0.1%	0.5%	0.5%	0.2%	-0.4%	0.1%	0.0%	-0.5%	-0.9%
BHAR (0)	-0.3	%	-0.1%	-0.2%	0.0%	0.0%	0.5%	-0.5%	1.5%	0.3%	0.3%	0.8%	0.1%	0.3%	0.6%	0.3%	-0.6%
BHAR (1)	-0.1	%	-0.1%	-0.3%	-0.1%	0.2%	0.5%	-0.6%	0.5%	0.4%	0.1%	0.1%	-0.6%	0.0%	0.1%	-0.4%	-1.1%

Table 8.1. Risk-adjusted return (intercept in the three-factor model) of time-series momentum strategy

This table reports the average monthly risk-adjusted returns (Fama-French alpha) after accounting for the transaction costs for 16 (J x H) time-series momentum strategies across the 24 stock markets along with an indication of significant level based on the Newey–West adjusted t-statistics. The results all relate to an implementation in which the cut-offs for selecting the stocks to be included in the cross-sectional momentum portfolios were set at 16%.

We run the three-factor regression model, $MR_i - Rf_i = \alpha_i + \beta 1_i (Rm_i - Rf_i) + \beta 2_i SMB_i + \beta 3_i HML_i$ where MR_i is momentum return after accounting for the transaction costs at month t (from Chapter seven), Rf_i is the risk-free rate at month t, Rm_i is market-weighted index at month t, SMB_i is 'small minus big' at month t, which is calculated by the market average return for the smallest 30% of stocks minus the market average return of the largest 30% of stocks in that month. HML_i is 'high minus low' at month t, which is calculated as the market average return for 50% of stocks with the highest book-to-market ratio minus market average return for 50% of stocks with the lowest book-to-market ratio.

Panel A. The time-series momentum using equal-weighted return

EW	J =		3		ilici A. I		6			. 1	9				1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRA	LIA																
CAR (0)		-2.64%	-1.41%	-1.06%	-0.92%	-1.81%	-1.30%	-0.99%	-0.99%	-1.51%	-1.05%	-1.01%	-1.06%	-1.45%	-1.27%	-1.23%	-1.28%
		-10.6014	-7.4386	-7.0819	-7.3202	-6.2266	-5.6492	-5.2481	-5.9221	-5.4837	-4.5261	-4.9749	-5.7000	-5.0471	-5.1187	-5.5172	-6.2019
CAR (1)		-2.17%	-1.19%	-0.93%	-0.90%	-1.63%	-1.20%	-1.04%	-1.05%	-1.37%	-1.08%	-1.11%	-1.17%	-1.62%	-1.39%	-1.39%	-1.40%
		-9.4225	-6.7549	-6.8192	-7.4972	-6.1305	-5.6982	-5.9832	-6.5606	-5.3384	-4.9454	-5.6686	-6.4206	-5.7247	-5.7028	-6.3442	-6.9139
BHAR (0)		-2.46%	-1.37%	-1.13%	-0.93%	-1.79%	-1.29%	-1.40%	-1.37%	-1.55%	-1.14%	-0.98%	-0.97%	-1.80%	-1.60%	-1.35%	-1.24%
		-6.4911	-4.1509	-3.6832	-3.0509	-4.9891	-3.9019	-4.2035	-4.8483	-5.0812	-3.5983	-3.2825	-3.2511	-4.9574	-4.6549	-3.5836	-3.0150
BHAR (1)		-2.33%	-1.61%	-1.29%	-1.02%	-1.79%	-1.31%	-1.82%	-1.58%	-1.80%	-1.52%	-0.99%	-1.26%	-2.06%	-1.68%	-1.72%	-1.67%
-		-5.3097	-4.0646	-4.2320	-3.3305	-4.1484	-3.8689	-4.3816	-4.7156	-4.6555	-4.0636	-3.2050	-3.5512	-5.0620	-4.2089	-4.4967	-4.2086
AUSTRI	A																
CAR (0)		-0.70%	-0.22%	-0.06%	0.02%	-0.48%	-0.08%	0.21%	0.15%	-0.06%	0.21%	0.17%	0.06%	0.16%	0.21%	0.12%	-0.13%
		-2.1225	-0.8074	-0.2591	0.0824	-1.1142	-0.2348	0.6456	0.5206	-0.1385	0.5716	0.5202	0.1945	0.3705	0.5495	0.3381	-0.4065
CAR (1)		-0.17%	-0.07%	0.07%	0.04%	-0.35%	-0.02%	0.22%	0.09%	0.22%	0.19%	0.14%	0.00%	0.05%	0.08%	-0.03%	-0.28%
		-0.4980	-0.2440	0.2745	0.2041	-0.8229	-0.0470	0.6784	0.2993	0.5566	0.5246	0.4275	0.0111	0.1198	0.2139	-0.0830	-0.8800
BHAR (0)		-0.30%	-0.20%	-0.27%	-0.26%	-0.21%	-0.12%	0.07%	0.27%	-0.04%	-0.21%	-0.05%	0.21%	-0.17%	-0.46%	-0.16%	-0.70%
		-0.6295	-0.4751	-0.5709	-0.6026	-0.4051	-0.2432	0.1497	0.6825	-0.0851	-0.3684	-0.1268	0.3970	-0.3141	-0.8992	-0.3208	-1.3802
BHAR (1)		0.35%	-0.22%	-0.12%	-0.31%	-0.04%	-0.25%	-0.01%	0.23%	-0.35%	-0.60%	-0.04%	-0.06%	-0.31%	-0.47%	-0.63%	-0.61%
		0.7483	-0.5382	-0.2404	-0.7378	-0.0857	-0.4971	-0.0252	0.5944	-0.7124	-1.0359	-0.0899	-0.1185	-0.5956	-0.9192	-1.2523	-1.2103
BELGIU	M																
CAR (0)		-0.37%	0.15%	0.25%	0.27%	0.14%	0.30%	0.42%	0.31%	0.21%	0.50%	0.39%	0.30%	0.48%	0.53%	0.46%	0.31%
~.~		-1.4172	0.7292	1.4005	1.6664	0.4504	1.0708	1.7034	1.3764	0.6487	1.7491	1.4590	1.1930	1.3277	1.5937	1.5053	1.1087
CAR (1)		-0.01%	0.20%	0.34%	0.28%	0.22%	0.33%	0.38%	0.24%	0.36%	0.46%	0.36%	0.24%	0.65%	0.49%	0.43%	0.25%
D*** D (0)		-0.0461	0.9870	1.9320	1.7375	0.7278	1.1873	1.5638	1.0530	1.0942	1.5960	1.3377	0.9467	1.7518	1.5037	1.4122	0.9064
BHAR (0)		-0.13%	0.05%	-0.01%	0.21%	0.07%	0.16%	0.13%	0.39%	0.19%	0.69%	0.54%	0.63%	0.54%	0.51%	0.41%	0.02%
DIVID (1)		-0.3786	0.1365	-0.0402	0.5735	0.1824	0.3940	0.3778	1.0857	0.5047	1.7500	1.4448	1.6997	1.4734	1.4035	1.1988	0.0528
BHAR (1)		-0.24%	-0.25%	-0.06%	0.12%	0.21%	0.00%	-0.03%	0.35%	0.16%	0.62%	0.53%	0.40%	0.38%	0.45%	0.20%	-0.08%
CANAD		-0.7311	-0.6657	-0.1982	0.3312	0.5506	-0.0101	-0.0782	0.9862	0.3967	1.5374	1.4167	1.0819	1.0363	1.2884	0.5860	-0.2301
CAR (0)	A	-2.10%	-0.83%	0.260/	-0.19%	-1.19%	-0.54%	-0.19%	-0.28%	-0.72%	-0.34%	-0.40%	-0.54%	-0.66%	-0.61%	-0.67%	-0.86%
CAR (0)		-6.9833	- 0.83 %	-0.36% -1.7799	-0.19% -1.1410	-1.19% -3.6106	-0.54% -1.8815	-0.19% -0.7624	-0.28% -1.2283	-0.72% -2.0273	-0.34% -1.0675	-0.40% -1.3841	-0.54% -2.0422	-0.66% -1.8307	-0.61% -1.9070	-0.67% -2.2204	-0.86% -3.0400
CAP (1)			-0.73%	-0.27%	-0.25%	-1.07%	-1.0013 - 0.47%	-0.7024	-1.2283 -0.43%	-2.02/3 - 0.67%	-0.45%	-0.57%	-2.0422	-0.92%	-0.86%	-2.2204	-3.0400 - 1.09%
CAR (1)		-1.86% -6.6421	-0.75% -3.1898	-0.27% -1.3662	-0.25% -1.5160	-3.2616	-0.47% -1.6266	-0.23% -0.9216	-0.45% -1.9257	-0.67% -1.8948	-0.45% -1.4497	-0.57% -1.9825	-0.74% -2.8418	-0.92% -2.6402	-0.86% -2.7279	-0.88% -2.9582	-1.09% -3.9173
DHAD (0)			-3.1898 - 1.05%	-1.3002 - 0.50%	-1.3160 - 0.30%	-3.2010 - 1.64%	-1.0200 -1.12%	-0.9216 - 0.40%	-1.925/ - 0.64%	-1.8948 - 0.74%	-1.449/ - 0.47%	-1.9823 - 0.61%	-2.8418 - 0.63%	-2.6402 - 0.69%	-2./2/9 - 0.88%	-2.9382 - 0.82%	-3.91/3 - 0.88%
BHAR (0)		-2.22%					-1.12% -2.6165		-0.64% -1.7839				-0.63 % -1.4970				
DHAD (1)		-4.5474 1 920/	-2.4536	-1.2824	-0.8076	-3.5356		-0.9241		-1.6905	-1.0371	-1.5349		-1.6421	-2.2982	-2.0753	-2.3215
BHAR (1)		-1.83%	-0.84%	-0.41%	-0.47%	-1.28%	-0.80%	-0.43%	-0.77%	-0.53%	-0.42%	-0.55%	-0.51%	-0.96%	-1.14% 2.8543	-1.14%	-1.31%
		-4.0072	-2.1318	-1.1540	-1.2442	-2.7166	-1.7321	-0.9884	-2.1762	-1.1988	-0.9776	-1.4500	-1.3082	-2.3017	-2.8543	-2.9342	-3.3591

EW	J =		3				6	j			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAI	RK																
CAR (0)		-0.66%	0.15%	0.33%	0.32%	0.21%	0.44%	0.50%	0.34%	0.28%	0.58%	0.37%	0.20%	0.27%	0.54%	0.38%	0.26%
		-2.4702	0.7394	1.8224	1.8743	0.6477	1.5026	1.9061	1.3676	0.7558	1.8254	1.2764	0.7423	0.7673	1.6924	1.3030	0.9511
CAR (1)		-0.46%	0.23%	0.35%	0.26%	0.06%	0.36%	0.35%	0.16%	0.36%	0.50%	0.22%	0.08%	0.33%	0.44%	0.25%	0.15%
		-1.9134	1.1264	1.9444	1.5029	0.1759	1.2131	1.3051	0.6348	1.0480	1.6220	0.7724	0.2883	0.9703	1.3900	0.8695	0.5258
BHAR (0)		-0.81%	-0.39%	-0.22%	-0.32%	0.08%	0.62%	0.55%	0.82%	0.53%	0.21%	0.51%	0.16%	0.28%	0.65%	0.02%	-0.03%
		-2.2175	-0.9710	-0.5831	-0.7264	0.2090	1.6298	1.6328	2.6178	1.3802	0.4780	1.5270	0.4818	0.7032	1.6584	0.0618	-0.0854
BHAR (1)		-0.51%	0.04%	-0.17%	-0.23%	0.03%	0.57%	0.29%	0.61%	0.63%	0.52%	0.49%	0.20%	0.34%	0.61%	0.04%	-0.08%
		-1.4815	0.1061	-0.4392	-0.5119	0.0783	1.4310	0.8081	1.8987	1.5209	1.1698	1.4703	0.5991	0.8330	1.4715	0.1125	-0.1894
FINLAN	D																
CAR (0)		-0.68%	-0.40%	-0.06%	-0.04%	-0.08%	0.14%	0.28%	0.17%	0.20%	0.44%	0.22%	-0.03%	0.35%	0.20%	-0.07%	-0.21%
		-1.7225	-1.2569	-0.2007	-0.1364	-0.1827	0.3794	0.8357	0.5472	0.4086	0.9386	0.5086	-0.0659	0.6686	0.4246	-0.1592	-0.5113
CAR (1)		-0.53%	-0.25%	0.00%	0.00%	-0.16%	0.24%	0.15%	0.12%	0.06%	0.25%	-0.01%	-0.19%	0.13%	-0.08%	-0.27%	-0.33%
		-1.4341	-0.7545	0.0075	-0.0168	-0.3915	0.6306	0.4330	0.3784	0.1161	0.5258	-0.0284	-0.4964	0.2590	-0.1667	-0.6062	-0.8472
BHAR (0)		-0.84%	-0.96%	0.09%	0.24%	-0.32%	0.07%	-0.58%	-0.09%	-0.04%	0.01%	0.16%	-0.47%	0.37%	0.88%	-0.02%	0.12%
		-1.5801	-1.7579	0.1885	0.3959	-0.6129	0.1115	-0.9894	-0.1550	-0.0810	0.0200	0.3131	-0.9266	0.6413	1.5477	-0.0376	0.2321
BHAR (1)		-0.37%	-0.92%	0.22%	0.37%	-0.31%	0.18%	-0.60%	-0.21%	-0.10%	0.15%	-0.16%	-0.34%	0.14%	0.43%	-0.15%	0.12%
		-0.7845	-1.6748	0.4601	0.6106	-0.5717	0.2777	-1.0120	-0.3687	-0.1837	0.2730	-0.2923	-0.6709	0.2356	0.7500	-0.3008	0.2361
FRANC	E	1												1			
CAR (0)		-1.84%	-0.62%	-0.36%	-0.17%	-0.92%	-0.28%	0.01%	0.04%	-0.60%	-0.04%	0.02%	0.02%	-0.31%	0.06%	0.05%	-0.05%
		-7.5476	-3.2854	-2.3992	-1.3478	-3.4440	-1.2751	0.0338	0.2532	-2.3055	-0.1869	0.1037	0.0807	-1.1554	0.2354	0.2044	-0.2348
CAR (1)		-0.83%	-0.27%	-0.07%	-0.04%	-0.37%	-0.02%	0.15%	0.09%	-0.08%	0.11%	0.09%	0.03%	0.00%	0.13%	0.04%	-0.07%
		-3.7048	-1.5346	-0.4927	-0.2929	-1.4153	-0.1001	0.8350	0.5342	-0.3356	0.5119	0.4608	0.1625	-0.0172	0.5477	0.1658	-0.3453
BHAR (0)		-1.77%	-0.78%	-0.32%	-0.61%	-0.82%	-0.34%	-0.14%	-0.30%	-0.57%	-0.06%	0.13%	-0.02%	-0.32%	-0.04%	-0.03%	-0.16%
		-5.3266	-2.5093	-1.1687	-1.9618	-2.6216	-1.1831	-0.4844	-1.1106	-2.0291	-0.2038	0.5122	-0.0883	-1.1276	-0.1355	-0.1189	-0.6249
BHAR (1)		-0.83%	-0.30%	-0.09%	-0.31%	-0.32%	-0.15%	0.00%	-0.28%	-0.16%	0.12%	0.14%	-0.12%	-0.14%	-0.18%	-0.06%	-0.29%
		-2.6200	-1.0419	-0.3823	-1.1089	-1.0423	-0.5212	-0.0088	-1.0460	-0.5619	0.4150	0.5455	-0.4402	-0.4798	-0.6368	-0.2125	-1.1544
GERMAN	NY	1 = 40/	0.740/	0.440/	0.240/	1.200/	0.==0/	0.440/	0.450/	0.040/	0.440/	0.400/	0.400/	0.520/	0.210/	0.200/	0.400/
CAR (0)		-1.71%	-0.74%	-0.44%	-0.34%	-1.30%	-0.77%	-0.41%	-0.45%	-0.91%	-0.44%	-0.40%	-0.40%	-0.53%	-0.31%	-0.28%	-0.40%
GIP (I)		-5.8470	-3.0482	-2.2972	-2.0518	-3.7857	-2.6560	-1.6962	-2.0436	-2.7826	-1.5446	-1.5191	-1.6558	-1.5983	-0.9972	-1.0160	-1.5650
CAR (1)		-1.42%	-0.58%	-0.37%	-0.32%	-1.21%	-0.65%	-0.43%	-0.51%	-0.67%	-0.41%	-0.43%	-0.44%	-0.59%	-0.34%	-0.40%	-0.52%
D11.1 D (0)		-4.9011	-2.5181	-2.0209	-2.0363	-3.7473	-2.3682	-1.8295	-2.3428	-2.0981	-1.4313	-1.6566	-1.8186	-1.7854	-1.1400	-1.4760	-2.0300
BHAR (0)		-1.58%	-0.69%	-0.35%	-0.36%	-1.22%	-0.52%	-0.26%	-0.47%	-0.74%	-0.55%	-0.06%	-0.43%	-0.60%	-0.59%	-0.47%	-0.52%
DIVID (1)		-3.8422	-1.8811	-1.0497	-0.9687	-3.0535	-1.4535	-0.6991	-1.4656	-1.8678	-1.3614	-0.1781	-1.1015	-1.5968	-1.7190	-1.3705	-1.4793
BHAR (1)		-1.30%	-0.53%	-0.36%	-0.31%	-1.45%	-0.72%	-0.44%	-0.64%	-0.95%	-0.70%	-0.34%	-0.31%	-0.86%	-0.90%	-0.85%	-0.85%
-		-3.3692	-1.5038	-1.1708	-0.8517	-3.5742	-1.9050	-1.1815	-1.9071	-2.4293	-1.7424	-0.9276	-0.7880	-2.2499	-2.5403	-2.5238	-2.4049

EW	J =		3				6	<u> </u>			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECI	£																
CAR (0)		-1.55%	-0.95%	-0.95%	-0.99%	-1.20%	-0.84%	-0.87%	-1.04%	-1.41%	-1.05%	-1.08%	-1.12%	-1.44%	-1.24%	-1.36%	-1.40%
		-2.8385	-2.1957	-2.6096	-3.1256	-1.7741	-1.4571	-1.8119	-2.3725	-2.0575	-1.7485	-1.9639	-2.2352	-2.0430	-1.9410	-2.3272	-2.5955
CAR (1)		-1.60%	-0.99%	-0.95%	-1.02%	-1.01%	-0.97%	-0.90%	-1.15%	-1.58%	-1.13%	-1.22%	-1.20%	-1.30%	-1.26%	-1.46%	-1.39%
		-3.1224	-2.4580	-2.7706	-3.2460	-1.5976	-1.8053	-1.9412	-2.6251	-2.3867	-1.9060	-2.2598	-2.3948	-1.8731	-1.9703	-2.5209	-2.5735
BHAR (0)		-1.39%	-0.12%	-0.13%	0.38%	-0.60%	-0.15%	-0.98%	-1.06%	-0.49%	-0.12%	-1.58%	0.15%	-1.19%	-1.86%	-0.53%	-1.80%
		-1.9231	-0.1835	-0.1721	0.6643	-0.8044	-0.2179	-1.4798	-1.5115	-0.6097	-0.1600	-2.2185	0.2153	-1.5093	-2.3894	-0.7080	-2.4402
BHAR (1)		-0.89%	0.12%	0.02%	0.57%	-0.51%	-0.28%	-0.82%	-1.23%	-0.25%	0.12%	-1.38%	0.03%	-0.83%	-1.78%	-0.40%	-1.95%
		-1.3372	0.1981	0.0312	1.0177	-0.6753	-0.3937	-1.1677	-1.7533	-0.3205	0.1567	-1.9945	0.0474	-1.0695	-2.3221	-0.5364	-2.6992
HONGKO	NG																
CAR (0)		-2.21%	-0.88%	-0.78%	-0.68%	-1.48%	-0.82%	-0.74%	-0.74%	-1.09%	-0.87%	-0.89%	-0.96%	-1.34%	-1.26%	-1.35%	-1.43%
		-7.2219	-3.7272	-3.6826	-3.5547	-4.0025	-2.4775	-2.5725	-2.9003	-2.6483	-2.4437	-2.8436	-3.2864	-3.2791	-3.4943	-4.1571	-4.8489
CAR (1)		-2.04%	-0.97%	-0.82%	-0.85%	-1.46%	-0.89%	-0.88%	-0.93%	-1.29%	-1.16%	-1.11%	-1.19%	-1.91%	-1.62%	-1.62%	-1.64%
		-7.0437	-4.1266	-3.9663	-4.4043	-3.7848	-2.7100	-3.1010	-3.6676	-3.2855	-3.3367	-3.5332	-4.1019	-4.5873	-4.5138	-5.0645	-5.6515
BHAR (0)		-2.70%	-1.14%	-0.91%	-0.87%	-1.22%	-0.68%	-0.54%	-0.54%	-1.27%	-0.84%	-1.09%	-0.72%	-1.46%	-1.32%	-1.11%	-1.91%
		-6.0090	-2.7741	-2.1135	-2.4926	-2.6120	-1.5266	-1.2393	-1.4303	-2.3383	-1.5334	-2.5683	-1.0152	-3.0245	-2.9186	-2.4121	-4.2271
BHAR (1)		-2.45%	-1.30%	-0.84%	-1.02%	-1.52%	-0.89%	-0.71%	-0.94%	-1.54%	-1.28%	-1.11%	-0.84%	-2.30%	-1.91%	-1.72%	-2.26%
		-5.3759	-3.0001	-2.0077	-2.8100	-3.0727	-2.0054	-1.6307	-2.5409	-2.8990	-2.2291	-2.5951	-1.1546	-4.4965	-4.1201	-3.7990	-4.7913
IRELAN	D																
CAR (0)		-1.61%	-0.93%	-0.64%	-0.37%	-1.08%	-0.60%	-0.30%	-0.16%	-0.44%	-0.16%	0.00%	0.08%	-0.05%	0.00%	-0.02%	-0.18%
		-2.9986	-2.1872	-1.7014	-1.1316	-1.8686	-1.1506	-0.6513	-0.3857	-0.6631	-0.2786	-0.0028	0.1649	-0.0742	0.0000	-0.0355	-0.3453
CAR (1)		-1.18%	-0.80%	-0.48%	-0.25%	-1.02%	-0.58%	-0.26%	-0.23%	-0.61%	-0.17%	0.05%	0.03%	0.11%	0.01%	-0.09%	-0.26%
		-2.2733	-1.8578	-1.3360	-0.7473	-1.7703	-1.1046	-0.5487	-0.5425	-0.9276	-0.2934	0.0870	0.0653	0.1761	0.0206	-0.1643	-0.4971
BHAR (0)		-0.92%	-1.82%	-1.36%	-0.12%	-1.16%	-0.35%	-1.67%	1.00%	-0.35%	0.10%	0.43%	0.13%	0.41%	0.06%	-0.10%	-0.33%
		-1.1444	-2.1141	-1.6204	-0.1363	-1.6329	-0.4909	-2.4607	1.4781	-0.4215	0.1235	0.6608	0.1746	0.5593	0.0895	-0.1228	-0.4675
BHAR (1)		-1.54%	-1.89%	-1.54%	0.12%	-1.32%	-0.39%	-1.47%	0.61%	-0.78%	0.09%	0.24%	-0.08%	0.33%	-0.32%	-0.11%	-0.27%
		-2.0557	-2.2075	-2.0179	0.1444	-1.9143	-0.5387	-2.2067	0.9308	-0.9697	0.1127	0.3632	-0.1117	0.4476	-0.4438	-0.1476	-0.3782
ISRAEL	,																
CAR (0)		-2.96%	-1.86%	-1.59%	-1.38%	-2.26%	-1.72%	-1.47%	-1.28%	-1.99%	-1.48%	-1.15%	-1.12%	-1.70%	-1.15%	-1.03%	-1.16%
		-10.4140	-8.9588	-8.9968	-8.7265	-7.4693	-6.8526	-6.4925	-6.3472	-5.5898	-4.7552	-4.0387	-4.4679	-4.8822	-3.5793	-3.5381	-4.3815
CAR (1)		-2.62%	-1.69%	-1.42%	-1.26%	-1.93%	-1.51%	-1.34%	-1.20%	-2.00%	-1.40%	-1.18%	-1.17%	-1.34%	-1.00%	-1.05%	-1.17%
		-9.3493	-8.5975	-8.3507	-8.2431	-6.3400	-5.9645	-5.8801	-5.9629	-5.8036	-4.4562	-4.2694	-4.7122	-3.7591	-3.1458	-3.6150	-4.5741
BHAR (0)		-2.72%	-1.96%	-1.62%	-1.69%	-2.09%	-1.69%	-1.67%	-1.01%	-1.90%	-1.29%	-1.33%	-0.62%	-1.49%	-0.71%	-0.96%	-0.54%
		-7.3136	-5.4563	-4.7550	-5.0178	-5.5041	-4.8212	-4.6887	-2.8226	-4.8929	-3.5920	-3.1902	-1.7622	-3.2703	-1.8042	-2.5020	-1.1991
BHAR (1)		-3.01%	-1.95%	-1.64%	-1.53%	-2.36%	-1.82%	-1.67%	-1.07%	-2.25%	-1.34%	-1.49%	-0.62%	-1.12%	-0.71%	-1.17%	-0.49%
		-7.6383	-5.3350	-4.6733	-4.2191	-6.1101	-5.2598	-4.8665	-3.0760	-5.1507	-3.4017	-3.3943	-1.7426	-2.2013	-1.7979	-2.9271	-1.0561

EW	J =		3				6	i			9)			10	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.12%	0.25%	0.35%	0.31%	0.15%	0.56%	0.40%	0.20%	0.67%	0.78%	0.68%	0.40%	0.55%	0.68%	0.47%	0.22%
		0.3352	0.8717	1.4414	1.4772	0.3385	1.6881	1.4217	0.7532	1.5529	2.1512	1.9480	1.2537	1.2993	1.7660	1.3450	0.6708
CAR (1)		0.06%	0.20%	0.28%	0.28%	0.03%	0.39%	0.29%	0.04%	0.56%	0.72%	0.47%	0.23%	0.28%	0.51%	0.24%	0.05%
		0.1680	0.7293	1.2040	1.3372	0.0867	1.2559	1.0380	0.1717	1.4254	2.0572	1.3838	0.7178	0.6529	1.3310	0.7110	0.1441
BHAR (0)		-0.05%	-0.54%	-0.35%	-0.45%	0.20%	0.18%	0.11%	-0.72%	0.50%	0.33%	0.49%	-0.16%	0.56%	0.13%	0.13%	0.15%
		-0.0920	-1.2172	-0.9023	-1.0789	0.3982	0.3861	0.2922	-1.6478	1.0078	0.6836	1.0509	-0.3300	1.1449	0.2659	0.2697	0.2915
BHAR (1)		-0.23%	-0.73%	0.03%	-0.39%	-0.29%	0.01%	0.04%	-0.91%	0.33%	0.23%	0.30%	-0.03%	0.29%	0.17%	0.06%	0.10%
		-0.5059	-1.8681	0.0909	-0.9910	-0.6115	0.0156	0.1110	-2.0984	0.7387	0.5425	0.6632	-0.0782	0.6045	0.3406	0.1250	0.2025
JAPAN																	
CAR (0)		-1.15%	-0.78%	-0.60%	-0.37%	-1.22%	-0.83%	-0.51%	-0.44%	-1.09%	-0.65%	-0.53%	-0.53%	-0.83%	-0.66%	-0.60%	-0.60%
		-4.9632	-4.0071	-3.6320	-2.6566	-4.4792	-3.4195	-2.4596	-2.4247	-3.9102	-2.5703	-2.3077	-2.6338	-2.9341	-2.5220	-2.5716	-2.8638
CAR (1)		-1.12%	-0.78%	-0.51%	-0.37%	-1.26%	-0.77%	-0.47%	-0.50%	-0.92%	-0.58%	-0.52%	-0.57%	-0.84%	-0.68%	-0.63%	-0.63%
		-5.0530	-4.1612	-3.3067	-2.7252	-4.7774	-3.2992	-2.3310	-2.8730	-3.4178	-2.3538	-2.3314	-2.9699	-2.9935	-2.6987	-2.7987	-3.1246
BHAR (0)		-1.22%	-0.60%	-0.37%	-0.26%	-0.94%	-0.65%	-0.58%	0.02%	-0.91%	-0.44%	-0.51%	-0.42%	-0.75%	-0.57%	-0.49%	-0.54%
		-4.1592	-2.1706	-1.4207	-0.8911	-2.9783	-2.2105	-1.8873	0.0867	-3.0810	-1.4394	-1.9073	-1.6063	-2.4829	-1.9846	-1.7061	-2.3742
BHAR (1)		-1.37%	-0.66%	-0.49%	-0.12%	-1.14%	-0.81%	-0.57%	-0.21%	-1.10%	-0.51%	-0.57%	-0.59%	-0.90%	-0.73%	-0.81%	-0.66%
		-4.7817	-2.5769	-1.9323	-0.4782	-3.6288	-2.6998	-1.9147	-0.7676	-3.8368	-1.7150	-2.1833	-2.2526	-3.0432	-2.5751	-2.9029	-2.8448
NETHERLA	NDS																
CAR (0)		0.16%	0.50%	0.57%	0.61%	0.35%	0.46%	0.63%	0.50%	0.71%	0.86%	0.84%	0.71%	0.74%	0.93%	0.82%	0.65%
		0.4830	1.7903	2.2841	2.6672	0.9260	1.3819	2.0021	1.7307	1.6573	2.2759	2.4294	2.2121	1.7264	2.4613	2.3491	2.0086
CAR (1)		0.04%	0.43%	0.51%	0.55%	0.20%	0.49%	0.49%	0.37%	0.57%	0.75%	0.66%	0.57%	0.42%	0.74%	0.61%	0.53%
		0.1279	1.5277	2.0382	2.3827	0.5257	1.4110	1.5472	1.2820	1.3774	1.9620	1.9133	1.7721	0.9970	1.9859	1.7493	1.6723
BHAR (0)		0.22%	0.22%	0.04%	0.78%	0.24%	0.54%	0.66%	1.25%	0.67%	1.37%	0.90%	1.01%	0.57%	1.19%	0.69%	0.58%
		0.5211	0.4709	0.0964	1.5851	0.5438	1.2546	1.5060	3.1646	1.3337	2.8715	2.1987	2.4586	1.1998	2.6618	1.6449	1.3643
BHAR (1)		-0.05%	0.17%	-0.23%	0.90%	0.23%	0.54%	0.64%	1.13%	1.05%	1.46%	0.82%	0.96%	0.22%	0.70%	0.54%	0.16%
		-0.1200	0.3715	-0.5950	1.7866	0.5150	1.2077	1.4470	2.8460	2.2016	2.9068	2.0878	2.3584	0.4714	1.5900	1.3246	0.3946
NEWZEALA	ND	1															
CAR (0)		-0.83%	-0.15%	-0.18%	-0.08%	0.38%	0.34%	0.44%	0.30%	0.48%	0.64%	0.47%	0.38%	0.75%	0.61%	0.43%	0.28%
		-2.7238	-0.5707	-0.7773	-0.4133	0.9025	0.9351	1.4423	1.1336	0.9647	1.6325	1.3592	1.1920	1.7107	1.5955	1.2282	0.8520
CAR (1)		-0.47%	-0.11%	-0.07%	-0.12%	0.34%	0.34%	0.39%	0.20%	0.61%	0.55%	0.39%	0.28%	0.56%	0.38%	0.29%	0.12%
		-1.5128	-0.3861	-0.3027	-0.5951	0.7965	0.9587	1.3320	0.7534	1.3433	1.4771	1.1984	0.8988	1.2910	1.0085	0.8407	0.3776
BHAR (0)		-0.95%	0.07%	-0.29%	-0.54%	0.03%	0.32%	-0.20%	0.11%	0.37%	0.30%	0.55%	0.37%	1.14%	1.28%	0.49%	0.35%
		-2.4151	0.1714	-0.7079	-1.2102	0.0646	0.8228	-0.4530	0.3022	0.8256	0.7077	1.3801	0.9297	2.4038	2.6805	1.0656	0.8261
BHAR (1)		-0.42%	-0.07%	-0.29%	-0.63%	0.19%	0.13%	-0.03%	-0.24%	0.80%	0.48%	0.70%	0.50%	0.81%	0.65%	0.16%	0.27%
		-0.9699	-0.1502	-0.6793	-1.3346	0.3899	0.3276	-0.0623	-0.6398	1.7144	1.1101	1.7594	1.3089	1.6073	1.3528	0.3462	0.6255

EW	J =		3				6	j			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWA	Y																
CAR (0)		-1.52%	-0.49%	-0.32%	-0.37%	-1.14%	-0.56%	-0.51%	-0.56%	-0.87%	-0.53%	-0.65%	-0.89%	-0.67%	-0.63%	-0.77%	-0.90%
		-3.3731	-1.3678	-1.0733	-1.4765	-2.0410	-1.2479	-1.3730	-1.7593	-1.6059	-1.1456	-1.6315	-2.5075	-1.1755	-1.3142	-1.8095	-2.3959
CAR (1)		-1.59%	-0.50%	-0.30%	-0.46%	-1.00%	-0.47%	-0.52%	-0.74%	-0.84%	-0.76%	-0.88%	-1.13%	-1.11%	-0.95%	-1.04%	-1.12%
		-3.5272	-1.4296	-1.0475	-1.8470	-1.9348	-1.0843	-1.4439	-2.3599	-1.5646	-1.6750	-2.2180	-3.2678	-2.0761	-2.0352	-2.5433	-3.0755
BHAR (0)		-1.43%	-0.08%	-0.82%	-0.82%	-1.32%	-0.73%	-1.00%	-0.21%	0.15%	-0.24%	-0.51%	-0.78%	-0.50%	-0.08%	-0.76%	-0.30%
		-2.5705	-0.1286	-1.7376	-1.6500	-1.9404	-1.2214	-1.6880	-0.4420	0.2290	-0.3776	-0.8500	-1.2493	-0.7591	-0.1186	-1.2863	-0.5265
BHAR (1)		-1.48%	0.26%	-0.68%	-0.90%	-0.90%	-0.83%	-1.20%	-0.65%	-0.28%	-0.51%	-0.76%	-1.05%	-0.97%	-0.62%	-0.66%	-0.76%
		-2.8759	0.4521	-1.4650	-1.8507	-1.3694	-1.4631	-2.1355	-1.3551	-0.4333	-0.8362	-1.2877	-1.6992	-1.4651	-0.9560	-1.1162	-1.3580
PORTUGA	L																
CAR (0)		-2.45%	-0.95%	-0.53%	-0.50%	-1.39%	-0.65%	-0.37%	-0.44%	-1.46%	-0.61%	-0.53%	-0.55%	-1.47%	-0.93%	-0.64%	-0.69%
		-4.8469	-2.5220	-1.6830	-1.7466	-2.6810	-1.4968	-0.9732	-1.2723	-2.7670	-1.2550	-1.1998	-1.3709	-2.6823	-1.9433	-1.5021	-1.7534
CAR (1)		-1.30%	-0.23%	-0.30%	-0.20%	-0.57%	-0.13%	-0.19%	-0.30%	-0.69%	-0.32%	-0.42%	-0.43%	-1.11%	-0.67%	-0.56%	-0.67%
		-2.5638	-0.6175	-0.9576	-0.6783	-1.1330	-0.3049	-0.4952	-0.8474	-1.2933	-0.6471	-0.9626	-1.0541	-2.0314	-1.4147	-1.3245	-1.6883
BHAR (0)		-2.06%	-0.09%	0.08%	0.06%	-1.12%	-0.19%	0.29%	0.00%	-1.79%	-0.67%	-0.55%	0.12%	-1.89%	-1.26%	-0.70%	-0.77%
		-3.2202	-0.1280	0.1264	0.0894	-1.6879	-0.2936	0.4447	0.0023	-2.8842	-0.9800	-0.9490	0.1879	-2.9983	-2.0258	-1.1736	-1.3708
BHAR (1)		-1.51%	0.24%	0.22%	0.17%	-0.05%	0.08%	0.59%	-0.21%	-0.76%	0.05%	-0.34%	0.09%	-1.46%	-1.19%	-0.74%	-0.94%
		-2.4212	0.3873	0.3476	0.2635	-0.0818	0.1370	0.9653	-0.3362	-1.2852	0.0751	-0.6540	0.1462	-2.3690	-1.9619	-1.2479	-1.7317
SINGAPOI	RE	1							-								
CAR (0)		-0.79%	0.22%	0.23%	0.19%	-0.56%	0.00%	0.06%	-0.02%	-0.05%	0.11%	0.01%	-0.11%	-0.11%	0.01%	-0.11%	-0.28%
		-1.9230	0.7461	0.8595	0.7579	-1.2547	0.0026	0.1579	-0.0547	-0.0952	0.2438	0.0208	-0.3058	-0.2019	0.0306	-0.2474	-0.7159
CAR (1)		-0.58%	0.23%	0.20%	0.07%	-0.41%	-0.06%	-0.05%	-0.16%	-0.39%	-0.16%	-0.20%	-0.37%	-0.39%	-0.20%	-0.32%	-0.48%
		-1.4632	0.8039	0.7424	0.2782	-0.9426	-0.1498	-0.1424	-0.4959	-0.7762	-0.3428	-0.4878	-0.9935	-0.7704	-0.4239	-0.7467	-1.2643
BHAR (0)		-0.96%	0.21%	0.00%	-0.33%	-0.22%	-0.12%	0.15%	-0.13%	0.13%	-0.04%	-0.34%	-0.68%	-0.12%	0.32%	0.18%	-0.24%
		-1.8949	0.4702	0.0010	-0.8377	-0.4015	-0.2081	0.2522	-0.2724	0.2403	-0.0769	-0.7314	-1.2418	-0.2194	0.5722	0.3743	-0.4760
BHAR (1)		-0.71%	-0.48%	0.03%	-0.58%	-0.91%	-0.31%	0.48%	-0.09%	-0.63%	-0.07%	-0.29%	-0.95%	-0.47%	0.01%	-0.31%	-0.64%
		-1.5135	-1.0423	0.0646	-1.4716	-1.5023	-0.5250	0.7559	-0.1808	-1.1430	-0.1344	-0.5906	-1.7428	-0.8817	0.0235	-0.6676	-1.2642
SPAIN		1 400/		0.4407	0.0=0/			0.000/	0.000/	. ===./	0.100/	0.0101	0.150/	0.400/	0.0=0/	0.000/	0.000/
CAR (0)		-1.10%	-0.42%	-0.14%	0.07%	-0.92%	-0.44%	0.03%	0.02%	-0.73%	-0.19%	0.01%	-0.12%	0.10%	0.05%	0.08%	-0.03%
		-3.3123	-1.4672	-0.5613	0.3007	-2.2146	-1.2454	0.0964	0.0813	-1.6368	-0.4929	0.0260	-0.3549	0.2405	0.1232	0.2326	-0.1018
CAR (1)		-1.04%	-0.33%	-0.04%	0.04%	-0.92%	-0.25%	0.09%	-0.04%	-0.47%	-0.10%	-0.08%	-0.18%	-0.33%	-0.14%	-0.08%	-0.20%
D**** D (0)		-2.9188	-1.1541	-0.1598	0.1970	-2.2209	-0.7305	0.2847	-0.1276	-1.0835	-0.2573	-0.2378	-0.5490	-0.8144	-0.3725	-0.2198	-0.5660
BHAR (0)		-0.97%	-1.13%	-0.28%	-0.15%	-1.09%	-0.67%	-0.38%	-0.72%	-0.49%	-0.25%	0.28%	-0.40%	0.02%	0.51%	0.06%	-0.08%
D**** (1)		-2.2945	-2.3941	-0.7031	-0.3178	-2.0727	-1.1803	-0.6776	-1.4544	-0.9762	-0.4948	0.5629	-0.7702	0.0432	1.0986	0.1218	-0.1705
BHAR (1)		-1.01%	-0.94%	-0.51%	-0.22%	-0.94%	-0.18%	0.10%	-0.78%	-0.30%	-0.40%	0.10%	-0.46%	-0.65%	0.20%	-0.19%	-0.17%
-		-2.1806	-1.9398	-1.2564	-0.4519	-1.8960	-0.3336	0.1824	-1.5951	-0.6360	-0.7491	0.2095	-0.8968	-1.3135	0.4306	-0.3768	-0.3591

EW	J =		3				6	j			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	Ī																
CAR (0)		-1.40%	-0.10%	-0.02%	0.14%	-0.26%	0.21%	0.41%	0.33%	0.30%	0.65%	0.47%	0.26%	0.80%	0.68%	0.44%	0.22%
		-3.4736	-0.2902	-0.0646	0.5567	-0.5222	0.4870	1.0689	0.9789	0.5894	1.4494	1.1339	0.6984	1.6473	1.4267	1.0073	0.5745
CAR (1)		-0.85%	0.01%	0.03%	0.08%	0.00%	0.30%	0.41%	0.24%	0.46%	0.38%	0.28%	0.04%	0.57%	0.39%	0.25%	0.02%
		-2.2186	0.0278	0.1070	0.3368	-0.0067	0.7065	1.1058	0.7205	0.9458	0.8649	0.6948	0.1069	1.1721	0.8181	0.5975	0.0523
BHAR (0)		-1.64%	-0.45%	-0.57%	-0.07%	-0.16%	0.41%	-0.01%	0.06%	0.37%	0.53%	0.47%	-0.06%	0.53%	0.60%	0.83%	0.59%
		-2.8594	-0.8533	-1.1892	-0.1389	-0.2375	0.6077	-0.0135	0.1076	0.6063	0.8874	0.9123	-0.1277	0.9277	1.0977	1.6315	1.1314
BHAR (1)		-1.28%	0.03%	-0.38%	0.09%	0.16%	0.32%	-0.06%	-0.10%	0.45%	0.63%	0.61%	0.02%	0.97%	0.52%	0.69%	0.57%
		-2.3920	0.0668	-0.8432	0.2045	0.2501	0.4788	-0.0901	-0.1831	0.7117	1.0549	1.2789	0.0419	1.7909	0.9630	1.4248	1.0585
SWITZERLA	ND																
CAR (0)		-0.16%	0.39%	0.48%	0.48%	0.57%	0.90%	0.85%	0.63%	0.85%	1.01%	0.70%	0.47%	0.77%	0.66%	0.45%	0.24%
		-0.7075	2.0297	2.9208	3.3348	1.8533	3.4190	3.7244	3.0487	2.4423	3.4768	2.7439	2.0193	2.2331	2.0877	1.5956	0.9273
CAR (1)		0.04%	0.50%	0.47%	0.42%	0.75%	0.89%	0.72%	0.52%	0.76%	0.76%	0.47%	0.27%	0.53%	0.44%	0.26%	0.04%
		0.1545	2.6726	2.9713	2.9449	2.4453	3.5327	3.1690	2.5626	2.2508	2.6883	1.8665	1.2130	1.5512	1.4287	0.9282	0.1701
BHAR (0)		-0.42%	0.49%	0.23%	1.10%	0.53%	1.28%	0.49%	1.09%	0.72%	1.10%	0.90%	0.47%	0.64%	0.62%	0.36%	0.57%
		-1.4443	1.5717	0.7897	3.3804	1.4967	3.6187	1.6940	2.8198	1.7162	2.7799	2.5650	1.5007	1.6689	1.8658	0.9504	1.8330
BHAR (1)		-0.06%	0.73%	0.04%	1.09%	0.81%	1.21%	0.44%	0.99%	0.83%	0.95%	0.66%	0.40%	0.63%	0.58%	-0.04%	0.51%
		-0.2216	2.4480	0.1537	3.4285	2.3375	3.4823	1.5339	2.5572	2.0639	2.4890	1.8861	1.2462	1.6299	1.6732	-0.1066	1.6014
UK		1												T.			
CAR (0)		-0.45%	0.14%	0.13%	0.22%	0.30%	0.28%	0.34%	0.26%	0.28%	0.38%	0.25%	0.14%	0.48%	0.34%	0.16%	-0.06%
		-2.1223	0.8271	0.9567	1.7842	1.3140	1.4834	2.0311	1.7094	1.2323	1.8428	1.3081	0.7952	2.0334	1.5154	0.7652	-0.2837
CAR (1)		-0.31%	0.08%	0.11%	0.15%	0.11%	0.13%	0.21%	0.11%	0.16%	0.18%	0.11%	-0.05%	0.20%	0.13%	-0.05%	-0.24%
		-1.5550	0.5305	0.8208	1.2602	0.4944	0.7253	1.3002	0.7428	0.7173	0.8900	0.5596	-0.2822	0.8771	0.5700	-0.2543	-1.2257
BHAR (0)		-0.40%	0.33%	0.28%	0.36%	0.46%	0.63%	0.11%	0.18%	0.42%	0.39%	0.16%	-0.08%	0.51%	0.50%	0.18%	-0.01%
		-1.4507	1.2320	1.2159	1.4427	1.8719	2.8816	0.4549	0.9350	1.7402	1.5237	0.7459	-0.3781	2.0096	2.1464	0.7405	-0.0423
BHAR (1)		-0.26%	0.23%	0.06%	0.14%	0.10%	0.36%	-0.12%	0.04%	0.19%	0.10%	0.02%	-0.27%	0.29%	0.10%	-0.17%	-0.40%
		-0.9514	0.9037	0.2693	0.5288	0.3690	1.6415	-0.4572	0.2023	0.7206	0.3620	0.1061	-1.2020	1.1108	0.4057	-0.6789	-1.7622
US			0.5101		0.4501	0.000/	0.500/		0 = 40/	0.500/		0.5001	0 = 407	0.6001	0.5001	0.000/	
CAR (0)		-1.32%	-0.61%	-0.47%	-0.46%	-0.82%	-0.50%	-0.43%	-0.54%	-0.59%	-0.44%	-0.60%	-0.74%	-0.68%	-0.68%	-0.83%	-0.99%
		-5.5199	-2.9600	-2.6185	-3.1075	-2.9118	-2.0036	-2.0299	-2.9144	-1.9905	-1.6967	-2.5717	-3.5073	-2.3224	-2.5601	-3.3991	-4.3886
CAR (1)		-1.27%	-0.60%	-0.47%	-0.55%	-0.81%	-0.53%	-0.52%	-0.66%	-0.61%	-0.57%	-0.74%	-0.89%	-0.88%	-0.87%	-1.02%	-1.14%
D111 D (0)		-5.5246	-3.0268	-2.7801	-3.9102	-2.9448	-2.2566	-2.5858	-3.6871	-2.1924	-2.3159	-3.2924	-4.3798	-3.1639	-3.3925	-4.2903	-5.1683
BHAR (0)		-1.24%	-0.30%	-0.37%	-0.26%	-0.83%	-0.63%	-0.53%	-0.55%	-0.51%	-0.35%	-0.54%	-0.83%	-0.62%	-0.71%	-0.81%	-0.94%
DILLE (1)		-4.1869	-1.1065	-1.4003	-0.9255	-2.7886	-2.3215	-1.7329	-2.5304	-1.6624	-1.1701	-2.2063	-3.3261	-2.1013	-2.5475	-2.9649	-3.5727
BHAR (1)		-1.10%	-0.35%	-0.41%	-0.49%	-0.83%	-0.75%	-0.81%	-0.83%	-0.60%	-0.56%	-0.77%	-0.93%	-0.95%	-1.02%	-1.08%	-1.17%
-		-3.5919	-1.2863	-1.5763	-1.7587	-2.5505	-2.5800	-2.5798	-3.6895	-1.8514	-1.8676	-2.9383	-3.5773	-3.0364	-3.4999	-3.8934	-4.2108

Panel B. The time-series momentum using market-weighted return

MW	J =		3			iic tiiiic-	6				9				1:	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAI	LIA																
CAR (0)		-0.91%	0.07%	0.33%	0.28%	-0.05%	0.53%	0.54%	0.39%	0.30%	0.70%	0.47%	0.24%	0.09%	0.23%	0.02%	-0.18%
		-2.3279	0.2089	1.1954	1.1678	-0.1196	1.4460	1.6828	1.3680	0.6802	1.8505	1.4262	0.7702	0.2116	0.5993	0.0714	-0.5711
CAR (1)		-0.74%	0.06%	0.29%	0.13%	-0.18%	0.46%	0.34%	0.19%	0.30%	0.45%	0.27%	-0.01%	-0.38%	-0.05%	-0.33%	-0.45%
		-1.8537	0.1805	1.1068	0.5660	-0.4111	1.3248	1.1003	0.6718	0.7447	1.2576	0.8537	-0.0382	-0.9133	-0.1294	-1.0030	-1.4779
BHAR (0)		-0.77%	0.03%	0.02%	0.39%	-0.13%	0.53%	0.25%	-0.24%	0.49%	0.79%	0.09%	0.48%	-0.28%	-0.02%	-0.31%	-0.10%
		-1.4508	0.0531	0.0528	0.7139	-0.2463	1.0974	0.4699	-0.5518	0.9919	1.5535	0.2029	1.0769	-0.5313	-0.0332	-0.6284	-0.1833
BHAR (1)		-1.04%	-0.24%	-0.10%	0.36%	-0.45%	0.41%	-0.35%	-0.50%	0.00%	0.09%	-0.13%	0.08%	-0.93%	-0.32%	-0.76%	-0.80%
		-1.7293	-0.4306	-0.2196	0.6833	-0.7590	0.8434	-0.5954	-1.1028	-0.0069	0.1629	-0.2903	0.1591	-1.6391	-0.6008	-1.4317	-1.4287
AUSTRI	A																
CAR (0)		-1.03%	-0.77%	-0.42%	-0.34%	-0.58%	-0.09%	0.22%	0.04%	-0.05%	0.26%	0.07%	-0.18%	-0.35%	-0.15%	-0.35%	-0.60%
		-2.4483	-2.3664	-1.4797	-1.3985	-1.1281	-0.2163	0.5881	0.1180	-0.1003	0.5571	0.1759	-0.4656	-0.6370	-0.3233	-0.8170	-1.5458
CAR (1)		-1.17%	-0.73%	-0.41%	-0.41%	-0.67%	0.03%	0.15%	-0.11%	0.37%	0.13%	0.00%	-0.31%	-0.60%	-0.32%	-0.51%	-0.80%
		-2.6149	-2.1958	-1.4599	-1.6428	-1.3086	0.0738	0.3924	-0.3456	0.7199	0.2705	-0.0084	-0.8320	-1.1010	-0.6829	-1.2125	-2.0912
BHAR (0)		-1.32%	-0.68%	-0.58%	-0.50%	-0.90%	-0.85%	-0.49%	-0.49%	-0.19%	0.19%	-0.39%	0.13%	-0.66%	-0.99%	-0.43%	-1.30%
		-2.1950	-1.1425	-0.9066	-0.9320	-1.3796	-1.2633	-0.8298	-1.1010	-0.2831	0.2608	-0.7218	0.1906	-1.0209	-1.5038	-0.6939	-1.9679
BHAR (1)		-1.07%	-1.03%	-0.52%	-0.58%	-0.87%	-0.72%	-0.18%	-0.57%	-0.30%	-0.44%	-0.55%	-0.41%	-1.00%	-1.08%	-0.94%	-1.26%
		-1.7408	-1.7249	-0.8278	-1.0582	-1.3048	-1.0630	-0.3015	-1.3153	-0.4616	-0.6240	-1.0238	-0.6459	-1.5422	-1.6800	-1.5220	-1.9465
BELGIU	M	1															
CAR (0)		-0.33%	0.04%	0.22%	0.25%	0.01%	0.22%	0.42%	0.31%	0.18%	0.42%	0.36%	0.22%	0.48%	0.67%	0.51%	0.39%
		-0.8116	0.1202	0.8097	1.0083	0.0212	0.5010	1.1366	0.9262	0.3540	0.9461	0.8976	0.5694	0.9205	1.4301	1.1559	0.9470
CAR (1)		-0.22%	-0.03%	0.28%	0.20%	-0.18%	0.17%	0.33%	0.15%	0.22%	0.37%	0.26%	0.08%	0.64%	0.51%	0.44%	0.29%
		-0.5955	-0.0892	1.0389	0.8186	-0.3610	0.3918	0.9039	0.4504	0.4543	0.8713	0.6442	0.2223	1.2393	1.1118	1.0061	0.7054
BHAR (0)		-0.10%	0.68%	-0.97%	0.38%	-0.55%	-0.76%	0.14%	-0.04%	-0.75%	0.52%	0.05%	0.52%	0.10%	0.12%	-0.62%	-0.20%
		-0.1803	1.2092	-1.8774	0.6601	-0.9013	-1.2920	0.2683	-0.0669	-1.2624	0.9708	0.0954	0.8331	0.1617	0.2076	-1.1147	-0.3612
BHAR (1)		-0.56%	0.12%	-0.61%	0.51%	-0.38%	-0.74%	-0.09%	-0.08%	-0.17%	0.67%	0.06%	0.40%	-0.19%	0.27%	-0.55%	-0.14%
		-1.0677	0.2274	-1.2112	0.8991	-0.6144	-1.2367	-0.1646	-0.1409	-0.2912	1.1479	0.1157	0.6518	-0.3372	0.4834	-1.0338	-0.2563
CANAD.	A		0.000		0.5001	0.000	0.7101	. =0.01	. ==./	0.=00/		0.0404		0.000	. ==./		
CAR (0)		-0.47%	0.26%	0.52%	0.63%	0.27%	0.61%	0.78%	0.77%	0.78%	0.94%	0.86%	0.59%	0.36%	0.75%	0.57%	0.30%
G15 (1)		-1.0373	0.6724	1.4581	2.0540	0.4849	1.2346	1.8524	1.9320	1.2896	1.6989	1.6229	1.1316	0.5831	1.3180	1.0178	0.5408
CAR (1)		-0.41%	0.08%	0.56%	0.49%	-0.06%	0.49%	0.70%	0.52%	0.57%	0.68%	0.57%	0.27%	0.23%	0.51%	0.33%	0.06%
		-0.8937	0.2051	1.5949	1.5729	-0.1018	1.0134	1.7040	1.3112	0.9094	1.2355	1.0708	0.5084	0.3808	0.9065	0.5887	0.1001
BHAR (0)		-0.66%	-0.18%	0.32%	0.13%	-0.05%	0.84%	1.89%	0.04%	1.21%	0.78%	0.95%	0.27%	0.77%	0.98%	0.31%	0.21%
		-1.0508	-0.3452	0.4441	0.1907	-0.0810	1.2432	2.8258	0.0575	1.8229	1.1659	1.5232	0.4188	1.1524	1.4816	0.4284	0.3172
BHAR (1)		-0.31%	-0.13%	0.54%	-0.02%	0.15%	0.93%	1.41%	-0.57%	0.91%	0.48%	0.55%	-0.06%	0.31%	0.48%	-0.08%	-0.28%
		-0.4824	-0.2356	0.7688	-0.0259	0.2150	1.3600	2.0027	-0.9305	1.2679	0.6831	0.8310	-0.0817	0.4509	0.7356	-0.1192	-0.4086

MW	J =		3	3			6	i			9	1			13	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARI	K																
CAR (0)		-0.46%	0.28%	0.31%	0.23%	0.32%	0.59%	0.59%	0.38%	0.34%	0.63%	0.37%	0.28%	0.08%	0.35%	0.28%	0.29%
		-1.0183	0.7948	1.0432	0.8851	0.6549	1.3026	1.4927	1.0462	0.6017	1.2741	0.8219	0.6668	0.1531	0.7199	0.6004	0.6789
CAR (1)		-0.39%	0.18%	0.23%	0.11%	0.11%	0.53%	0.39%	0.20%	0.41%	0.58%	0.28%	0.23%	0.10%	0.30%	0.22%	0.30%
		-0.8809	0.5320	0.8143	0.4308	0.2151	1.1683	0.9895	0.5541	0.7138	1.1650	0.6091	0.5475	0.1909	0.6136	0.4892	0.6944
BHAR (0)		-1.19%	-0.44%	-0.68%	-0.47%	0.46%	0.19%	0.14%	0.18%	0.46%	0.16%	0.31%	-0.24%	-0.24%	0.24%	-0.41%	0.16%
		-2.1971	-0.7463	-1.3182	-0.7454	0.8056	0.3440	0.2466	0.3382	0.7481	0.2387	0.5618	-0.4127	-0.4015	0.4062	-0.7311	0.2651
BHAR (1)		-0.82%	-0.14%	-0.57%	-0.39%	0.26%	0.46%	0.06%	-0.01%	0.71%	0.69%	0.56%	-0.05%	-0.01%	0.47%	-0.28%	0.32%
		-1.4867	-0.2455	-1.1134	-0.6258	0.4193	0.7978	0.1092	-0.0148	1.0623	1.0722	1.0557	-0.0810	-0.0181	0.7659	-0.4969	0.5271
FINLAND	1																
CAR (0)		-0.41%	0.12%	0.63%	0.54%	0.30%	0.97%	1.18%	1.03%	0.63%	1.09%	0.96%	0.71%	0.98%	0.93%	0.72%	0.53%
		-0.7322	0.2717	1.5002	1.4243	0.4921	1.7997	2.3744	2.1979	0.9465	1.7758	1.6494	1.3192	1.4497	1.4474	1.2050	0.9612
CAR (1)		-0.58%	0.37%	0.69%	0.59%	0.52%	1.18%	1.15%	1.02%	0.65%	0.96%	0.74%	0.56%	0.68%	0.70%	0.51%	0.43%
		-1.0627	0.7958	1.6313	1.5326	0.8815	2.1852	2.2921	2.1894	0.9821	1.5447	1.2897	1.0522	0.9946	1.1058	0.8530	0.7792
BHAR (0)		-0.94%	-0.47%	0.57%	1.03%	-0.36%	0.89%	0.59%	0.41%	0.52%	0.46%	0.21%	-0.83%	0.67%	1.84%	0.73%	1.29%
		-1.2846	-0.6221	0.7675	1.2583	-0.4619	1.0642	0.7478	0.5158	0.6705	0.5806	0.2669	-1.0493	0.8593	2.4188	1.0100	1.8437
BHAR (1)		-0.46%	0.00%	0.75%	1.16%	-0.12%	0.91%	0.52%	0.22%	0.25%	0.76%	-0.01%	-0.68%	0.84%	1.50%	0.81%	1.46%
		-0.6618	0.0023	1.0499	1.4784	-0.1512	1.0509	0.6605	0.2661	0.3192	0.9495	-0.0181	-0.8488	1.0742	1.9652	1.1631	2.1460
FRANCE																	
CAR (0)		-1.73%	-0.64%	-0.45%	-0.25%	-1.19%	-0.53%	-0.23%	-0.12%	-1.03%	-0.50%	-0.32%	-0.25%	-1.01%	-0.36%	-0.27%	-0.28%
		-4.1092	-2.0281	-1.6531	-1.0544	-2.5224	-1.3036	-0.6735	-0.3755	-2.2769	-1.2681	-0.8604	-0.7494	-2.0357	-0.8295	-0.6803	-0.7593
CAR (1)		-1.17%	-0.51%	-0.30%	-0.21%	-0.88%	-0.41%	-0.15%	-0.11%	-0.64%	-0.37%	-0.22%	-0.25%	-0.77%	-0.30%	-0.26%	-0.30%
		-3.0997	-1.6915	-1.1588	-0.9252	-1.9559	-1.0238	-0.4401	-0.3650	-1.5158	-0.9497	-0.6110	-0.7354	-1.6235	-0.7100	-0.6681	-0.8246
BHAR (0)		-1.85%	-0.71%	-0.36%	-0.61%	-0.85%	-0.56%	-0.90%	-0.52%	-0.80%	-0.53%	-0.27%	0.48%	-1.14%	-0.27%	-0.18%	-0.24%
		-3.5580	-1.3538	-0.6882	-0.9908	-1.4735	-1.0140	-1.6078	-0.9312	-1.5255	-1.0111	-0.5834	1.1302	-2.0100	-0.5115	-0.3638	-0.5023
BHAR (1)		-1.05%	-0.41%	-0.49%	-0.25%	-0.61%	-0.52%	-0.92%	-0.62%	-0.25%	-0.39%	0.10%	0.39%	-0.95%	-0.57%	-0.27%	-0.46%
		-2.0624	-0.8273	-0.9526	-0.4207	-1.1055	-0.9363	-1.5808	-1.0717	-0.4975	-0.7852	0.2142	0.8501	-1.7828	-1.0788	-0.5489	-0.9719
GERMAN	Y																
CAR (0)		-1.01%	-0.02%	0.32%	0.26%	-0.84%	-0.05%	0.14%	-0.03%	-0.61%	0.11%	-0.16%	-0.12%	-0.58%	-0.24%	-0.12%	-0.17%
		-2.1777	-0.0453	1.1600	1.0575	-1.4989	-0.1127	0.3756	-0.1008	-1.0575	0.2143	-0.3607	-0.2853	-0.9605	-0.4246	-0.2250	-0.3547
CAR (1)		-1.04%	0.14%	0.28%	0.18%	-0.83%	0.00%	0.01%	-0.11%	-0.36%	0.04%	-0.25%	-0.17%	-0.70%	-0.24%	-0.27%	-0.32%
		-2.4355	0.4385	1.0403	0.7457	-1.6293	-0.0112	0.0264	-0.3169	-0.6465	0.0794	-0.5633	-0.4294	-1.1172	-0.4298	-0.5201	-0.6564
BHAR (0)		-1.04%	0.42%	0.27%	-0.28%	-0.66%	0.06%	0.67%	0.32%	-0.26%	0.63%	-0.49%	0.42%	-0.83%	-0.63%	0.18%	-0.64%
		-1.7885	0.7881	0.4638	-0.5064	-1.0964	0.1019	1.1243	0.5902	-0.3718	0.9535	-0.7356	0.6833	-1.2606	-0.9270	0.2911	-0.9958
BHAR (1)		-0.99%	0.58%	0.10%	-0.25%	-1.05%	-0.31%	0.19%	-0.04%	-0.39%	0.46%	-0.58%	0.36%	-0.91%	-1.01%	-0.23%	-1.08%
		-1.7573	1.1014	0.1843	-0.4722	-1.6966	-0.5381	0.3149	-0.0776	-0.5693	0.6990	-0.8920	0.5772	-1.3390	-1.5406	-0.3771	-1.7493

MW	J =		3				6	<u> </u>			9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		-1.55%	-1.29%	-1.25%	-1.16%	-1.66%	-1.33%	-1.08%	-1.04%	-1.93%	-1.43%	-1.17%	-1.05%	-1.65%	-1.18%	-1.12%	-1.21%
		-2.4835	-2.4773	-2.8307	-3.0024	-2.1301	-1.9915	-1.9633	-2.0714	-2.5998	-2.1957	-1.9489	-1.8668	-2.1391	-1.6048	-1.6417	-1.8140
CAR (1)		-1.74%	-1.25%	-1.18%	-1.17%	-1.65%	-1.39%	-1.00%	-1.16%	-2.07%	-1.34%	-1.19%	-1.05%	-1.39%	-1.11%	-1.19%	-1.17%
		-2.7425	-2.4839	-2.8195	-2.9682	-2.2775	-2.2470	-1.9035	-2.3201	-2.8729	-2.1072	-2.0315	-1.8384	-1.7659	-1.4992	-1.7200	-1.7203
BHAR (0)		-1.43%	-0.05%	-0.14%	0.25%	-1.36%	-0.46%	-0.95%	-1.11%	-1.28%	-0.51%	-1.68%	0.38%	-1.71%	-1.84%	-0.52%	-1.33%
		-1.6897	-0.0713	-0.1591	0.3508	-1.4618	-0.5621	-1.0396	-1.3550	-1.4134	-0.5910	-1.9734	0.5186	-1.9101	-1.9809	-0.6229	-1.5785
BHAR (1)		-1.03%	0.44%	0.14%	0.45%	-0.60%	-0.48%	-0.30%	-1.49%	-0.93%	0.06%	-1.52%	0.38%	-0.77%	-1.44%	-0.26%	-1.27%
		-1.3029	0.6050	0.1607	0.6370	-0.6567	-0.5740	-0.3255	-1.7928	-1.0406	0.0730	-1.8257	0.5088	-0.8358	-1.5738	-0.3043	-1.4709
HONGKON	IG																
CAR (0)		-1.15%	0.04%	-0.04%	0.04%	-0.20%	0.15%	0.10%	0.03%	0.04%	0.22%	0.00%	-0.15%	-0.20%	-0.19%	-0.43%	-0.52%
		-2.4379	0.1032	-0.1230	0.1550	-0.3497	0.3038	0.2435	0.0905	0.0672	0.4236	0.0064	-0.3716	-0.3418	-0.3772	-0.9539	-1.2796
CAR (1)		-0.82%	-0.01%	0.03%	-0.03%	-0.23%	0.04%	-0.13%	-0.14%	0.07%	-0.18%	-0.21%	-0.39%	-0.74%	-0.51%	-0.66%	-0.71%
		-1.8277	-0.0339	0.1043	-0.1057	-0.4096	0.0888	-0.3204	-0.3980	0.1175	-0.3503	-0.4744	-0.9691	-1.2697	-1.0434	-1.5058	-1.8327
BHAR (0)		-1.89%	0.04%	-0.54%	-0.23%	0.19%	0.20%	0.06%	-0.64%	-0.33%	0.17%	-0.19%	0.43%	-0.51%	-0.08%	-0.20%	-0.47%
		-2.9887	0.0695	-0.8650	-0.4763	0.3060	0.3330	0.0913	-1.1342	-0.4530	0.2406	-0.3124	0.4912	-0.7649	-0.1436	-0.3233	-0.8221
BHAR (1)		-1.26%	0.02%	-0.54%	-0.25%	-0.47%	-0.29%	-0.11%	-1.12%	-0.39%	-0.27%	-0.26%	0.49%	-1.03%	-0.82%	-0.96%	-0.87%
		-1.9205	0.0399	-0.8930	-0.5046	-0.7239	-0.4734	-0.1814	-1.9656	-0.5343	-0.3616	-0.4551	0.5607	-1.5598	-1.4254	-1.5735	-1.4404
IRELAND)																
CAR (0)		-0.05%	0.41%	0.14%	0.18%	0.40%	0.81%	0.86%	0.80%	0.60%	0.81%	0.91%	0.85%	0.72%	0.60%	0.63%	0.48%
		-0.0712	0.7076	0.2800	0.3959	0.5268	1.2126	1.4277	1.4167	0.7059	1.0941	1.2871	1.2812	0.8574	0.8019	0.8751	0.7173
CAR (1)		0.05%	0.05%	0.02%	0.16%	0.49%	0.57%	0.76%	0.62%	0.14%	0.63%	0.75%	0.71%	0.71%	0.64%	0.66%	0.35%
		0.0738	0.0981	0.0325	0.3741	0.6429	0.8575	1.2635	1.0917	0.1745	0.8500	1.0543	1.0836	0.8968	0.8478	0.9384	0.5474
BHAR (0)		0.40%	-1.04%	-1.01%	-0.33%	0.18%	1.67%	-1.17%	2.88%	0.65%	0.96%	1.71%	1.01%	1.25%	0.70%	1.28%	0.23%
		0.4134	-1.0201	-1.0081	-0.3004	0.1940	1.9033	-1.2026	2.8296	0.6514	0.9603	1.7939	1.0057	1.3212	0.7543	1.2947	0.2384
BHAR (1)		-0.43%	-1.31%	-1.72%	-0.24%	0.50%	1.41%	-0.45%	2.24%	-0.04%	0.78%	1.48%	0.26%	0.84%	0.20%	1.13%	0.36%
		-0.4832	-1.2472	-1.7559	-0.2188	0.5355	1.6316	-0.4840	2.3473	-0.0367	0.7711	1.5153	0.2615	0.9032	0.2139	1.1607	0.3789
ISRAEL					-												
CAR (0)		-2.19%	-1.24%	-0.97%	-0.92%	-1.16%	-0.63%	-0.46%	-0.49%	-0.58%	-0.32%	-0.19%	-0.41%	-0.73%	-0.28%	-0.39%	-0.66%
		-4.5369	-3.2456	-3.0837	-3.3929	-2.1484	-1.4118	-1.2172	-1.3881	-1.0356	-0.6565	-0.4290	-0.9926	-1.1971	-0.5159	-0.7692	-1.4159
CAR (1)		-2.21%	-1.16%	-0.89%	-0.92%	-1.09%	-0.45%	-0.49%	-0.60%	-0.63%	-0.32%	-0.31%	-0.53%	-0.49%	-0.25%	-0.49%	-0.71%
		-4.4177	-3.0841	-2.8552	-3.3496	-2.0362	-1.0748	-1.2961	-1.6587	-1.1553	-0.6684	-0.7002	-1.3028	-0.7816	-0.4504	-0.9660	-1.5569
BHAR (0)		-2.38%	-1.77%	-0.76%	-1.18%	-0.53%	-0.23%	-0.95%	-0.27%	-0.02%	0.37%	-0.19%	0.68%	-0.45%	0.27%	0.05%	0.74%
		-3.8266	-3.1284	-1.1974	-2.1673	-0.8104	-0.3667	-1.7869	-0.4213	-0.0336	0.6238	-0.2899	1.0967	-0.6076	0.3978	0.0812	1.0883
BHAR (1)		-3.09%	-1.73%	-0.57%	-1.14%	-1.33%	-0.05%	-1.06%	-0.26%	-0.39%	0.06%	-0.33%	0.42%	-0.19%	0.34%	-0.32%	0.94%
		-4.4019	-2.9879	-0.8430	-2.0339	-1.9913	-0.0835	-1.9423	-0.4126	-0.5792	0.0928	-0.4887	0.6804	-0.2377	0.5000	-0.4893	1.3480

MW	J =		3				6	i			9	1			13	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		-0.95%	-0.37%	-0.27%	-0.19%	-0.36%	0.01%	-0.19%	-0.24%	-0.14%	0.23%	0.22%	0.13%	-0.13%	0.35%	0.25%	0.09%
		-2.0658	-0.9776	-0.8774	-0.6997	-0.6645	0.0259	-0.4994	-0.6530	-0.2725	0.5120	0.4975	0.3070	-0.2361	0.7025	0.5070	0.1998
CAR (1)		-0.58%	-0.25%	-0.17%	-0.17%	-0.34%	-0.06%	-0.14%	-0.30%	0.06%	0.31%	0.15%	0.04%	-0.28%	0.23%	0.11%	-0.08%
		-1.2764	-0.6972	-0.5517	-0.6032	-0.6828	-0.1405	-0.3524	-0.7970	0.1163	0.6912	0.3448	0.1011	-0.5117	0.4435	0.2249	-0.1673
BHAR (0)		-0.86%	-1.48%	-0.63%	-0.77%	-0.18%	-0.35%	-0.79%	-1.29%	-0.31%	-0.65%	-0.04%	-0.65%	0.14%	0.13%	-0.18%	0.57%
		-1.2459	-2.3934	-1.0933	-1.3275	-0.2764	-0.5308	-1.3585	-2.1663	-0.4963	-1.0447	-0.0592	-1.0130	0.2206	0.1904	-0.2775	0.8436
BHAR (1)		-0.98%	-1.41%	0.13%	-0.31%	-0.65%	-0.54%	-0.69%	-1.38%	-0.25%	-0.24%	-0.29%	-0.37%	-0.17%	0.15%	-0.17%	0.49%
		-1.4850	-2.3913	0.2329	-0.5753	-1.0465	-0.8495	-1.1824	-2.3457	-0.4199	-0.4223	-0.5013	-0.6318	-0.2579	0.2165	-0.2530	0.7328
JAPAN																	
CAR (0)		-0.98%	-0.63%	-0.40%	-0.26%	-0.83%	-0.47%	-0.24%	-0.18%	-0.79%	-0.35%	-0.27%	-0.21%	-0.61%	-0.35%	-0.22%	-0.26%
		-3.1141	-2.3265	-1.7369	-1.2880	-2.1524	-1.4036	-0.8169	-0.6853	-1.9790	-0.9955	-0.8353	-0.7151	-1.5546	-0.9552	-0.6417	-0.8339
CAR (1)		-0.88%	-0.55%	-0.30%	-0.25%	-0.61%	-0.32%	-0.14%	-0.16%	-0.61%	-0.32%	-0.24%	-0.25%	-0.64%	-0.35%	-0.24%	-0.30%
		-2.8996	-2.0608	-1.3288	-1.2307	-1.6280	-0.9651	-0.4812	-0.6215	-1.6245	-0.9184	-0.7443	-0.8616	-1.6165	-0.9762	-0.7334	-0.9895
BHAR (0)		-0.85%	-0.37%	-0.26%	0.30%	-0.64%	-0.08%	-0.24%	0.24%	-0.49%	0.01%	-0.29%	0.08%	-0.41%	-0.19%	-0.37%	-0.16%
		-2.1196	-0.9892	-0.6850	0.8099	-1.4880	-0.1833	-0.5898	0.6075	-1.1777	0.0264	-0.8229	0.2124	-0.9691	-0.4711	-0.9124	-0.4708
BHAR (1)		-0.63%	-0.64%	-0.50%	0.37%	-0.58%	0.07%	-0.33%	0.13%	-0.82%	-0.32%	-0.36%	-0.13%	-0.61%	-0.31%	-0.71%	-0.28%
		-1.5263	-1.7142	-1.3174	1.0352	-1.3653	0.1828	-0.8743	0.3497	-2.0144	-0.8099	-1.0509	-0.3369	-1.4488	-0.7986	-1.7323	-0.8106
NETHERLAN	IDS																
CAR (0)		-0.17%	-0.01%	0.04%	0.04%	-0.72%	-0.18%	0.01%	0.01%	-0.16%	-0.03%	0.09%	0.06%	0.05%	0.26%	0.18%	0.03%
		-0.3726	-0.0174	0.1190	0.1509	-1.4057	-0.4190	0.0205	0.0340	-0.2829	-0.0709	0.2230	0.1499	0.0900	0.5621	0.4134	0.0844
CAR (1)		-0.44%	-0.15%	-0.05%	-0.01%	-0.82%	-0.07%	-0.11%	-0.11%	-0.16%	-0.11%	0.06%	-0.05%	-0.36%	0.07%	-0.10%	-0.08%
		-0.9628	-0.4305	-0.1617	-0.0451	-1.6890	-0.1739	-0.2984	-0.3172	-0.3050	-0.2486	0.1462	-0.1228	-0.6943	0.1501	-0.2271	-0.2090
BHAR (0)		-0.08%	-0.54%	-0.91%	0.40%	-0.92%	-0.37%	-0.17%	1.30%	-0.36%	0.59%	-0.28%	0.53%	-0.08%	0.49%	-0.27%	-0.53%
		-0.1315	-0.8252	-1.3952	0.6197	-1.5458	-0.6164	-0.2542	2.0987	-0.5324	0.8873	-0.5286	0.9709	-0.1386	0.8432	-0.4681	-0.8702
BHAR (1)		-0.25%	-0.69%	-1.11%	0.96%	-0.92%	-0.39%	-0.21%	0.99%	0.06%	0.68%	0.05%	0.46%	-0.41%	-0.09%	-0.44%	-1.12%
		-0.4330	-1.0872	-1.8092	1.4912	-1.4542	-0.6484	-0.3154	1.6234	0.0918	1.0589	0.0950	0.8295	-0.6842	-0.1623	-0.7493	-1.9000
NEWZEALA	ND																
CAR (0)		0.73%	0.76%	0.43%	0.31%	1.23%	0.87%	0.74%	0.57%	1.00%	1.15%	0.82%	0.71%	1.33%	0.96%	0.78%	0.63%
		1.2875	1.8988	1.3099	1.1268	1.8900	1.6747	1.8032	1.6456	1.4004	2.1617	1.8687	1.8082	2.1082	1.9520	1.8388	1.6557
CAR (1)		0.22%	0.28%	0.22%	0.04%	0.66%	0.45%	0.48%	0.30%	0.75%	0.85%	0.60%	0.53%	0.85%	0.61%	0.56%	0.40%
		0.4523	0.7762	0.7595	0.1436	1.0611	0.9516	1.2644	0.9224	1.1710	1.7782	1.4701	1.4111	1.4229	1.2853	1.3770	1.0679
BHAR (0)		0.72%	0.46%	0.32%	-0.80%	0.77%	0.53%	0.15%	0.12%	0.66%	-0.21%	0.54%	-0.12%	1.85%	2.13%	1.14%	0.60%
		1.0665	0.7136	0.4765	-1.2869	1.1267	0.8887	0.2451	0.2053	0.9435	-0.3755	1.1123	-0.2312	2.6438	3.2120	1.7184	1.2205
BHAR (1)		0.16%	-0.35%	-0.22%	-0.95%	0.05%	-0.44%	-0.15%	-0.66%	0.36%	-0.02%	0.52%	-0.01%	1.31%	1.14%	0.83%	0.40%
		0.2359	-0.5518	-0.3658	-1.5683	0.0750	-0.7949	-0.2401	-1.2233	0.5216	-0.0360	1.0503	-0.0139	1.8870	1.7918	1.3157	0.8059

MW	J =		3	3			6	i			9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY																	
CAR (0)		-1.53%	-0.36%	-0.13%	-0.07%	-1.17%	-0.47%	-0.22%	-0.28%	-1.47%	-0.75%	-0.52%	-0.70%	-0.74%	-0.59%	-0.54%	-0.62%
		-2.7838	-0.8416	-0.3604	-0.2262	-1.7977	-0.8630	-0.4842	-0.7293	-2.1249	-1.3086	-1.0766	-1.6923	-1.0647	-0.9960	-1.0252	-1.3557
CAR (1)		-1.28%	-0.29%	0.03%	-0.16%	-1.14%	-0.31%	-0.15%	-0.44%	-1.22%	-0.75%	-0.65%	-0.86%	-1.15%	-0.83%	-0.75%	-0.83%
		-2.3340	-0.6771	0.0720	-0.5420	-1.8541	-0.5884	-0.3516	-1.1678	-1.7963	-1.3688	-1.3786	-2.1214	-1.7872	-1.4615	-1.5200	-1.8290
BHAR (0)		-1.92%	-0.90%	-1.37%	-1.19%	-1.51%	-0.69%	-0.36%	-0.06%	-0.58%	-0.80%	-0.20%	-0.52%	-0.42%	0.02%	-0.44%	0.42%
		-2.6045	-1.1520	-2.0617	-1.7778	-1.8312	-0.9376	-0.4617	-0.0957	-0.6756	-0.9723	-0.2666	-0.7028	-0.5035	0.0264	-0.5858	0.5818
BHAR (1)		-1.45%	-0.17%	-1.12%	-1.03%	-1.05%	-0.47%	-0.47%	-0.30%	-0.75%	-0.52%	-0.24%	-0.63%	-0.85%	-0.58%	-0.31%	-0.18%
		-2.1870	-0.2526	-1.7587	-1.6445	-1.3427	-0.6574	-0.6348	-0.4668	-0.9312	-0.6815	-0.3333	-0.8748	-1.0763	-0.7704	-0.4342	-0.2487
PORTUGA	L																
CAR (0)		-1.13%	-0.25%	0.02%	-0.01%	-0.60%	-0.34%	-0.04%	-0.24%	-1.08%	-0.39%	-0.60%	-0.71%	-1.15%	-0.83%	-0.68%	-0.60%
		-1.7406	-0.4835	0.0508	-0.0200	-0.7989	-0.5421	-0.0698	-0.4710	-1.4811	-0.5670	-0.9601	-1.2476	-1.4607	-1.2623	-1.1344	-1.0810
CAR (1)		-0.32%	0.23%	0.13%	0.10%	-0.51%	-0.07%	-0.04%	-0.11%	-0.81%	-0.37%	-0.52%	-0.66%	-1.04%	-0.72%	-0.58%	-0.68%
		-0.5217	0.4509	0.2700	0.2432	-0.7299	-0.1059	-0.0740	-0.2230	-1.0901	-0.5447	-0.8465	-1.1459	-1.4229	-1.1299	-0.9821	-1.2261
BHAR (0)		-0.93%	0.28%	0.29%	1.02%	-0.37%	0.80%	0.57%	1.10%	-1.33%	-0.08%	0.48%	0.35%	-1.42%	-1.18%	-1.31%	-1.27%
		-1.0870	0.3051	0.3194	1.1228	-0.4069	0.8796	0.6260	1.3068	-1.5766	-0.0856	0.5465	0.3715	-1.5659	-1.4935	-1.5576	-1.4315
BHAR (1)		-0.58%	0.81%	0.20%	0.98%	0.53%	0.85%	1.00%	0.99%	-1.02%	0.18%	0.85%	-0.07%	-1.15%	-1.44%	-1.38%	-1.59%
		-0.7044	0.8721	0.2171	1.0990	0.6791	0.9798	1.1055	1.2137	-1.3798	0.2164	1.1423	-0.0763	-1.4020	-1.8041	-1.6554	-1.8414
SINGAPOR	E																
CAR (0)		-0.83%	0.22%	0.31%	0.38%	-0.59%	-0.01%	0.25%	0.35%	-0.10%	0.20%	0.26%	0.18%	0.10%	0.31%	0.33%	0.22%
		-1.7424	0.6525	1.0589	1.4084	-1.1653	-0.0317	0.6401	0.9922	-0.1879	0.3863	0.5417	0.4327	0.1591	0.5492	0.6404	0.4899
CAR (1)		-0.84%	0.24%	0.29%	0.27%	-0.41%	0.00%	0.22%	0.24%	-0.35%	0.11%	0.11%	0.00%	-0.20%	0.09%	0.16%	0.05%
		-1.8448	0.7300	0.9558	0.9926	-0.7704	0.0079	0.5418	0.6767	-0.6156	0.1966	0.2297	-0.0017	-0.3299	0.1603	0.3230	0.1144
BHAR (0)		-1.06%	0.55%	0.11%	-0.65%	0.03%	-0.39%	0.72%	0.01%	0.15%	-0.13%	-0.37%	-0.83%	-0.17%	0.06%	0.66%	-0.14%
		-1.8932	1.1111	0.2141	-1.2083	0.0551	-0.5941	1.1619	0.0190	0.2537	-0.2133	-0.5815	-1.1854	-0.2737	0.0844	1.0800	-0.2176
BHAR (1)		-1.50%	-0.74%	-0.01%	-0.98%	-0.77%	-0.66%	1.09%	0.09%	-0.75%	0.26%	-0.29%	-1.11%	-0.45%	-0.27%	0.10%	-0.38%
		-2.7025	-1.3597	-0.0204	-1.7724	-1.1672	-0.9943	1.5965	0.1538	-1.1922	0.3926	-0.4554	-1.5673	-0.7080	-0.3997	0.1557	-0.6123
SPAIN																	
CAR (0)		-1.31%	-0.71%	-0.27%	0.01%	-1.43%	-0.86%	-0.25%	-0.16%	-1.64%	-0.72%	-0.39%	-0.38%	-0.50%	-0.30%	-0.24%	-0.23%
		-2.8461	-1.8327	-0.8310	0.0391	-2.6772	-1.8885	-0.6926	-0.4979	-3.0061	-1.6499	-0.9837	-1.0061	-1.0418	-0.6829	-0.5512	-0.5865
CAR (1)		-1.29%	-0.55%	-0.10%	0.02%	-1.38%	-0.59%	-0.13%	-0.20%	-1.10%	-0.51%	-0.35%	-0.28%	-0.66%	-0.45%	-0.25%	-0.28%
		-2.6212	-1.4355	-0.3233	0.0578	-2.6298	-1.3622	-0.3646	-0.6255	-2.1286	-1.1808	-0.8793	-0.7696	-1.4114	-0.9749	-0.5827	-0.7015
BHAR (0)		-1.41%	-1.93%	-0.69%	-0.36%	-1.95%	-1.65%	-0.92%	-0.87%	-2.09%	-1.04%	-0.24%	-0.96%	-0.60%	0.39%	-0.67%	-0.15%
		-2.4564	-2.8305	-1.1241	-0.5393	-2.8793	-2.2557	-1.3828	-1.3250	-3.2591	-1.6013	-0.4384	-1.4660	-0.9771	0.6437	-1.0692	-0.2413
BHAR (1)		-1.42%	-1.33%	-0.70%	-0.17%	-1.36%	-1.14%	-0.51%	-0.89%	-1.10%	-0.83%	-0.27%	-0.60%	-0.91%	-0.16%	-0.63%	-0.22%
-		-2.1584	-1.9546	-1.1248	-0.2436	-2.0891	-1.6078	-0.7770	-1.3619	-1.7975	-1.2346	-0.4998	-0.9286	-1.4673	-0.2694	-0.9996	-0.3588

MW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		-0.54%	0.34%	0.34%	0.42%	0.50%	0.76%	0.90%	0.83%	0.82%	0.99%	0.87%	0.67%	0.80%	0.88%	0.77%	0.62%
		-1.0718	0.8239	0.8880	1.2220	0.7358	1.3073	1.7379	1.7836	1.1587	1.5829	1.5415	1.2435	1.1383	1.3780	1.2573	1.0761
CAR (1)		-0.42%	0.27%	0.36%	0.30%	0.72%	0.91%	0.93%	0.78%	0.78%	0.70%	0.59%	0.46%	0.47%	0.75%	0.58%	0.49%
		-0.8897	0.6386	0.9685	0.8871	1.0367	1.5736	1.8053	1.6738	1.1512	1.1604	1.0593	0.8742	0.6990	1.1748	0.9588	0.8731
BHAR (0)		-0.93%	0.14%	-0.75%	-0.31%	0.50%	0.48%	0.81%	0.39%	0.67%	0.48%	0.54%	-0.37%	0.06%	0.38%	0.64%	1.55%
		-1.1398	0.1751	-0.9814	-0.3975	0.5810	0.5705	0.9690	0.5237	0.8374	0.6570	0.7491	-0.5325	0.0722	0.4537	0.8195	1.9875
BHAR (1)		-0.84%	0.90%	-0.40%	-0.36%	0.49%	0.33%	0.52%	0.20%	0.19%	0.38%	0.56%	-0.14%	0.36%	0.31%	0.61%	1.61%
		-1.1019	1.2355	-0.5377	-0.4865	0.5922	0.4015	0.6240	0.2717	0.2278	0.5084	0.7842	-0.1995	0.4490	0.3658	0.7777	2.0010
SWITZERLA	ND																
CAR (0)		-0.76%	-0.02%	0.09%	0.14%	-0.16%	0.34%	0.29%	0.18%	-0.04%	0.23%	0.04%	-0.05%	0.29%	0.28%	0.24%	0.06%
		-2.6304	-0.0863	0.4173	0.7152	-0.4655	1.0492	1.0361	0.6768	-0.0922	0.6351	0.1272	-0.1790	0.6674	0.7040	0.6692	0.1831
CAR (1)		-0.37%	0.08%	0.22%	0.09%	0.11%	0.39%	0.20%	0.11%	0.02%	0.08%	-0.08%	-0.16%	0.18%	0.19%	0.13%	-0.09%
		-1.2038	0.3481	0.9807	0.4805	0.3047	1.1935	0.7114	0.4223	0.0524	0.2259	-0.2366	-0.5560	0.4003	0.4708	0.3606	-0.2762
BHAR (0)		-1.16%	0.07%	-0.38%	0.64%	-0.32%	0.67%	-0.32%	0.30%	-0.27%	0.28%	-0.08%	0.05%	0.44%	0.58%	0.06%	0.53%
		-3.0470	0.1623	-1.0225	1.4980	-0.7301	1.6170	-0.7645	0.6511	-0.5126	0.5371	-0.1769	0.1142	0.8462	1.1880	0.1103	1.2009
BHAR (1)		-0.73%	0.50%	-0.28%	0.65%	0.16%	0.65%	-0.51%	0.19%	-0.16%	0.43%	-0.44%	0.00%	0.46%	0.66%	-0.20%	0.40%
		-1.8939	1.2386	-0.7170	1.5764	0.3899	1.5323	-1.2403	0.3920	-0.3044	0.8473	-0.9103	0.0018	0.9200	1.4202	-0.3943	0.9295
UK																	
CAR (0)		-1.00%	-0.20%	-0.02%	0.23%	-0.69%	-0.17%	0.29%	0.23%	-0.55%	0.32%	0.32%	0.21%	-0.22%	0.23%	0.20%	0.02%
		-2.7254	-0.6300	-0.0773	0.9112	-1.6162	-0.4424	0.8636	0.7598	-1.2835	0.8119	0.8762	0.6216	-0.4892	0.5341	0.5254	0.0675
CAR (1)		-0.77%	-0.10%	0.15%	0.24%	-0.54%	0.10%	0.41%	0.21%	-0.15%	0.39%	0.36%	0.12%	-0.20%	0.22%	0.13%	-0.07%
		-2.1872	-0.3315	0.5524	0.9633	-1.2872	0.2630	1.2240	0.6932	-0.3443	0.9704	0.9885	0.3618	-0.4577	0.5262	0.3408	-0.1950
BHAR (0)		-0.79%	0.43%	-0.19%	0.52%	-0.47%	0.12%	0.38%	0.09%	-0.09%	0.86%	0.48%	0.20%	-0.09%	0.06%	0.28%	0.01%
		-1.6714	0.8826	-0.4344	1.1368	-0.8789	0.2457	0.7351	0.1949	-0.1710	1.6576	1.0227	0.4278	-0.1802	0.1218	0.5595	0.0227
BHAR (1)		-0.46%	0.49%	-0.26%	0.42%	-0.44%	0.17%	0.10%	-0.09%	0.07%	0.83%	0.50%	0.04%	0.18%	-0.16%	0.04%	-0.40%
		-0.9589	1.0406	-0.6189	0.9562	-0.8693	0.3379	0.2034	-0.2084	0.1428	1.7185	1.0517	0.0962	0.3430	-0.3120	0.0932	-0.8474
US																	
CAR (0)		-1.08%	-0.41%	-0.20%	-0.13%	-0.61%	-0.13%	0.00%	-0.05%	-0.53%	-0.11%	-0.17%	-0.25%	-0.43%	-0.21%	-0.27%	-0.38%
		-3.4192	-1.4557	-0.8039	-0.5991	-1.6087	-0.3597	-0.0149	-0.1618	-1.2889	-0.3018	-0.5190	-0.8141	-1.0733	-0.5629	-0.7751	-1.1683
CAR (1)		-0.80%	-0.31%	-0.13%	-0.17%	-0.35%	-0.05%	0.03%	-0.10%	-0.30%	-0.07%	-0.18%	-0.32%	-0.40%	-0.22%	-0.33%	-0.44%
		-2.5041	-1.1055	-0.5361	-0.7804	-0.9334	-0.1515	0.0957	-0.3501	-0.7334	-0.1996	-0.5444	-1.0561	-1.0245	-0.6139	-0.9630	-1.4009
BHAR (0)		-1.13%	0.15%	-0.83%	-0.06%	-0.67%	-0.65%	-0.14%	-0.38%	-0.43%	-0.03%	-0.08%	-0.50%	-0.44%	-0.49%	-0.31%	-0.39%
		-2.8065	0.3789	-2.2055	-0.1557	-1.6254	-1.6636	-0.3427	-1.2146	-0.9899	-0.0618	-0.2253	-1.5438	-1.0439	-1.1785	-0.7890	-0.9649
BHAR (1)		-0.74%	-0.13%	-0.77%	-0.28%	-0.47%	-0.55%	-0.30%	-0.56%	-0.21%	-0.09%	-0.19%	-0.62%	-0.63%	-0.70%	-0.46%	-0.63%
		-1.8763	-0.3044	-2.0802	-0.7496	-1.0586	-1.3950	-0.7058	-1.8278	-0.4598	-0.2056	-0.4937	-1.8163	-1.4221	-1.6943	-1.1518	-1.5589

Panel C. The time-series momentum using inversed volatility-weighted return

IVOL	J =		3			<u> </u>	6				9	,			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAI	LIA																
CAR (0)		-2.38%	-0.98%	-0.62%	-0.45%	-1.18%	-0.65%	-0.42%	-0.49%	-0.64%	-0.25%	-0.34%	-0.44%	-0.62%	-0.55%	-0.59%	-0.71%
		-10.2621	-5.2742	-4.0230	-3.2085	-4.1881	-2.9791	-2.2329	-2.9282	-2.4569	-1.1110	-1.7323	-2.4909	-2.2543	-2.3416	-2.7861	-3.5931
CAR (1)		-2.02%	-0.78%	-0.45%	-0.45%	-1.12%	-0.63%	-0.50%	-0.59%	-0.55%	-0.30%	-0.46%	-0.59%	-0.85%	-0.74%	-0.81%	-0.88%
		-9.2471	-3.9739	-2.7671	-2.8277	-4.3335	-3.0973	-2.7979	-3.6106	-2.3011	-1.4415	-2.4832	-3.3707	-3.2061	-3.2919	-3.9683	-4.5601
BHAR (0)		-2.04%	-1.04%	-0.56%	-0.78%	-1.25%	-0.97%	-0.93%	-1.03%	-0.66%	-0.46%	-0.48%	-0.38%	-0.97%	-0.96%	-0.75%	-0.70%
		-5.6636	-3.1753	-1.6536	-2.4837	-2.9661	-2.4270	-1.9342	-3.3752	-2.2587	-1.5049	-1.5740	-1.2506	-2.6974	-2.7777	-1.9904	-1.7380
BHAR (1)		-2.23%	-1.41%	-0.81%	-0.59%	-1.39%	-0.83%	-0.95%	-1.03%	-0.96%	-0.79%	-0.55%	-0.77%	-1.22%	-1.08%	-1.12%	-1.19%
		-4.9168	-2.9075	-1.7511	-1.2651	-3.2488	-2.3468	-2.1494	-2.6349	-2.5556	-2.2508	-1.8485	-2.3632	-3.0968	-2.8251	-3.0370	-3.1299
AUSTRI	A																
CAR (0)		-0.48%	-0.14%	0.04%	0.08%	-0.46%	-0.03%	0.32%	0.30%	0.04%	0.31%	0.32%	0.17%	0.20%	0.29%	0.20%	-0.03%
		-1.7053	-0.5827	0.1719	0.4020	-1.1950	-0.0797	1.0608	1.0903	0.0993	0.9029	1.0140	0.6262	0.4703	0.7827	0.5765	-0.0958
CAR (1)		-0.36%	-0.09%	0.03%	0.05%	-0.47%	-0.01%	0.27%	0.16%	0.20%	0.26%	0.24%	0.10%	-0.04%	0.08%	0.03%	-0.21%
		-1.2320	-0.3922	0.1281	0.2310	-1.2586	-0.0319	0.9044	0.6023	0.5423	0.7662	0.7833	0.3798	-0.0928	0.2053	0.0987	-0.6692
BHAR (0)		-0.33%	0.06%	-0.13%	-0.02%	-0.29%	-0.15%	-0.30%	0.42%	-0.03%	0.04%	-0.03%	0.30%	0.08%	-0.19%	0.03%	-0.63%
		-0.7902	0.1420	-0.2941	-0.0372	-0.5920	-0.2993	-0.7133	1.0945	-0.0508	0.0751	-0.0664	0.5903	0.1611	-0.3739	0.0693	-1.2814
BHAR (1)		0.15%	-0.05%	0.19%	-0.12%	-0.16%	-0.13%	0.01%	0.51%	-0.32%	-0.48%	-0.05%	0.11%	-0.05%	-0.25%	-0.44%	-0.48%
		0.3769	-0.1294	0.3912	-0.2929	-0.3476	-0.2708	0.0130	1.2951	-0.6575	-0.8432	-0.1152	0.2326	-0.1101	-0.5099	-0.9267	-0.9923
BELGIU	M	1															
CAR (0)		-0.53%	0.05%	0.12%	0.15%	0.15%	0.31%	0.41%	0.32%	0.37%	0.60%	0.48%	0.40%	0.61%	0.64%	0.55%	0.40%
~.~		-2.3313	0.2449	0.7142	1.0393	0.5787	1.2942	1.9136	1.6285	1.3289	2.3032	1.9897	1.7618	1.8953	2.1536	2.0024	1.5719
CAR (1)		-0.22%	0.05%	0.16%	0.17%	0.28%	0.33%	0.38%	0.29%	0.51%	0.57%	0.47%	0.35%	0.72%	0.56%	0.50%	0.33%
D*** D (0)		-1.0250	0.2939	1.0472	1.1880	1.1198	1.3714	1.7767	1.4613	1.8107	2.2265	1.9668	1.5507	2.1827	1.9202	1.8215	1.3198
BHAR (0)		-0.61%	-0.21%	-0.12%	-0.07%	0.10%	0.16%	0.22%	0.37%	0.29%	0.90%	0.67%	0.61%	0.48%	0.44%	0.49%	0.05%
D**** (1)		-1.9070	-0.5747	-0.3469	-0.1903	0.3036	0.4170	0.7848	1.1193	0.8341	2.4636	1.9041	1.7239	1.4368	1.3093	1.4845	0.1589
BHAR (1)		-0.45%	-0.14%	-0.05%	0.10%	0.26%	-0.07%	0.06%	0.31%	0.25%	0.89%	0.60%	0.27%	0.39%	0.49%	0.36%	0.04%
CANAD		-1.4123	-0.3559	-0.1578	0.2496	0.7669	-0.1959	0.2205	0.9560	0.7334	2.5194	1.6970	0.7850	1.2330	1.5373	1.0870	0.1271
CAR (0)	A	-1.40%	-0.35%	0.00%	0.07%	-0.47%	0.03%	0.28%	0.14%	-0.14%	0.15%	0.04%	-0.14%	-0.15%	-0.16%	-0.25%	-0.46%
CAR (0)		-1.40% -5.3030	-0.35% -1.5757	-0.0137	0.07%	-0.47% -1.4792	0.03%	1.1383	0.14%	-0.14% -0.4201	0.15%	0.04%	-0.14% -0.5606	-0.15% -0.4250	-0.16% -0.5235	-0.25% -0.8747	-0.46% -1.7055
CAR (1)		-1.38%	-0.33%	0.05%	-0.01%	-1.4792 -0.49%	0.1107	0.17%	-0.07%	-0.4201 - 0.17%	-0.01%	-0.17%	-0.37%	-0.4230	-0.3233 - 0.44%	-0.50%	-1.7033 - 0.71%
CAR (1)		-5.4136	-1.4580	0.0576	-0.0176	-1.5853	0.0176	0.7073	-0.3219	-0.1776 -0.5144	-0.0176	-0.6053	-1.4813	-1.3662	-0.44 76 -1.4723	-1.7545	-2.6885
BHAR (0)			-1.4380 - 0.57%	-0.11%	-0.0344 - 0.41%	-1.3833 - 0.75%	-0.20%	0.7073	-0.5219 - 0.57%	-0.3144 - 0.14%	0.0391 0.07%	-0.0033 - 0.12%	-1.4613 - 0.27%	-1.3002 - 0.15%	-1.4/25 -0.33%	-1./343 - 0.40%	-2.0883 - 0.54%
DIIAK (U)		-1.50%	-0.57% -1.4619	-0.11% -0.2815	-0.41% -1.0616	-0.75% -1.5692	-0.4507	0.6254	-0.57% -1.4869	-0.14% -0.3343	0.1679	-0.12% -0.3198	-0.21% -0.6944	-0.15% -0.3869	-0.33% -0.9062	-0.40% -1.0500	-0.54% -1.4967
DHAD (1)		-3.3725 -1.36%	-1.4019 - 0.49%	-0.2813 0.00%		-1.3692 - 0.64%	-0.4307 - 0.07%	0.0234 0.09%	-1.4809 - 0.46%		-0.02%	-0.3198 - 0.18%	-0.0944 - 0.25%	-0.3809 - 0.47%	-0.9062 - 0.65%	-1.0300 - 0.66%	-1.490/ - 0.86%
BHAR (1)		-3.2953	-0.49% -1.3424	-0.0055	-0.36% -1.0133	-0.64% -1.4746	-0.07% -0.1643	0.09%	-0.46% -1.4099	-0.06% -0.1424	-0.04% -0.0492	-0.18% -0.5063	-0.25% -0.6758	-0.47% -1.1998	-0.65% -1.7540	-0.66% -1.8020	-0.86% -2.4429
		-3.2933	-1.3424	-0.0033	-1.0133	-1.4/40	-0.1043	0.2130	-1.4099	-0.1424	-0.0492	-0.5003	-0.0738	-1.1990	-1./540	-1.0020	-2.4429

IVOL	J =		3				6	<u> </u>			9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	K																
CAR (0)		-0.71%	0.17%	0.30%	0.34%	0.20%	0.42%	0.50%	0.37%	0.16%	0.54%	0.38%	0.22%	0.28%	0.55%	0.42%	0.32%
		-3.1738	0.9034	1.7772	2.1097	0.6842	1.4947	1.9422	1.5219	0.4582	1.7508	1.3327	0.8176	0.8560	1.8155	1.4538	1.1666
CAR (1)		-0.61%	0.18%	0.28%	0.30%	0.07%	0.33%	0.35%	0.21%	0.17%	0.45%	0.22%	0.09%	0.34%	0.46%	0.28%	0.21%
		-2.9543	0.9576	1.7131	1.8347	0.2310	1.1810	1.3208	0.8490	0.5398	1.4902	0.7813	0.3376	1.0745	1.5160	1.0040	0.7482
BHAR (0)		-1.05%	-0.40%	-0.36%	-0.39%	0.05%	0.68%	0.47%	0.84%	0.47%	0.20%	0.54%	0.33%	0.18%	0.64%	-0.03%	0.02%
		-3.0195	-0.9894	-0.9788	-0.8930	0.1266	1.8296	1.4449	2.7853	1.2527	0.4595	1.5546	1.0135	0.4575	1.6834	-0.0691	0.0540
BHAR (1)		-0.62%	0.15%	-0.34%	-0.04%	0.08%	0.62%	0.38%	0.63%	0.66%	0.60%	0.63%	0.31%	0.34%	0.68%	0.04%	-0.01%
-		-1.8344	0.3838	-0.9269	-0.0892	0.2147	1.6319	1.1105	1.9318	1.6872	1.4271	1.9255	0.9453	0.8809	1.6723	0.1113	-0.0247
FINLANI	0																
CAR (0)		-0.61%	-0.23%	0.07%	0.11%	0.01%	0.25%	0.37%	0.28%	0.27%	0.52%	0.32%	0.05%	0.49%	0.33%	0.03%	-0.10%
		-1.6682	-0.7646	0.2550	0.4360	0.0300	0.7156	1.1674	0.9293	0.5617	1.1420	0.7530	0.1311	0.9280	0.6893	0.0609	-0.2618
CAR (1)		-0.47%	-0.02%	0.18%	0.15%	-0.06%	0.33%	0.23%	0.21%	0.19%	0.34%	0.09%	-0.11%	0.20%	0.00%	-0.19%	-0.24%
		-1.3596	-0.0792	0.6461	0.6148	-0.1684	0.9453	0.7367	0.7000	0.3940	0.7296	0.2117	-0.2989	0.3962	0.0098	-0.4288	-0.6093
BHAR (0)		-0.63%	-0.74%	0.05%	0.43%	-0.23%	0.08%	-0.45%	-0.13%	0.09%	0.05%	0.21%	-0.32%	0.56%	1.04%	0.18%	0.41%
		-1.2819	-1.4288	0.1009	0.7383	-0.4475	0.1316	-0.7815	-0.2319	0.1690	0.0856	0.3938	-0.6127	0.9848	1.8185	0.3515	0.7931
BHAR (1)		-0.25%	-0.58%	0.29%	0.48%	-0.25%	0.07%	-0.50%	-0.17%	0.03%	0.14%	-0.06%	-0.22%	0.22%	0.59%	0.06%	0.39%
		-0.5564	-1.1042	0.6269	0.8331	-0.4948	0.1120	-0.8552	-0.3036	0.0477	0.2719	-0.1212	-0.4175	0.3777	1.0225	0.1250	0.7979
FRANCE	<u>C</u>		0.4007				0.100/	0.0501		0.100/			0.450/	0.040/	0.000	0.4.50/	
CAR (0)		-1.56%	-0.49%	-0.32%	-0.13%	-0.57%	-0.19%	0.06%	0.07%	-0.19%	0.17%	0.19%	0.12%	0.04%	0.26%	0.16%	0.06%
		-7.3929	-2.8319	-2.1072	-0.9592	-2.5602	-0.8415	0.3235	0.4294	-0.7993	0.7824	0.9521	0.6436	0.1592	1.1944	0.7503	0.2902
CAR (1)		-1.07%	-0.32%	-0.22%	-0.12%	-0.53%	-0.20%	0.03%	-0.04%	0.10%	0.18%	0.15%	0.05%	0.14%	0.24%	0.09%	0.00%
DILAD (0)		-4.9494	-1.7624	-1.3532	-0.7528	-2.2659	-0.8506	0.1222	-0.2229	0.4505	0.8499	0.7767	0.2793	0.5811	1.1399	0.4479	-0.0021
BHAR (0)		-1.16%	-0.76%	-0.22%	-0.53%	-0.49%	-0.35%	0.17%	-0.58%	-0.29%	0.19%	0.35%	0.11%	0.00%	0.18%	0.20%	-0.02%
DIIAD (1)		-3.3927	-2.2040	-0.6760	-1.4497	-1.8542	-1.1878	0.6275	-1.7863	-1.1336	0.6965	1.3907	0.4475	-0.0112	0.6907	0.7387	-0.0682
BHAR (1)		-1.34%	-0.43%	-0.24%	-0.20%	-0.33%	-0.24%	0.21%	-0.14%	0.15%	0.24%	0.33%	-0.09%	0.09%	0.01%	0.02%	-0.17%
GERMAN	TV	-4.4736	-1.2212	-0.5356	-0.5245	-1.1334	-0.8102	0.6824	-0.5090	0.5550	0.8680	1.3364	-0.3660	0.3545	0.0431	0.0967	-0.6839
CAR (0)	1	-1.40%	-0.51%	-0.28%	-0.15%	-1.02%	-0.41%	-0.07%	-0.10%	-0.51%	-0.02%	0.02%	-0.04%	-0.17%	0.09%	0.09%	-0.05%
CAR (0)		-6.2846	-2.6375	-1.7948	-1.0679	-3.6993	-1.6891	-0.3248	-0.4719	-1.8562	-0.0645	0.0772	-0.0 4 /0	-0.5896	0.3225	0.3244	-0.1988
CAR (1)		-1.13%	-0.38%	-0.24%	-0.17%	-0.95%	-0.34%	-0.07%	-0.16%	-0.33%	-0.01%	-0.05%	-0.11%	-0.19%	0.05%	-0.06%	-0.17%
CAR (I)		-5.0519	-2.0055	-1.5100	-1.2073	-3.5034	-1.4535	-0.3527	-0.7933	-1.2481	-0.0251	-0.2131	-0.11 /0 -0.4921	-0.6579	0.0376	-0.2239	-0.7007
BHAR (0)		-1.44%	-0.60%	-0.21%	-0.58%	-1.14%	-0.13%	0.08%	-0.07%	-0.41%	-0.0237	0.05%	-0.07%	-0.33%	-0.29%	-0.2239	-0.01%
DITAK (U)		-3.8519	-1.6998	-0.6255	-1.6741	-3.4728	-0.4280	0.2319	-0.2373	-1.1926	-0.0176	0.03 76	-0.2090	-0.9846	-0.9302	-0.3025	-0.0336
BHAR (1)		-0.95%	-0.23%	0.23%	0.00%	-1.20%	-0.30%	-0.09%	-0.20%	-0.47%	-0.13%	-0.14%	0.12%	-0.46%	-0.48%	-0.43%	-0.33%
D11111 (1)		-2.8618	-0.6798	0.5986	-0.0032	-3.4133	-0.8642	-0.2548	-0.5585	-1.3507	-0.3378	-0.4067	0.3178	-1.3380	-1.4882	-1.3847	-0.9609
		-2.0010	-0.0790	0.5900	-0.0032	-3.4133	-0.0042	-0.2340	-0.5565	-1.550/	-0.3370	-0.400/	0.51/0	-1.5500	-1.4002	-1.304/	-0.9009

IVOL	J =		3				6	<u> </u>			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		-1.45%	-0.85%	-0.87%	-0.92%	-0.95%	-0.66%	-0.68%	-0.85%	-0.94%	-0.79%	-0.92%	-1.01%	-1.01%	-1.10%	-1.28%	-1.37%
		-2.9250	-2.1183	-2.4944	-2.9678	-1.5011	-1.1989	-1.4930	-2.0415	-1.4422	-1.3462	-1.7062	-2.0461	-1.4668	-1.7644	-2.2585	-2.6241
CAR (1)		-1.58%	-0.92%	-0.93%	-1.01%	-0.83%	-0.77%	-0.71%	-1.01%	-1.26%	-0.97%	-1.12%	-1.14%	-1.04%	-1.24%	-1.46%	-1.43%
		-3.4180	-2.5345	-2.8355	-3.3659	-1.4066	-1.5253	-1.6039	-2.3906	-1.9312	-1.6515	-2.1134	-2.3367	-1.5293	-1.9880	-2.6405	-2.7674
BHAR (0)		-1.47%	0.03%	-0.24%	0.17%	-0.50%	-0.07%	-0.81%	-0.88%	0.05%	-0.01%	-1.36%	0.30%	-0.83%	-1.71%	-0.53%	-1.69%
		-2.2282	0.0443	-0.3400	0.2996	-0.7108	-0.1074	-1.2349	-1.3212	0.0587	-0.0150	-1.9318	0.4414	-1.0343	-2.3365	-0.7482	-2.3961
BHAR (1)		-0.86%	0.37%	-0.13%	0.58%	-0.32%	-0.09%	-0.54%	-1.21%	0.16%	0.28%	-1.14%	0.14%	-0.43%	-1.61%	-0.61%	-1.64%
		-1.3608	0.6774	-0.1782	1.0631	-0.4602	-0.1294	-0.7720	-1.8356	0.1968	0.3652	-1.6797	0.2119	-0.5452	-2.2214	-0.8635	-2.2978
HONGKON	IG																
CAR (0)		-1.91%	-0.82%	-0.72%	-0.64%	-1.17%	-0.57%	-0.54%	-0.52%	-0.78%	-0.64%	-0.68%	-0.77%	-1.00%	-1.02%	-1.15%	-1.22%
		-6.6620	-3.4185	-3.3373	-3.3608	-3.2592	-1.6987	-1.8474	-2.0005	-1.9614	-1.8208	-2.2163	-2.6361	-2.5494	-2.8860	-3.5980	-4.2031
CAR (1)		-1.80%	-0.84%	-0.69%	-0.75%	-1.10%	-0.60%	-0.65%	-0.68%	-0.89%	-0.89%	-0.88%	-0.99%	-1.57%	-1.38%	-1.41%	-1.43%
		-6.8506	-3.5041	-3.2314	-3.8158	-2.9773	-1.8281	-2.2769	-2.6380	-2.4021	-2.6204	-2.8663	-3.4331	-3.9230	-3.9932	-4.4939	-5.0105
BHAR (0)		-2.39%	-1.16%	-0.78%	-0.85%	-0.91%	-0.27%	-0.41%	-0.43%	-1.01%	-0.71%	-0.94%	-0.47%	-1.24%	-0.97%	-0.78%	-1.45%
		-5.7280	-2.9422	-1.7940	-2.4321	-2.0271	-0.6415	-0.9486	-1.1268	-1.8628	-1.3196	-2.2406	-0.6635	-2.6595	-2.1875	-1.7713	-3.2832
BHAR (1)		-2.10%	-1.28%	-0.50%	-0.99%	-1.06%	-0.46%	-0.61%	-0.78%	-1.16%	-1.04%	-0.89%	-0.55%	-1.79%	-1.40%	-1.29%	-1.73%
		-4.8235	-2.9781	-1.1870	-2.6132	-2.2562	-1.0991	-1.3580	-2.0518	-2.2389	-1.8567	-1.9995	-0.7616	-3.7494	-3.1740	-3.0375	-3.8198
IRELAND)	1			1				1								
CAR (0)		-1.07%	-0.61%	-0.41%	-0.18%	-0.98%	-0.45%	-0.19%	-0.14%	0.03%	0.21%	0.25%	0.28%	0.21%	0.26%	0.23%	0.03%
		-2.3221	-1.5860	-1.1941	-0.5592	-1.8427	-0.9248	-0.4345	-0.3346	0.0489	0.3667	0.4676	0.5887	0.3206	0.4446	0.4184	0.0600
CAR (1)		-1.07%	-0.81%	-0.46%	-0.21%	-0.92%	-0.46%	-0.14%	-0.18%	-0.26%	0.12%	0.21%	0.15%	0.21%	0.20%	0.11%	-0.07%
		-2.3770	-2.0039	-1.3342	-0.6476	-1.6912	-0.9109	-0.2993	-0.4482	-0.4056	0.2009	0.3960	0.3212	0.3488	0.3477	0.2034	-0.1342
BHAR (0)		-0.49%	-1.88%	-1.18%	-0.01%	-1.25%	-0.14%	-1.52%	0.69%	0.09%	0.39%	0.44%	0.20%	0.68%	0.39%	0.19%	-0.24%
		-0.6656	-2.2675	-1.5562	-0.0176	-1.8810	-0.2017	-2.2230	1.0197	0.1128	0.4900	0.6951	0.2715	0.9193	0.5290	0.2541	-0.3144
BHAR (1)		-1.42%	-2.02%	-1.52%	0.03%	-1.24%	-0.35%	-1.44%	0.47%	-0.40%	0.15%	0.21%	-0.28%	0.43%	-0.07%	-0.22%	-0.34%
		-2.1321	-2.4569	-2.2514	0.0343	-1.9722	-0.5321	-2.1689	0.7120	-0.5134	0.1981	0.3266	-0.3903	0.5792	-0.0923	-0.2991	-0.4519
ISRAEL					1												
CAR (0)		-2.65%	-1.72%	-1.59%	-1.41%	-1.97%	-1.61%	-1.42%	-1.25%	-1.65%	-1.38%	-1.13%	-1.13%	-1.56%	-1.05%	-0.98%	-1.15%
		-10.4212	-8.4174	-8.8909	-8.7245	-6.6544	-6.2868	-6.1586	-6.0922	-4.8080	-4.5138	-4.0317	-4.5595	-4.4278	-3.2552	-3.3255	-4.2535
CAR (1)		-2.42%	-1.61%	-1.52%	-1.32%	-1.75%	-1.49%	-1.41%	-1.29%	-1.76%	-1.39%	-1.26%	-1.23%	-1.20%	-0.94%	-0.99%	-1.17%
		-9.0658	-7.6923	-7.8495	-7.5024	-5.7296	<i>-5.8971</i>	-6.0141	-6.1563	-5.3013	-4.4726	-4.5393	-4.8834	-3.5609	-3.0162	-3.3664	-4.4959
BHAR (0)		-2.49%	-2.02%	-1.54%	-1.40%	-1.84%	-1.61%	-1.59%	-0.87%	-1.54%	-1.05%	-1.09%	-0.55%	-1.33%	-0.49%	-0.81%	-0.47%
		-6.2086	-4.4858	-4.0451	-3.0592	-4.4621	-4.0507	-4.2745	-2.4867	-4.0706	-3.0368	-2.7082	-1.6079	-2.8332	-1.2609	-2.0878	-1.0157
BHAR (1)		-2.57%	-1.99%	-1.92%	-1.39%	-1.94%	-1.48%	-1.66%	-1.20%	-2.02%	-1.38%	-1.28%	-0.63%	-0.76%	-0.41%	-1.11%	-0.43%
		-6.4690	-5.1722	-4.4991	-3.3790	-4.9540	-4.4080	-4.5382	-3.0972	-4.6981	-3.6260	-3.0014	-1.8043	-1.5691	-1.1008	-2.7876	-0.9519

IVOL	J =		3	3			6	<u> </u>			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.04%	0.08%	0.21%	0.21%	0.00%	0.45%	0.35%	0.16%	0.55%	0.65%	0.62%	0.37%	0.41%	0.59%	0.42%	0.21%
		0.1306	0.2923	0.9270	1.0332	0.0102	1.4409	1.2900	0.6432	1.3878	1.9105	1.8947	1.2081	1.0380	1.6380	1.2689	0.6871
CAR (1)		-0.12%	-0.01%	0.12%	0.17%	0.00%	0.35%	0.26%	0.01%	0.37%	0.60%	0.43%	0.20%	0.19%	0.46%	0.23%	0.08%
		-0.3908	-0.0588	0.5638	0.8661	-0.0130	1.2154	1.0063	0.0339	1.0277	1.8458	1.3171	0.6826	0.4779	1.2780	0.7079	0.2521
BHAR (0)		0.02%	-0.46%	-0.35%	-0.41%	0.20%	0.01%	0.02%	-0.74%	0.45%	0.39%	0.48%	-0.16%	0.43%	0.03%	0.18%	-0.17%
		0.0442	-1.1074	-0.9918	-1.0245	0.4076	0.0191	0.0610	-1.7126	0.9580	0.7836	1.0944	-0.3295	0.9602	0.0711	0.3630	-0.3244
BHAR (1)		-0.17%	-0.70%	-0.03%	-0.35%	-0.33%	-0.09%	-0.10%	-0.93%	0.19%	0.29%	0.25%	-0.02%	0.19%	0.09%	0.08%	-0.08%
		-0.4432	-1.7885	-0.0708	-0.8738	-0.8108	-0.2307	-0.2889	-2.4728	0.4583	0.6810	0.5989	-0.0576	0.4222	0.1788	0.1583	-0.1621
JAPAN																	
CAR (0)		-1.03%	-0.68%	-0.55%	-0.34%	-1.09%	-0.75%	-0.47%	-0.42%	-0.98%	-0.58%	-0.48%	-0.48%	-0.72%	-0.58%	-0.54%	-0.53%
		-4.9287	-3.8003	-3.6248	-2.6414	-4.3142	-3.2538	-2.3125	-2.3401	-3.7022	-2.3732	-2.1338	-2.4487	-2.6765	-2.3177	-2.3684	-2.6019
CAR (1)		-1.02%	-0.70%	-0.47%	-0.35%	-1.11%	-0.68%	-0.42%	-0.48%	-0.81%	-0.51%	-0.47%	-0.53%	-0.75%	-0.62%	-0.57%	-0.57%
		-5.1037	-4.0500	-3.2500	-2.7545	-4.4458	-3.0264	-2.1275	-2.7625	-3.1426	-2.1338	-2.1634	-2.8141	-2.7869	-2.5286	-2.6037	-2.8773
BHAR (0)		-1.10%	-0.53%	-0.22%	-0.35%	-0.83%	-0.56%	-0.50%	-0.07%	-0.80%	-0.40%	-0.48%	-0.37%	-0.60%	-0.49%	-0.41%	-0.45%
		-4.2200	-2.1006	-0.9093	-1.2870	-2.8901	-2.0158	-1.7118	-0.2653	-2.8373	-1.3398	-1.8299	-1.4611	-2.1035	-1.7499	-1.4837	-2.0393
BHAR (1)		-1.28%	-0.65%	-0.38%	-0.22%	-1.00%	-0.70%	-0.46%	-0.31%	-0.95%	-0.45%	-0.53%	-0.52%	-0.79%	-0.64%	-0.73%	-0.58%
		-4.8994	-2.6286	-1.6152	-0.8813	-3.4327	-2.5103	-1.6494	-1.1519	-3.5119	-1.5796	-2.1053	-2.0978	-2.8052	-2.3525	-2.7399	-2.6203
NETHERLAN	NDS																
CAR (0)		0.16%	0.43%	0.51%	0.55%	0.26%	0.43%	0.57%	0.46%	0.88%	0.91%	0.86%	0.72%	0.82%	0.97%	0.82%	0.64%
		0.5709	1.6758	2.1592	2.5851	0.7630	1.3875	1.9464	1.6965	2.2174	2.5892	2.6514	2.3750	2.0489	2.7191	2.4820	2.0945
CAR (1)		0.04%	0.37%	0.41%	0.46%	0.11%	0.41%	0.45%	0.32%	0.71%	0.75%	0.68%	0.54%	0.48%	0.76%	0.59%	0.52%
		0.1382	1.4531	1.7732	2.1615	0.3034	1.2925	1.5116	1.1975	1.8367	2.1039	2.0944	1.7747	1.2216	2.1783	1.8133	1.7737
BHAR (0)		0.05%	0.26%	-0.13%	1.02%	0.25%	0.70%	0.74%	1.41%	0.80%	1.49%	0.90%	1.08%	0.58%	1.36%	0.55%	0.65%
		0.1439	0.6051	-0.3304	2.1299	0.6016	1.6851	1.7284	3.6578	1.6745	3.1762	2.3716	2.9544	1.2743	3.2562	1.3856	1.5391
BHAR (1)		-0.07%	0.03%	-0.45%	0.94%	0.00%	0.51%	0.63%	1.17%	1.10%	1.57%	0.78%	1.06%	0.36%	0.75%	0.38%	0.20%
		-0.2255	0.0791	-1.1460	1.9371	0.0045	1.1902	1.4818	3.1735	2.3959	3.1527	2.1463	2.9004	0.8136	1.8227	0.9654	0.4810
NEWZEALA	ND																
CAR (0)		-0.02%	0.38%	0.16%	0.18%	0.97%	0.74%	0.77%	0.57%	0.82%	0.94%	0.68%	0.58%	1.28%	0.93%	0.68%	0.55%
		-0.0450	1.1409	0.6154	0.8332	2.1523	2.0226	2.5842	2.2135	1.6899	2.5446	2.1106	1.9814	2.7063	2.4699	2.1147	1.9070
CAR (1)		-0.01%	0.13%	0.10%	0.02%	0.73%	0.60%	0.61%	0.39%	0.80%	0.76%	0.55%	0.44%	0.94%	0.59%	0.52%	0.37%
		-0.0342	0.4238	0.3977	0.1091	1.6605	1.7416	2.1832	1.6125	1.8152	2.2392	1.8356	1.5618	2.1172	1.6565	1.6943	1.3096
BHAR (0)		-0.24%	0.12%	0.39%	-0.53%	0.71%	0.64%	0.36%	0.34%	0.61%	0.26%	0.71%	0.42%	1.69%	1.77%	1.09%	0.54%
		-0.4773	0.3291	0.7364	-1.3425	1.6748	1.7811	0.8249	0.9890	1.3860	0.6560	1.8833	1.1167	3.1139	3.2118	2.0848	1.3897
BHAR (1)		0.00%	-0.27%	0.05%	-0.77%	0.67%	0.24%	0.34%	-0.03%	0.87%	0.33%	0.86%	0.57%	1.27%	1.05%	0.77%	0.66%
		0.0059	-0.6804	0.1159	-1.8288	1.4191	0.5856	0.7725	-0.0891	1.9311	0.8057	2.3419	1.5722	2.3700	2.0423	1.6030	1.6537

IVOL	J =		3	3			6	<u> </u>			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	,																
CAR (0)		-1.41%	-0.39%	-0.18%	-0.22%	-0.96%	-0.34%	-0.28%	-0.35%	-0.86%	-0.44%	-0.55%	-0.80%	-0.56%	-0.51%	-0.69%	-0.85%
		-3.5212	-1.2053	-0.6635	-0.9613	-1.8178	-0.7737	-0.7646	-1.1389	-1.6697	-1.0090	-1.4542	-2.3956	-1.0358	-1.1273	-1.7242	-2.4112
CAR (1)		-1.53%	-0.39%	-0.17%	-0.29%	-0.80%	-0.17%	-0.24%	-0.50%	-0.84%	-0.62%	-0.76%	-1.04%	-1.06%	-0.88%	-0.98%	-1.08%
		-3.7193	-1.2085	-0.6221	-1.2132	-1.6042	-0.3986	-0.6912	-1.6781	-1.6604	-1.4443	-2.0505	-3.2203	-2.0838	-2.0054	-2.5354	-3.1696
BHAR (0)		-1.38%	-0.06%	-0.44%	-0.68%	-1.31%	-0.56%	-0.83%	-0.31%	0.11%	-0.35%	-0.40%	-0.60%	-0.51%	0.09%	-0.54%	-0.30%
		-2.7081	-0.1074	-0.9016	-1.4246	-1.9656	-0.9564	-1.4019	-0.6350	0.1687	-0.5397	-0.6672	-0.9866	-0.7910	0.1519	-0.9262	-0.5544
BHAR (1)		-1.38%	0.21%	-0.61%	-0.87%	-0.74%	-0.62%	-0.95%	-0.62%	-0.23%	-0.50%	-0.57%	-0.92%	-0.93%	-0.49%	-0.55%	-0.66%
		-2.9363	0.4140	-1.3668	-1.8715	-1.1734	-1.1265	-1.6330	-1.2916	-0.3711	-0.8161	-0.9453	-1.5509	-1.4368	-0.7648	-0.9632	-1.2479
PORTUGA	L																
CAR (0)		-1.69%	-0.42%	-0.31%	-0.40%	-0.65%	-0.15%	-0.12%	-0.26%	-0.80%	-0.25%	-0.33%	-0.46%	-0.98%	-0.65%	-0.58%	-0.71%
		-3.5075	-1.1154	-0.9283	-1.2645	-1.3625	-0.3691	-0.3244	-0.7902	-1.7103	-0.5378	-0.7980	-1.2136	-1.8571	-1.4288	-1.3829	-1.8205
CAR (1)		-1.12%	-0.15%	-0.32%	-0.35%	-0.33%	0.02%	-0.15%	-0.27%	-0.36%	-0.24%	-0.34%	-0.48%	-0.89%	-0.67%	-0.66%	-0.80%
		-2.3695	-0.4092	-0.9062	-1.0456	-0.7324	0.0545	-0.4107	-0.8157	-0.7548	-0.5164	-0.7984	-1.2616	-1.7119	-1.4684	-1.5878	-2.0355
BHAR (0)		-1.82%	0.09%	0.53%	0.25%	-0.42%	-0.04%	0.84%	0.61%	-1.12%	-0.10%	-0.06%	0.16%	-1.26%	-1.10%	-0.57%	-1.11%
		-2.6798	0.1305	0.6730	0.3530	-0.7213	-0.0683	1.1662	0.8919	-2.1891	-0.1717	-0.1141	0.2664	-2.0175	-1.7236	-1.0331	-2.0781
BHAR (1)		-1.11%	0.85%	1.14%	0.52%	0.25%	0.56%	1.17%	-0.04%	-0.57%	0.46%	-0.02%	-0.10%	-1.25%	-1.43%	-0.71%	-1.25%
		-1.6338	1.0972	1.3286	0.6843	0.4327	0.7514	1.5391	-0.0658	-1.0215	0.7968	-0.0424	-0.1670	-2.0988	-2.2521	-1.3303	-2.4696
SINGAPOR	E																
CAR (0)		-0.73%	0.27%	0.27%	0.21%	-0.32%	0.25%	0.33%	0.24%	0.20%	0.46%	0.35%	0.22%	0.23%	0.34%	0.30%	0.11%
		-1.9053	0.9215	1.0601	0.8902	-0.7726	0.6810	0.9260	0.7254	0.4380	1.0109	0.8376	0.5880	0.4382	0.7040	0.6607	0.2702
CAR (1)		-0.57%	0.26%	0.28%	0.13%	-0.23%	0.20%	0.23%	0.09%	-0.09%	0.24%	0.18%	-0.02%	-0.10%	0.19%	0.11%	-0.09%
		-1.5687	0.9770	1.1090	0.5968	-0.5577	0.5280	0.6187	0.2642	-0.1906	0.5192	0.4243	-0.0510	-0.1920	0.4024	0.2402	-0.2287
BHAR (0)		-1.01%	0.05%	0.04%	-0.54%	-0.02%	-0.06%	0.33%	-0.07%	0.35%	0.36%	0.28%	0.10%	-0.01%	0.49%	0.53%	0.26%
		-2.1976	0.1092	0.0991	-1.3878	-0.0476	-0.1101	0.5830	-0.1538	0.6905	0.7198	0.5980	0.1845	-0.0095	0.8604	1.0423	0.5133
BHAR (1)		-0.82%	-0.62%	-0.05%	-0.66%	-0.65%	-0.03%	0.79%	0.15%	-0.44%	0.39%	0.43%	-0.11%	-0.14%	0.55%	0.20%	0.11%
		-1.8130	-1.3339	-0.1122	-1.6966	-1.1076	-0.0506	1.2637	0.3169	-0.7926	0.6928	0.8467	-0.1940	-0.2595	0.9610	0.3930	0.2156
SPAIN																	
CAR (0)		-1.08%	-0.52%	-0.20%	0.02%	-1.04%	-0.58%	-0.01%	-0.01%	-0.78%	-0.24%	-0.04%	-0.18%	0.02%	-0.05%	0.00%	-0.13%
		-3.5355	-1.9498	-0.8666	0.1096	-2.6596	-1.7199	-0.0184	-0.0559	-1.8960	-0.6527	-0.1235	-0.5985	0.0414	-0.1450	0.0103	-0.4061
CAR (1)		-1.11%	-0.53%	-0.17%	0.01%	-1.14%	-0.36%	0.05%	-0.08%	-0.48%	-0.11%	-0.12%	-0.25%	-0.43%	-0.25%	-0.17%	-0.32%
		-3.3454	-1.9827	-0.7289	0.0248	-2.9428	-1.1254	0.1709	-0.3089	-1.1944	-0.3261	-0.3712	-0.8095	-1.1315	-0.6845	-0.5093	-0.9779
BHAR (0)		-0.86%	-1.49%	-0.53%	-0.31%	-1.17%	-0.76%	-0.19%	-0.83%	-0.42%	-0.27%	0.26%	-0.35%	0.02%	0.51%	-0.11%	-0.09%
		-2.2544	-3.1204	-1.3453	-0.6443	-2.3251	-1.3669	-0.3481	-1.7199	-0.9113	-0.5543	0.5184	-0.6915	0.0384	1.1550	-0.2197	-0.1821
BHAR (1)		-1.11%	-1.05%	-0.43%	0.00%	-1.13%	-0.37%	0.18%	-0.97%	-0.17%	-0.34%	0.09%	-0.46%	-0.75%	0.09%	-0.40%	-0.29%
		-2.4049	-2.0655	-0.9854	0.0079	-2.3826	-0.7047	0.3345	-2.0288	-0.3828	-0.6748	0.1921	-0.9296	-1.5920	0.1974	-0.7986	-0.6096

IVOL	J =		3	<u> </u>			6				9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		-1.13%	0.03%	0.12%	0.25%	-0.05%	0.45%	0.65%	0.55%	0.75%	1.04%	0.80%	0.55%	1.12%	1.02%	0.76%	0.50%
		-3.0453	0.1093	0.4547	1.0347	-0.0980	1.1005	1.7808	1.6790	1.5087	2.3900	1.9898	1.5571	2.3472	2.2316	1.7860	1.3086
CAR (1)		-0.81%	0.09%	0.15%	0.19%	0.20%	0.57%	0.65%	0.44%	0.86%	0.76%	0.56%	0.31%	0.94%	0.78%	0.58%	0.30%
		-2.3420	0.3022	0.5874	0.8096	0.4212	1.3786	1.7749	1.3635	1.8349	1.7959	1.4703	0.8924	2.0522	1.7234	1.4139	0.7979
BHAR (0)		-1.35%	-0.11%	-0.01%	0.20%	0.17%	0.45%	0.40%	0.47%	0.86%	0.92%	0.89%	0.30%	0.89%	1.04%	1.07%	0.98%
		-2.4143	-0.2270	-0.0219	0.4229	0.2541	0.6741	0.6204	0.9091	1.4627	1.6322	1.8044	0.7029	1.5364	1.8322	2.1021	1.8172
BHAR (1)		-1.09%	0.18%	-0.09%	0.59%	0.23%	0.49%	0.40%	0.25%	0.86%	1.03%	1.02%	0.36%	1.33%	0.94%	0.91%	0.93%
		-2.0635	0.3947	-0.1983	1.2852	0.3638	0.7766	0.6069	0.4759	1.4280	1.8588	2.2225	0.9068	2.4540	1.7120	1.8786	1.6874
SWITZERLA	ND																
CAR (0)		-0.39%	0.19%	0.36%	0.41%	0.43%	0.82%	0.81%	0.58%	0.68%	0.90%	0.59%	0.38%	0.54%	0.46%	0.31%	0.16%
		-2.0187	1.0911	2.4514	3.1547	1.6124	3.4449	3.8967	3.0406	2.0789	3.3201	2.4608	1.7515	1.6392	1.5376	1.1646	0.6419
CAR (1)		-0.25%	0.31%	0.39%	0.33%	0.49%	0.76%	0.63%	0.45%	0.60%	0.65%	0.37%	0.20%	0.30%	0.27%	0.15%	0.00%
		-1.2761	1.8277	2.6759	2.5092	1.8746	3.2879	3.0712	2.4117	1.9316	2.4640	1.5780	0.9723	0.9419	0.9495	0.5870	-0.0165
BHAR (0)		-0.58%	0.41%	0.07%	0.99%	0.28%	1.11%	0.62%	1.01%	0.49%	0.97%	0.77%	0.37%	0.44%	0.49%	0.34%	0.41%
		-2.2645	1.4250	0.2362	3.1110	0.8559	3.1716	2.3124	2.5917	1.2083	2.5868	2.2305	1.2197	1.2025	1.5921	0.9195	1.4447
BHAR (1)		-0.36%	0.50%	-0.09%	0.82%	0.64%	1.06%	0.55%	0.95%	0.56%	0.71%	0.50%	0.33%	0.42%	0.40%	-0.02%	0.39%
		-1.3662	1.7323	-0.3580	2.5362	1.9572	3.0932	2.0688	2.4491	1.4319	1.8971	1.4796	1.0606	1.1960	1.2853	-0.0708	1.3708
UK																	
CAR (0)		-0.39%	0.18%	0.19%	0.32%	0.29%	0.34%	0.41%	0.32%	0.46%	0.54%	0.39%	0.26%	0.66%	0.51%	0.31%	0.08%
		-2.3306	1.2606	1.6891	3.1880	1.5181	2.0632	2.8041	2.4348	2.3439	3.0355	2.3075	1.6052	3.2216	2.5731	1.6394	0.4500
CAR (1)		-0.39%	0.08%	0.15%	0.22%	0.03%	0.17%	0.26%	0.17%	0.32%	0.37%	0.25%	0.07%	0.38%	0.29%	0.10%	-0.10%
		-2.3166	0.6208	1.4283	2.2682	0.1856	1.1071	1.9108	1.3659	1.6898	2.0261	1.4756	0.4384	1.8939	1.4913	0.5334	-0.5423
BHAR (0)		-0.20%	0.33%	0.47%	0.68%	0.45%	0.68%	0.21%	0.28%	0.64%	0.61%	0.35%	0.05%	0.75%	0.70%	0.37%	0.13%
		-0.8208	1.4648	2.0989	3.0569	2.0894	3.3106	0.9652	1.4682	2.9733	2.6784	1.7741	0.2270	3.3138	3.2813	1.6048	0.6076
BHAR (1)		-0.13%	0.13%	0.35%	0.42%	0.11%	0.42%	0.04%	0.19%	0.44%	0.39%	0.31%	-0.12%	0.54%	0.29%	-0.01%	-0.21%
		-0.4698	0.5588	1.4078	1.8346	0.4717	1.9705	0.1775	1.0078	1.8689	1.4679	1.2778	-0.5835	2.3561	1.3447	-0.0286	-0.9838
US		1.200/	0.600/	0.400/	0.200/	0.000/	0.420/	0.200/	0.250/	0.600/	0.220/	0.440/	0.510/	0.600/	0.510/	0.500/	0.500/
CAR (0)		-1.38%	-0.60%	-0.42%	-0.38%	-0.88%	-0.43%	-0.30%	-0.37%	-0.62%	-0.33%	-0.41%	-0.51%	-0.62%	-0.51%	-0.59%	-0.72%
GLP (II)		-6.1524	-3.1402	-2.5194	-2.6277	-3.2444	-1.7931	-1.4505	-2.0252	-2.2144	-1.3370	-1.8422	-2.5537	-2.2659	-2.0117	-2.5499	-3.3470
CAR (1)		-1.17%	-0.52%	-0.35%	-0.40%	-0.78%	-0.41%	-0.35%	-0.45%	-0.53%	-0.38%	-0.49%	-0.62%	-0.70%	-0.62%	-0.72%	-0.82%
DVI D (0)		-5.5315	-2.8210	-2.2277	-2.9805	-2.9256	-1.7954	-1.7662	-2.5445	-2.0330	-1.6300	-2.3109	-3.2313	-2.7018	-2.5506	-3.2127	-3.9464
BHAR (0)		-1.29%	-0.25%	-0.41%	-0.22%	-0.85%	-0.57%	-0.35%	-0.42%	-0.52%	-0.20%	-0.35%	-0.55%	-0.55%	-0.52%	-0.52%	-0.68%
DILAD (1)		-4.4884	-0.9790	-1.4993	-0.8463	-2.9781	-2.1903	-1.2062	-1.9809	-1.7989	-0.7199	-1.4865	-2.3598	-1.9858	-1.9467	-1.9742	-2.7390
BHAR (1)		-1.12%	-0.28%	-0.46%	-0.33%	-0.81%	-0.63%	-0.60%	-0.64%	-0.56%	-0.37%	-0.52%	-0.67%	-0.77%	-0.76%	-0.73%	-0.86%
		-3.8637	-1.0905	-1.7349	-1.2932	-2.5957	-2.2936	-2.0252	-2.9972	-1.8324	-1.2805	-2.0599	-2.6989	-2.5931	-2.7364	-2.7414	-3.3284

Table 8.2. Sharp ratio of time-series momentum strategy

This table reports the average monthly Sharpe ratio after accounting for the transaction costs for 16 (J x H) time-series momentum strategies across the 24 stock markets along with an indication of significant level based on the Newey–West adjusted t-statistics. The results all relate to an implementation in which the cut-offs for selecting the stocks to be included in the cross-sectional momentum portfolios were set at 16%.

The ratio measures the increments in excess returns (as measured by the portfolio return minus the risk-free rate) for each additional unit of risk (as measured by the standard deviation of the portfolio returns). Sharpe ratio = $\frac{\overline{MP} - Rf}{Std(MP)}$ where \overline{MP} is the average momentum return after accounting for the transaction costs, Rf is the average risk-free rate and Std (MP) is momentum portfolio standard deviation over the testing period.

Panel A. The time-series momentum using equal-weighted return

EW	J =		3	3			(5			9)			1	12	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAI	LIA																
CAR (0)		-0.68	-0.46	-0.42	-0.43	-0.39	-0.34	-0.30	-0.34	-0.33	-0.26	-0.28	-0.32	-0.30	-0.30	-0.31	-0.35
CAR (1)		-0.59	-0.41	-0.39	-0.43	-0.38	-0.34	-0.34	-0.37	-0.31	-0.28	-0.31	-0.36	-0.34	-0.33	-0.36	-0.39
BHAR (0)		-0.43	-0.27	-0.23	-0.20	-0.32	-0.25	-0.25	-0.27	-0.32	-0.21	-0.19	-0.17	-0.31	-0.28	-0.21	-0.19
BHAR (1)		-0.33	-0.26	-0.25	-0.21	-0.25	-0.22	-0.25	-0.27	-0.27	-0.24	-0.18	-0.20	-0.29	-0.23	-0.26	-0.24
AUSTRI	A																
CAR (0)		-0.10	0.02	0.05	0.08	0.00	0.06	0.10	0.09	0.06	0.10	0.09	0.07	0.09	0.09	0.08	0.04
CAR (1)		0.02	0.06	0.09	0.09	0.02	0.06	0.10	0.08	0.10	0.10	0.08	0.06	0.07	0.07	0.05	0.01
BHAR (0)		-0.02	0.04	0.06	0.03	0.04	0.06	0.07	0.12	0.06	0.04	0.07	0.09	0.05	0.01	0.06	-0.07
BHAR (1)		0.09	0.04	0.08	0.03	0.06	0.04	0.05	0.10	0.02	-0.01	0.07	0.05	0.03	0.01	0.00	-0.05
BELGIU	M																
CAR (0)		-0.07	0.07	0.11	0.14	0.07	0.10	0.14	0.13	0.07	0.14	0.12	0.11	0.12	0.14	0.13	0.12
CAR (1)		0.03	0.09	0.15	0.14	0.09	0.11	0.13	0.11	0.09	0.13	0.11	0.10	0.14	0.14	0.13	0.11
BHAR (0)		-0.02	0.00	0.02	0.04	0.04	0.05	0.04	0.12	0.05	0.12	0.12	0.15	0.12	0.13	0.10	0.02
BHAR (1)		-0.03	-0.04	0.01	0.03	0.08	0.03	0.02	0.12	0.05	0.12	0.11	0.11	0.10	0.13	0.07	0.02
CANAD	A																
CAR (0)		-0.50	-0.27	-0.14	-0.08	-0.25	-0.12	-0.03	-0.04	-0.13	-0.05	-0.05	-0.08	-0.09	-0.07	-0.08	-0.12
CAR (1)		-0.47	-0.23	-0.10	-0.09	-0.21	-0.09	-0.03	-0.08	-0.11	-0.06	-0.08	-0.13	-0.13	-0.10	-0.12	-0.17
BHAR (0)		-0.32	-0.18	-0.08	-0.06	-0.22	-0.14	-0.05	-0.10	-0.10	-0.05	-0.06	-0.07	-0.09	-0.09	-0.07	-0.10
BHAR (1)		-0.32	-0.16	-0.05	-0.07	-0.18	-0.10	-0.05	-0.13	-0.08	-0.04	-0.08	-0.08	-0.11	-0.12	-0.10	-0.13

EW	J =			3			(5			Ģ)			1	12	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	RK																
CAR (0)		-0.15	0.05	0.13	0.16	0.03	0.10	0.16	0.15	0.06	0.15	0.15	0.14	0.09	0.17	0.17	0.16
CAR (1)		-0.10	0.07	0.15	0.15	0.00	0.09	0.14	0.11	0.09	0.16	0.13	0.12	0.12	0.17	0.16	0.14
BHAR (0)		-0.12	-0.01	-0.02	0.02	-0.01	0.08	0.13	0.20	0.10	0.07	0.16	0.11	0.07	0.12	0.06	0.06
BHAR (1)		-0.07	0.03	0.01	0.05	-0.01	0.09	0.06	0.17	0.10	0.10	0.14	0.10	0.08	0.13	0.07	0.05
FINLAN	D								[l .			
CAR (0)		-0.13	-0.09	-0.02	-0.01	-0.03	0.02	0.05	0.05	0.02	0.06	0.05	0.02	0.04	0.04	0.01	0.00
CAR (1)		-0.10	-0.06	-0.01	0.00	-0.03	0.04	0.04	0.04	0.02	0.04	0.02	0.00	0.03	0.01	-0.01	-0.02
BHAR (0)		-0.11	-0.13	0.03	0.02	-0.04	0.01	-0.06	0.00	-0.02	0.00	0.03	-0.04	0.04	0.12	0.04	0.05
BHAR (1)		-0.08	-0.13	0.05	0.03	-0.05	0.03	-0.06	-0.01	-0.01	0.01	-0.01	-0.03	0.02	0.07	0.03	0.05
FRANCI	Ε													I			
CAR (0)		-0.48	-0.20	-0.13	-0.06	-0.22	-0.08	0.02	0.03	-0.14	0.00	0.02	0.03	-0.07	0.03	0.03	0.01
CAR (1)		-0.24	-0.08	-0.01	0.01	-0.09	0.00	0.07	0.05	-0.01	0.05	0.05	0.04	0.01	0.05	0.04	0.01
BHAR (0)		-0.36	-0.17	-0.03	-0.11	-0.18	-0.08	-0.03	-0.04	-0.14	-0.01	0.03	0.03	-0.07	-0.01	0.03	-0.02
BHAR (1)		-0.19	-0.09	0.03	-0.05	-0.08	-0.02	0.00	-0.03	-0.03	0.02	0.03	-0.02	-0.02	-0.01	0.03	-0.02
GERMAN	ΙΥ													l			
CAR (0)		-0.24	-0.06	-0.01	0.02	-0.11	-0.03	0.04	0.01	-0.04	0.04	0.04	0.03	0.03	0.06	0.06	0.03
CAR (1)		-0.19	-0.03	0.00	0.02	-0.11	-0.02	0.02	-0.01	0.00	0.04	0.02	0.01	0.02	0.05	0.03	0.01
BHAR (0)		-0.19	-0.05	0.02	-0.04	-0.12	0.00	0.01	0.03	-0.03	0.00	0.04	0.03	0.00	0.00	0.02	0.00
BHAR (1)		-0.12	-0.04	0.02	-0.02	-0.13	0.00	0.00	-0.03	-0.05	-0.03	0.00	0.01	-0.04	-0.04	-0.06	-0.03
														l			

EW	J =		3				(5			()			1	.2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREEC	Ε													1			
CAR (0)		-0.19	-0.15	-0.18	-0.20	-0.12	-0.10	-0.12	-0.15	-0.14	-0.12	-0.13	-0.14	-0.14	-0.13	-0.15	-0.16
CAR (1)		-0.21	-0.16	-0.18	-0.20	-0.11	-0.12	-0.13	-0.17	-0.16	-0.13	-0.15	-0.15	-0.13	-0.13	-0.16	-0.16
BHAR (0)		-0.14	-0.02	-0.03	0.03	-0.06	-0.02	-0.09	-0.10	-0.05	-0.02	-0.13	0.01	-0.11	-0.15	-0.06	-0.14
BHAR (1)		-0.10	0.01	-0.02	0.07	-0.05	-0.04	-0.08	-0.11	-0.03	0.00	-0.11	0.00	-0.08	-0.15	-0.05	-0.16
HONGKO	NG													l			
CAR (0)		-0.44	-0.22	-0.19	-0.19	-0.25	-0.15	-0.14	-0.15	-0.17	-0.14	-0.15	-0.16	-0.19	-0.18	-0.19	-0.21
CAR (1)		-0.48	-0.25	-0.22	-0.24	-0.24	-0.16	-0.17	-0.18	-0.21	-0.18	-0.18	-0.20	-0.26	-0.22	-0.23	-0.25
BHAR (0)		-0.39	-0.21	-0.17	-0.15	-0.16	-0.09	-0.10	-0.07	-0.17	-0.11	-0.11	-0.08	-0.19	-0.14	-0.11	-0.19
BHAR (1)		-0.40	-0.24	-0.18	-0.17	-0.21	-0.12	-0.12	-0.13	-0.21	-0.17	-0.13	-0.09	-0.28	-0.20	-0.18	-0.21
IRELAN	D													I			
CAR (0)		-0.21	-0.15	-0.11	-0.08	-0.14	-0.08	-0.05	-0.02	-0.05	-0.02	0.01	0.02	0.00	0.01	0.01	0.00
CAR (1)		-0.16	-0.12	-0.09	-0.05	-0.12	-0.08	-0.04	-0.03	-0.06	-0.01	0.02	0.02	0.02	0.01	0.01	-0.01
BHAR (0)		-0.11	-0.16	-0.12	-0.04	-0.13	-0.05	-0.16	0.12	-0.05	-0.01	0.05	0.02	0.02	0.02	0.00	-0.02
BHAR (1)		-0.15	-0.15	-0.14	0.00	-0.14	-0.05	-0.12	0.08	-0.06	0.01	0.03	0.00	0.03	-0.01	0.01	-0.01
ISRAEI	,																
CAR (0)		-0.63	-0.51	-0.52	-0.51	-0.44	-0.40	-0.37	-0.35	-0.33	-0.27	-0.23	-0.25	-0.26	-0.18	-0.18	-0.22
CAR (1)		-0.56	-0.49	-0.49	-0.49	-0.38	-0.35	-0.34	-0.33	-0.34	-0.25	-0.24	-0.26	-0.20	-0.16	-0.18	-0.24
BHAR (0)		-0.46	-0.34	-0.28	-0.30	-0.33	-0.27	-0.26	-0.15	-0.30	-0.21	-0.18	-0.08	-0.17	-0.08	-0.13	-0.06
BHAR (1)		-0.44	-0.33	-0.26	-0.25	-0.32	-0.26	-0.25	-0.16	-0.28	-0.20	-0.18	-0.07	-0.08	-0.05	-0.15	-0.04

EW	J =		3	3			(5			ç)			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
CAR (0)		0.03	0.09	0.14	0.17	0.07	0.16	0.17	0.15	0.13	0.20	0.20	0.17	0.15	0.20	0.18	0.15
0.11 (0)				0.1.	0127	0.07	0.20	0127	0120	0.120	0.20	0.20	0127	0.12	0.20	0120	
CAR (1)		0.02	0.09	0.14	0.17	0.06	0.15	0.16	0.12	0.15	0.21	0.17	0.14	0.13	0.18	0.15	0.12
BHAR (0)		-0.03	-0.07	0.01	-0.03	0.06	0.06	0.11	-0.01	0.09	0.09	0.12	0.05	0.13	0.11	0.08	0.08
BHAR (1)		-0.03	-0.09	0.07	0.00	0.00	0.05	0.11	-0.04	0.09	0.10	0.10	0.07	0.09	0.10	0.07	0.07
JAPAN																	
CAR (0)		-0.24	-0.18	-0.14	-0.07	-0.20	-0.13	-0.06	-0.06	-0.15	-0.07	-0.05	-0.06	-0.09	-0.06	-0.06	-0.08
CAR (1)		-0.26	-0.19	-0.12	-0.08	-0.21	-0.12	-0.05	-0.08	-0.12	-0.06	-0.05	-0.08	-0.10	-0.07	-0.07	-0.09
BHAR (0)		-0.23	-0.10	-0.04	0.02	-0.14	-0.08	-0.04	0.07	-0.13	-0.03	-0.02	-0.03	-0.08	-0.04	-0.04	-0.10
BHAR (1)		-0.25	-0.10	-0.05	0.04	-0.16	-0.10	-0.03	0.01	-0.14	-0.02	-0.04	-0.08	-0.11	-0.07	-0.09	-0.11
NETHERLA	NDS																
CAR (0)		0.06	0.16	0.19	0.22	0.09	0.12	0.16	0.15	0.12	0.16	0.18	0.17	0.12	0.18	0.17	0.15
CAR (1)		0.04	0.14	0.17	0.20	0.07	0.12	0.13	0.12	0.11	0.14	0.14	0.14	0.08	0.15	0.13	0.13
BHAR (0)		0.05	0.07	0.05	0.12	0.07	0.09	0.13	0.23	0.11	0.20	0.16	0.18	0.09	0.17	0.13	0.10
BHAR (1)		0.02	0.05	0.01	0.12	0.06	0.11	0.14	0.22	0.15	0.17	0.14	0.16	0.04	0.12	0.11	0.06
NEWZEALA	ND								I								
CAR (0)		-0.19	-0.04	-0.05	-0.03	0.07	0.07	0.09	0.07	0.06	0.11	0.09	0.08	0.11	0.10	0.08	0.06
CAR (1)		-0.10	-0.02	-0.02	-0.04	0.07	0.07	0.08	0.05	0.09	0.10	0.08	0.07	0.09	0.07	0.05	0.03
BHAR (0)		-0.15	-0.01	-0.05	-0.09	0.02	0.05	-0.04	0.02	0.06	0.06	0.11	0.07	0.14	0.15	0.06	0.05
BHAR (1)		-0.08	-0.03	-0.06	-0.10	0.04	0.02	-0.02	-0.04	0.11	0.08	0.11	0.09	0.09	0.07	0.01	0.04

EW	J =			3			(5			ç)			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWA	Y																
CAR (0)		-0.20	-0.07	-0.03	-0.03	-0.11	-0.05	-0.04	-0.05	-0.07	-0.03	-0.05	-0.09	-0.04	-0.03	-0.06	-0.09
CAR (1)		-0.21	-0.07	-0.02	-0.04	-0.10	-0.03	-0.03	-0.09	-0.07	-0.05	-0.08	-0.14	-0.08	-0.07	-0.10	-0.13
BHAR (0)		-0.17	-0.02	-0.11	-0.07	-0.10	-0.06	-0.08	0.03	0.04	0.02	-0.01	-0.02	0.01	0.04	-0.03	0.01
BHAR (1)		-0.17	0.01	-0.08	-0.08	-0.05	-0.05	-0.10	-0.03	0.00	-0.02	-0.04	-0.05	-0.04	0.00	-0.03	-0.03
PORTUGA	L													l .			
CAR (0)		-0.31	-0.17	-0.12	-0.13	-0.19	-0.12	-0.08	-0.09	-0.20	-0.11	-0.09	-0.09	-0.18	-0.13	-0.09	-0.10
CAR (1)		-0.17	-0.05	-0.07	-0.06	-0.10	-0.05	-0.05	-0.05	-0.11	-0.07	-0.07	-0.06	-0.14	-0.09	-0.07	-0.09
BHAR (0)		-0.20	-0.02	-0.01	-0.01	-0.11	-0.04	0.01	0.00	-0.21	-0.10	-0.08	-0.01	-0.18	-0.14	-0.06	-0.08
BHAR (1)		-0.16	0.01	0.02	0.00	-0.02	-0.02	0.04	-0.01	-0.12	-0.03	-0.06	-0.01	-0.14	-0.13	-0.06	-0.11
SINGAPOI	RE													l			
CAR (0)		-0.14	0.05	0.06	0.05	-0.08	0.02	0.03	0.02	-0.02	0.02	0.02	0.01	-0.02	0.02	0.01	0.00
CAR (1)		-0.10	0.06	0.05	0.03	-0.05	0.02	0.01	-0.01	-0.05	0.00	0.00	-0.02	-0.04	0.00	-0.01	-0.02
BHAR (0)		-0.13	-0.01	0.02	-0.05	-0.04	0.00	-0.01	0.01	-0.01	-0.03	-0.03	-0.07	-0.02	0.06	0.07	0.02
BHAR (1)		-0.11	-0.08	0.03	-0.08	-0.09	-0.01	0.03	0.01	-0.09	-0.02	-0.01	-0.08	-0.05	0.03	0.01	-0.03
SPAIN														<u> </u>			
CAR (0)		-0.23	-0.10	-0.05	0.01	-0.16	-0.09	-0.01	-0.01	-0.11	-0.04	0.00	-0.02	0.01	0.01	0.02	0.00
CAR (1)		-0.21	-0.08	-0.02	0.01	-0.15	-0.05	0.01	-0.01	-0.08	-0.01	-0.01	-0.02	-0.05	-0.01	0.00	-0.02
BHAR (0)		-0.17	-0.17	-0.05	-0.03	-0.15	-0.08	-0.04	-0.09	-0.07	-0.03	0.04	-0.05	0.00	0.07	0.01	-0.01
BHAR (1)		-0.17	-0.15	-0.08	-0.04	-0.14	-0.04	0.00	-0.10	-0.06	-0.04	0.02	-0.05	-0.08	0.03	-0.02	-0.02
														l			

EW	J =			3			(5			ç)			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	Ī	1															
CAR (0)		-0.21	-0.01	0.01	0.03	-0.03	0.05	0.07	0.07	0.04	0.10	0.08	0.06	0.09	0.09	0.08	0.06
CAR (1)		-0.14	0.02	0.01	0.02	0.01	0.06	0.07	0.06	0.06	0.07	0.05	0.03	0.08	0.07	0.06	0.04
BHAR (0)		-0.17	-0.03	-0.04	-0.01	-0.03	0.02	-0.01	0.01	0.03	0.08	0.06	-0.01	0.05	0.07	0.12	0.09
BHAR (1)		-0.13	0.00	-0.01	0.00	0.01	0.04	-0.01	-0.01	0.04	0.07	0.07	-0.02	0.11	0.08	0.11	0.11
SWITZERL	ND													l			
CAR (0)		-0.05	0.12	0.16	0.20	0.10	0.19	0.21	0.19	0.16	0.23	0.18	0.14	0.16	0.15	0.12	0.08
CAR (1)		0.01	0.15	0.17	0.18	0.13	0.20	0.19	0.16	0.15	0.18	0.13	0.09	0.12	0.11	0.08	0.03
BHAR (0)		-0.09	0.08	0.05	0.20	0.07	0.18	0.09	0.16	0.12	0.20	0.19	0.11	0.14	0.11	0.07	0.11
BHAR (1)		-0.02	0.12	0.02	0.20	0.12	0.18	0.09	0.15	0.13	0.16	0.15	0.09	0.12	0.11	0.00	0.11
UK																	
CAR (0)		-0.11	0.10	0.12	0.19	0.12	0.15	0.21	0.21	0.14	0.21	0.19	0.16	0.21	0.20	0.16	0.11
CAR (1)		-0.07	0.08	0.12	0.17	0.07	0.12	0.17	0.15	0.12	0.16	0.15	0.10	0.15	0.15	0.10	0.05
BHAR (0)		-0.10	0.10	0.15	0.09	0.14	0.21	0.06	0.20	0.14	0.15	0.16	0.11	0.18	0.22	0.14	0.07
BHAR (1)		-0.04	0.09	0.11	0.07	0.06	0.14	0.03	0.12	0.10	0.09	0.09	0.03	0.15	0.13	0.06	0.00
US														I			
CAR (0)		-0.38	-0.20	-0.17	-0.18	-0.19	-0.12	-0.10	-0.14	-0.12	-0.09	-0.12	-0.16	-0.13	-0.12	-0.16	-0.20
CAR (1)		-0.37	-0.19	-0.16	-0.21	-0.18	-0.12	-0.13	-0.18	-0.12	-0.11	-0.15	-0.20	-0.17	-0.16	-0.20	-0.24
BHAR (0)		-0.33	-0.08	-0.11	-0.07	-0.20	-0.14	-0.12	-0.11	-0.12	-0.06	-0.09	-0.14	-0.12	-0.12	-0.13	-0.17
BHAR (1)		-0.26	-0.10	-0.10	-0.11	-0.17	-0.14	-0.14	-0.19	-0.11	-0.10	-0.15	-0.18	-0.17	-0.17	-0.18	-0.21
														l			

Panel B. The time-series momentum using market-weighted return

MW	J =		3	3			Ć	j			Ģ)			1	12	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL	JIA																
CAR (0)		-0.18	-0.02	0.05	0.05	-0.02	0.09	0.11	0.08	0.05	0.12	0.10	0.05	0.02	0.04	0.01	-0.03
CAR (1)		-0.15	-0.02	0.05	0.01	-0.03	0.09	0.07	0.04	0.06	0.09	0.06	0.00	-0.05	0.00	-0.06	-0.09
BHAR (0)		-0.13	-0.06	0.01	-0.01	-0.03	0.07	0.03	-0.03	0.08	0.11	0.02	0.08	-0.03	-0.01	-0.05	-0.01
BHAR (1)		-0.12	-0.08	-0.01	0.00	-0.05	0.06	-0.03	-0.06	0.01	0.01	-0.01	0.03	-0.10	-0.03	-0.09	-0.07
AUSTRI	A													l			
CAR (0)		-0.13	-0.07	-0.01	0.00	0.00	0.05	0.09	0.07	0.03	0.08	0.06	0.02	0.01	0.03	0.01	-0.03
CAR (1)		-0.10	-0.05	0.00	0.00	0.00	0.07	0.08	0.04	0.09	0.06	0.04	0.00	-0.01	0.02	-0.02	-0.06
BHAR (0)		-0.10	0.02	0.05	0.03	-0.03	0.00	-0.01	0.01	0.02	0.08	0.01	0.08	-0.01	-0.03	0.00	-0.11
BHAR (1)		-0.04	-0.02	0.07	0.02	-0.02	0.01	0.01	-0.01	0.02	0.02	0.00	0.02	-0.05	-0.05	-0.05	-0.11
BELGIU	M																
CAR (0)		-0.02	0.03	0.07	0.09	0.02	0.05	0.09	0.08	0.04	0.07	0.07	0.05	0.09	0.12	0.10	0.09
CAR (1)		0.00	0.02	0.09	0.07	0.00	0.04	0.08	0.05	0.05	0.07	0.06	0.03	0.11	0.11	0.09	0.08
BHAR (0)		0.00	0.06	-0.08	0.08	-0.04	-0.07	0.02	0.05	-0.07	0.08	0.04	0.08	0.05	0.04	-0.04	-0.01
BHAR (1)		-0.03	0.02	-0.04	0.10	0.00	-0.05	0.00	0.05	0.01	0.10	0.04	0.07	0.03	0.07	-0.03	0.01
CANAD	A																
CAR (0)		-0.11	0.02	0.08	0.13	0.01	0.08	0.14	0.15	0.08	0.13	0.13	0.10	0.05	0.12	0.10	0.07
CAR (1)		-0.09	0.00	0.11	0.10	-0.01	0.08	0.14	0.11	0.07	0.11	0.10	0.07	0.05	0.10	0.08	0.05
BHAR (0)		-0.11	-0.04	0.03	0.01	-0.02	0.10	0.20	0.04	0.11	0.10	0.13	0.05	0.08	0.14	0.07	0.06
BHAR (1)		-0.08	-0.03	0.07	0.00	-0.01	0.10	0.15	-0.02	0.07	0.09	0.09	0.02	0.05	0.09	0.04	0.02

MW	J =			3			(5			9)			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	K																
CAR (0)		-0.04	0.06	0.09	0.10	0.04	0.07	0.11	0.10	0.04	0.10	0.09	0.10	0.04	0.09	0.10	0.11
CAR (1)		-0.03	0.04	0.09	0.08	0.00	0.08	0.09	0.08	0.05	0.10	0.09	0.09	0.05	0.09	0.09	0.11
BHAR (0)		-0.11	-0.01	-0.07	0.03	0.04	0.00	0.02	0.10	0.05	0.05	0.06	0.03	0.00	0.04	-0.03	0.05
BHAR (1)		-0.06	0.01	-0.05	0.04	0.01	0.05	0.01	0.07	0.07	0.10	0.08	0.03	0.02	0.09	0.01	0.08
FINLANI)													ı			
CAR (0)		-0.07	0.01	0.08	0.09	0.02	0.11	0.15	0.15	0.05	0.11	0.12	0.11	0.09	0.10	0.10	0.09
CAR (1)		-0.08	0.05	0.10	0.10	0.05	0.14	0.15	0.16	0.07	0.11	0.11	0.10	0.07	0.09	0.09	0.09
BHAR (0)		-0.09	-0.06	0.09	0.09	-0.02	0.07	0.06	0.06	0.04	0.04	0.03	-0.03	0.05	0.17	0.10	0.15
BHAR (1)		-0.06	-0.02	0.11	0.11	0.00	0.07	0.05	0.05	0.02	0.06	0.01	-0.02	0.07	0.14	0.11	0.17
FRANCE	<u> </u>								I					l			
CAR (0)		-0.30	-0.16	-0.13	-0.10	-0.20	-0.12	-0.07	-0.05	-0.18	-0.10	-0.07	-0.06	-0.16	-0.08	-0.06	-0.06
CAR (1)		-0.23	-0.12	-0.09	-0.08	-0.15	-0.09	-0.04	-0.04	-0.12	-0.07	-0.05	-0.05	-0.13	-0.06	-0.05	-0.05
BHAR (0)		-0.27	-0.11	-0.06	-0.06	-0.15	-0.10	-0.13	-0.04	-0.15	-0.10	-0.06	0.03	-0.17	-0.06	-0.03	-0.06
BHAR (1)		-0.18	-0.09	-0.07	0.00	-0.13	-0.09	-0.13	-0.05	-0.09	-0.09	-0.02	0.00	-0.15	-0.08	-0.03	-0.07
GERMAN	Y								I					l			
CAR (0)		-0.09	0.05	0.13	0.14	-0.03	0.06	0.10	0.07	0.00	0.08	0.05	0.05	0.02	0.04	0.05	0.04
CAR (1)		-0.10	0.08	0.13	0.12	-0.04	0.07	0.08	0.05	0.02	0.07	0.03	0.03	0.00	0.03	0.03	0.01
BHAR (0)		-0.09	0.04	0.10	-0.01	-0.05	0.05	0.08	0.09	-0.01	0.06	-0.05	0.08	-0.04	0.00	0.09	-0.02
BHAR (1)		-0.06	0.05	0.07	-0.01	-0.06	0.05	0.05	0.05	-0.01	0.05	-0.05	0.06	-0.02	-0.01	0.05	-0.04
														l			

MW	J =		3	3			(5			ç)			1	12	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECI	Ε																
CAR (0)		-0.16	-0.16	-0.18	-0.18	-0.14	-0.13	-0.12	-0.11	-0.16	-0.12	-0.10	-0.09	-0.13	-0.09	-0.09	-0.09
CAR (1)		-0.18	-0.15	-0.17	-0.17	-0.15	-0.14	-0.11	-0.13	-0.17	-0.11	-0.10	-0.09	-0.11	-0.08	-0.09	-0.08
BHAR (0)		-0.12	-0.02	-0.01	0.03	-0.10	-0.04	-0.06	-0.06	-0.08	-0.03	-0.09	0.05	-0.13	-0.11	-0.03	-0.07
BHAR (1)		-0.09	0.04	0.01	0.07	-0.04	-0.04	-0.02	-0.08	-0.07	0.02	-0.08	0.06	-0.06	-0.09	-0.02	-0.07
HONGKO	NG								[
CAR (0)		-0.13	0.01	0.02	0.03	-0.04	0.01	0.02	0.01	-0.01	0.02	0.01	0.00	0.00	0.00	-0.01	-0.02
CAR (1)		-0.13	0.00	0.03	0.02	-0.04	0.01	-0.01	-0.01	0.00	-0.01	0.00	-0.02	-0.05	-0.03	-0.04	-0.04
BHAR (0)		-0.17	0.00	-0.07	-0.03	0.00	-0.01	0.00	-0.07	-0.05	0.00	0.04	0.01	-0.04	0.02	0.01	0.02
BHAR (1)		-0.15	-0.02	-0.09	-0.03	-0.08	-0.05	-0.01	-0.12	-0.06	-0.05	0.02	0.02	-0.10	-0.07	-0.07	-0.04
IRELAN	D								ļ								
CAR (0)		-0.04	0.01	-0.02	-0.01	-0.01	0.03	0.05	0.05	0.01	0.03	0.05	0.06	0.02	0.02	0.03	0.03
CAR (1)		-0.04	-0.03	-0.03	-0.01	0.00	0.01	0.04	0.04	-0.02	0.02	0.04	0.05	0.03	0.03	0.04	0.03
BHAR (0)		-0.02	-0.10	-0.10	-0.06	-0.03	0.08	-0.11	0.18	0.00	0.02	0.09	0.05	0.04	0.02	0.06	0.02
BHAR (1)		-0.08	-0.12	-0.15	-0.04	-0.01	0.08	-0.04	0.16	-0.04	0.01	0.08	0.00	0.02	-0.01	0.05	0.02
ISRAEL	,								I								
CAR (0)		-0.25	-0.17	-0.16	-0.17	-0.10	-0.05	-0.04	-0.04	-0.03	-0.01	0.01	-0.02	-0.03	0.01	0.00	-0.04
CAR (1)		-0.25	-0.16	-0.14	-0.17	-0.09	-0.03	-0.04	-0.06	-0.05	-0.01	-0.01	-0.04	0.00	0.02	-0.01	-0.05
BHAR (0)		-0.22	-0.18	-0.07	-0.11	-0.03	0.00	-0.06	0.00	0.02	0.06	0.00	0.11	-0.01	0.05	0.02	0.08
BHAR (1)		-0.24	-0.17	-0.03	-0.09	-0.08	0.03	-0.07	0.01	-0.01	0.02	0.00	0.08	0.04	0.07	0.00	0.11

MW	J =		3	3			ť	5			ç)				12	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	i 9	12
ITALY		0.00	0.02	0.04	0.08	0.04	0.10	0.00	0.08	0.05	0.14	0.14	0.13	0.11	0.16	0.14	0.12
CAR (0)		-0.09	0.02	0.04	0.08	0.04	0.10	0.08	0.08	0.05	0.14	0.14	0.13	0.11	0.16	0.14	0.13
CAR (1)		-0.03	0.05	0.08	0.08	0.06	0.10	0.09	0.06	0.10	0.16	0.13	0.12	0.09	0.15	0.13	0.11
BHAR (0)		-0.06	-0.09	0.03	-0.02	0.04	0.03	0.01	-0.01	0.03	0.02	0.08	0.03	0.11	0.14	0.08	0.14
BHAR (1)		-0.04	-0.07	0.11	0.04	0.00	0.01	0.01	-0.04	0.04	0.06	0.06	0.05	0.08	0.12	0.07	0.12
JAPAN														<u>I</u>			
CAR (0)		-0.12	-0.07	-0.03	0.01	-0.07	-0.02	0.02	0.03	-0.07	0.00	0.01	0.02	-0.04	0.00	0.02	0.01
CAR (1)		-0.13	-0.06	-0.01	0.00	-0.04	0.00	0.04	0.03	-0.05	0.00	0.02	0.01	-0.05	0.00	0.02	0.00
BHAR (0)		-0.08	-0.01	0.02	0.13	-0.06	0.01	0.01	0.08	-0.03	0.04	0.00	0.05	-0.01	0.03	0.00	0.02
BHAR (1)		-0.07	-0.05	-0.03	0.14	-0.04	0.04	0.01	0.07	-0.06	0.01	-0.01	0.01	-0.03	0.01	-0.03	0.00
NETHERLA	NDS																
CAR (0)		0.02	0.06	0.07	0.07	-0.05	0.01	0.04	0.04	0.01	0.03	0.05	0.04	0.03	0.06	0.06	0.03
CAR (1)		-0.01	0.04	0.05	0.06	-0.06	0.02	0.01	0.01	0.01	0.02	0.04	0.02	-0.02	0.04	0.01	0.00
BHAR (0)		0.01	-0.01	-0.03	0.08	-0.06	-0.02	0.02	0.16	-0.01	0.07	-0.02	0.08	0.02	0.07	0.00	-0.03
BHAR (1)		-0.02	-0.04	-0.05	0.12	-0.06	-0.02	0.01	0.13	0.03	0.07	0.01	0.07	-0.03	0.02	-0.01	-0.09
NEWZEALA	ND																
CAR (0)		0.05	0.07	0.04	0.03	0.09	0.07	0.08	0.06	0.05	0.10	0.09	0.08	0.10	0.09	0.09	0.07
CAR (1)		-0.01	0.01	0.01	-0.03	0.05	0.03	0.04	0.02	0.04	0.08	0.07	0.06	0.06	0.06	0.06	0.04
BHAR (0)		0.03	0.00	0.02	-0.10	0.04	0.02	-0.03	0.01	0.01	-0.07	0.07	-0.05	0.14	0.18	0.11	0.05
BHAR (1)		-0.02	-0.09	-0.05	-0.11	-0.02	-0.08	-0.05	-0.07	-0.01	-0.05	0.06	-0.05	0.10	0.09	0.07	0.02

MW	J =		3	3			(<u> </u>			9)			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	Y																
CAR (0)		-0.17	-0.03	0.02	0.04	-0.10	-0.02	0.01	0.00	-0.12	-0.05	-0.03	-0.06	-0.06	-0.03	-0.03	-0.05
CAR (1)		-0.13	-0.01	0.05	0.04	-0.09	0.00	0.02	-0.02	-0.09	-0.04	-0.04	-0.08	-0.09	-0.06	-0.06	-0.07
BHAR (0)		-0.17	-0.08	-0.10	-0.06	-0.10	-0.05	0.00	0.05	-0.03	-0.02	-0.01	0.01	-0.01	0.04	0.00	0.05
BHAR (1)		-0.12	-0.03	-0.07	-0.06	-0.05	-0.01	-0.01	0.03	-0.03	-0.01	-0.01	-0.01	-0.03	0.01	0.02	0.02
PORTUGA	L				<u> </u>				<u> </u>					l .			
CAR (0)		-0.13	-0.05	0.00	0.00	-0.08	-0.05	0.00	-0.03	-0.10	-0.03	-0.05	-0.06	-0.06	-0.06	-0.04	-0.03
CAR (1)		-0.06	0.02	0.02	0.03	-0.07	-0.01	0.00	0.00	-0.07	-0.03	-0.04	-0.05	-0.07	-0.05	-0.03	-0.04
BHAR (0)		-0.08	-0.02	0.04	0.05	-0.04	0.04	0.04	0.07	-0.12	-0.04	0.01	-0.01	-0.05	-0.06	-0.08	-0.06
BHAR (1)		-0.05	0.02	0.03	0.05	0.05	0.08	0.07	0.08	-0.11	-0.02	0.05	-0.02	-0.04	-0.08	-0.08	-0.09
SINGAPOI	RE																
CAR (0)		-0.10	0.07	0.09	0.11	-0.06	0.02	0.06	0.08	-0.01	0.04	0.06	0.06	0.01	0.05	0.06	0.06
CAR (1)		-0.11	0.07	0.08	0.09	-0.02	0.02	0.06	0.06	-0.03	0.04	0.05	0.04	-0.01	0.03	0.05	0.05
BHAR (0)		-0.11	0.03	0.08	-0.07	-0.01	-0.03	0.05	0.01	0.00	-0.05	-0.01	-0.07	-0.02	0.02	0.08	0.02
BHAR (1)		-0.16	-0.11	0.06	-0.10	-0.07	-0.04	0.08	0.02	-0.09	-0.01	-0.01	-0.09	-0.04	0.00	0.02	-0.01
SPAIN														l			
CAR (0)		-0.21	-0.15	-0.09	-0.03	-0.20	-0.15	-0.08	-0.06	-0.21	-0.13	-0.07	-0.07	-0.08	-0.05	-0.04	-0.04
CAR (1)		-0.20	-0.12	-0.06	-0.03	-0.19	-0.12	-0.05	-0.06	-0.16	-0.09	-0.06	-0.05	-0.09	-0.07	-0.04	-0.04
BHAR (0)		-0.18	-0.20	-0.08	-0.05	-0.20	-0.17	-0.10	-0.09	-0.23	-0.12	-0.04	-0.09	-0.07	0.03	-0.06	-0.02
BHAR (1)		-0.16	-0.15	-0.08	-0.03	-0.15	-0.14	-0.07	-0.10	-0.14	-0.09	-0.04	-0.06	-0.09	-0.03	-0.06	-0.02
														l			

Panel C. The time-series momentum using inversed volatility-weighted return

IVOL	J =			3		501105	- (8		G				1	12	
	H =	3			12	3	6		12	3	6	9	12	3			12
AUSTRAI	LIA																
CAR (0)		-0.66	-0.33	-0.23	-0.19	-0.27	-0.17	-0.13	-0.17	-0.14	-0.06	-0.09	-0.14	-0.14	-0.13	-0.15	-0.20
CAR (1)		-0.59	-0.22	-0.14	-0.15	-0.27	-0.17	-0.15	-0.21	-0.13	-0.08	-0.13	-0.19	-0.19	-0.19	-0.22	-0.26
BHAR (0)		-0.38	-0.20	-0.09	-0.17	-0.20	-0.15	-0.12	-0.19	-0.14	-0.09	-0.09	-0.05	-0.17	-0.17	-0.12	-0.11
BHAR (1)		-0.31	-0.18	-0.10	-0.09	-0.19	-0.12	-0.12	-0.15	-0.15	-0.13	-0.09	-0.12	-0.18	-0.15	-0.17	-0.17
AUSTRI	A	l												1			
CAR (0)		-0.09	0.02	0.06	0.08	-0.02	0.05	0.12	0.12	0.06	0.12	0.13	0.11	0.10	0.12	0.11	0.07
CAR (1)		-0.04	0.04	0.06	0.07	-0.01	0.05	0.10	0.09	0.09	0.11	0.11	0.09	0.07	0.08	0.07	0.03
BHAR (0)		-0.05	0.03	0.05	0.05	0.01	0.03	0.00	0.12	0.04	0.06	0.06	0.10	0.08	0.05	0.09	-0.04
BHAR (1)		0.05	0.04	0.09	0.03	0.03	0.03	0.04	0.13	0.01	0.00	0.06	0.07	0.06	0.05	0.02	-0.02
BELGIU	М													l			
CAR (0)		-0.14	0.04	0.06	0.10	0.08	0.12	0.16	0.15	0.11	0.18	0.16	0.15	0.16	0.18	0.17	0.15
CAR (1)		-0.05	0.03	0.08	0.10	0.13	0.12	0.15	0.14	0.14	0.17	0.16	0.14	0.18	0.17	0.16	0.14
BHAR (0)		-0.13	-0.06	0.00	-0.02	0.04	0.04	0.08	0.11	0.07	0.17	0.15	0.15	0.13	0.12	0.12	0.03
BHAR (1)		-0.09	-0.04	-0.01	0.02	0.10	0.02	0.05	0.11	0.08	0.19	0.13	0.10	0.12	0.14	0.10	0.04
CANAD	Α																
CAR (0)		-0.39	-0.14	-0.03	0.02	-0.10	0.01	0.09	0.08	-0.02	0.06	0.05	0.01	0.00	0.03	0.01	-0.03
CAR (1)		-0.39	-0.13	0.00	-0.01	-0.11	0.01	0.07	0.02	-0.02	0.03	0.01	-0.04	-0.04	-0.02	-0.04	-0.09
BHAR (0)		-0.25	-0.12	-0.01	-0.07	-0.08	0.01	0.05	-0.07	-0.01	0.03	0.02	-0.01	0.00	0.01	0.00	-0.04
BHAR (1)		-0.27	-0.11	0.02	-0.04	-0.10	-0.01	0.03	-0.09	-0.01	0.02	-0.01	-0.04	-0.04	-0.04	-0.02	-0.07

IVOL	J =			3			(5			ç)			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	K	1															
CAR (0)		-0.17	0.05	0.13	0.18	0.03	0.09	0.16	0.15	0.04	0.15	0.15	0.14	0.10	0.18	0.18	0.17
CAR (1)		-0.15	0.06	0.14	0.16	0.00	0.09	0.13	0.12	0.06	0.15	0.13	0.11	0.12	0.17	0.16	0.14
BHAR (0)		-0.17	-0.03	-0.04	0.00	-0.02	0.09	0.11	0.21	0.09	0.06	0.15	0.13	0.05	0.13	0.04	0.06
BHAR (1)		-0.09	0.03	-0.02	0.06	-0.02	0.10	0.07	0.16	0.11	0.12	0.16	0.11	0.08	0.16	0.06	0.06
FINLANI)													l			
CAR (0)		-0.12	-0.06	0.00	0.02	-0.01	0.04	0.07	0.07	0.03	0.07	0.06	0.03	0.06	0.06	0.03	0.01
CAR (1)		-0.10	-0.02	0.03	0.03	-0.02	0.06	0.05	0.06	0.03	0.06	0.03	0.01	0.04	0.02	0.00	0.00
BHAR (0)		-0.09	-0.11	0.02	0.03	-0.03	0.02	-0.04	0.00	0.00	0.01	0.03	-0.03	0.07	0.13	0.06	0.09
BHAR (1)		-0.06	-0.10	0.05	0.04	-0.04	0.02	-0.05	-0.01	0.00	0.01	0.00	-0.02	0.03	0.08	0.05	0.09
FRANCE	<u> </u>				l												
CAR (0)		-0.46	-0.19	-0.13	-0.06	-0.17	-0.05	0.04	0.04	-0.05	0.06	0.07	0.06	0.00	0.08	0.06	0.04
CAR (1)		-0.32	-0.13	-0.09	-0.05	-0.12	-0.03	0.02	0.01	0.04	0.06	0.06	0.04	0.03	0.08	0.05	0.03
BHAR (0)		-0.25	-0.16	-0.04	-0.12	-0.14	-0.11	0.04	-0.11	-0.08	0.04	0.09	0.06	-0.01	0.04	0.07	0.02
BHAR (1)		-0.30	-0.10	0.00	-0.04	-0.08	-0.04	0.04	0.00	0.03	0.04	0.09	-0.02	0.03	0.03	0.04	0.01
GERMAN	Y													l			
CAR (0)		-0.26	-0.05	0.00	0.06	-0.09	0.03	0.11	0.09	0.02	0.11	0.12	0.10	0.08	0.12	0.13	0.10
CAR (1)		-0.21	-0.04	0.01	0.04	-0.09	0.03	0.09	0.06	0.04	0.11	0.09	0.07	0.07	0.11	0.10	0.07
BHAR (0)		-0.20	-0.05	0.04	-0.07	-0.13	0.05	0.07	0.11	0.01	0.07	0.06	0.08	0.02	0.03	0.07	0.07
BHAR (1)		-0.11	-0.01	0.11	0.03	-0.12	0.05	0.05	0.05	0.00	0.03	0.03	0.06	0.01	0.02	0.01	0.05
														l			

IVOL	J =		3	3			(5			9)			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE	C																
CAR (0)		-0.20	-0.14	-0.17	-0.19	-0.10	-0.09	-0.10	-0.13	-0.10	-0.09	-0.11	-0.13	-0.10	-0.12	-0.15	-0.16
CAR (1)		-0.22	-0.16	-0.18	-0.21	-0.10	-0.11	-0.11	-0.15	-0.13	-0.11	-0.14	-0.15	-0.11	-0.13	-0.17	-0.17
BHAR (0)		-0.16	0.00	-0.04	0.01	-0.06	-0.02	-0.08	-0.09	-0.01	-0.02	-0.11	0.03	-0.08	-0.15	-0.06	-0.14
BHAR (1)		-0.10	0.04	-0.03	0.07	-0.04	-0.02	-0.05	-0.11	0.00	0.01	-0.09	0.01	-0.05	-0.14	-0.07	-0.14
HONGKO	NG													l			
CAR (0)		-0.40	-0.19	-0.17	-0.17	-0.19	-0.09	-0.09	-0.09	-0.13	-0.10	-0.11	-0.12	-0.14	-0.13	-0.15	-0.17
CAR (1)		-0.45	-0.20	-0.17	-0.20	-0.18	-0.11	-0.12	-0.12	-0.15	-0.14	-0.14	-0.15	-0.21	-0.19	-0.20	-0.20
BHAR (0)		-0.37	-0.21	-0.16	-0.14	-0.10	-0.03	-0.07	-0.05	-0.13	-0.09	-0.08	-0.05	-0.16	-0.09	-0.07	-0.13
BHAR (1)		-0.37	-0.23	-0.13	-0.15	-0.15	-0.06	-0.09	-0.10	-0.16	-0.14	-0.08	-0.06	-0.24	-0.14	-0.13	-0.15
IRELANI)													l			
CAR (0)		-0.17	-0.11	-0.08	-0.04	-0.14	-0.07	-0.04	-0.02	-0.01	0.01	0.03	0.05	0.01	0.03	0.03	0.02
CAR (1)		-0.18	-0.14	-0.09	-0.05	-0.12	-0.07	-0.02	-0.03	-0.03	0.01	0.03	0.03	0.02	0.02	0.02	0.01
BHAR (0)		-0.08	-0.17	-0.11	-0.03	-0.14	-0.03	-0.15	0.08	-0.02	0.01	0.05	0.02	0.04	0.03	0.02	-0.02
BHAR (1)		-0.15	-0.17	-0.15	-0.01	-0.15	-0.04	-0.13	0.07	-0.04	0.00	0.03	-0.03	0.03	0.00	-0.01	-0.03
ISRAEL														l			
CAR (0)		-0.63	-0.48	-0.50	-0.51	-0.39	-0.36	-0.35	-0.34	-0.28	-0.25	-0.22	-0.24	-0.23	-0.15	-0.15	-0.21
CAR (1)		-0.54	-0.45	-0.46	-0.45	-0.34	-0.34	-0.34	-0.34	-0.31	-0.25	-0.25	-0.26	-0.18	-0.14	-0.16	-0.22
BHAR (0)		-0.40	-0.28	-0.25	-0.19	-0.27	-0.24	-0.24	-0.14	-0.25	-0.18	-0.15	-0.07	-0.13	-0.05	-0.10	-0.05
BHAR (1)		-0.38	-0.31	-0.25	-0.21	-0.27	-0.22	-0.24	-0.18	-0.25	-0.21	-0.16	-0.07	-0.04	-0.01	-0.14	-0.03

IVOL	J =		3	3			(5			ç)			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
CAR (0)		0.01	0.06	0.11	0.14	0.06	0.15	0.17	0.14	0.12	0.19	0.20	0.17	0.14	0.20	0.18	0.15
CAR (1)		-0.01	0.05	0.11	0.14	0.07	0.15	0.16	0.11	0.12	0.20	0.17	0.14	0.12	0.18	0.15	0.12
BHAR (0)		-0.02	-0.06	0.00	-0.02	0.06	0.04	0.11	-0.01	0.08	0.09	0.12	0.05	0.11	0.09	0.09	0.04
BHAR (1)		-0.02	-0.07	0.06	0.01	-0.01	0.04	0.09	-0.06	0.07	0.10	0.10	0.07	0.08	0.09	0.07	0.04
JAPAN														I.			
CAR (0)		-0.24	-0.16	-0.13	-0.07	-0.18	-0.12	-0.05	-0.05	-0.14	-0.06	-0.04	-0.05	-0.08	-0.05	-0.05	-0.06
CAR (1)		-0.26	-0.18	-0.12	-0.08	-0.19	-0.10	-0.04	-0.07	-0.11	-0.05	-0.04	-0.07	-0.09	-0.07	-0.06	-0.08
BHAR (0)		-0.23	-0.09	-0.01	-0.01	-0.14	-0.07	-0.02	0.05	-0.12	-0.02	-0.02	-0.03	-0.07	-0.03	-0.03	-0.07
BHAR (1)		-0.25	-0.10	-0.03	0.02	-0.15	-0.08	-0.01	-0.01	-0.12	-0.02	-0.04	-0.07	-0.09	-0.06	-0.08	-0.09
NETHERLA	NDS																
CAR (0)		0.07	0.15	0.18	0.21	0.08	0.13	0.16	0.15	0.17	0.20	0.20	0.19	0.15	0.20	0.19	0.16
CAR (1)		0.04	0.14	0.16	0.19	0.05	0.12	0.13	0.12	0.14	0.16	0.16	0.15	0.10	0.17	0.14	0.14
BHAR (0)		0.03	0.07	0.01	0.15	0.07	0.13	0.14	0.27	0.14	0.23	0.18	0.21	0.10	0.22	0.12	0.12
BHAR (1)		0.01	0.03	-0.04	0.13	0.04	0.12	0.14	0.25	0.17	0.19	0.16	0.18	0.07	0.14	0.09	0.07
NEWZEALA	ND													I.			
CAR (0)		-0.01	0.07	0.03	0.05	0.15	0.13	0.16	0.14	0.10	0.16	0.13	0.12	0.17	0.15	0.13	0.12
CAR (1)		0.00	0.03	0.02	0.00	0.12	0.11	0.13	0.10	0.11	0.14	0.12	0.10	0.13	0.10	0.10	0.08
BHAR (0)		-0.03	0.00	0.03	-0.08	0.12	0.11	0.03	0.07	0.09	0.05	0.14	0.07	0.19	0.19	0.12	0.08
BHAR (1)		-0.01	-0.07	-0.02	-0.12	0.10	0.03	0.02	0.01	0.12	0.05	0.15	0.09	0.14	0.11	0.09	0.09

IVOL	J =		3	3			6	i			ç)			1	12	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWA	Y																
CAR (0)		-0.21	-0.05	0.00	0.01	-0.09	-0.02	0.00	-0.02	-0.07	-0.02	-0.03	-0.08	-0.03	-0.02	-0.05	-0.08
CAR (1)		-0.21	-0.05	0.01	0.00	-0.07	0.01	0.01	-0.05	-0.07	-0.04	-0.06	-0.13	-0.08	-0.07	-0.09	-0.13
BHAR (0)		-0.18	-0.02	-0.05	-0.05	-0.10	-0.04	-0.06	0.01	0.04	0.01	-0.01	-0.01	0.01	0.06	-0.01	0.00
BHAR (1)		-0.18	0.01	-0.06	-0.08	-0.03	-0.03	-0.07	-0.03	0.01	-0.02	-0.03	-0.05	-0.03	0.01	-0.01	-0.02
PORTUGA	AL.																
CAR (0)		-0.23	-0.09	-0.09	-0.09	-0.11	-0.06	-0.04	-0.05	-0.13	-0.06	-0.06	-0.08	-0.12	-0.09	-0.08	-0.10
CAR (1)		-0.17	-0.06	-0.09	-0.08	-0.08	-0.03	-0.05	-0.05	-0.08	-0.05	-0.05	-0.08	-0.11	-0.09	-0.08	-0.11
BHAR (0)		-0.16	0.00	0.03	0.01	-0.07	-0.02	0.05	0.05	-0.17	-0.05	-0.02	0.00	-0.12	-0.11	-0.05	-0.12
BHAR (1)		-0.11	0.03	0.06	0.03	0.01	0.03	0.08	0.00	-0.11	0.01	-0.01	-0.02	-0.13	-0.14	-0.06	-0.15
SINGAPO	RE																
CAR (0)		-0.12	0.09	0.10	0.09	-0.04	0.06	0.08	0.07	0.02	0.07	0.07	0.06	0.02	0.06	0.06	0.05
CAR (1)		-0.10	0.10	0.10	0.07	-0.02	0.06	0.06	0.04	-0.02	0.05	0.05	0.04	-0.01	0.05	0.05	0.03
BHAR (0)		-0.14	-0.01	0.06	-0.07	-0.02	0.01	0.02	0.02	0.03	0.03	0.06	0.02	0.00	0.08	0.11	0.09
BHAR (1)		-0.10	-0.07	0.08	-0.10	-0.06	0.02	0.08	0.03	-0.06	0.03	0.07	0.01	-0.02	0.09	0.07	0.06
SPAIN																	
CAR (0)		-0.25	-0.13	-0.07	-0.01	-0.19	-0.12	-0.01	-0.01	-0.13	-0.05	-0.01	-0.03	-0.01	-0.01	0.01	-0.02
CAR (1)		-0.24	-0.13	-0.06	-0.01	-0.19	-0.08	0.00	-0.02	-0.09	-0.02	-0.02	-0.04	-0.07	-0.03	-0.02	-0.04
BHAR (0)		-0.18	-0.21	-0.10	-0.05	-0.16	-0.09	-0.02	-0.10	-0.07	-0.04	0.04	-0.04	0.00	0.07	-0.01	-0.02
BHAR (1)		-0.18	-0.15	-0.07	-0.01	-0.16	-0.06	0.01	-0.13	-0.05	-0.04	0.02	-0.05	-0.10	0.01	-0.05	-0.04

IVOL	J =		3	3			(5				9			1	12	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDE	N					1				1				1			
CAR (0)		-0.19	0.00	0.02	0.05	0.00	0.08	0.11	0.10	0.09	0.15	0.12	0.11	0.12	0.13	0.12	0.10
CAR (1)		-0.15	0.01	0.03	0.04	0.02	0.08	0.10	0.09	0.11	0.11	0.10	0.07	0.12	0.11	0.10	0.08
BHAR (0)		-0.15	0.00	0.01	0.02	0.00	0.02	0.02	0.05	0.08	0.12	0.11	0.04	0.08	0.11	0.14	0.14
BHAR (1)		-0.12	0.01	0.03	0.08	0.02	0.05	0.02	0.02	0.08	0.11	0.13	0.03	0.14	0.12	0.13	0.15
SWITZERL	AND					l .				Į.				l			
CAR (0)		-0.13	0.07	0.14	0.20	0.09	0.19	0.23	0.19	0.14	0.22	0.17	0.14	0.13	0.13	0.11	0.08
CAR (1)		-0.08	0.10	0.16	0.16	0.10	0.19	0.18	0.15	0.13	0.17	0.12	0.09	0.09	0.09	0.07	0.04
BHAR (0)		-0.14	0.06	0.02	0.18	0.03	0.16	0.13	0.15	0.09	0.18	0.18	0.10	0.12	0.10	0.07	0.10
BHAR (1)		-0.09	0.07	-0.02	0.15	0.10	0.16	0.13	0.14	0.09	0.12	0.13	0.07	0.10	0.09	0.00	0.10
UK																	
CAR (0)		-0.13	0.15	0.19	0.30	0.16	0.22	0.29	0.28	0.22	0.30	0.28	0.24	0.30	0.28	0.24	0.18
CAR (1)		-0.11	0.11	0.18	0.25	0.09	0.17	0.25	0.22	0.20	0.25	0.23	0.17	0.24	0.22	0.18	0.12
BHAR (0)		-0.08	0.14	0.21	0.19	0.18	0.25	0.11	0.24	0.22	0.24	0.23	0.16	0.27	0.31	0.21	0.12
BHAR (1)		0.00	0.10	0.17	0.16	0.09	0.19	0.09	0.19	0.19	0.18	0.17	0.08	0.24	0.21	0.12	0.07
US						l				<u>I</u>				l			
CAR (0)		-0.42	-0.23	-0.17	-0.17	-0.23	-0.12	-0.08	-0.11	-0.14	-0.07	-0.08	-0.11	-0.13	-0.09	-0.11	-0.15
CAR (1)		-0.38	-0.20	-0.15	-0.18	-0.19	-0.11	-0.09	-0.13	-0.11	-0.08	-0.10	-0.14	-0.15	-0.12	-0.14	-0.18
BHAR (0)		-0.34	-0.08	-0.12	-0.07	-0.22	-0.14	-0.10	-0.08	-0.13	-0.05	-0.06	-0.10	-0.12	-0.09	-0.07	-0.12
BHAR (1)		-0.28	-0.10	-0.12	-0.09	-0.17	-0.13	-0.11	-0.15	-0.11	-0.07	-0.10	-0.13	-0.16	-0.13	-0.12	-0.16

Table 8.7. Risk-adjusted return (intercept in the three-factor model) of cross-sectional momentum strategy

This table reports the average monthly risk-adjusted returns (Fama-French alpha) after accounting for the transaction costs for 16 (J x H) cross-sectional momentum strategies across the 24 stock markets along with an indication of significant level based on the Newey–West adjusted t-statistics. The results all relate to an implementation in which the cut-offs for selecting the stocks to be included in the cross-sectional momentum portfolios were set at 16%.

We run the three-factor regression model, $MR_i - Rf_i = \alpha_i + \beta 1_i (Rm_i - Rf_i) + \beta 2_i SMB_i + \beta 3_i HML_i$ where MR_i is momentum return after accounting for the transaction costs at month t (from Chapter seven), Rf_i is the risk-free rate at month t, Rm_i is market-weighted index at month t, SMB_i is 'small minus big' at month t, which is calculated by the market average return for the smallest 30% of stocks minus the market average return of the largest 30% of stocks in that month. HML_i is 'high minus low' at month t, which is calculated as the market average return for 50% of stocks with the highest book-to-market ratio minus market average return for 50% of stocks with the lowest book-to-market ratio.

Panel A. The cross-sectional momentum using equal-weighted return

EW	J =		3		<i></i>	e cross-s	6		tuiii usi	ng equal	y weight		•		12	2	
	H =	3	6		12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL			0		12		<u> </u>		12		0		12		0		
CAR (0)		-2.42%	-1.20%	-0.93%	-0.78%	-1.60%	-1.14%	-0.88%	-0.89%	-1.37%	-0.96%	-1.04%	-1.07%	-1.11%	-1.10%	-1.20%	-1.29%
		-8.7656	-5.6908	-5.5183	-5.6961	-5.2077	-4.5432	-4.3511	-5.0948	-4.4980	-3.8049	-4.8145	-5.5835	-3.8013	-4.3376	-5.4247	-6.4825
CAR (1)		-1.95%	-1.04%	-0.81%	-0.79%	-1.34%	-1.03%	-0.90%	-0.96%	-1.09%	-0.97%	-1.08%	-1.16%	-1.22%	-1.23%	-1.33%	-1.41%
		-7.5378	-5.3885	-5.3980	-6.1543	-4.7010	-4.4535	-4.8155	-5.7612	-3.9469	-4.1329	-5.3307	-6.3102	-4.4533	-5.1132	-6.3525	-7.3508
BHAR (0)		-2.34%	-1.12%	-1.13%	-1.02%	-1.44%	-1.19%	-1.31%	-1.10%	-1.30%	-1.03%	-1.03%	-1.17%	-1.10%	-1.16%	-1.14%	-1.17%
		-6.4410	-3.5690	-3.8362	-3.8386	-4.2495	-4.0160	-3.8756	-4.6297	-3.9764	-3.2782	-3.8300	-4.3882	-3.5972	-4.2555	-4.2159	-4.0697
BHAR (1)		-2.00%	-1.30%	-1.19%	-1.14%	-1.39%	-1.21%	-1.60%	-1.30%	-1.30%	-1.32%	-1.09%	-1.39%	-1.35%	-1.42%	-1.47%	-1.42%
		-4.5849	-3.6287	-4.0822	-4.1591	-3.3825	-3.5502	-3.8541	-4.4051	-3.4945	-3.7403	-3.8088	-4.4029	-3.8605	-4.6915	-5.2738	-5.1819
AUSTRIA	4																
CAR (0)		-0.43%	-0.22%	-0.07%	-0.01%	-0.15%	0.00%	0.12%	0.12%	0.05%	0.14%	0.16%	0.05%	0.12%	0.08%	0.03%	-0.15%
		-1.5067	-0.9283	-0.3506	-0.0854	-0.4636	0.0047	0.4759	0.5451	0.1426	0.4549	0.5602	0.2231	0.3559	0.2462	0.0933	-0.5701
CAR (1)		-0.35%	-0.24%	-0.03%	-0.04%	-0.06%	0.02%	0.10%	0.06%	0.21%	0.13%	0.12%	-0.04%	0.03%	0.00%	-0.09%	-0.24%
		-1.2126	-1.0466	-0.1734	-0.2370	-0.1860	0.0886	0.4191	0.2704	0.6369	0.4277	0.4602	-0.1735	0.0984	-0.0007	-0.3214	-0.9666
BHAR (0)		-0.45%	-0.55%	-0.46%	-0.66%	-0.17%	-0.37%	-0.01%	0.12%	0.03%	0.41%	0.13%	0.34%	0.09%	-0.09%	-0.14%	-0.42%
		-1.1706	-1.5456	-1.2534	-2.0871	-0.4782	-0.9968	-0.0185	0.4250	0.0911	1.0877	0.4093	0.9626	0.2566	-0.2457	-0.3770	-1.1871
BHAR (1)		-0.35%	-0.64%	-0.61%	-0.70%	-0.01%	-0.23%	-0.03%	-0.01%	0.16%	0.22%	0.19%	0.20%	0.04%	-0.10%	-0.44%	-0.55%
	_	-0.9383	-1.7782	-1.6909	-2.2021	-0.0244	-0.6415	-0.1066	-0.0377	0.4334	0.5763	0.6030	0.5598	0.1160	-0.2845	-1.2128	-1.5286
BELGIUN	М		0.000/	0.000	0.040/		0.7.07		/	. =	. =			. =	. =		
CAR (0)		-0.37%	0.09%	0.26%	0.31%	0.31%	0.54%	0.67%	0.52%	0.54%	0.74%	0.61%	0.46%	0.79%	0.74%	0.57%	0.38%
		-1.6478	0.4845	1.5220	1.9748	1.1640	2.2536	3.0307	2.5701	1.9465	2.9143	2.5311	2.0508	2.9096	2.8235	2.3182	1.6252
CAR (1)		-0.13%	0.19%	0.35%	0.28%	0.40%	0.65%	0.64%	0.45%	0.75%	0.74%	0.58%	0.39%	0.78%	0.65%	0.47%	0.27%
DILAD (0)		-0.5810	1.0108	2.0906	1.8689	1.5393	2.6972	2.9527	2.2449	2.7199	2.9172	2.4416	1.7605	2.8736	2.5121	1.9202	1.1539
BHAR (0)		-0.23%	-0.10%	0.03%	-0.09%	0.24%	0.52%	0.47%	0.51%	0.71%	0.90%	0.72%	0.69%	0.84%	0.74%	0.75%	0.18%
DILAD (1)		-0.8512	-0.3963	0.0967	-0.3646	0.8448	1.8374	1.7641	2.1256	2.4554	3.1548	2.8414	2.5499	2.9317	2.5476	2.6300	0.6233
BHAR (1)		-0.22% -0.7898	-0.26% -0.9482	0.11%	-0.18%	0.23%	0.51% 1.9011	0.38%	0.37%	0.76%	0.72%	0.68% 2.6241	0.39%	0.68% 2.4355	0.56% 1.9792	0.53% 1.8495	0.04%
CANADA		-0.7696	-0.9482	0.4228	-0.7111	0.8173	1.9011	1.4213	1.5696	2.5556	2.4798	2.0241	1.4191	2.4333	1.9/92	1.8493	0.1244
CANADA	1	-1.87%	-0.83%	-0.38%	-0.22%	-1.06%	-0.56%	-0.20%	-0.33%	-0.53%	-0.23%	-0.39%	-0.61%	-0.32%	-0.48%	-0.71%	-0.99%
CAR (0)		-5.6022	-3.2570	-0.36 76 -1.6991	-0.2276 -1.1762	-2.9420	-0.30 % -1.7961	-0.7309	-1.4230	-1.3813	-0.23 % -0.6951	-1.3017	-2.2615	-0.3276 -0.8636	-0.46 % -1.4490	-2.2830	-3.4683
CAR (1)		-1.76%	-0.72%	-0.28%	-0.30%	-0.92%	-0.48%	-0.26%	-0.50%	-0.39%	-0.31%	-0.55%	-0.82%	-0.56%	-0.73%	-0.95%	-1.23%
CAR (I)		-5.7454	-2.9462	-1.3376	-1.7134	-2.6431	-1.5711	-0.9888	-2.2193	-1.0796	-0.9647	-1.8893	-3.1119	-1.6028	-2.2565	-3.1562	-4.4319
BHAR (0)		-1.98%	-1.23%	-0.69%	-0.48%	-2.0431 - 1.47%	-0.97%	-0.9888	-0.50%	-0.74%	-0.50%	-0.74%	-0.73%	-0.40%	-0.70%	-0.71%	-0.98%
D11111 (0)		-4.0307	-2.8180	-1.8157	-1.2001	-3.3179	-2.4084	-1.3770	-1.4010	-1.6972	-1.1215	-1.9662	-1.8409	-0.9922	-1.9499	-1.9182	-2.7792
BHAR (1)		-4.0307 -1.67%	-1.08%	-0.63%	-0.71%	-0.97%	-0.58%	-0.65%	-0.66%	-0.52%	-0.63%	-0.79%	-0.64%	-0.69%	-0.92%	-1.06%	-1.34%
DIIAK (1)		-3.7218	-2.7388	-1.7717	-1.7673	-2.2339	-1.4028	-1.4834	-1.8863	-1.1582	-1.4908	-2.0926	-1.7296	-1.7748	-2.5204	-3.0569	-3.8285
-		-3.7210	-2.7500	-1.//1/	-1./0/3	-4.4339	-1.7020	-1.7034	-1.0003	-1.1302	-1.7700	-2.0720	-1.7290	-1.//70	-2.3204	-3.0309	-3.0203

EW	J =		3				6				9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARI	K																
CAR (0)		-0.48%	0.21%	0.26%	0.28%	0.37%	0.54%	0.54%	0.39%	0.62%	0.71%	0.49%	0.26%	0.79%	0.66%	0.37%	0.12%
		-2.2647	1.1423	1.5781	1.8451	1.4727	2.2992	2.5138	1.9691	2.2924	2.7936	2.0467	1.1801	2.9055	2.5217	1.4996	0.5226
CAR (1)		-0.37%	0.21%	0.25%	0.21%	0.43%	0.49%	0.45%	0.26%	0.61%	0.57%	0.32%	0.09%	0.60%	0.43%	0.16%	-0.07%
		-1.8551	1.1460	1.5277	1.3836	1.7227	2.0902	2.0994	1.2859	2.3099	2.2709	1.3417	0.4154	2.2250	1.6462	0.6534	-0.2844
BHAR (0)		-0.45%	-0.08%	-0.20%	0.12%	0.27%	0.36%	0.18%	0.56%	0.53%	0.30%	0.47%	-0.08%	0.73%	0.67%	0.35%	-0.13%
		-1.7121	-0.3038	-0.7496	0.4442	1.0008	1.2369	0.6377	2.1744	1.8481	0.9903	1.6651	-0.2783	2.5677	2.4347	1.2590	-0.4752
BHAR (1)		-0.48%	-0.03%	-0.06%	0.14%	0.37%	0.28%	0.22%	0.37%	0.53%	0.44%	0.38%	-0.19%	0.49%	0.30%	0.13%	-0.37%
		-1.7254	-0.1141	-0.2203	0.5067	1.2430	0.8905	0.7389	1.4334	1.7392	1.4150	1.3158	-0.6453	1.6027	1.0125	0.4621	-1.2669
FINLAND)																
CAR (0)		-0.69%	-0.16%	0.13%	0.07%	0.05%	0.28%	0.40%	0.22%	0.33%	0.37%	0.21%	0.01%	0.16%	0.07%	-0.05%	-0.20%
		-2.2291	-0.6552	0.5819	0.3248	0.1509	0.9058	1.4326	0.8484	0.9130	1.0843	0.6444	0.0329	0.4335	0.1897	-0.1451	-0.6262
CAR (1)		-0.51%	-0.06%	0.15%	0.02%	0.12%	0.32%	0.32%	0.08%	0.31%	0.24%	0.06%	-0.16%	0.07%	-0.10%	-0.19%	-0.31%
		-1.6724	-0.2550	0.6880	0.1100	0.3707	1.0606	1.1381	0.3125	0.8508	0.6875	0.1729	-0.5352	0.1937	-0.2691	-0.5613	-0.9654
BHAR (0)		-1.16%	-0.56%	-0.09%	-0.21%	-0.13%	0.18%	0.15%	0.68%	0.17%	0.11%	-0.04%	-0.17%	-0.03%	0.16%	0.02%	-0.06%
		-2.7990	-1.3872	-0.2531	-0.4642	-0.3585	0.5092	0.3911	1.9435	0.4403	0.2581	-0.1036	-0.4390	-0.0772	0.4451	0.0467	-0.1735
BHAR (1)		-0.40%	-0.46%	0.06%	-0.17%	0.16%	0.31%	0.07%	0.39%	0.28%	-0.01%	-0.19%	-0.21%	-0.01%	-0.08%	-0.37%	-0.21%
		-1.0073	-1.1683	0.1660	-0.3838	0.4412	0.9255	0.1806	1.1234	0.7104	-0.0238	-0.4819	-0.5659	-0.0208	-0.2059	-0.9275	-0.5756
FRANCE																	
CAR (0)		-1.60%	-0.51%	-0.25%	-0.08%	-0.65%	-0.18%	0.05%	0.06%	-0.36%	0.06%	0.06%	0.00%	-0.09%	0.06%	-0.01%	-0.12%
		-5.4069	-2.2254	-1.3882	-0.5413	-2.0667	-0.7072	0.2488	0.3072	-1.1466	0.2071	0.2537	-0.0153	-0.3066	0.2286	-0.0376	-0.5198
CAR (1)		-0.85%	-0.20%	-0.01%	0.01%	-0.18%	0.03%	0.16%	0.07%	0.03%	0.18%	0.09%	-0.04%	0.10%	0.08%	-0.04%	-0.17%
		-3.1098	-0.9347	-0.0475	0.0884	-0.6135	0.1225	0.7544	0.3710	0.1080	0.6906	0.3766	-0.1977	0.3378	0.2863	-0.1575	-0.7188
BHAR (0)		-1.64%	-0.86%	-0.33%	-0.75%	-0.62%	-0.18%	-0.28%	-0.22%	-0.43%	-0.14%	0.10%	-0.11%	-0.16%	0.05%	0.08%	-0.18%
		-4.7392	-2.6843	-1.1953	-2.4379	-1.8738	-0.5916	-0.9144	-0.8566	-1.3886	-0.4313	0.3499	-0.3983	-0.5227	0.1700	0.2747	-0.6391
BHAR (1)		-0.93%	-0.57%	-0.17%	-0.59%	-0.17%	-0.06%	-0.15%	-0.24%	-0.09%	-0.03%	0.18%	-0.26%	0.01%	-0.01%	-0.04%	-0.26%
		-2.6528	-1.7758	-0.6547	-1.9549	-0.5040	-0.2104	-0.4703	-0.9713	-0.2641	-0.0799	0.6378	-0.9099	0.0403	-0.0458	-0.1255	-0.9278
GERMAN	Y																
CAR (0)		-1.76%	-0.81%	-0.51%	-0.36%	-0.98%	-0.58%	-0.29%	-0.32%	-0.64%	-0.39%	-0.40%	-0.43%	-0.40%	-0.39%	-0.44%	-0.51%
		<i>-5.8821</i>	-3.3272	-2.4334	-2.0756	-3.0056	-2.0377	-1.1882	-1.5192	-1.9106	-1.3303	-1.5180	-1.8404	-1.3056	-1.3739	-1.7020	-2.1673
CAR (1)		-1.38%	-0.67%	-0.39%	-0.35%	-0.79%	-0.48%	-0.30%	-0.38%	-0.49%	-0.39%	-0.45%	-0.50%	-0.41%	-0.47%	-0.51%	-0.57%
		-4.8871	-2.9102	-2.0076	-2.1472	-2.5787	-1.7898	-1.2794	-1.8574	-1.5147	-1.3767	-1.7722	-2.1977	-1.3781	-1.7298	-2.0369	-2.4938
BHAR (0)		-1.73%	-1.00%	-0.62%	-0.54%	-0.87%	-0.36%	-0.23%	-0.25%	-0.59%	-0.36%	-0.29%	-0.60%	-0.36%	-0.35%	-0.46%	-0.56%
		-4.2221	-2.9188	-1.9163	-1.4757	-2.3364	-1.0057	-0.6123	-0.8393	-1.5478	-0.9918	-0.9336	-1.7433	-1.0559	-1.1568	-1.4696	-1.8970
BHAR (1)		-1.41%	-1.04%	-0.49%	-0.65%	-0.95%	-0.52%	-0.39%	-0.31%	-0.58%	-0.44%	-0.48%	-0.69%	-0.56%	-0.60%	-0.55%	-0.76%
		-3.6376	-3.0697	-1.7065	-1.7324	-2.5531	-1.4729	-1.0548	-0.9824	-1.5567	-1.1944	-1.4635	-1.9679	-1.6736	-2.0470	-1.9331	-2.7210

EW	J =		3	 			6	<u> </u>			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		-1.69%	-0.92%	-0.81%	-0.80%	-1.20%	-0.89%	-0.78%	-0.89%	-1.07%	-0.88%	-1.05%	-1.13%	-1.19%	-1.14%	-1.21%	-1.31%
		-4.1596	-2.7271	-2.8127	-3.1121	-2.5948	-2.1366	-2.0747	-2.6546	-2.2495	-1.9754	-2.5636	-3.0435	-2.3819	-2.4456	-2.7975	-3.3030
CAR (1)		-1.48%	-0.88%	-0.78%	-0.82%	-1.04%	-0.83%	-0.80%	-0.93%	-0.87%	-0.90%	-1.07%	-1.19%	-1.17%	-1.22%	-1.29%	-1.38%
		-3.7616	-2.6751	-2.7607	-3.2413	-2.2787	-2.0343	-2.1694	-2.8147	-1.8409	-2.0215	-2.6327	-3.2328	-2.3846	-2.6396	-3.0336	-3.5518
BHAR (0)		-1.90%	-0.65%	-0.80%	-0.23%	-1.02%	-0.66%	-0.85%	-0.71%	-0.93%	-0.69%	-1.21%	-1.22%	-1.24%	-1.51%	-1.19%	-2.13%
		-3.8134	-1.4545	-1.7804	-0.5562	-2.0553	-1.2840	-1.8666	-1.5527	-1.8254	-1.4358	-2.4631	-2.5561	-2.3791	-2.8062	-2.5140	-4.1272
BHAR (1)		-1.32%	-0.61%	-0.71%	-0.21%	-1.04%	-0.84%	-0.93%	-0.77%	-0.78%	-0.86%	-1.11%	-1.47%	-1.22%	-1.51%	-1.36%	-1.99%
		-2.7497	-1.3765	-1.5846	-0.5081	-2.1311	-1.6286	-1.9910	-1.7308	-1.4962	-1.7294	-2.3122	-3.1512	-2.3640	-2.9003	-3.0273	-4.0297
HONGKON	G																
CAR (0)		-2.29%	-1.02%	-0.82%	-0.81%	-1.46%	-1.00%	-0.91%	-1.02%	-1.37%	-1.14%	-1.27%	-1.42%	-1.50%	-1.40%	-1.63%	-1.74%
		-6.1564	-4.0854	-4.0435	-4.4647	-4.2454	-3.5306	-3.5681	-4.4756	-3.9190	-3.5983	-4.3068	-5.3330	-4.0752	-4.2019	-5.2877	-6.2228
CAR (1)		-2.11%	-1.00%	-0.85%	-0.90%	-1.34%	-1.06%	-1.05%	-1.19%	-1.48%	-1.33%	-1.49%	-1.59%	-1.66%	-1.63%	-1.83%	-1.88%
		-6.7270	-4.4016	-4.2975	-5.1156	-4.2710	-3.8043	-4.1406	-5.2389	-4.3412	-4.1517	-5.0512	-6.0281	-4.6227	-4.9032	-5.9626	-6.8804
BHAR (0)		-2.46%	-1.25%	-1.22%	-1.08%	-1.50%	-1.20%	-0.98%	-1.09%	-1.46%	-1.25%	-1.43%	-1.58%	-1.73%	-1.51%	-1.90%	-1.87%
		-5.4132	-3.0968	-3.3166	-3.1108	-3.7497	-3.3103	-2.5421	-3.4744	-3.6940	-2.9915	-3.8444	-4.4036	-4.2792	-4.2436	-4.7935	-5.5717
BHAR (1)		-2.42%	-1.27%	-1.28%	-1.20%	-1.62%	-1.37%	-1.13%	-1.28%	-1.62%	-1.49%	-1.71%	-1.68%	-1.92%	-1.74%	-2.06%	-2.13%
		-5.4389	-3.0577	-3.7029	-3.3735	-4.1138	-4.0883	-2.9118	-4.2928	-4.1836	-3.4012	-4.5685	-4.5554	-4.7517	-5.2147	-5.1965	-6.3999
IRELAND)																
CAR (0)		-0.91%	-0.26%	-0.25%	-0.16%	-0.46%	-0.39%	-0.18%	-0.17%	-0.52%	-0.26%	-0.22%	-0.25%	-0.15%	-0.16%	-0.24%	-0.37%
		-2.0896	-0.7679	-0.8390	-0.5919	-0.9675	-0.8996	-0.4697	-0.4703	-1.0115	-0.5510	-0.4954	-0.5936	-0.2952	-0.3352	-0.5138	-0.8094
CAR (1)		-0.44%	-0.16%	-0.09%	-0.16%	-0.39%	-0.31%	-0.19%	-0.24%	-0.40%	-0.27%	-0.26%	-0.35%	-0.19%	-0.23%	-0.35%	-0.51%
		-1.0444	-0.4707	-0.2981	-0.5849	-0.8112	-0.7131	-0.4852	-0.6518	-0.8115	-0.5780	-0.5838	-0.8242	-0.3612	-0.4553	-0.7330	-1.1204
BHAR (0)		-0.35%	-0.93%	-1.15%	-0.24%	-0.73%	-0.24%	-0.99%	0.43%	-0.37%	-0.44%	-0.13%	0.01%	-0.04%	0.03%	0.34%	-0.69%
		-0.6479	-1.7664	-2.1654	-0.4463	-1.3696	-0.4457	-1.6950	0.8025	-0.6535	-0.7981	-0.2402	0.0190	-0.0662	0.0581	0.6004	-1.2360
BHAR (1)		-0.65%	-1.00%	-1.14%	0.09%	-0.71%	-0.32%	-0.91%	0.14%	-0.90%	-0.48%	-0.45%	-0.42%	-0.49%	-0.24%	-0.13%	-0.93%
ICD A EX		-1.1835	-1.8956	-2.0835	0.1611	-1.2910	-0.5780	-1.6634	0.2595	-1.6011	-0.8660	-0.7859	-0.7653	-0.8822	-0.4212	-0.2348	-1.6590
ISRAEL		2.520/	1 450/	1.100/	1.120/	1.740/	1 220/	1.100/	1.100/	1 (10/	1.220/	1 220/	1 220/	1.500/	1.260/	1.200/	1.460/
CAR (0)		-2.52%	-1.47%	-1.19%	-1.12%	-1.74%	-1.32%	-1.18%	-1.18%	-1.64%	-1.33%	-1.32%	-1.33%	-1.50%	-1.36%	-1.38%	-1.46%
CAR (1)		-9.7144	-7.4605	-6.9007	-7.1243	-6.3316	-5.3926	-5.3993	-6.0287	-5.4880	-4.9958	-5.4618	-6.1839	-5.0003	-4.9267	-5.5476	-6.4826
CAR (1)		-2.15%	-1.25%	-1.05%	-1.08%	-1.43%	-1.17%	-1.15%	-1.18%	-1.40%	-1.30%	-1.31%	-1.36%	-1.44%	-1.35%	-1.43%	-1.50%
DILAB (0)		-9.0895	-6.6697	-6.3108	-7.1675	-5.4587	-4.9088	-5.4273	-6.2136	-4.9151	-5.0281	-5.6164	-6.5428	-4.9945	-5.1311	-5.9703	-6.9345
BHAR (0)		-2.37%	-1.50%	-1.38%	-1.51%	-1.75%	-1.54%	-1.17%	-1.00%	-1.74%	-1.30%	-1.36%	-1.07%	-1.48%	-1.31%	-1.39%	-1.52%
DILAD (1)		-7.3597	-5.2375	-4.9098 1.280/	-5.7452	-5.3345	-5.2599	-3.9614	-3.9702	-5.3318	-4.0829	-4.8306 1.410/	-4.0045	-4.5090 1.539/	-4.3015 1.210/	-4.5992 1.469/	-5.2864
BHAR (1)		-2.21%	-1.48%	-1.38%	-1.49%	-1.55%	-1.41%	-1.18%	-1.09%	-1.64%	-1.37%	-1.41%	-1.18%	-1.53%	-1.31%	-1.46%	-1.56%
		-6.8188	-5.2636	-4.9694	-5.6304	-4.9167	-4.9785	-4.2430	-4.4509	-5.1297	-4.3629	-4.9245	-4.4281	-4.8803	-4.5029	-4.9848	-5.4317

EW	J =		3	 			6	<u> </u>			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		-0.60%	-0.21%	-0.01%	0.01%	-0.23%	0.04%	0.15%	0.05%	0.13%	0.20%	0.09%	-0.02%	0.20%	0.11%	0.00%	-0.16%
		-2.0912	-0.9018	-0.0542	0.0787	-0.7257	0.1534	0.6344	0.2253	0.4060	0.7002	0.3463	-0.0997	0.6230	0.3808	-0.0155	-0.6166
CAR (1)		-0.50%	-0.11%	0.03%	0.00%	-0.12%	0.08%	0.12%	-0.02%	0.19%	0.15%	0.01%	-0.13%	0.11%	-0.01%	-0.13%	-0.26%
		-1.9013	-0.5164	0.1457	0.0155	-0.4028	0.3030	0.5159	-0.1001	0.6211	0.5486	0.0243	-0.5546	0.3472	-0.0252	-0.5031	-1.0444
BHAR (0)		-0.66%	-0.38%	-0.03%	-0.17%	-0.36%	0.10%	-0.04%	-0.23%	0.08%	0.01%	0.10%	-0.25%	0.00%	0.00%	-0.14%	-0.22%
		-2.0530	-1.2469	-0.1088	-0.6341	-1.0622	0.3182	-0.1185	-0.8363	0.2472	0.0174	0.3348	-0.8305	-0.0120	-0.0091	-0.4532	-0.7283
BHAR (1)		-0.57%	-0.30%	0.12%	-0.14%	-0.25%	0.01%	-0.05%	-0.30%	0.19%	-0.04%	-0.07%	-0.42%	-0.02%	-0.08%	-0.20%	-0.24%
		-1.8087	-0.9975	0.4401	-0.5411	-0.7795	0.0400	-0.1725	-1.1331	0.5699	-0.1113	-0.2315	-1.3184	-0.0605	-0.2590	-0.6749	-0.8371
JAPAN																	
CAR (0)		-1.42%	-0.97%	-0.68%	-0.48%	-1.39%	-1.05%	-0.68%	-0.63%	-1.22%	-0.85%	-0.77%	-0.75%	-0.98%	-0.90%	-0.87%	-0.87%
		-5.7323	-4.7983	-4.0529	-3.2714	-4.8977	-4.2788	-3.1775	-3.2978	-4.2771	-3.2554	-3.2787	-3.6496	-3.4116	-3.4127	-3.7148	-4.1336
CAR (1)		-1.28%	-0.87%	-0.55%	-0.46%	-1.23%	-0.87%	-0.59%	-0.64%	-0.95%	-0.72%	-0.73%	-0.76%	-0.89%	-0.91%	-0.89%	-0.87%
		-5.6164	-4.5450	-3.4818	-3.2450	-4.5815	-3.6885	-2.8386	-3.4953	-3.4698	-2.8707	-3.2577	-3.8688	-3.2473	-3.6102	-3.9493	-4.3511
BHAR (0)		-1.43%	-0.75%	-0.62%	-0.37%	-1.27%	-1.09%	-0.74%	-0.28%	-1.10%	-0.76%	-0.58%	-0.63%	-0.94%	-0.89%	-0.86%	-0.88%
		-5.0724	-2.7217	-2.3158	-1.3885	-4.2709	-3.9099	-2.6430	-1.1640	-3.7798	-2.6152	-2.5166	-2.4805	-3.3062	-3.2432	-3.2951	-3.4956
BHAR (1)		-1.48%	-0.81%	-0.71%	-0.34%	-1.37%	-1.35%	-0.72%	-0.43%	-1.17%	-0.70%	-0.65%	-0.75%	-1.02%	-1.09%	-1.09%	-0.98%
		-5.2289	-3.0520	-2.7214	-1.3984	-4.6204	-4.7427	-2.6279	-1.8493	-4.1239	-2.5004	-2.8685	-2.9609	-3.5843	-3.9927	-4.3004	-3.7720
NETHERLAN	IDS																
CAR (0)		-0.46%	0.06%	0.25%	0.32%	0.23%	0.40%	0.55%	0.46%	0.43%	0.61%	0.51%	0.44%	0.67%	0.58%	0.50%	0.39%
		-1.6392	0.2489	1.2711	1.8351	0.7325	1.4483	2.2623	2.0534	1.3711	2.1339	1.9512	1.7821	2.0622	1.9171	1.7623	1.4586
CAR (1)		-0.45%	0.10%	0.29%	0.25%	0.23%	0.45%	0.49%	0.36%	0.53%	0.56%	0.45%	0.34%	0.60%	0.49%	0.38%	0.31%
		-1.6927	0.4561	1.5481	1.4786	0.7329	1.6859	2.0352	1.6475	1.7281	2.0011	1.7233	1.4138	1.8972	1.6526	1.3663	1.1775
BHAR (0)		-0.37%	-0.14%	0.28%	0.02%	0.20%	0.47%	0.30%	0.79%	0.37%	0.35%	0.49%	0.43%	0.48%	0.51%	0.52%	0.29%
		-1.0415	-0.3995	0.9310	0.0485	0.5767	1.4148	0.8728	2.9249	1.1228	1.0515	1.6234	1.4203	1.3491	1.5732	1.6526	0.8879
BHAR (1)		-0.33%	-0.04%	0.10%	0.00%	0.11%	0.26%	0.16%	0.55%	0.51%	0.38%	0.55%	0.26%	0.35%	0.27%	0.36%	0.12%
		-0.9337	-0.1270	0.3376	-0.0052	0.3117	0.7878	0.4659	1.9728	1.5454	1.1431	1.7843	0.8223	0.9963	0.8389	1.1832	0.3853
NEWZEALA	ND	0.500/		0.050/		0.001	0.000/	0.000	0.00/	0.400/			0.0101	0.=00/	0.4=0/	0.4407	0.0501
CAR (0)		-0.50%	0.07%	0.05%	0.12%	0.30%	0.38%	0.39%	0.28%	0.48%	0.47%	0.33%	0.21%	0.59%	0.45%	0.24%	0.06%
~.~		-1.8351	0.2983	0.2412	0.6434	0.9410	1.3041	1.5378	1.2182	1.4307	1.5302	1.1735	0.8438	1.7596	1.4331	0.8325	0.2274
CAR (1)		-0.31%	0.10%	0.12%	0.09%	0.40%	0.40%	0.38%	0.19%	0.56%	0.44%	0.26%	0.08%	0.48%	0.34%	0.13%	-0.07%
		-1.1235	0.4268	0.6015	0.4851	1.2599	1.3943	1.4946	0.8419	1.6892	1.4787	0.9487	0.3364	1.4444	1.1121	0.4559	-0.2549
BHAR (0)		-0.63%	0.13%	-0.31%	-0.57%	0.48%	0.52%	0.36%	0.10%	0.78%	0.57%	0.60%	0.52%	0.62%	0.61%	0.12%	0.27%
		-1.7937	0.3460	-1.0304	-1.5891	1.3048	1.5048	0.9806	0.2963	2.1878	1.5573	1.6519	1.5102	1.6963	1.7385	0.3546	0.7786
BHAR (1)		-0.03%	0.17%	-0.25%	-0.47%	0.71%	0.45%	0.41%	-0.11%	0.85%	0.64%	0.51%	0.48%	0.59%	0.37%	-0.05%	0.21%
		-0.0886	0.4471	-0.7881	-1.2669	1.8240	1.2627	1.1384	-0.3429	2.1708	1.7007	1.3580	1.3979	1.5545	1.0451	-0.1527	0.6219

EW	J =		3				6				9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	Y																
CAR (0)		-1.19%	-0.44%	-0.20%	-0.21%	-0.54%	-0.21%	-0.03%	-0.22%	-0.07%	-0.02%	-0.22%	-0.45%	-0.07%	-0.31%	-0.47%	-0.70%
		-3.2820	-1.6487	-0.8429	-0.9934	-1.4619	-0.6447	-0.1206	-0.8443	-0.1877	-0.0519	-0.6620	-1.5334	-0.1648	-0.8270	-1.3420	-2.1853
CAR (1)		-1.29%	-0.43%	-0.21%	-0.35%	-0.48%	-0.16%	-0.12%	-0.38%	-0.18%	-0.18%	-0.42%	-0.67%	-0.46%	-0.56%	-0.70%	-0.89%
		-3.8209	-1.6638	-0.9223	-1.7138	-1.3494	-0.5000	-0.4199	-1.5173	-0.4668	-0.5212	-1.3152	-2.3169	-1.1511	-1.5073	-2.0339	-2.8303
BHAR (0)		-1.16%	-0.31%	-0.29%	-0.20%	-0.52%	-0.10%	-0.24%	0.17%	0.12%	0.11%	-0.21%	-0.01%	-0.19%	-0.32%	-0.47%	-0.74%
		-2.4997	-0.7294	-0.7678	-0.5089	-1.1900	-0.2497	-0.5456	0.4539	0.2642	0.2548	-0.5191	-0.0310	-0.4245	-0.7886	-1.1795	-1.8372
BHAR (1)		-1.28%	-0.11%	-0.20%	-0.21%	-0.48%	-0.32%	-0.37%	-0.22%	-0.03%	0.14%	-0.35%	-0.06%	-0.42%	-0.81%	-0.44%	-1.10%
		-2.9589	-0.2755	-0.5386	-0.5648	-1.1871	-0.7454	-0.8797	-0.5889	-0.0661	0.3507	-0.8693	-0.1576	-0.9553	-1.9844	-1.1808	-2.7318
PORTUGA	L																
CAR (0)		-1.99%	-0.89%	-0.45%	-0.38%	-1.24%	-0.56%	-0.30%	-0.29%	-0.73%	-0.37%	-0.27%	-0.31%	-0.80%	-0.47%	-0.38%	-0.41%
		-5.5807	-2.9904	-1.7765	-1.6611	-2.9576	-1.4676	-0.8732	-0.9350	-1.7000	-0.9279	-0.7338	-0.9113	-1.8065	-1.1309	-0.9688	-1.1155
CAR (1)		-1.37%	-0.41%	-0.22%	-0.19%	-0.51%	-0.17%	-0.10%	-0.15%	-0.34%	-0.16%	-0.24%	-0.27%	-0.40%	-0.27%	-0.27%	-0.35%
		-3.6754	-1.3993	-0.8648	-0.8425	-1.1780	-0.4455	-0.3117	-0.4872	-0.7945	-0.4112	-0.6540	-0.7975	-0.8802	-0.6425	-0.6947	-0.9534
BHAR (0)		-2.06%	-0.51%	-0.42%	-0.31%	-1.25%	-0.41%	-0.16%	-0.20%	-0.75%	-0.07%	-0.32%	0.28%	-0.71%	-0.52%	-0.45%	-0.48%
		-4.2514	-1.0953	-0.8754	-0.6927	-2.5357	-0.8249	-0.3471	-0.4195	-1.5226	-0.1300	-0.6279	0.6036	-1.4724	-1.0396	-0.9172	-0.9610
BHAR (1)		-1.75%	-0.10%	-0.24%	-0.06%	-0.95%	-0.22%	0.06%	-0.22%	-0.49%	-0.25%	-0.44%	0.12%	-0.52%	-0.26%	-0.25%	-0.51%
		-3.6160	-0.2385	-0.5143	-0.1507	-1.9731	-0.4694	0.1357	-0.4842	-1.0601	-0.5353	-0.8859	0.2672	-1.0668	-0.5294	-0.5172	-1.0474
SINGAPOF	RE																
CAR (0)		-1.01%	-0.15%	-0.03%	-0.09%	-0.30%	-0.08%	-0.07%	-0.18%	-0.19%	-0.13%	-0.27%	-0.38%	-0.37%	-0.37%	-0.50%	-0.63%
		-2.9403	-0.6057	-0.1180	-0.4515	-0.8588	-0.2510	-0.2346	-0.7394	-0.5121	-0.3885	-0.8499	-1.3873	-0.9600	-1.0551	-1.5925	-2.2684
CAR (1)		-0.85%	-0.12%	-0.05%	-0.14%	-0.22%	-0.13%	-0.18%	-0.27%	-0.25%	-0.26%	-0.41%	-0.51%	-0.46%	-0.51%	-0.64%	-0.72%
		-2.5790	-0.5132	-0.2545	-0.7754	-0.6595	-0.4232	-0.6597	-1.1202	-0.6708	-0.7690	-1.3480	-1.9022	-1.2595	-1.5147	-2.1324	-2.6944
BHAR (0)		-1.10%	-0.41%	0.01%	-0.22%	-0.06%	0.05%	0.03%	0.07%	-0.07%	-0.16%	-0.11%	-0.40%	-0.12%	0.03%	-0.30%	-0.43%
		-2.4661	-1.1381	0.0295	-0.8071	-0.1309	0.1116	0.0765	0.2039	-0.1704	-0.4197	-0.3262	-1.1331	-0.2905	0.0866	-0.8859	-1.2387
BHAR (1)		-0.98%	-0.69%	0.01%	-0.32%	-0.19%	-0.07%	-0.31%	-0.11%	-0.24%	-0.29%	-0.14%	-0.59%	-0.34%	-0.16%	-0.64%	-0.48%
		-2.4431	-2.0004	0.0211	-1.2049	-0.4788	-0.1984	-0.7900	-0.3631	-0.6005	-0.8016	-0.4241	-1.7001	-0.8656	-0.4440	-1.9226	-1.4176
SPAIN																	
CAR (0)		-0.64%	-0.27%	-0.07%	-0.02%	-0.22%	-0.04%	0.12%	0.08%	0.15%	0.27%	0.23%	0.14%	0.25%	0.19%	0.13%	0.02%
		-2.5339	-1.3018	-0.3665	-0.1047	-0.7520	-0.1688	0.5202	0.3706	0.4957	0.9557	0.8624	0.5881	0.7960	0.6410	0.4791	0.0597
CAR (1)		-0.53%	-0.21%	-0.02%	-0.05%	-0.21%	0.01%	0.07%	-0.01%	0.18%	0.22%	0.16%	0.03%	0.15%	0.10%	0.04%	-0.08%
		-2.2450	-1.0327	-0.1161	-0.3300	-0.7375	0.0383	0.2999	-0.0533	0.5939	0.7761	0.6376	0.1452	0.4743	0.3412	0.1347	-0.3117
BHAR (0)		-0.76%	-0.54%	0.13%	0.02%	-0.33%	0.14%	0.08%	0.02%	0.25%	0.41%	0.27%	-0.08%	0.24%	0.29%	0.22%	-0.14%
		-2.4851	-1.8350	0.4902	0.0781	-1.0820	0.4285	0.2410	0.0726	0.7593	1.2869	0.8899	-0.2645	0.7482	0.9083	0.7278	-0.4457
BHAR (1)		-0.51%	-0.56%	0.02%	0.00%	-0.32%	0.14%	0.01%	-0.13%	0.08%	0.17%	-0.05%	-0.31%	0.11%	0.16%	0.13%	-0.22%
		-1.6428	-1.8359	0.0647	0.0011	-1.0355	0.4340	0.0313	-0.4621	0.2248	0.5286	-0.1443	-1.0499	0.3322	0.4877	0.4462	-0.7147

EW	J =		3	3			6	<u> </u>			9)			13	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		-0.95%	-0.04%	-0.03%	0.09%	-0.05%	0.15%	0.23%	0.13%	0.14%	0.36%	0.16%	-0.02%	0.35%	0.21%	-0.06%	-0.26%
		-2.6892	-0.1145	-0.1218	0.3978	-0.1173	0.4288	0.7615	0.4705	0.3496	1.0209	0.5005	-0.0572	0.8785	0.5654	-0.1847	-0.7793
CAR (1)		-0.58%	0.02%	0.06%	$\boldsymbol{0.08\%}$	0.06%	0.17%	0.17%	0.00%	0.31%	0.29%	0.03%	-0.17%	0.17%	-0.02%	-0.27%	-0.42%
		-1.6605	0.0669	0.2517	0.3621	0.1510	0.5171	0.6067	0.0105	0.7917	0.8355	0.0791	-0.5659	0.4440	-0.0520	-0.7658	-1.2518
BHAR (0)		-0.75%	-0.22%	-0.04%	-0.28%	0.04%	0.38%	0.18%	-0.01%	0.25%	0.13%	0.13%	-0.20%	0.26%	0.26%	-0.10%	-0.25%
		-1.7106	-0.5706	-0.0972	-0.7204	0.0923	0.9371	0.3940	-0.0342	0.5625	0.2945	0.3220	-0.4876	0.6228	0.6880	-0.2724	-0.7287
BHAR (1)		-0.53%	0.03%	-0.02%	-0.05%	0.13%	0.16%	0.21%	-0.07%	0.23%	0.28%	0.11%	-0.25%	0.24%	0.00%	-0.27%	-0.50%
		-1.2418	0.0770	-0.0531	-0.1503	0.2862	0.3835	0.4647	-0.1850	0.5312	0.6787	0.2623	-0.6105	0.5675	-0.0062	-0.7219	-1.3743
SWITZERLA	ND																
CAR (0)		0.07%	0.32%	0.35%	0.41%	0.49%	0.49%	0.56%	0.48%	0.58%	0.62%	0.50%	0.35%	0.73%	0.59%	0.39%	0.21%
		0.2852	1.6790	2.0230	2.7650	1.8919	2.0537	2.6282	2.4843	2.0975	2.4132	2.1503	1.6115	2.6458	2.2810	1.6095	0.9021
CAR (1)		0.01%	0.27%	0.32%	0.33%	0.38%	0.43%	0.48%	0.33%	0.54%	0.54%	0.39%	0.20%	0.60%	0.43%	0.24%	0.05%
		0.0401	1.3937	1.9507	2.2805	1.4782	1.8025	2.3050	1.7609	1.9840	2.1580	1.6869	0.9653	2.2250	1.6803	1.0080	0.2433
BHAR (0)		-0.02%	0.40%	0.22%	0.38%	0.50%	0.64%	0.46%	0.77%	0.60%	0.52%	0.58%	0.41%	0.72%	0.81%	0.55%	0.39%
		-0.0738	1.4850	0.8693	1.3568	1.8672	2.3713	1.8227	3.2854	2.1051	1.7649	2.3351	1.5288	2.5494	2.9499	1.9388	1.4047
BHAR (1)		0.04%	0.24%	0.20%	0.34%	0.42%	0.50%	0.32%	0.57%	0.45%	0.39%	0.47%	0.19%	0.55%	0.60%	0.32%	0.28%
		0.1429	0.8934	0.8213	1.2112	1.5328	1.8544	1.2512	2.4050	1.5783	1.3268	1.8115	0.6984	1.9589	2.2454	1.1880	1.0270
UK																	
CAR (0)		-0.37%	0.11%	0.10%	0.14%	0.30%	0.26%	0.30%	0.18%	0.34%	0.37%	0.16%	-0.03%	0.49%	0.28%	0.00%	-0.24%
		-1.5081	0.5464	0.5928	0.9932	1.1619	1.1676	1.5468	1.0478	1.2982	1.5329	0.7317	-0.1458	1.7708	1.1061	-0.0171	-1.1149
CAR (1)		-0.35%	0.04%	0.04%	0.04%	0.14%	0.14%	0.16%	0.01%	0.19%	0.17%	-0.04%	-0.23%	0.25%	0.03%	-0.22%	-0.42%
		-1.4910	0.2023	0.2854	0.2696	0.5784	0.6631	0.8340	0.0808	0.7484	0.7488	-0.1857	-1.1938	0.9629	0.1336	-0.9979	-2.0558
BHAR (0)		-0.42%	-0.09%	0.08%	-0.08%	0.31%	0.23%	0.21%	0.27%	0.38%	0.31%	0.15%	-0.12%	0.42%	0.28%	0.03%	-0.24%
		-1.4401	-0.3170	0.3039	-0.2792	1.1248	0.9238	0.7506	1.3949	1.3298	1.0763	0.6469	-0.5203	1.4782	1.1451	0.1007	-1.0205
BHAR (1)		-0.43%	-0.24%	-0.15%	-0.32%	0.04%	0.01%	-0.06%	0.11%	0.15%	0.01%	-0.01%	-0.25%	0.11%	-0.08%	-0.35%	-0.62%
		-1.4258	-0.8841	-0.5748	-1.1500	0.1497	0.0561	-0.2210	0.5979	0.5218	0.0398	-0.0557	-1.0156	0.3928	-0.3165	-1.3122	-2.6009
US																	
CAR (0)		-1.22%	-0.61%	-0.42%	-0.47%	-0.75%	-0.49%	-0.45%	-0.61%	-0.51%	-0.49%	-0.67%	-0.85%	-0.66%	-0.78%	-0.95%	-1.12%
		-4.2703	-2.5966	-2.0874	-2.7934	-2.2628	-1.6990	-1.8461	-2.8958	-1.4999	-1.6677	-2.5350	-3.5933	-1.9945	-2.5982	-3.5060	-4.5460
CAR (1)		-1.23%	-0.58%	-0.43%	-0.57%	-0.70%	-0.49%	-0.55%	-0.74%	-0.55%	-0.63%	-0.83%	-1.00%	-0.87%	-0.96%	-1.13%	-1.26%
		-4.6008	-2.5832	-2.2697	-3.5944	-2.2273	-1.8070	-2.3996	-3.6739	-1.7246	-2.2453	-3.2773	-4.4247	-2.8100	-3.3659	-4.3504	-5.2990
BHAR (0)		-1.25%	-0.55%	-0.59%	-0.47%	-0.69%	-0.51%	-0.79%	-0.49%	-0.46%	-0.53%	-0.62%	-0.88%	-0.56%	-0.61%	-0.87%	-1.00%
		-3.7455	-1.8168	-2.0438	-1.5771	-2.0217	-1.7011	-2.2655	-2.2239	-1.2975	-1.5520	-2.3262	-3.2635	-1.6722	-2.0414	-2.9264	-3.3837
BHAR (1)		-1.15%	-0.67%	-0.68%	-0.69%	-0.72%	-0.61%	-1.02%	-0.81%	-0.61%	-0.81%	-0.89%	-1.06%	-0.94%	-0.94%	-1.17%	-1.23%
		-3.2898	-2.2611	-2.3663	-2.4100	-2.0038	-1.9485	-2.9154	-3.5807	-1.6689	-2.4204	-3.1345	-3.7464	-2.7149	-3.0542	-4.0227	-4.0878

Panel B. The cross-sectional momentum using market-weighted return

MW	J =		3			C1035-50	6			<u> </u>	9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL	LIA																
CAR (0)		-1.18%	-0.07%	0.11%	0.05%	-0.46%	0.08%	0.18%	0.05%	-0.21%	0.07%	-0.09%	-0.28%	-0.18%	-0.11%	-0.28%	-0.48%
		-2.5390	-0.1890	0.3680	0.2012	-0.9324	0.1869	0.5265	0.1535	-0.4268	0.1695	-0.2293	-0.8172	-0.3674	-0.2526	-0.7426	-1.4274
CAR (1)		-1.06%	-0.12%	0.05%	-0.12%	-0.44%	0.03%	0.04%	-0.14%	-0.34%	-0.12%	-0.25%	-0.50%	-0.45%	-0.28%	-0.50%	-0.67%
		-2.3931	-0.3785	0.1744	-0.4917	-0.9595	0.0701	0.1166	-0.4770	-0.7133	-0.2904	-0.6839	-1.5475	-0.9642	-0.7023	-1.4268	-2.1169
BHAR (0)		-0.90%	0.43%	-0.26%	0.33%	-0.23%	0.20%	-0.58%	-0.37%	-0.06%	0.18%	-0.12%	-0.15%	-0.21%	-0.17%	-0.90%	-0.28%
		-1.4846	0.8996	-0.5949	0.6657	-0.3854	0.3984	-1.0592	-0.8805	-0.1078	0.3569	-0.2746	-0.3739	-0.3760	-0.3407	-1.9579	-0.6486
BHAR (1)		-1.07%	0.03%	-0.43%	0.15%	-0.52%	0.03%	-0.93%	-0.66%	-0.78%	-0.36%	-0.42%	-0.54%	-0.79%	-0.61%	-1.11%	-0.76%
-		-1.6833	0.0615	-0.9550	0.2959	-0.8534	0.0497	-1.6417	-1.5218	-1.3331	-0.6836	-0.9723	-1.2006	-1.3833	-1.2427	-2.5240	-1.7587
AUSTRI	A																
CAR (0)		-1.08%	-0.74%	-0.59%	-0.50%	-0.55%	-0.38%	-0.32%	-0.35%	-0.30%	-0.38%	-0.37%	-0.48%	-0.41%	-0.52%	-0.60%	-0.71%
		-2.6512	-2.4416	-2.3352	-2.3794	-1.2825	-1.0632	-1.0591	-1.2934	-0.6555	-0.9575	-1.0624	-1.4843	-0.9282	-1.3118	-1.6179	-2.0553
CAR (1)		-1.60%	-0.94%	-0.62%	-0.57%	-0.55%	-0.38%	-0.42%	-0.43%	-0.45%	-0.58%	-0.46%	-0.64%	-0.82%	-0.77%	-0.76%	-0.85%
		-4.0492	-3.2295	-2.5429	-2.8241	-1.3628	-1.1318	-1.4015	-1.5963	-1.0104	-1.5235	-1.3463	-2.0065	-1.8931	-1.9946	-2.0817	-2.5243
BHAR (0)		-1.46%	-0.97%	-0.99%	-1.04%	-0.65%	-1.21%	-0.79%	-0.53%	-0.20%	0.13%	-0.56%	-0.14%	-0.23%	-0.33%	-0.53%	-0.15%
		-2.8330	-1.9692	-2.2862	-2.3252	-1.3337	-2.5587	-1.6183	-1.2459	-0.4064	0.2777	-1.2729	-0.3013	-0.4641	-0.6728	-1.1213	-0.2773
BHAR (1)		-1.85%	-1.29%	-1.01%	-0.97%	-0.85%	-0.90%	-0.83%	-0.55%	-0.32%	-0.23%	-0.47%	-0.41%	-0.81%	-0.58%	-1.02%	-0.54%
		-3.8364	-2.8111	-2.3617	-2.2944	-1.8351	-1.8877	-1.7913	-1.2950	-0.6539	-0.4921	-1.0672	-0.8700	-1.7620	-1.2478	-2.1419	-1.0690
BELGIU	M	1												1			
CAR (0)		-0.99%	-0.17%	-0.02%	0.07%	0.16%	0.60%	0.66%	0.44%	0.23%	0.50%	0.38%	0.18%	0.21%	0.39%	0.14%	-0.01%
		-2.4823	-0.5486	-0.0623	0.2980	0.3788	1.5972	1.9408	1.4126	0.4879	1.1819	0.9741	0.4946	0.4537	0.9111	0.3611	-0.0224
CAR (1)		-0.75%	-0.15%	0.09%	0.07%	0.26%	0.63%	0.58%	0.29%	0.34%	0.48%	0.30%	0.10%	0.35%	0.27%	0.08%	-0.09%
		-2.0423	-0.5056	0.3658	0.3285	0.6055	1.6869	1.7179	0.9339	0.7192	1.1608	0.7870	0.2797	0.7750	0.6382	0.2014	-0.2579
BHAR (0)		-0.70%	0.45%	-1.22%	0.29%	0.15%	0.31%	0.64%	0.12%	0.15%	1.12%	0.89%	0.60%	0.07%	0.07%	0.33%	-0.30%
		-1.3695	0.9463	-2.4363	0.5536	0.2974	0.6484	1.3603	0.2439	0.2939	2.5383	1.8480	1.2921	0.1471	0.1502	0.6889	-0.6987
BHAR (1)		-0.86%	0.13%	-0.99%	0.49%	-0.04%	0.37%	0.56%	-0.11%	0.08%	1.15%	0.81%	0.32%	-0.13%	0.00%	0.09%	-0.35%
		-1.8696	0.2835	-2.0028	0.9691	-0.0732	0.7169	1.2184	-0.2195	0.1505	2.5229	1.6916	0.6648	-0.2758	0.0101	0.1896	-0.7989
CANADA	A	I	0.000/	- = - ·	. ==./		0.7.07	. ===./	0.5001	/		. ===./					
CAR (0)		-0.48%	0.29%	0.58%	0.57%	0.08%	0.54%	0.73%	0.62%	0.53%	0.83%	0.73%	0.33%	0.23%	0.35%	0.11%	-0.26%
G17 (1)		-0.9062	0.6461	1.5107	1.7890	0.1389	1.0758	1.6386	1.5079	0.8513	1.4937	1.3616	0.6341	0.3704	0.5819	0.1873	-0.4575
CAR (1)		-0.64%	0.12%	0.58%	0.43%	-0.10%	0.35%	0.55%	0.34%	0.58%	0.67%	0.50%	0.02%	-0.01%	0.06%	-0.18%	-0.54%
		-1.2452	0.2698	1.5647	1.3561	-0.1722	0.7209	1.2576	0.8349	0.9315	1.2134	0.9294	0.0447	-0.0210	0.1023	-0.3065	-0.9402
BHAR (0)		-0.60%	-0.25%	0.08%	-0.41%	-0.24%	0.39%	0.91%	0.19%	0.65%	0.61%	0.47%	-0.15%	0.21%	0.34%	-0.12%	-0.34%
DYLLD (I)		-0.8600	-0.4054	0.1265	-0.6332	-0.3801	0.7003	1.4698	0.3159	0.9479	0.8695	0.7499	-0.2300	0.3036	0.5353	-0.1607	-0.4951
BHAR (1)		-0.37%	-0.47%	0.05%	-0.62%	-0.07%	0.19%	0.58%	-0.35%	0.60%	0.11%	0.02%	-0.19%	-0.31%	-0.20%	-0.75%	-0.75%
		-0.5607	-0.7646	0.0830	-1.0011	-0.1102	0.3374	0.9309	-0.6072	0.8084	0.1551	0.0273	-0.2813	-0.4513	-0.3242	-1.0769	-1.1096

MW	J =		3	;			6	i			9	1			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARI	K																
CAR (0)		-0.50%	0.20%	0.25%	0.19%	0.32%	0.53%	0.60%	0.53%	0.47%	0.64%	0.58%	0.41%	0.61%	0.64%	0.45%	0.23%
		-1.2566	0.5947	0.8531	0.7319	0.7168	1.3476	1.7587	1.6870	0.9770	1.4810	1.4585	1.1243	1.3041	1.4824	1.1009	0.6084
CAR (1)		-0.62%	0.11%	0.16%	0.10%	0.42%	0.53%	0.56%	0.44%	0.52%	0.55%	0.44%	0.26%	0.41%	0.41%	0.23%	0.07%
		-1.5211	0.3414	0.5763	0.4264	0.9705	1.3859	1.6564	1.4026	1.1140	1.2733	1.1298	0.7143	0.8820	0.9356	0.5664	0.1893
BHAR (0)		-0.91%	-0.23%	-0.14%	0.15%	0.21%	0.16%	0.09%	0.04%	-0.11%	-0.05%	0.14%	-0.59%	0.15%	0.47%	0.12%	-0.09%
		-1.8701	-0.4710	-0.3274	0.3019	0.4157	0.3520	0.1820	0.1047	-0.1944	-0.0948	0.3033	-1.2053	0.2869	0.9357	0.2704	-0.1687
BHAR (1)		-0.76%	-0.17%	0.11%	0.40%	0.63%	0.31%	0.12%	-0.04%	0.26%	0.35%	0.34%	-0.59%	0.10%	0.31%	-0.04%	-0.21%
		-1.5644	-0.3642	0.2565	0.8648	1.2845	0.6858	0.2413	-0.0998	0.4832	0.6543	0.7469	-1.2244	0.1885	0.5865	-0.0940	-0.4065
FINLAND)																
CAR (0)		-0.37%	0.18%	0.59%	0.59%	-0.09%	0.53%	0.99%	0.80%	0.49%	1.04%	1.11%	0.84%	0.41%	0.74%	0.79%	0.49%
		-0.6975	0.3960	1.4510	1.5826	-0.1444	0.9784	2.0141	1.7804	0.7768	1.7974	2.0303	1.6827	0.6350	1.2278	1.4175	0.9452
CAR (1)		-0.43%	0.24%	0.65%	0.50%	0.06%	0.79%	0.98%	0.70%	0.72%	1.08%	1.05%	0.67%	0.31%	0.58%	0.64%	0.34%
		-0.8237	0.5459	1.5941	1.3615	0.0928	1.4710	2.0264	1.5977	1.1506	1.8866	1.9456	1.3671	0.4819	0.9827	1.1713	0.6748
BHAR (0)		-0.97%	-0.09%	0.55%	-0.08%	-0.57%	0.23%	1.71%	0.81%	0.51%	1.62%	0.20%	1.07%	0.43%	0.73%	0.94%	0.60%
		-1.5100	-0.1381	0.8031	-0.1063	-0.8230	0.3338	2.5013	1.2426	0.7504	2.3700	0.2920	1.5494	0.6245	1.0743	1.3076	0.9436
BHAR (1)		-0.31%	0.21%	0.70%	0.01%	0.02%	0.08%	1.43%	0.18%	0.28%	1.29%	0.03%	0.77%	0.15%	0.30%	0.67%	0.48%
		-0.4723	0.3198	1.0573	0.0194	0.0247	0.1196	2.1038	0.2775	0.4216	1.8937	0.0497	1.1175	0.2181	0.4398	0.9449	0.7801
FRANCE									1								
CAR (0)		-1.71%	-0.63%	-0.40%	-0.18%	-0.95%	-0.45%	-0.08%	0.00%	-0.90%	-0.38%	-0.17%	-0.12%	-0.35%	-0.18%	-0.08%	-0.16%
		-4.2707	-2.0030	-1.4648	-0.8102	-2.1558	-1.1915	-0.2403	0.0110	-1.9536	-0.9483	-0.4508	-0.3294	-0.7507	-0.4152	-0.1903	-0.3859
CAR (1)		-1.27%	-0.41%	-0.21%	-0.15%	-0.71%	-0.17%	-0.01%	0.03%	-0.57%	-0.33%	-0.13%	-0.13%	-0.35%	-0.15%	-0.13%	-0.22%
		-3.4814	-1.3913	-0.8353	-0.6998	-1.6369	-0.4570	-0.0244	0.1007	-1.3038	-0.8477	-0.3601	-0.3607	-0.7859	-0.3600	-0.3162	-0.5469
BHAR (0)		-1.84%	-0.30%	-0.45%	-0.18%	-0.79%	-0.41%	-0.33%	0.00%	-0.98%	-0.56%	-0.60%	-0.26%	-0.30%	0.04%	0.20%	0.30%
		-3.8568	-0.6456	-0.9892	-0.3486	-1.7311	-0.8325	-0.6979	0.0080	-1.9834	-1.1187	-1.3031	-0.5589	-0.6137	0.0901	0.3770	0.6298
BHAR (1)		-1.52%	-0.22%	-0.73%	-0.11%	-0.70%	-0.25%	-0.33%	0.01%	-0.73%	-0.62%	-0.16%	-0.17%	-0.27%	0.06%	0.19%	0.12%
CERTAIN		-3.0769	-0.4860	-1.5975	-0.2310	-1.4166	-0.5023	-0.6803	0.0237	-1.4680	-1.2638	-0.3394	-0.3608	-0.5463	0.1185	0.3739	0.2431
GAR	Y	1.530/	0.450/	0.150/	0.020/	0.530/	0.000/	0.000/	0.020/	0.240/	0.060/	0.050/	0.140/	0.250/	0.100/	0.200/	0.210/
CAR (0)		-1.53%	-0.45%	-0.17%	-0.02%	-0.72%	-0.08%	0.08%	-0.03%	-0.34%	0.06%	-0.05%	-0.14%	-0.27%	-0.19%	-0.20%	-0.31%
CAD (1)		-3.4269	-1.2446	-0.5279	-0.0719	-1.3768	-0.1765	0.2111	-0.0761	-0.6130	0.1157	-0.0998	-0.3351	-0.4621	-0.3573	-0.4089	-0.6869
CAR (1)		-1.53%	-0.31%	-0.12%	-0.06%	-0.56%	-0.06%	0.02%	-0.14%	-0.32%	-0.02%	-0.18%	-0.27%	-0.47%	-0.39%	-0.37%	-0.44%
D*** D (0)		-3.5794	-0.9090	-0.4143	-0.2147	-1.1205	-0.1420	0.0634	-0.3912	-0.5675	-0.0373	-0.3985	-0.6328	-0.8083	-0.7516	-0.7869	-1.0123
BHAR (0)		-1.61%	0.09%	-0.26%	0.30%	-0.49%	0.50%	0.44%	0.44%	-0.55%	0.03%	-0.16%	-0.03%	-0.30%	0.01%	-0.13%	-0.19%
DILAD (1)		-2.9263	0.1732	-0.5252	0.5401	-0.8757	0.9466	0.7469	0.9540	-0.9190	0.0528	-0.3017	-0.0624	-0.4825	0.0193	-0.2307	-0.3457
BHAR (1)		-1.54%	-0.22%	-0.15%	0.15%	-0.79%	0.14%	-0.03%	0.10%	-0.59%	-0.19%	-0.25%	-0.52%	-0.72%	-0.42%	-0.51%	-0.68%
		-2.8532	-0.3933	-0.3199	0.2615	-1.3190	0.2633	-0.0506	0.1950	-0.9276	-0.2879	-0.4497	-0.8754	-1.0913	-0.6856	-0.9124	-1.2641

MW	J =		3				6	i			9	1			1:	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		-1.19%	-0.46%	-0.45%	-0.47%	-0.33%	-0.31%	-0.25%	-0.46%	-0.49%	-0.31%	-0.37%	-0.50%	-0.64%	-0.45%	-0.62%	-0.72%
		-1.8769	-0.8464	-0.9378	-1.1029	-0.4352	-0.4432	-0.4283	-0.8808	-0.6216	-0.4134	-0.5728	-0.8918	-0.8267	-0.6259	-0.9542	-1.1871
CAR (1)		-1.11%	-0.45%	-0.53%	-0.55%	-0.45%	-0.35%	-0.40%	-0.59%	-0.60%	-0.37%	-0.53%	-0.65%	-0.71%	-0.68%	-0.79%	-0.87%
		-1.8031	-0.8306	-1.1024	-1.2842	-0.5981	-0.5283	-0.7080	-1.1695	-0.7609	-0.5176	-0.8664	-1.1936	-0.9488	-0.9963	-1.2590	-1.4806
BHAR (0)		-0.61%	0.12%	-0.31%	0.31%	-0.17%	0.05%	-0.43%	-0.17%	0.04%	-0.45%	-0.09%	-1.24%	-0.50%	-0.72%	-1.21%	-1.83%
		-0.7565	0.1538	-0.3919	0.3972	-0.1831	0.0521	-0.5179	-0.2047	0.0440	-0.5519	-0.1123	-1.5740	-0.6238	-0.8652	-1.5879	-2.2975
BHAR (1)		-0.96%	0.07%	-0.77%	0.36%	-0.07%	-0.14%	-0.09%	-0.38%	-0.08%	-0.60%	-0.68%	-1.63%	-0.36%	-0.80%	-1.34%	-1.81%
		-1.2485	0.0939	-0.9945	0.4571	-0.0826	-0.1622	-0.1016	-0.4721	-0.0923	-0.7320	-0.8572	-2.1000	-0.4523	-0.9839	-1.8001	-2.2656
HONGKON	G																
CAR (0)		-1.13%	-0.22%	-0.15%	-0.24%	-0.50%	-0.12%	-0.15%	-0.25%	-0.67%	-0.37%	-0.38%	-0.63%	-0.85%	-0.62%	-0.83%	-0.99%
		-2.1224	-0.5941	-0.4959	-0.9177	-0.9502	-0.2917	-0.3872	-0.7251	-1.2708	-0.7727	-0.8778	-1.5543	-1.6385	-1.2731	-1.8468	-2.3821
CAR (1)		-1.15%	-0.30%	-0.29%	-0.34%	-0.42%	-0.20%	-0.30%	-0.43%	-0.78%	-0.52%	-0.58%	-0.81%	-0.88%	-0.79%	-0.98%	-1.11%
		-2.3855	-0.8570	-0.9812	-1.2966	-0.8594	-0.4757	-0.7706	-1.2159	-1.5282	-1.0908	-1.3266	-2.0149	-1.7263	-1.6274	-2.1810	-2.7194
BHAR (0)		-1.61%	-0.79%	-0.50%	-0.84%	-0.32%	-0.21%	0.08%	-0.81%	-0.65%	-0.33%	-0.47%	-0.85%	-0.81%	-0.48%	-0.99%	-0.85%
		-2.4902	-1.3199	-0.8850	-1.7636	-0.5801	-0.3909	0.1687	-1.7169	-1.0845	-0.5871	-0.8684	-1.5654	-1.3992	-0.8311	-1.6166	-1.4823
BHAR (1)		-1.60%	-0.83%	-0.71%	-0.95%	-0.66%	-0.53%	-0.27%	-1.12%	-0.90%	-0.73%	-0.90%	-0.84%	-0.92%	-0.64%	-1.21%	-0.97%
		-2.4870	-1.3090	-1.2817	-1.8533	-1.1878	-1.0480	-0.5305	-2.4131	-1.5284	-1.2152	-1.6779	-1.5473	-1.6108	-1.1728	-1.9874	-1.7172
IRELAND	1																
CAR (0)		0.08%	0.53%	0.03%	0.12%	0.69%	0.61%	0.30%	0.18%	-0.07%	0.20%	0.08%	0.03%	0.26%	-0.04%	-0.18%	-0.29%
		0.1146	0.9420	0.0636	0.2768	0.8915	0.8841	0.5174	0.3304	-0.0891	0.2847	0.1216	0.0440	0.3224	-0.0526	-0.2500	-0.4261
CAR (1)		0.28%	0.25%	-0.06%	-0.08%	0.61%	0.28%	0.09%	-0.03%	-0.30%	-0.13%	-0.15%	-0.22%	-0.43%	-0.41%	-0.48%	-0.63%
		0.4162	0.4506	-0.1333	-0.1941	0.7791	0.4337	0.1497	-0.0503	-0.3879	-0.1824	-0.2209	-0.3345	-0.5296	-0.5272	-0.6458	-0.9144
BHAR (0)		-0.07%	-1.25%	-1.28%	-0.75%	0.22%	0.84%	-1.08%	1.95%	-0.28%	-0.27%	0.26%	0.69%	0.05%	-0.08%	0.44%	-0.24%
		-0.0860	-1.4985	-1.4989	-0.7997	0.2451	1.0016	-1.1647	2.1397	-0.3171	-0.2925	0.3105	0.7724	0.0518	-0.0828	0.4954	-0.2664
BHAR (1)		-0.75%	-1.38%	-1.88%	-0.83%	0.10%	0.24%	-0.78%	1.47%	-0.63%	-0.78%	-0.29%	-0.23%	-1.11%	-0.42%	-0.44%	-0.59%
		-0.9131	-1.5667	-2.1188	-0.9040	0.1097	0.2856	-0.8720	1.6967	-0.7127	-0.8424	-0.3303	-0.2423	-1.2734	-0.4838	-0.4888	-0.6444
ISRAEL																	
CAR (0)		-1.24%	-0.60%	-0.40%	-0.44%	-0.73%	-0.40%	-0.49%	-0.69%	-0.37%	-0.46%	-0.69%	-0.89%	-0.67%	-0.77%	-0.98%	-1.15%
		-2.6626	-1.6274	-1.2303	-1.5124	-1.4125	-0.8693	-1.1992	-1.8732	-0.7230	-0.9617	-1.4907	-2.1265	-1.1877	-1.4431	-1.9449	-2.4686
CAR (1)		-1.48%	-0.66%	-0.44%	-0.62%	-0.56%	-0.43%	-0.63%	-0.83%	-0.33%	-0.71%	-0.86%	-1.09%	-1.03%	-1.05%	-1.22%	-1.34%
		-3.2886	-1.7608	-1.4041	-2.1332	-1.0894	-0.9527	-1.5790	-2.2589	-0.6420	-1.4484	-1.9130	-2.6109	-1.8184	-1.9611	-2.4764	-2.9311
BHAR (0)		-1.85%	-1.01%	-0.36%	-1.05%	-0.80%	-0.68%	-0.51%	-0.41%	-0.16%	0.20%	-0.43%	0.73%	-0.71%	-0.80%	-0.52%	-1.03%
		-3.2270	-1.9382	-0.6556	-2.1750	-1.2995	-1.1779	-0.9429	-0.8666	-0.2796	0.3551	-0.7439	1.3583	-1.1181	-1.3042	-0.8160	-1.6503
BHAR (1)		-1.91%	-1.01%	-0.39%	-1.00%	-0.48%	-0.40%	-0.70%	-0.60%	-0.18%	-0.58%	-0.61%	0.33%	-1.02%	-0.94%	-0.93%	-0.88%
		-3.1561	-1.8665	-0.6986	-2.1032	-0.7943	-0.7071	-1.3195	-1.2307	-0.3077	-1.0040	-1.0313	0.5849	-1.6019	-1.5307	-1.4443	-1.4242

MW	J =		3				6	i			9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		-1.34%	-0.57%	-0.48%	-0.33%	-0.77%	-0.43%	-0.31%	-0.24%	-0.85%	-0.43%	-0.35%	-0.30%	-0.48%	-0.32%	-0.38%	-0.37%
		-3.0889	-1.5986	-1.6558	-1.2342	-1.5718	-1.0397	-0.8647	-0.6959	-1.6745	-0.9601	-0.8537	-0.7884	-0.9544	-0.6982	-0.8939	-0.9324
CAR (1)		-0.93%	-0.38%	-0.29%	-0.21%	-0.64%	-0.40%	-0.27%	-0.25%	-0.48%	-0.36%	-0.33%	-0.26%	-0.54%	-0.38%	-0.39%	-0.39%
		-2.1525	-1.1543	-1.0452	-0.7966	-1.3803	-1.0120	-0.7561	-0.7372	-0.9526	-0.8360	-0.8275	-0.6922	-1.0922	-0.8326	-0.9180	-1.0060
BHAR (0)		-1.09%	-1.00%	-0.18%	-0.28%	-0.51%	-0.62%	-0.66%	-0.41%	-0.73%	-1.23%	-0.37%	-1.20%	-0.49%	-0.10%	-0.29%	0.00%
		-1.9801	-1.8376	-0.3386	-0.5331	-0.9221	-1.1345	-1.2526	-0.8284	-1.2677	-2.2141	-0.7892	-2.3603	-0.8797	-0.1877	-0.5579	0.0018
BHAR (1)		-1.19%	-0.75%	0.22%	-0.16%	-0.87%	-0.68%	-0.68%	-0.39%	-0.69%	-1.00%	-0.65%	-1.29%	-0.55%	-0.14%	-0.40%	-0.08%
		-2.1737	-1.4233	0.4156	-0.3159	-1.5698	-1.2655	-1.2959	-0.8139	-1.2097	-1.8365	-1.3837	-2.5298	-0.9709	-0.2668	-0.7794	-0.1653
JAPAN																	
CAR (0)		-1.45%	-0.96%	-0.55%	-0.48%	-1.33%	-0.87%	-0.54%	-0.53%	-1.11%	-0.70%	-0.64%	-0.62%	-1.03%	-0.90%	-0.77%	-0.74%
		-4.3738	-3.3403	-2.2905	-2.2722	-3.2936	-2.4629	-1.7617	-1.9426	-2.7308	-1.9324	-1.9797	-2.1191	-2.5285	-2.4209	-2.3310	-2.4704
CAR (1)		-1.23%	-0.77%	-0.44%	-0.43%	-1.05%	-0.62%	-0.43%	-0.51%	-0.75%	-0.56%	-0.58%	-0.61%	-0.94%	-0.90%	-0.77%	-0.73%
		-3.8759	-2.7567	-1.8662	-2.0728	-2.6944	-1.8310	-1.4505	-1.9365	-1.9413	-1.6238	-1.8669	-2.1841	-2.3873	-2.5235	-2.3973	-2.5186
BHAR (0)		-1.42%	-0.89%	-0.83%	-0.40%	-1.02%	-0.87%	-0.62%	-0.21%	-1.00%	-0.65%	-0.47%	-0.41%	-0.94%	-0.71%	-1.03%	-0.70%
		-3.5578	-2.3930	-2.2171	-1.1532	-2.4635	-2.2125	-1.6846	-0.5875	-2.4556	-1.6179	-1.4981	-1.1431	-2.2399	-1.8690	-2.7645	-1.9110
BHAR (1)		-1.35%	-1.17%	-1.15%	-0.39%	-1.14%	-0.92%	-0.71%	-0.28%	-1.08%	-0.74%	-0.59%	-0.65%	-1.14%	-1.02%	-1.33%	-0.95%
-		-3.4358	-3.2195	-3.1364	-1.1972	-2.6953	-2.3672	-1.8922	-0.8515	-2.6470	-1.9063	-1.9054	-1.7416	-2.7087	-2.7097	-3.5944	-2.5196
NETHERLAN	NDS																
CAR (0)		-1.13%	-0.91%	-0.51%	-0.30%	-1.14%	-0.72%	-0.30%	-0.26%	-1.03%	-0.61%	-0.46%	-0.41%	-1.03%	-0.75%	-0.59%	-0.57%
		-2.6124	-2.5276	-1.8014	-1.3008	-2.2660	-1.7402	-0.8809	-0.8348	-2.0392	-1.4172	-1.2015	-1.1742	-2.0240	-1.6493	-1.4081	-1.4602
CAR (1)		-1.33%	-0.95%	-0.47%	-0.38%	-1.28%	-0.62%	-0.33%	-0.34%	-0.92%	-0.62%	-0.43%	-0.47%	-1.08%	-0.79%	-0.65%	-0.56%
		-3.1713	-2.8164	-1.7582	-1.6578	-2.6549	-1.5660	-0.9634	-1.1076	-1.9007	-1.4770	-1.1180	-1.3436	-2.2343	-1.7848	-1.5741	-1.4723
BHAR (0)		-1.00%	-1.12%	-1.02%	-0.62%	-1.29%	-1.08%	-0.64%	0.29%	-1.27%	-0.96%	-0.51%	-0.50%	-1.19%	-0.87%	-0.83%	-0.79%
		-1.8705	-1.9995	-1.9684	-1.1567	-2.3792	-2.1546	-1.1984	0.6306	-2.3893	-1.8679	-0.9981	-1.0188	-2.1517	-1.6515	-1.6357	-1.4916
BHAR (1)		-1.19%	-1.52%	-1.32%	-0.45%	-1.57%	-1.28%	-0.84%	-0.14%	-1.35%	-1.12%	-0.45%	-0.73%	-1.20%	-1.24%	-0.91%	-0.94%
		-2.3145	-2.7877	-2.6432	-0.8779	-2.8342	-2.5550	-1.5554	-0.3027	-2.5799	-2.2382	-0.8292	-1.4466	-2.2148	-2.3890	-1.8525	-1.8089
NEWZEALA	ND				1				1								
CAR (0)		0.26%	0.48%	0.32%	0.35%	0.31%	0.42%	0.50%	0.33%	0.36%	0.47%	0.44%	0.34%	0.46%	0.50%	0.45%	0.30%
		0.6061	1.5180	1.1885	1.4389	0.6954	1.1097	1.4913	1.0928	0.7501	1.1416	1.1565	1.0185	0.9776	1.2053	1.1939	0.8640
CAR (1)		-0.25%	0.14%	0.20%	0.12%	0.09%	0.32%	0.39%	0.15%	0.14%	0.37%	0.30%	0.20%	0.22%	0.37%	0.33%	0.11%
		-0.6626	0.4488	0.7808	0.5038	0.2063	0.8708	1.2118	0.5054	0.3076	0.9127	0.8251	0.6150	0.4745	0.9185	0.8917	0.3275
BHAR (0)		-0.02%	0.71%	-0.20%	-0.25%	0.35%	0.42%	0.71%	-0.35%	0.74%	0.73%	0.66%	0.32%	0.32%	0.77%	0.30%	0.73%
		-0.0480	1.3820	-0.4644	-0.5801	0.6998	0.9630	1.4733	-0.8098	1.4567	1.3691	1.4491	0.7500	0.6825	1.7117	0.7065	1.6267
BHAR (1)		-0.53%	0.04%	-0.54%	-0.47%	0.00%	-0.07%	0.46%	-0.76%	0.60%	0.69%	0.46%	0.16%	0.53%	0.51%	0.10%	0.70%
		-1.0563	0.0851	-1.2412	-1.0539	0.0073	-0.1666	0.9239	-1.7832	1.1227	1.2376	0.9487	0.3735	1.0027	1.0911	0.2240	1.5016

MW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	7																
CAR (0)		-1.43%	-0.73%	-0.30%	-0.20%	-0.93%	-0.12%	0.19%	0.02%	-0.35%	0.09%	0.06%	-0.15%	-0.18%	-0.05%	-0.05%	-0.31%
		-3.1826	-2.1767	-1.0070	-0.8012	-1.9628	-0.2748	0.5176	0.0630	-0.6940	0.2008	0.1601	-0.4370	-0.3617	-0.1046	-0.1219	-0.8243
CAR (1)		-1.40%	-0.61%	-0.17%	-0.25%	-0.61%	0.05%	0.16%	-0.10%	-0.27%	0.04%	-0.06%	-0.33%	-0.48%	-0.22%	-0.24%	-0.51%
		-3.1781	-1.7836	-0.5569	-1.0136	-1.3304	0.1298	0.4455	-0.3249	-0.5570	0.0967	-0.1719	-0.9703	-1.0184	-0.5176	-0.6228	-1.3369
BHAR (0)		-1.47%	-0.72%	-0.28%	-0.20%	-0.99%	0.28%	0.64%	0.53%	0.11%	0.44%	-0.39%	0.68%	-0.17%	-0.04%	-0.42%	-0.17%
		-2.5854	-1.2860	-0.5186	-0.3629	-1.7111	0.5144	1.1280	1.0639	0.1905	0.7640	-0.7621	1.2692	-0.2869	-0.0703	-0.7940	-0.3185
BHAR (1)		-1.59%	-0.37%	-0.24%	0.09%	-0.61%	-0.03%	0.56%	0.20%	-0.04%	0.67%	-0.37%	0.69%	-0.44%	-0.60%	-0.42%	-0.52%
		-3.0194	-0.7350	-0.4705	0.1661	-1.1283	-0.0488	1.0784	0.3896	-0.0622	1.2463	-0.7183	1.3150	-0.8276	-1.2214	-0.8610	-0.9960
PORTUGA	L																
CAR (0)		-0.44%	0.02%	0.02%	-0.08%	-0.54%	-0.33%	-0.24%	-0.20%	-0.41%	-0.32%	-0.17%	-0.29%	-0.58%	-0.41%	-0.33%	-0.34%
		-0.7793	0.0390	0.0406	-0.2139	-0.8738	-0.6340	-0.5170	-0.4741	-0.6440	-0.5720	-0.3269	-0.5922	-0.8354	-0.6578	-0.5648	-0.6372
CAR (1)		-0.05%	0.02%	0.06%	-0.05%	-0.48%	-0.28%	-0.25%	-0.22%	-0.51%	-0.37%	-0.26%	-0.35%	-0.72%	-0.43%	-0.37%	-0.40%
		-0.1001	0.0449	0.1448	-0.1256	-0.7697	-0.5369	-0.5205	-0.5133	-0.7906	-0.6494	-0.5049	-0.7284	-0.9940	-0.6970	-0.6543	-0.7691
BHAR (0)		-0.54%	0.01%	-0.90%	0.04%	-0.65%	-0.04%	-0.54%	0.14%	-0.64%	-0.03%	0.37%	0.17%	-0.69%	-0.50%	-0.63%	-0.38%
		-0.7254	0.0098	-1.3833	0.0498	-0.9430	-0.0599	-0.8306	0.2120	-0.9307	-0.0391	0.5051	0.2459	-0.9326	-0.6922	-0.9000	-0.5073
BHAR (1)		0.25%	0.35%	-0.96%	0.19%	-0.93%	0.00%	-0.21%	-0.09%	-0.62%	-0.12%	0.40%	-0.18%	-0.73%	-0.54%	-0.59%	-0.27%
		0.3912	0.5320	-1.5035	0.2553	-1.3116	-0.0001	-0.3157	-0.1431	-0.9064	-0.1712	0.5570	-0.2560	-0.9664	-0.7386	-0.8239	-0.3648
SINGAPOR	E																
CAR (0)		-0.92%	-0.34%	-0.17%	-0.17%	-0.69%	-0.39%	-0.21%	-0.29%	-0.67%	-0.39%	-0.35%	-0.36%	-0.53%	-0.30%	-0.27%	-0.27%
		-2.0130	-1.0769	-0.6196	-0.6749	-1.4726	-0.9758	-0.5984	-0.9114	-1.3651	-0.9127	-0.8746	-1.0135	-1.1136	-0.6901	-0.6634	-0.7607
CAR (1)		-1.36%	-0.43%	-0.25%	-0.23%	-0.75%	-0.37%	-0.29%	-0.36%	-0.71%	-0.35%	-0.43%	-0.42%	-0.53%	-0.40%	-0.33%	-0.30%
		-3.0938	-1.4084	-0.9280	-0.9843	-1.7278	-0.9476	-0.8272	-1.1564	-1.4785	-0.8269	-1.1092	-1.2373	-1.1488	-0.9201	-0.8464	-0.8974
BHAR (0)		-1.07%	-0.32%	0.33%	-0.10%	-0.37%	-0.58%	-0.20%	0.05%	-0.41%	-0.45%	0.02%	-0.59%	-0.31%	0.12%	-0.01%	0.01%
		-2.0981	-0.7235	0.8065	-0.2282	-0.6930	-1.0924	-0.4068	0.1058	-0.7338	-0.8515	0.0503	-1.1955	-0.5721	0.2411	-0.0168	0.0239
BHAR (1)		-1.52%	-0.92%	0.33%	-0.18%	-0.75%	-0.87%	-0.52%	-0.01%	-0.73%	-0.19%	0.27%	-0.86%	-0.24%	-0.21%	-0.47%	0.01%
		-3.0205	-2.0792	0.8010	-0.4360	-1.5130	-1.7207	-1.0789	-0.0255	-1.3788	-0.3840	0.5613	-1.6993	-0.4591	-0.4388	-0.9477	0.0278
SPAIN																	
CAR (0)		-1.00%	-0.64%	-0.29%	-0.14%	-0.79%	-0.50%	-0.15%	0.01%	-0.44%	-0.23%	0.04%	0.14%	-0.30%	0.03%	0.16%	0.20%
		-2.5545	-1.9417	-1.0469	-0.6158	-1.6961	-1.2163	-0.4451	0.0429	-0.8538	-0.5436	0.1126	0.4311	-0.6242	0.0635	0.3971	0.5384
CAR (1)		-1.03%	-0.54%	-0.15%	-0.13%	-0.76%	-0.44%	-0.07%	-0.05%	-0.53%	-0.12%	0.11%	0.10%	-0.19%	0.08%	0.25%	0.19%
		-2.4387	-1.6515	-0.5507	-0.5727	-1.6136	-1.0847	-0.2331	-0.1920	-1.0764	-0.3042	0.3273	0.3122	-0.4246	0.1925	0.6186	0.5239
BHAR (0)		-1.45%	-1.37%	-0.70%	-0.97%	-1.50%	-0.71%	-0.42%	-0.02%	-0.63%	-0.55%	-0.36%	-0.24%	-0.18%	0.42%	0.39%	0.38%
		-3.0483	-2.8796	-1.4838	-1.9534	-2.9528	-1.3882	-0.7762	-0.0360	-1.1321	-1.0496	-0.8155	-0.4775	-0.3730	0.8493	0.7986	0.8041
BHAR (1)		-0.92%	-1.13%	-0.44%	-0.70%	-0.93%	-0.30%	-0.22%	-0.02%	-0.81%	-0.55%	-0.52%	-0.49%	-0.05%	0.33%	0.44%	0.26%
		-1.8415	-2.3593	-0.9223	-1.4371	-1.7204	-0.5758	-0.4059	-0.0303	-1.4473	-1.0302	-1.1289	-0.9419	-0.0898	0.6574	0.8757	0.5361

MW	J =		3				6	<u> </u>			9)			13	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		0.22%	0.26%	0.07%	0.11%	0.18%	0.15%	0.13%	0.12%	-0.28%	-0.04%	-0.07%	-0.28%	-0.38%	-0.31%	-0.52%	-0.74%
		0.4146	0.5708	0.1737	0.3391	0.3066	0.2880	0.3020	0.2908	-0.4639	-0.0647	-0.1325	-0.5786	-0.5600	-0.4909	-0.8992	-1.3669
CAR (1)		-0.14%	0.01%	-0.03%	-0.07%	0.00%	0.06%	0.05%	-0.06%	-0.18%	-0.06%	-0.21%	-0.48%	-0.66%	-0.55%	-0.80%	-0.88%
		-0.2631	0.0150	-0.0832	-0.2250	0.0059	0.1266	0.1265	-0.1571	-0.3089	-0.1016	-0.4252	-1.0260	-1.0193	-0.9170	-1.4290	-1.6920
BHAR (0)		0.30%	-0.31%	0.15%	-0.80%	0.24%	0.46%	0.48%	-0.03%	-0.22%	-0.69%	-0.49%	-1.12%	-0.59%	-0.48%	-0.99%	-0.57%
		0.4740	-0.5253	0.2667	-1.4102	0.3638	0.8201	0.7672	-0.0487	-0.3460	-1.0335	-0.7734	-1.7582	-0.8105	-0.7035	-1.5018	-0.9054
BHAR (1)		0.06%	-0.30%	0.05%	-0.63%	-0.15%	-0.10%	0.22%	-0.29%	-0.53%	-0.53%	-0.72%	-1.16%	-0.75%	-0.88%	-1.10%	-0.78%
		0.0958	-0.5106	0.1033	-1.1593	-0.2246	-0.1780	0.3613	-0.4923	-0.7964	-0.7934	-1.0916	-1.7808	-1.0568	-1.2725	-1.7053	-1.2546
SWITZERLA	ND																
CAR (0)		-0.64%	-0.03%	0.12%	0.24%	-0.19%	0.11%	0.29%	0.19%	-0.03%	0.23%	0.14%	0.00%	0.25%	0.23%	0.07%	-0.01%
		-1.9709	-0.0989	0.4573	1.0912	-0.4917	0.3193	0.9202	0.6527	-0.0666	0.6161	0.3920	0.0141	0.6026	0.5900	0.2079	-0.0407
CAR (1)		-0.49%	0.02%	0.21%	0.20%	-0.21%	0.20%	0.25%	0.06%	0.07%	0.20%	0.09%	-0.12%	-0.05%	0.03%	-0.06%	-0.15%
		-1.4899	0.0779	0.8417	0.9267	-0.5437	0.5786	0.7965	0.2026	0.1741	0.5469	0.2570	-0.3938	-0.1154	0.0717	-0.1711	-0.4334
BHAR (0)		-0.88%	-0.20%	-0.26%	-0.16%	-0.43%	0.19%	0.20%	0.56%	-0.03%	0.09%	0.25%	0.13%	0.16%	0.60%	0.15%	0.10%
		-2.2395	-0.4964	-0.7738	-0.4121	-1.0345	0.5060	0.4999	1.5654	-0.0687	0.2004	0.6388	0.3132	0.3665	1.4245	0.3322	0.2496
BHAR (1)		-0.70%	-0.36%	-0.18%	-0.17%	-0.14%	0.24%	-0.06%	0.32%	-0.15%	0.08%	0.07%	-0.16%	-0.12%	0.20%	0.14%	-0.08%
		-1.6796	-0.8943	-0.5211	-0.4172	-0.3361	0.5987	-0.1502	0.8876	-0.3337	0.1688	0.1748	-0.3760	-0.2651	0.4851	0.3327	-0.2057
UK																	
CAR (0)		-1.14%	-0.48%	-0.20%	-0.02%	-0.93%	-0.42%	-0.03%	-0.13%	-0.61%	-0.14%	-0.07%	-0.32%	-0.52%	-0.26%	-0.34%	-0.53%
		-2.7563	-1.4065	-0.6654	-0.0798	-1.9310	-0.9874	-0.0910	-0.4017	-1.2196	-0.2995	-0.1661	-0.8433	-0.9822	-0.5296	-0.7661	-1.2983
CAR (1)		-1.32%	-0.41%	-0.17%	-0.09%	-0.84%	-0.26%	-0.03%	-0.24%	-0.56%	-0.08%	-0.20%	-0.48%	-0.60%	-0.28%	-0.47%	-0.71%
		-3.2271	-1.2213	-0.5723	-0.3614	-1.7889	-0.6463	-0.0925	-0.7237	-1.0960	-0.1772	-0.4852	-1.2974	-1.1573	-0.5999	-1.0837	-1.7774
BHAR (0)		-1.36%	-0.47%	-0.35%	-0.33%	-0.87%	-0.49%	0.08%	-0.29%	-0.41%	0.17%	-0.34%	-0.45%	-0.50%	-0.55%	-0.19%	-0.56%
		-2.7945	-0.9971	-0.8188	-0.7162	-1.7486	-1.0236	0.1535	-0.6886	-0.7661	0.3138	-0.6749	-0.9907	-0.8916	-0.9992	-0.3575	-1.0073
BHAR (1)		-1.55%	-0.46%	-0.43%	-0.43%	-0.90%	-0.54%	-0.14%	-0.41%	-0.40%	0.03%	-0.30%	-0.52%	-0.69%	-0.70%	-0.61%	-0.83%
		-3.0965	-1.0026	-1.0270	-0.9809	-1.7315	-1.0729	-0.2714	-0.9489	-0.7077	0.0603	-0.5688	-1.1121	-1.1430	-1.2410	-1.1540	-1.5123
US																	
CAR (0)		-1.14%	-0.60%	-0.25%	-0.24%	-0.73%	-0.26%	-0.07%	-0.16%	-0.22%	0.01%	-0.08%	-0.25%	-0.21%	-0.24%	-0.34%	-0.45%
		-3.1357	-1.9929	-0.9779	-1.0427	-1.7030	-0.6760	-0.1970	-0.5408	-0.4922	0.0239	-0.2219	-0.7346	-0.4581	-0.5710	-0.8936	-1.3103
CAR (1)		-1.15%	-0.52%	-0.22%	-0.31%	-0.59%	-0.13%	-0.07%	-0.25%	-0.07%	-0.01%	-0.16%	-0.36%	-0.33%	-0.33%	-0.45%	-0.57%
		-3.2285	-1.8003	-0.8817	-1.4569	-1.4342	-0.3639	-0.2199	-0.8522	-0.1706	-0.0229	-0.4513	-1.1092	-0.7587	-0.8341	-1.2377	-1.6769
BHAR (0)		-1.33%	-0.62%	-1.12%	-0.39%	-0.60%	-0.52%	-0.56%	-0.07%	-0.15%	0.07%	0.09%	-0.35%	-0.04%	-0.06%	-0.42%	-0.36%
		-3.0184	-1.4916	-2.6599	-0.9991	-1.3257	-1.2753	-1.2933	-0.2059	-0.3267	0.1475	0.2173	-0.8880	-0.0833	-0.1487	-0.9655	-0.8182
BHAR (1)		-1.14%	-1.05%	-1.13%	-0.56%	-0.63%	-0.48%	-0.71%	-0.31%	-0.03%	-0.06%	-0.15%	-0.59%	-0.41%	-0.40%	-0.67%	-0.59%
		-2.5156	-2.4365	-2.7683	-1.4897	-1.3083	-1.1684	-1.6476	-0.9733	-0.0656	-0.1197	-0.3438	-1.4234	-0.8423	-0.9418	-1.5574	-1.4031

Panel C. The cross-sectional momentum using inversed volatility-weighted return

IVOL	J =		3		110 01033	section			ing mv	erseu vo	9		return		11	<u> </u>	
IVOL	H =	3		9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL		3	0	9	12	3	0	9	12	3	0	9	12	3	0	9	12
CAR (0)		-2.13%	-1.00%	-0.63%	-0.36%	-1.27%	-0.77%	-0.54%	-0.52%	-0.92%	-0.52%	-0.61%	-0.60%	-0.73%	-0.62%	-0.84%	-0.88%
. ,		-7.0662	-3.2141	-2.6422	-2.1921	-2.3660	-2.1982	-1.9562	-2.2053	-1.6916	-1.4201	-1.9997	-2.5269	-1.7689	-1.8922	-3.0927	-3.7051
CAR (1)		-1.96%	-0.71%	-0.55%	-0.42%	-1.24%	-0.80%	-0.61%	-0.65%	-0.72%	-0.52%	-0.70%	-0.77%	-0.91%	-0.85%	-1.03%	-1.07%
		-6.8556	-3.0437	-2.4449	-2.4920	-2.3489	-2.3184	-2.2925	-2.7764	-1.7514	-1.6299	-2.5590	-3.3092	-2.2356	-2.6944	-3.9481	-4.7071
BHAR (0)		-2.21%	-0.94%	-0.59%	-0.58%	-0.82%	-0.95%	-0.90%	-0.87%	-0.45%	-0.16%	-0.26%	-0.59%	-0.60%	-0.69%	-0.80%	-0.77%
		-5.3284	-2.5714	-1.7447	-1.9203	-2.2341	-2.6167	-2.3726	-2.8632	-1.2352	-0.4204	-0.7239	-1.9055	-1.7402	-2.1198	-2.6479	-2.2573
BHAR (1)		-1.97%	-0.93%	-0.59%	-0.38%	-2.22%	-0.83%	-2.23%	-0.82%	-1.38%	-1.22%	-0.47%	-1.43%	-1.67%	-1.00%	-1.16%	-1.01%
		-4.1946	-2.0780	-1.2078	-0.8912	-1.6059	-2.1709	-1.5908	-2.2152	-1.5552	-1.3592	-1.3303	-2.1229	-1.9020	-3.0134	-3.9120	-3.2634
AUSTRIA	1																
CAR (0)		-0.33%	-0.13%	-0.03%	0.01%	-0.16%	0.05%	0.18%	0.21%	0.17%	0.26%	0.28%	0.16%	0.19%	0.19%	0.09%	-0.06%
		-1.3116	-0.6004	-0.1332	0.0786	-0.5443	0.1818	0.7117	0.9532	0.5311	0.8592	0.9998	0.6188	0.5760	0.6110	0.3051	-0.2162
CAR (1)		-0.59%	-0.40%	-0.16%	-0.12%	-0.17%	0.04%	0.14%	0.07%	0.19%	0.18%	0.19%	0.01%	0.03%	0.01%	-0.05%	-0.20%
		-2.3829	-1.9023	-0.8926	-0.7500	-0.5972	0.1625	0.5777	0.3142	0.6244	0.6271	0.6894	0.0499	0.1099	0.0425	-0.1833	-0.7539
BHAR (0)		-0.50%	-0.33%	-0.24%	-0.13%	-0.04%	-0.24%	-0.14%	0.18%	0.28%	0.35%	0.06%	0.36%	0.16%	-0.05%	-0.12%	-0.26%
		-1.4836	-0.9530	-0.6929	-0.3828	-0.1063	-0.6192	-0.4366	0.6040	0.7572	0.9227	0.1836	1.0630	0.4341	-0.1391	-0.3246	-0.7279
BHAR (1)		-0.56%	-0.69%	-0.31%	-0.48%	-0.15%	0.02%	0.03%	0.21%	0.05%	0.17%	0.14%	0.22%	0.04%	-0.07%	-0.34%	-0.38%
		-1.6811	-1.9993	-0.8675	-1.4093	-0.4351	0.0452	0.0989	0.6563	0.1447	0.4594	0.4570	0.6403	0.1095	-0.2054	-0.9382	-1.0816
BELGIUN	/1	0.410/	0.010/	0.150/	0.240/	0.220/	0.500/	0.620/	0.510/	0.400/	0.600/	0.550/	0.420/	0.500/	0.530/	0.540/	0.260/
CAR (0)		-0.41%	-0.01%	0.15%	0.24%	0.22%	0.50%	0.63%	0.51%	0.49%	0.69%	0.57%	0.43%	0.78%	0.72%	0.54%	0.36%
CAD (1)		-1.9406	-0.0541 0.00%	0.9114 0.18%	1.5700 0.18%	0.8552 0.31%	2.1362 0.61%	3.0046 0.60%	2.6728	1.8688 0.69%	2.8256 0.68%	2.5441	2.0876	3.0267 0.78%	2.9142 0.64%	2.3075 0.43%	1.6204 0.24%
CAR (1)		-0.36% -1.6859	0.00%	1.1465	1.2745	1.2593	2.6466	2.9324	0.46% 2.4609	2.6460	2.8383	0.53% 2.4212	0.35% 1.7180	3.0370	2.6145	1.8833	1.0865
BHAR (0)		-1.0839 - 0.51%	-0.29%	-0.32%	-0.13%	0.19%	0.50%	0.50%	0.52%	0.62%	0.90%	0.78%	0.68%	0.79%	0.62%	0.70%	0.14%
DIIAK (0)		-1.9215	-1.0702	-1.0122	-0.1370 -0.4671	0.6890	1.8252	1.9257	2.2285	2.2175	3.1824	3.1916	2.6090	2.9042	2.2199	2.5699	0.4928
BHAR (1)		-0.40%	-0.09%	0.10%	-0.12%	0.15%	0.51%	0.37%	0.43%	0.71%	0.76%	0.72%	0.25%	0.63%	0.49%	0.53%	-0.06%
DILIK (1)		-1.4214	-0.3161	0.3398	-0.4496	0.5742	1.9547	1.4690	1.8332	2.5018	2.6203	2.9521	0.9319	2.3695	1.7921	1.9701	-0.2227
CANADA	\	11,721,	0.0101	0.0000	0.7770	010772	11,501,	11.1070	1.0002	2.0010	2.0200	2.,,,,,	0.7017	2.00,0	1.,,21	11,7,01	
CAR (0)		-1.23%	-0.39%	-0.03%	0.06%	-0.47%	-0.06%	0.21%	0.02%	-0.05%	0.20%	0.00%	-0.28%	0.10%	-0.11%	-0.39%	-0.69%
. ,		-3.7758	-1.5244	-0.1513	0.3010	-1.2954	-0.1901	0.7591	0.0919	-0.1194	0.5939	-0.0026	-1.0342	0.2795	-0.3231	-1.2343	-2.3903
CAR (1)		-1.44%	-0.43%	-0.04%	-0.12%	-0.53%	-0.07%	0.07%	-0.21%	-0.05%	0.01%	-0.23%	-0.54%	-0.24%	-0.43%	-0.68%	-0.96%
		-4.8384	-1.7566	-0.1695	-0.7088	-1.5316	-0.2431	0.2564	-0.9263	-0.1365	0.0285	-0.7948	-2.0666	-0.6929	-1.3429	-2.2690	-3.4955
BHAR (0)		-1.36%	-0.89%	-0.32%	-0.42%	-0.76%	-0.26%	-0.14%	-0.14%	-0.28%	-0.02%	-0.32%	-0.36%	-0.02%	-0.29%	-0.40%	-0.71%
		-2.9423	-2.1884	-0.8498	-1.0960	-1.7151	-0.6550	-0.3219	-0.3974	-0.6367	-0.0347	-0.8779	-0.9631	-0.0425	-0.8088	-1.0615	-2.0031
BHAR (1)		-1.35%	-0.92%	-0.35%	-0.76%	-0.62%	-0.02%	-0.31%	-0.31%	-0.20%	-0.35%	-0.48%	-0.35%	-0.43%	-0.63%	-0.73%	-1.02%
		-3.1323	-2.4226	-0.9942	-1.9734	-1.4144	-0.0507	-0.7284	-0.9380	-0.4563	-0.8365	-1.3315	-0.9910	-1.0939	-1.7846	-2.0989	-2.9890

IVOL	J =		3	 			6				9)			12	2	
_	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMARI	K																
CAR (0)		-0.46%	0.28%	0.27%	0.33%	0.35%	0.52%	0.58%	0.45%	0.58%	0.70%	0.52%	0.33%	0.83%	0.72%	0.46%	0.23%
		-2.5324	1.6279	1.6895	2.2277	1.5367	2.2985	2.7140	2.2864	2.2763	2.8202	2.1932	1.5054	3.1568	2.7711	1.8359	0.9688
CAR (1)		-0.53%	0.23%	0.26%	0.29%	0.41%	0.46%	0.47%	0.33%	0.53%	0.54%	0.34%	0.15%	0.65%	0.49%	0.24%	0.03%
		-3.1574	1.3713	1.6473	1.9840	1.7649	2.0494	2.2674	1.6977	2.1596	2.1770	1.4736	0.7034	2.4782	1.9163	0.9830	0.1418
BHAR (0)		-0.49%	0.01%	-0.23%	-0.03%	0.21%	0.24%	0.24%	0.57%	0.47%	0.38%	0.56%	0.06%	0.73%	0.72%	0.47%	-0.04%
		-1.9873	0.0355	-0.8633	-0.1303	0.7912	0.7797	0.8573	2.2133	1.6942	1.3184	2.0145	0.2210	2.4517	2.5755	1.6599	-0.1489
BHAR (1)		-0.62%	0.14%	-0.11%	0.13%	0.36%	0.29%	0.22%	0.37%	0.54%	0.47%	0.49%	-0.09%	0.59%	0.39%	0.29%	-0.28%
		-2.3959	0.5201	-0.3781	0.4619	1.2792	0.9700	0.8056	1.4187	1.8677	1.5522	1.7062	-0.3217	2.0182	1.3210	0.9824	-0.9730
FINLAND)																
CAR (0)		-0.67%	-0.09%	0.16%	0.11%	0.07%	0.32%	0.45%	0.28%	0.42%	0.47%	0.29%	0.07%	0.28%	0.18%	0.06%	-0.08%
		-2.2023	-0.3431	0.7186	0.5546	0.2157	1.0862	1.6599	1.0906	1.1842	1.3859	0.9143	0.2417	0.7309	0.4930	0.1702	-0.2649
CAR (1)		-0.58%	-0.02%	0.17%	0.06%	0.06%	0.35%	0.36%	0.12%	0.39%	0.33%	0.14%	-0.11%	0.15%	-0.01%	-0.09%	-0.20%
		-1.9445	-0.0730	0.7964	0.3286	0.1976	1.2174	1.3321	0.4734	1.0952	0.9710	0.4290	-0.3823	0.4006	-0.0216	-0.2659	-0.6341
BHAR (0)		-1.28%	-0.46%	-0.15%	-0.26%	-0.20%	0.12%	0.35%	0.60%	0.29%	0.24%	0.16%	-0.13%	0.18%	0.34%	0.21%	0.14%
		-2.9690	-1.0386	-0.4137	-0.5447	-0.5650	0.3487	0.9426	1.7515	0.7317	0.5926	0.4183	-0.3487	0.4899	0.9519	0.5523	0.4111
BHAR (1)		-0.33%	-0.28%	0.14%	-0.29%	0.27%	0.30%	0.27%	0.41%	0.45%	0.17%	0.05%	-0.11%	0.17%	0.08%	-0.14%	-0.02%
		-0.8890	-0.7517	0.4244	-0.6876	0.7871	0.9258	0.7551	1.2087	1.1646	0.4303	0.1199	-0.3135	0.4325	0.2350	-0.3832	-0.0484
FRANCE																	
CAR (0)		-1.58%	-0.51%	-0.32%	-0.13%	-0.70%	-0.19%	0.04%	0.03%	-0.30%	0.01%	0.07%	0.00%	0.06%	0.14%	0.01%	-0.10%
		-5.5627	-2.2247	-1.6360	-0.7807	-2.1298	-0.7178	0.1558	0.1623	-0.9060	0.0525	0.2946	0.0001	0.1921	0.4878	0.0562	-0.4167
CAR (1)		-1.24%	-0.48%	-0.33%	-0.20%	-0.56%	-0.20%	0.07%	-0.03%	-0.02%	0.13%	0.07%	-0.06%	0.07%	0.05%	-0.07%	-0.19%
		-4.6774	-2.0148	-1.6543	-1.0935	-1.8511	-0.7448	0.2852	-0.1531	-0.0667	0.5049	0.3000	-0.2957	0.2415	0.1681	-0.2776	-0.7982
BHAR (0)		-1.39%	-1.12%	-0.25%	-1.32%	-0.98%	-0.36%	-0.17%	-0.61%	-0.38%	-0.11%	0.24%	0.12%	0.04%	0.08%	0.19%	-0.07%
		-3.8243	-2.3589	-0.8120	-2.2051	-2.2026	-1.0419	-0.5144	-1.6063	-1.2343	-0.3354	0.8742	0.3799	0.1179	0.2505	0.6396	-0.2556
BHAR (1)		-1.35%	-0.94%	-0.52%	-1.06%	-0.53%	-0.24%	-0.12%	-0.17%	-0.25%	-0.04%	0.24%	-0.16%	0.05%	-0.05%	-0.02%	-0.30%
		-3.5079	-1.8316	-1.1391	-1.6520	-1.5467	-0.6760	-0.3473	-0.5684	-0.7545	-0.1160	0.8504	-0.4745	0.1641	-0.1547	-0.0691	-0.9786
GERMAN	Y																
CAR (0)		-1.43%	-0.70%	-0.45%	-0.32%	-0.73%	-0.32%	-0.01%	-0.05%	-0.33%	-0.02%	-0.01%	-0.11%	-0.06%	-0.03%	-0.12%	-0.20%
		-5.1798	-2.9861	-2.2076	-1.8831	-2.3133	-1.1110	-0.0291	-0.2220	-1.0076	-0.0694	-0.0535	-0.4716	-0.2011	-0.0875	-0.4593	-0.8500
CAR (1)		-1.25%	-0.65%	-0.41%	-0.33%	-0.67%	-0.28%	-0.05%	-0.14%	-0.32%	-0.08%	-0.13%	-0.23%	-0.13%	-0.17%	-0.25%	-0.30%
		-5.0023	-2.9182	-2.1442	-1.9576	-2.1996	-1.0439	-0.2166	-0.6686	-1.0069	-0.2969	-0.5053	-1.0213	-0.4454	-0.6260	-0.9744	-1.2823
BHAR (0)		-1.46%	-1.12%	-0.61%	-1.48%	-0.73%	-0.24%	0.06%	0.04%	-0.33%	0.00%	-0.04%	-0.22%	-0.14%	-0.06%	-0.05%	-0.20%
		-3.6870	-3.1123	-1.7704	-3.0399	-2.0020	-0.6775	0.1596	0.1174	-0.9053	-0.0111	-0.1204	-0.6404	-0.4138	-0.1922	-0.1547	-0.6543
BHAR (1)		-1.28%	-0.94%	-0.11%	-0.49%	-0.87%	-0.30%	-0.13%	0.02%	-0.40%	-0.16%	-0.15%	-0.41%	-0.37%	-0.26%	-0.18%	-0.37%
		-3.6242	-2.6935	-0.3771	-1.3148	-2.3356	-0.8248	-0.3532	0.0466	-1.0623	-0.4423	-0.4612	-1.1293	-1.1292	-0.8828	-0.5976	-1.2885

IVOL	J =		3	3			6	i			9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE	C																
CAR (0)		-1.41%	-0.71%	-0.67%	-0.70%	-0.94%	-0.67%	-0.61%	-0.75%	-0.81%	-0.65%	-0.89%	-1.04%	-0.95%	-1.00%	-1.13%	-1.24%
		-3.5237	-2.1108	-2.2697	-2.6246	-2.0497	-1.5822	-1.5806	-2.1525	-1.6915	-1.4183	-2.1219	-2.7221	-1.8721	-2.0948	-2.5555	-3.0476
CAR (1)		-1.40%	-0.74%	-0.70%	-0.75%	-0.83%	-0.64%	-0.66%	-0.82%	-0.67%	-0.72%	-0.98%	-1.13%	-0.97%	-1.12%	-1.23%	-1.33%
		-3.5647	-2.2419	-2.3852	-2.8150	-1.8155	-1.5328	-1.7297	-2.3825	-1.4021	-1.5729	-2.3476	-2.9871	-1.9551	-2.3856	-2.8420	-3.3439
BHAR (0)		-1.63%	-0.48%	-0.75%	-0.11%	-0.83%	-0.44%	-0.68%	-0.50%	-0.65%	-0.58%	-1.08%	-1.09%	-0.97%	-1.33%	-1.12%	-2.02%
		-3.3894	-1.0994	-1.5124	-0.2674	-1.6690	-0.8496	-1.4853	-1.0935	-1.2782	-1.1822	-2.1796	-2.3015	-1.8308	-2.4584	-2.3192	-3.8615
BHAR (1)		-1.14%	-0.40%	-0.69%	-0.02%	-0.85%	-0.62%	-0.78%	-0.71%	-0.57%	-0.73%	-1.01%	-1.36%	-0.91%	-1.39%	-1.32%	-1.86%
		-2.3964	-0.8956	-1.3525	-0.0540	-1.7521	-1.1969	-1.6175	-1.5645	-1.0795	-1.4334	-2.1087	-2.9237	-1.7463	-2.6271	-2.8804	-3.6628
HONGKON	NG																
CAR (0)		-1.92%	-0.81%	-0.66%	-0.70%	-1.25%	-0.78%	-0.78%	-0.94%	-1.19%	-1.06%	-1.15%	-1.33%	-1.44%	-1.31%	-1.55%	-1.66%
		-5.0924	-3.1269	-3.1329	-3.6345	-3.4359	-2.5486	-2.8597	-3.8523	-3.1452	-3.1248	-3.6594	-4.6513	-3.7364	-3.7280	-4.6826	-5.5517
CAR (1)		-1.91%	-0.80%	-0.74%	-0.83%	-1.12%	-0.83%	-0.92%	-1.12%	-1.31%	-1.24%	-1.37%	-1.53%	-1.62%	-1.55%	-1.76%	-1.82%
		-5.9344	-3.3362	-3.5605	-4.3780	-3.3486	-2.8098	-3.4293	-4.6430	-3.5431	-3.6390	-4.3042	-5.3682	-4.3415	-4.4350	-5.3975	-6.2825
BHAR (0)		-1.98%	-1.02%	-1.07%	-0.89%	-1.30%	-0.94%	-0.84%	-1.00%	-1.27%	-1.12%	-1.29%	-1.33%	-1.64%	-1.32%	-1.73%	-1.65%
		-4.2215	-2.4539	-2.7084	-2.3825	-3.0678	-2.4325	-2.0619	-3.0874	-3.0234	-2.5397	-3.2658	-3.3706	-3.9466	-3.5513	-4.1771	-4.7260
BHAR (1)		-2.00%	-1.25%	-1.04%	-1.19%	-1.39%	-1.08%	-0.89%	-1.23%	-1.47%	-1.37%	-1.50%	-1.52%	-1.86%	-1.46%	-1.90%	-1.86%
		-4.3910	-2.8354	-2.8160	-3.0389	-3.2269	-3.0454	-2.1522	-3.9695	-3.4060	-2.9521	-3.7180	-3.7507	-4.3665	-4.1686	-4.6789	-5.4493
IRELANI	,	0.760/	0.000/	0.440/	0.0=0/	0.050/	0.400/	0.020/	0.020/	0.210/	0.050/	0.400/	0.440/	0.050/	0.040/	0.000/	0.220/
CAR (0)		-0.76%	-0.22%	-0.14%	-0.07%	-0.25%	-0.12%	0.03%	-0.03%	-0.31%	-0.05%	-0.10%	-0.14%	0.05%	0.01%	-0.09%	-0.23%
G + B (1)		-2.1286	-0.7043	-0.5130	-0.2876	-0.5948	-0.3018	0.0783	-0.0963	-0.6620	-0.1175	-0.2553	-0.3614	0.1015	0.0301	-0.2084	-0.5487
CAR (1)		-0.69%	-0.33%	-0.18%	-0.20%	-0.32%	-0.15%	-0.09%	-0.20%	-0.36%	-0.21%	-0.18%	-0.28%	-0.10%	-0.13%	-0.28%	-0.42%
DILAD (0)		-1.8876	-1.0256	-0.6705	-0.8177	-0.7262	-0.3797	-0.2342	-0.5996	-0.7837	-0.4775	-0.4486	-0.7268	-0.2102	-0.2658	-0.6100	-0.9768
BHAR (0)		-0.66%	-0.89%	-1.15%	-0.30%	-0.39%	-0.04%	-0.66%	0.58%	0.04%	0.11%	-0.01%	0.51%	0.15%	0.31%	0.47%	-0.49%
DILAD (1)		-1.3538	-1.8908	-2.2765	-0.5882	-0.7938	-0.0780	-1.1611	1.1448	0.0850	0.2027	-0.0225	1.0323	0.2571	0.5474	0.8390	-0.9201
BHAR (1)		-1.11% -2.1431	-1.03% -2.1096	-1.28% -2.4667	-0.30% -0.6021	-0.50% -1.0047	-0.17% -0.3211	-0.72% -1.3340	0.33% 0.6483	-0.73% -1.4291	-0.27% -0.5196	-0.48% -0.9036	-0.15% -0.3060	-0.40% -0.7472	0.06% 0.1076	-0.10% -0.1777	-0.77% -1.4395
ISRAEL		-2.1431	-2.1090	-2.4007	-0.0021	-1.0047	-0.3211	-1.3340	0.0463	-1.4291	-0.3190	-0.9030	-0.3000	-0.7472	0.1070	-0.1///	-1.4393
CAR (0)		-2.14%	-1.42%	-1.24%	-1.17%	-1.52%	-1.20%	-1.18%	-1.22%	-1.38%	-1.23%	-1.26%	-1.28%	-1.26%	-1.13%	-1.17%	-1.26%
CAR (0)		-8.6277	-6.9884	-6.8086	-6.8522	-5.4102	-4.7264	-5.1288	-5.8617	-4.6227	-4.4043	-4.8477	-5.5475	-4.0498	-3.7736	-4.2844	-5.0128
CAR (1)		-2.07%	-1.34%	-1.24%	-1.22%	-1.38%	-1.18%	-1.24%	-1.30%	-1.32%	-1.31%	-1.37%	-1.40%	-1.35%	-1.23%	-1.28%	-1.38%
CAR (I)		-9.3413	-6.7570	-6.5819	-7.0459	-5.1858	-4.5773	-5.3914	-6.2866	-4.5224	-4.6551	-5.3315	-6.2388	-4.4712	-4.3237	-4.9144	-5.7849
BHAR (0)		-2.02%	-1.61%	-1.49%	-1.34%	-1.77%	-1.56%	-1.47%	-0.2000	-1.37%	-1.10%	-1.18%	-0.77%	-1.28%	-1.14%	-1.22%	-1.48%
DITAK (0)		-5.7158	-4.2050	-4.7656	-3.6713	-4.8041	-4.5151	-4.5024	-3.6008	-4.1869	-3.0737	-4.2755	-2.5007	-3.8262	-3.6995	-3.9160	-5.0969
BHAR (1)		-1.97%	-1.62%	-1.71%	-1.34%	-1.37%	-1.19%	-1.29%	-0.90%	-1.55%	-1.39%	-1.37%	-1.07%	-1.38%	-1.23%	-1.31%	-1.73%
DIII (1)		-6.2163	-5.0843	-5.2083	-3.4915	-4.5127	-3.5510	-4.5150	-3.0419	-4.5016	-3.9134	-4.7398	-3.5344	-4.2011	-4.1269	-4.1404	-5.5537
		-0.2103	-3.0073	-3.2003	-J. T 21J	-T.J14/	-3.3310	-4.3130	-3.0719	7.3010	-3.7134	- 1 ./370	-3.3344	-7.2011	-4.1209	-7.1704	-3.3331

IVOL	J =		3	 			6	<u> </u>			9)			12	2	
_	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		-0.58%	-0.26%	-0.04%	-0.03%	-0.32%	-0.01%	0.09%	0.01%	0.03%	0.08%	0.00%	-0.11%	0.03%	0.00%	-0.09%	-0.22%
		-2.0559	-1.0930	-0.2046	-0.1580	-1.0352	-0.0480	0.3935	0.0255	0.1001	0.2999	0.0122	-0.4624	0.0947	-0.0039	-0.3374	-0.8772
CAR (1)		-0.61%	-0.21%	-0.05%	-0.07%	-0.20%	0.03%	0.05%	-0.07%	0.05%	0.02%	-0.10%	-0.23%	-0.03%	-0.09%	-0.20%	-0.31%
		-2.3545	-0.9535	-0.2748	-0.4020	-0.7122	0.1355	0.2512	-0.3211	0.1779	0.0609	-0.4039	-0.9772	-0.1022	-0.3349	-0.7649	-1.2739
BHAR (0)		-0.65%	-0.32%	-0.13%	-0.13%	-0.44%	0.03%	-0.08%	-0.26%	-0.04%	-0.03%	0.12%	-0.30%	-0.16%	-0.16%	-0.16%	-0.37%
		-2.0188	-1.0419	-0.4844	-0.4632	-1.3318	0.0875	-0.2453	-1.0020	-0.1172	-0.0905	0.4183	-0.9864	-0.5166	-0.5514	-0.5262	-1.2851
BHAR (1)		-0.68%	-0.26%	0.13%	-0.02%	-0.31%	-0.02%	-0.10%	-0.34%	0.05%	-0.15%	-0.06%	-0.57%	-0.16%	-0.17%	-0.23%	-0.33%
		-2.2021	-0.7546	0.4358	-0.0602	-0.9717	-0.0608	-0.3420	-1.3420	0.1643	-0.4771	-0.2177	-1.7574	-0.5064	-0.5972	-0.7805	-1.1918
JAPAN																	
CAR (0)		-1.34%	-0.91%	-0.66%	-0.48%	-1.33%	-1.00%	-0.65%	-0.62%	-1.17%	-0.81%	-0.74%	-0.74%	-0.92%	-0.87%	-0.85%	-0.85%
		-5.4904	-4.5845	-4.0086	-3.2890	-4.6944	-4.0976	-3.0511	-3.2404	-4.0842	-3.0913	-3.1403	-3.5420	-3.2135	-3.2954	-3.5757	-4.0141
CAR (1)		-1.22%	-0.83%	-0.53%	-0.45%	-1.19%	-0.83%	-0.56%	-0.63%	-0.90%	-0.69%	-0.71%	-0.75%	-0.85%	-0.89%	-0.87%	-0.86%
		-5.5475	-4.4658	-3.4316	-3.2801	-4.4526	-3.5145	-2.7285	-3.4690	-3.3068	-2.7366	-3.1525	-3.7870	-3.1164	-3.5291	-3.8409	-4.2508
BHAR (0)		-1.39%	-0.69%	-0.60%	-0.39%	-1.24%	-1.04%	-0.74%	-0.33%	-1.05%	-0.68%	-0.53%	-0.59%	-0.88%	-0.85%	-0.80%	-0.83%
		-5.0983	-2.6018	-2.2888	-1.5279	-4.2208	-3.7063	-2.6781	-1.3335	-3.6812	-2.3526	-2.3223	-2.3200	-3.0955	-3.1120	-3.1138	-3.2704
BHAR (1)		-1.41%	-0.74%	-0.70%	-0.37%	-1.33%	-1.29%	-0.71%	-0.48%	-1.12%	-0.66%	-0.61%	-0.70%	-0.98%	-1.07%	-1.04%	-0.94%
		-5.1916	-2.8790	-2.7125	-1.5367	-4.5646	-4.5365	-2.6760	-2.0444	-4.0010	-2.3425	-2.7358	-2.7621	-3.4805	-3.9442	-4.1556	-3.6195
NETHERLAN	NDS				1												
CAR (0)		-0.52%	-0.05%	0.14%	0.22%	0.05%	0.29%	0.47%	0.39%	0.32%	0.55%	0.47%	0.39%	0.55%	0.50%	0.44%	0.33%
		-1.9919	-0.2142	0.7471	1.3070	0.1554	1.0754	1.9776	1.8173	1.0509	1.9885	1.8119	1.6042	1.7733	1.6791	1.5621	1.2536
CAR (1)		-0.55%	0.00%	0.19%	0.16%	0.02%	0.34%	0.40%	0.29%	0.41%	0.51%	0.41%	0.30%	0.48%	0.40%	0.33%	0.27%
		-2.1675	-0.0156	1.0193	0.9491	0.0755	1.3248	1.7410	1.3518	1.3776	1.8723	1.5923	1.2555	1.5736	1.3847	1.1994	1.0216
BHAR (0)		-0.49%	-0.04%	0.13%	-0.05%	0.14%	0.43%	0.39%	0.81%	0.26%	0.33%	0.55%	0.47%	0.38%	0.47%	0.48%	0.34%
		-1.4517	-0.1252	0.4292	-0.1525	0.4202	1.3241	1.1509	2.9195	0.8124	0.9785	1.7889	1.4928	1.0946	1.4671	1.4716	1.0549
BHAR (1)		-0.46%	-0.08%	-0.05%	-0.03%	-0.14%	0.20%	0.20%	0.49%	0.37%	0.30%	0.63%	0.33%	0.24%	0.23%	0.36%	0.20%
		-1.3647	-0.2464	-0.1611	-0.1097	-0.4230	0.6064	0.5851	1.7836	1.1408	0.8869	2.0083	0.9866	0.7131	0.7086	1.1939	0.6324
NEWZEALA	ND	0.000	0.500/	0.400/		. =	0 = 404	/	0.000/	0.7801	0.600	0.4504		0 = 10/		0.000	0.100/
CAR (0)		0.26%	0.58%	0.42%	0.40%	0.54%	0.56%	0.52%	0.39%	0.62%	0.62%	0.46%	0.34%	0.71%	0.55%	0.36%	0.18%
~.~		0.6611	1.9876	1.7792	2.0019	1.8374	2.0935	2.1671	1.7686	2.0376	2.2019	1.7681	1.4580	2.2936	1.8790	1.3317	0.7568
CAR (1)		0.13%	0.40%	0.35%	0.26%	0.48%	0.49%	0.44%	0.23%	0.58%	0.53%	0.35%	0.18%	0.52%	0.40%	0.23%	0.03%
		0.3516	1.4293	1.5299	1.3414	1.6420	1.8794	1.8520	1.0889	1.9362	1.8996	1.3785	0.8089	1.6855	1.4075	0.8763	0.1076
BHAR (0)		0.16%	0.25%	0.40%	-0.48%	0.74%	0.71%	0.47%	0.27%	0.88%	0.60%	0.62%	0.62%	0.66%	0.59%	0.17%	0.28%
		0.3311	0.7357	0.8431	-1.5283	2.1662	2.1039	1.3573	0.9508	2.6788	1.7653	1.8209	1.9926	2.0076	1.8623	0.5538	0.8605
BHAR (1)		0.32%	0.14%	0.17%	-0.44%	0.83%	0.51%	0.33%	0.04%	0.91%	0.65%	0.59%	0.58%	0.69%	0.37%	0.08%	0.31%
		0.7291	0.4345	0.3939	-1.3563	2.2760	1.4261	1.0005	0.1390	2.5172	1.8401	1.7170	1.8681	1.9766	1.1145	0.2533	0.9576

IVOL	J =		3				6	i			9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	7																
CAR (0)		-0.98%	-0.36%	-0.12%	-0.12%	-0.48%	-0.19%	0.03%	-0.15%	0.00%	0.08%	-0.13%	-0.38%	0.01%	-0.24%	-0.42%	-0.64%
		-2.7749	-1.3814	-0.4939	-0.5568	-1.3255	-0.5663	0.1054	-0.5726	0.0071	0.2349	-0.4098	-1.2627	0.0235	-0.6546	-1.2162	-2.0282
CAR (1)		-1.20%	-0.45%	-0.20%	-0.28%	-0.48%	-0.11%	-0.05%	-0.31%	-0.02%	-0.05%	-0.32%	-0.58%	-0.38%	-0.54%	-0.64%	-0.83%
		-3.7111	-1.7394	-0.8382	-1.3901	-1.3422	-0.3586	-0.1680	-1.2401	-0.0647	-0.1384	-0.9778	-1.9854	-0.9754	-1.4764	-1.8809	-2.6747
BHAR (0)		-0.90%	-0.22%	0.07%	-0.09%	-0.48%	-0.01%	0.01%	0.23%	0.27%	0.10%	-0.22%	0.00%	-0.06%	-0.22%	-0.45%	-0.68%
		-1.9632	-0.5256	0.1729	-0.2415	-1.1431	-0.0151	0.0273	0.6155	0.5971	0.2163	-0.5175	0.0041	-0.1279	-0.5555	-1.1522	-1.6986
BHAR (1)		-1.32%	-0.21%	-0.20%	-0.33%	-0.52%	-0.25%	-0.11%	-0.17%	0.13%	0.21%	-0.25%	0.01%	-0.28%	-0.65%	-0.46%	-0.99%
		-3.1060	-0.5675	-0.5735	-0.9096	-1.2933	-0.5900	-0.2599	-0.4358	0.2998	0.5014	-0.5916	0.0302	-0.6458	-1.6000	-1.2368	-2.4462
PORTUGA	L																
CAR (0)		-1.23%	-0.29%	-0.04%	-0.14%	-0.27%	0.15%	0.23%	0.08%	0.08%	0.15%	0.05%	-0.09%	0.01%	-0.08%	-0.13%	-0.22%
		-3.3714	-0.9298	-0.1560	-0.5013	-0.7129	0.4117	0.6758	0.2771	0.2156	0.3762	0.1431	-0.2645	0.0342	-0.1932	-0.3482	-0.6214
CAR (1)		-1.26%	-0.34%	-0.03%	-0.18%	-0.17%	0.17%	0.13%	-0.04%	0.01%	0.03%	-0.09%	-0.20%	-0.11%	-0.15%	-0.22%	-0.32%
		-3.2516	-1.0232	-0.1047	-0.6256	-0.4592	0.4584	0.3642	-0.1334	0.0174	0.0866	-0.2418	-0.6336	-0.2508	-0.3804	-0.5879	-0.9537
BHAR (0)		-1.75%	-0.30%	-0.27%	-0.16%	-0.33%	-0.14%	0.30%	0.00%	-0.27%	0.40%	0.03%	0.04%	0.08%	0.02%	-0.25%	-0.59%
		-2.9832	-0.5003	-0.4379	-0.2772	-0.6622	-0.2922	0.4478	-0.0067	-0.6229	0.7775	0.0622	0.0837	0.1672	0.0465	-0.5197	-1.2843
BHAR (1)		-1.36%	0.39%	0.30%	0.29%	-0.61%	0.24%	0.49%	-0.19%	-0.14%	0.13%	-0.23%	-0.33%	-0.26%	-0.09%	-0.13%	-0.48%
-		-2.3750	0.6286	0.4249	0.4587	-1.2285	0.3949	0.7133	-0.3688	-0.3324	0.2670	-0.4826	-0.6951	-0.5883	-0.2064	-0.2669	-1.0934
SINGAPOR	E																
CAR (0)		-0.83%	-0.03%	0.11%	0.01%	-0.29%	0.04%	0.07%	-0.09%	-0.05%	0.02%	-0.10%	-0.23%	-0.22%	-0.21%	-0.31%	-0.45%
		-2.3357	-0.1314	0.4657	0.0291	-0.8016	0.1169	0.2350	-0.3411	-0.1360	0.0564	-0.3012	-0.7910	-0.5609	-0.5797	-0.9621	-1.5648
CAR (1)		-0.85%	-0.09%	0.02%	-0.08%	-0.31%	-0.07%	-0.08%	-0.19%	-0.17%	-0.13%	-0.27%	-0.37%	-0.40%	-0.38%	-0.50%	-0.55%
		-2.5796	-0.3696	0.0807	-0.3859	-0.9066	-0.2176	-0.2653	-0.7645	-0.4419	-0.3658	-0.8673	-1.3452	-1.0672	-1.1094	-1.5957	-2.0098
BHAR (0)		-0.95%	-0.63%	0.12%	-0.32%	0.05%	0.22%	0.05%	0.21%	0.04%	-0.02%	0.17%	-0.17%	-0.01%	0.18%	-0.12%	-0.25%
		-2.0497	-1.5669	0.3732	-1.1751	0.1080	0.5138	0.1065	0.5353	0.1027	-0.0567	0.5141	-0.4642	-0.0278	0.4530	-0.3493	-0.7246
BHAR (1)		-0.97%	-0.82%	0.07%	-0.34%	-0.16%	0.15%	-0.24%	0.14%	-0.19%	-0.24%	0.10%	-0.39%	-0.27%	0.02%	-0.48%	-0.30%
		-2.4546	-2.4433	0.2390	-1.3372	-0.4023	0.4018	-0.6020	0.4363	-0.4449	-0.6466	0.3184	-1.1110	-0.6815	0.0561	-1.3786	-0.8583
SPAIN																	
CAR (0)		-0.48%	-0.23%	0.01%	0.05%	-0.15%	0.09%	0.24%	0.13%	0.31%	0.42%	0.37%	0.26%	0.43%	0.34%	0.29%	0.17%
		-2.0222	-1.1423	0.0710	0.3344	-0.5073	0.3449	0.9952	0.6190	1.0081	1.4492	1.3479	1.0160	1.3164	1.1003	0.9917	0.6052
CAR (1)		-0.57%	-0.25%	-0.01%	-0.01%	-0.17%	0.08%	0.12%	0.02%	0.32%	0.38%	0.30%	0.15%	0.29%	0.23%	0.17%	0.05%
		-2.4951	-1.2670	-0.0348	-0.0741	-0.6090	0.3169	0.5066	0.1086	1.0452	1.3008	1.1363	0.5956	0.8931	0.7505	0.5821	0.1961
BHAR (0)		-0.51%	-0.50%	0.02%	0.07%	-0.31%	0.18%	0.41%	0.02%	0.40%	0.53%	0.49%	0.13%	0.40%	0.36%	0.41%	0.01%
		-1.7107	-1.4990	0.0778	0.1877	-1.0305	0.5544	1.1613	0.0556	1.1820	1.6047	1.5499	0.4402	1.2052	1.0366	1.3285	0.0161
BHAR (1)		-0.76%	-0.52%	-0.02%	-0.22%	-0.31%	0.27%	0.10%	-0.17%	0.21%	0.35%	0.19%	-0.22%	0.20%	0.13%	0.35%	-0.16%
-		-2.2961	-1.5147	-0.0708	-0.6448	-0.9860	0.8478	0.3080	-0.5521	0.6256	1.0605	0.5900	-0.7459	0.5794	0.3858	1.1337	-0.4616

IVOL	J =		3				6				9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		-0.62%	0.04%	0.12%	0.27%	0.16%	0.29%	0.43%	0.32%	0.42%	0.57%	0.36%	0.16%	0.50%	0.28%	0.03%	-0.14%
		-1.7741	0.1306	0.4431	1.1714	0.3868	0.7785	1.3815	1.1125	0.9976	1.5697	1.0897	0.4996	1.2389	0.7341	0.0900	-0.3916
CAR (1)		-0.73%	-0.03%	0.14%	0.20%	0.09%	0.29%	0.34%	0.15%	0.47%	0.48%	0.22%	-0.01%	0.25%	0.07%	-0.17%	-0.29%
		-2.1566	-0.0909	0.5578	0.8974	0.2137	0.8335	1.1583	0.5502	1.1818	1.3803	0.6553	-0.0270	0.6302	0.1947	-0.4602	-0.8427
BHAR (0)		-0.41%	-0.13%	0.50%	-0.16%	0.32%	0.54%	0.58%	0.28%	0.54%	0.36%	0.32%	0.02%	0.39%	0.37%	0.02%	-0.12%
		-0.9490	-0.3053	1.1206	-0.4094	0.7075	1.3505	1.2854	0.7576	1.2457	0.8232	0.7678	0.0385	0.9198	0.9713	0.0520	-0.3557
BHAR (1)		-0.44%	-0.11%	0.01%	0.24%	0.25%	0.32%	0.69%	0.12%	0.54%	0.57%	0.26%	-0.04%	0.30%	0.07%	-0.17%	-0.36%
		-1.1106	-0.2667	0.0351	0.5932	0.5691	0.7621	1.5226	0.3270	1.2358	1.3651	0.6304	-0.0928	0.7195	0.1829	-0.4389	-1.0529
SWITZERLA	ND																
CAR (0)		-0.06%	0.20%	0.26%	0.36%	0.27%	0.33%	0.46%	0.41%	0.42%	0.51%	0.45%	0.31%	0.65%	0.55%	0.36%	0.19%
		-0.2716	1.0491	1.5034	2.3846	1.0214	1.3267	2.0859	2.1031	1.4704	1.9142	1.8527	1.3801	2.2671	2.0386	1.3919	0.7796
CAR (1)		-0.26%	0.06%	0.23%	0.25%	0.08%	0.23%	0.38%	0.26%	0.37%	0.46%	0.35%	0.18%	0.49%	0.38%	0.20%	0.04%
		-1.2368	0.2896	1.3391	1.6989	0.2822	0.9357	1.7702	1.3517	1.2996	1.7443	1.4575	0.7926	1.7250	1.4054	0.8038	0.1612
BHAR (0)		-0.11%	0.32%	0.05%	0.26%	0.23%	0.41%	0.44%	0.71%	0.47%	0.51%	0.55%	0.42%	0.65%	0.70%	0.50%	0.24%
		-0.4113	1.1384	0.1856	0.9178	0.8396	1.4569	1.7623	2.8477	1.6008	1.6703	2.1493	1.5472	2.2230	2.4483	1.7128	0.8106
BHAR (1)		-0.27%	0.04%	0.01%	0.23%	0.09%	0.15%	0.27%	0.49%	0.28%	0.36%	0.44%	0.14%	0.42%	0.48%	0.31%	0.16%
		-1.0108	0.1404	0.0347	0.7936	0.3155	0.5202	1.0717	1.9129	0.9100	1.1344	1.6163	0.4863	1.4383	1.7239	1.0643	0.5778
UK																	
CAR (0)		-0.32%	0.13%	0.13%	0.21%	0.27%	0.31%	0.38%	0.24%	0.41%	0.48%	0.25%	0.02%	0.55%	0.36%	0.06%	-0.18%
		-1.5667	0.7648	0.8722	1.6230	1.1177	1.4808	2.0826	1.4904	1.6477	2.1247	1.1863	0.0900	2.1672	1.5317	0.2747	-0.8956
CAR (1)		-0.41%	0.01%	0.07%	0.12%	0.07%	0.18%	0.23%	0.06%	0.26%	0.30%	0.04%	-0.20%	0.34%	0.13%	-0.17%	-0.37%
		-2.0640	0.0555	0.5257	0.9658	0.2955	0.9217	1.3276	0.3619	1.0733	1.3298	0.2046	-1.0326	1.4100	0.5412	-0.7767	-1.9016
BHAR (0)		-0.31%	-0.07%	0.31%	0.06%	0.21%	0.25%	0.20%	0.37%	0.36%	0.29%	0.27%	-0.04%	0.47%	0.39%	0.22%	-0.16%
		-1.2122	-0.2963	1.2298	0.2356	0.7869	0.9806	0.7380	1.9672	1.3059	1.0471	1.2169	-0.1781	1.7914	1.6732	0.8621	-0.6653
BHAR (1)		-0.28%	-0.50%	0.23%	-0.14%	-0.02%	0.06%	0.01%	0.30%	0.19%	0.13%	0.20%	-0.14%	0.22%	0.03%	-0.19%	-0.53%
		-0.8954	-1.8623	0.8347	-0.5671	-0.0682	0.2247	0.0452	1.5959	0.6681	0.4114	0.7509	-0.6027	0.8378	0.1471	-0.7311	-2.3172
US		1 2 10/	0.4804	0.400/	0.420/	0.000/	0.400/	0.260/	0.400/	0.600/	0.420/	0.500/	0.6007	0 =10/	0.=00/	0.=00/	0.020/
CAR (0)		-1.34%	-0.67%	-0.42%	-0.43%	-0.92%	-0.48%	-0.36%	-0.49%	-0.60%	-0.42%	-0.52%	-0.68%	-0.71%	-0.70%	-0.78%	-0.93%
GLP (II)		-4.5164	-2.8203	-2.0781	-2.5454	-2.7686	-1.6665	-1.4826	-2.3299	-1.7546	-1.4208	-1.9946	-2.8936	-2.1601	-2.3365	-2.9214	-3.8039
CAR (1)		-1.32%	-0.59%	-0.39%	-0.50%	-0.79%	-0.42%	-0.43%	-0.57%	-0.54%	-0.50%	-0.64%	-0.80%	-0.85%	-0.81%	-0.93%	-1.03%
		-4.9262	-2.6753	-2.1033	-3.1927	-2.4656	-1.5599	-1.8807	-2.8520	-1.7159	-1.7968	-2.5545	-3.5669	-2.7510	-2.8692	-3.6084	-4.3985
BHAR (0)		-1.42%	-0.64%	-0.65%	-0.52%	-0.79%	-0.46%	-0.64%	-0.33%	-0.49%	-0.39%	-0.44%	-0.57%	-0.56%	-0.47%	-0.64%	-0.78%
DILLE (1)		-4.1007	-2.0847	-2.1149	-1.7657	-2.3013	-1.5533	-1.8491	-1.5279	-1.3950	-1.1344	-1.6668	-2.0910	-1.6577	-1.5671	-2.1537	-2.6549
BHAR (1)		-1.28%	-0.72%	-0.73%	-0.66%	-0.83%	-0.56%	-0.87%	-0.62%	-0.61%	-0.62%	-0.69%	-0.76%	-0.86%	-0.75%	-0.90%	-0.97%
		-3.5673	-2.3360	-2.4407	-2.3511	-2.2705	-1.8191	-2.4900	-2.8294	-1.6762	-1.7969	-2.4104	-2.6446	-2.4918	-2.4737	-3.1273	-3.3395

Table 8.8. Sharp ratio of cross-sectional momentum strategy

This table reports the average monthly Sharpe ratio after accounting for the transaction costs for 16 (J x H) cross-sectional momentum strategies across the 24 stock markets along with an indication of significant level based on the Newey–West adjusted t-statistics. The results all relate to an implementation in which the cut-offs for selecting the stocks to be included in the cross-sectional momentum portfolios were set at 16%.

The ratio measures the increments in excess returns (as measured by the portfolio return minus the risk-free rate) for each additional unit of risk (as measured by the standard deviation of the portfolio returns). Sharpe ratio = $\frac{\overline{MP} - Rf}{Std(MP)}$ where \overline{MP} is the average momentum return after accounting for the transaction costs, Rf is the average risk-free rate and Std (MP) is momentum portfolio standard deviation over the testing period.

Panel A. The cross-sectional momentum using equal-weighted return

EW	J =		3	3			(5			Ç)			1	12	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAI	LIA																
CAR (0)		-0.56	-0.35	-0.33	-0.34	-0.33	-0.28	-0.25	-0.30	-0.28	-0.22	-0.27	-0.32	-0.23	-0.25	-0.31	-0.37
CAR (1)		-0.47	-0.33	-0.32	-0.36	-0.29	-0.26	-0.27	-0.33	-0.24	-0.24	-0.30	-0.36	-0.26	-0.29	-0.36	-0.42
BHAR (0)		-0.42	-0.23	-0.24	-0.26	-0.27	-0.25	-0.24	-0.26	-0.25	-0.20	-0.22	-0.23	-0.22	-0.25	-0.24	-0.23
BHAR (1)		-0.28	-0.22	-0.25	-0.27	-0.20	-0.20	-0.22	-0.25	-0.21	-0.22	-0.21	-0.24	-0.22	-0.25	-0.30	-0.28
AUSTRI	A																
CAR (0)		-0.08	-0.01	0.05	0.07	0.01	0.06	0.10	0.11	0.07	0.10	0.11	0.09	0.09	0.09	0.08	0.04
CAR (1)		-0.04	0.01	0.06	0.08	0.04	0.07	0.10	0.10	0.10	0.10	0.10	0.06	0.08	0.08	0.06	0.02
BHAR (0)		-0.07	-0.04	0.00	-0.06	0.00	0.00	0.07	0.12	0.06	0.12	0.10	0.12	0.07	0.05	0.04	-0.04
BHAR (1)		-0.04	-0.04	-0.02	-0.06	0.05	0.03	0.07	0.09	0.08	0.09	0.11	0.09	0.07	0.05	0.00	-0.05
BELGIU	M																
CAR (0)		-0.06	0.07	0.12	0.15	0.11	0.17	0.21	0.20	0.15	0.20	0.19	0.17	0.21	0.21	0.18	0.14
CAR (1)		0.01	0.10	0.15	0.15	0.13	0.19	0.21	0.18	0.19	0.21	0.18	0.15	0.21	0.19	0.16	0.12
BHAR (0)		-0.04	0.00	0.01	0.01	0.09	0.14	0.13	0.19	0.17	0.21	0.20	0.19	0.22	0.19	0.19	0.06
BHAR (1)		-0.02	-0.03	0.03	-0.01	0.10	0.15	0.12	0.16	0.18	0.17	0.19	0.12	0.20	0.16	0.14	0.04
CANAD	A																
CAR (0)	-	-0.43	-0.26	-0.15	-0.10	-0.23	-0.15	-0.06	-0.08	-0.12	-0.06	-0.07	-0.12	-0.06	-0.08	-0.11	-0.18
CAR (1)		-0.43	-0.23	-0.11	-0.12	-0.20	-0.12	-0.06	-0.12	-0.09	-0.06	-0.10	-0.17	-0.09	-0.11	-0.16	-0.23
BHAR (0)		-0.30	-0.20	-0.11	-0.06	-0.24	-0.17	-0.09	-0.06	-0.13	-0.08	-0.09	-0.09	-0.07	-0.11	-0.10	-0.18
BHAR (1)		-0.30	-0.20	-0.08	-0.08	-0.18	-0.10	-0.09	-0.11	-0.10	-0.09	-0.12	-0.11	-0.11	-0.13	-0.14	-0.20

EW	J =			3			(5			9)			1	12	
	H =	3	6	5 9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAI	RK																
CAR (0)		-0.15	0.05	0.10	0.15	0.08	0.14	0.19	0.18	0.16	0.21	0.18	0.14	0.22	0.21	0.16	0.11
CAR (1)		-0.12	0.05	0.12	0.13	0.10	0.14	0.18	0.14	0.17	0.19	0.15	0.10	0.19	0.16	0.12	0.07
BHAR (0)		-0.12	-0.01	-0.02	0.09	0.05	0.07	0.09	0.20	0.13	0.10	0.17	0.06	0.22	0.20	0.14	0.05
BHAR (1)		-0.12	-0.01	0.03	0.08	0.08	0.06	0.09	0.16	0.13	0.12	0.13	0.02	0.16	0.12	0.10	-0.01
FINLAN	D																
CAR (0)		-0.16	-0.05	0.02	0.01	-0.01	0.03	0.07	0.04	0.03	0.05	0.03	0.00	0.01	0.01	-0.01	-0.03
CAR (1)		-0.11	-0.03	0.03	0.01	0.00	0.04	0.06	0.02	0.03	0.03	0.01	-0.03	0.01	-0.01	-0.03	-0.05
BHAR (0)		-0.18	-0.10	0.02	-0.03	-0.03	0.02	0.01	0.12	0.01	0.00	0.00	-0.04	-0.01	0.03	0.02	0.01
BHAR (1)		-0.08	-0.09	0.05	-0.03	0.00	0.05	0.00	0.07	0.02	-0.02	-0.04	-0.05	-0.01	-0.01	-0.03	-0.02
FRANC	E																
CAR (0)		-0.35	-0.15	-0.09	-0.03	-0.14	-0.05	0.02	0.02	-0.07	0.02	0.02	0.01	-0.02	0.02	0.01	-0.01
CAR (1)		-0.20	-0.06	0.00	0.01	-0.04	0.01	0.05	0.03	0.01	0.05	0.03	0.00	0.02	0.03	0.01	-0.02
BHAR (0)		-0.32	-0.19	-0.04	-0.16	-0.14	-0.05	-0.07	-0.03	-0.10	-0.04	0.03	-0.01	-0.03	0.02	0.04	-0.03
BHAR (1)		-0.20	-0.15	0.00	-0.13	-0.05	-0.01	-0.04	-0.04	-0.03	-0.03	0.04	-0.06	0.00	0.02	0.02	-0.02
GERMAN	NY																
CAR (0)	· -	-0.25	-0.08	-0.02	0.02	-0.08	-0.01	0.05	0.04	-0.01	0.03	0.03	0.01	0.03	0.03	0.02	0.00
CAR (1)		-0.19	-0.06	0.00	0.02	-0.05	0.00	0.04	0.02	0.01	0.03	0.01	-0.01	0.03	0.01	0.00	-0.02
BHAR (0)		-0.22	-0.11	-0.03	-0.08	-0.07	0.00	0.02	0.04	-0.02	0.01	0.02	-0.02	0.03	0.04	0.00	-0.03
BHAR (1)		-0.15	-0.12	-0.01	-0.09	-0.06	0.00	0.02	0.00	-0.01	-0.01	-0.02	-0.06	0.00	0.00	-0.04	-0.04

EW	J =		:	3			ϵ	5			ç)			1	12	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREEC	E																
CAR (0)		-0.25	-0.17	-0.18	-0.19	-0.16	-0.14	-0.13	-0.16	-0.15	-0.13	-0.16	-0.18	-0.15	-0.15	-0.17	-0.19
CAR (1)		-0.23	-0.17	-0.17	-0.19	-0.15	-0.13	-0.14	-0.17	-0.12	-0.13	-0.16	-0.19	-0.15	-0.16	-0.18	-0.21
BHAR (0)		-0.25	-0.09	-0.12	-0.03	-0.14	-0.09	-0.12	-0.09	-0.13	-0.10	-0.16	-0.14	-0.15	-0.17	-0.16	-0.24
BHAR (1)		-0.17	-0.08	-0.11	-0.01	-0.14	-0.12	-0.13	-0.10	-0.10	-0.11	-0.14	-0.17	-0.15	-0.18	-0.19	-0.23
HONGKO	NG													<u>I</u>			
CAR (0)		-0.39	-0.27	-0.24	-0.26	-0.28	-0.22	-0.21	-0.25	-0.25	-0.22	-0.24	-0.29	-0.26	-0.24	-0.29	-0.32
CAR (1)		-0.46	-0.28	-0.26	-0.30	-0.28	-0.23	-0.24	-0.28	-0.28	-0.25	-0.28	-0.32	-0.29	-0.28	-0.32	-0.35
BHAR (0)		-0.36	-0.23	-0.22	-0.18	-0.25	-0.18	-0.18	-0.20	-0.23	-0.19	-0.20	-0.25	-0.27	-0.23	-0.26	-0.26
BHAR (1)		-0.38	-0.23	-0.25	-0.20	-0.28	-0.23	-0.21	-0.25	-0.28	-0.22	-0.25	-0.26	-0.31	-0.29	-0.28	-0.29
IRELAN	D																
CAR (0)		-0.16	-0.07	-0.07	-0.05	-0.09	-0.07	-0.04	-0.02	-0.07	-0.04	-0.03	-0.03	-0.03	-0.02	-0.02	-0.04
CAR (1)		-0.09	-0.05	-0.04	-0.04	-0.07	-0.06	-0.03	-0.03	-0.06	-0.04	-0.03	-0.04	-0.03	-0.02	-0.03	-0.06
BHAR (0)		-0.07	-0.15	-0.16	-0.05	-0.11	-0.04	-0.12	0.07	-0.06	-0.06	0.01	0.02	-0.02	0.00	0.02	-0.08
BHAR (1)		-0.09	-0.14	-0.14	0.01	-0.10	-0.04	-0.09	0.04	-0.11	-0.04	-0.02	-0.03	-0.06	-0.03	-0.02	-0.11
ISRAEI	4								[
CAR (0)		-0.60	-0.45	-0.41	-0.42	-0.38	-0.31	-0.30	-0.34	-0.32	-0.28	-0.30	-0.34	-0.27	-0.26	-0.29	-0.35
CAR (1)		-0.56	-0.40	-0.37	-0.42	-0.32	-0.28	-0.31	-0.35	-0.28	-0.28	-0.31	-0.36	-0.27	-0.27	-0.32	-0.37
BHAR (0)		-0.47	-0.35	-0.30	-0.34	-0.32	-0.29	-0.23	-0.19	-0.30	-0.25	-0.25	-0.21	-0.24	-0.22	-0.24	-0.28
BHAR (1)		-0.40	-0.33	-0.29	-0.34	-0.27	-0.25	-0.23	-0.21	-0.28	-0.25	-0.26	-0.24	-0.25	-0.21	-0.26	-0.27

EW	J =		3	3			(5			Ç)			1	2	
VM 4 V V	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
CAR (0)		-0.08	0.02	0.08	0.09	0.03	0.09	0.13	0.12	0.11	0.14	0.13	0.11	0.14	0.13	0.11	0.08
CAR (1)		-0.06	0.05	0.09	0.10	0.05	0.11	0.13	0.10	0.13	0.14	0.11	0.08	0.13	0.11	0.09	0.06
BHAR (0)		-0.09	-0.01	0.08	0.04	0.01	0.08	0.07	0.06	0.09	0.10	0.12	0.04	0.10	0.10	0.11	0.05
BHAR (1)		-0.06	-0.01	0.11	0.04	0.03	0.07	0.08	0.04	0.11	0.09	0.08	0.00	0.10	0.09	0.09	0.04
JAPAN									[
CAR (0)		-0.30	-0.23	-0.18	-0.12	-0.24	-0.20	-0.13	-0.13	-0.20	-0.14	-0.14	-0.15	-0.15	-0.14	-0.16	-0.17
CAR (1)		-0.28	-0.22	-0.15	-0.12	-0.23	-0.17	-0.11	-0.14	-0.16	-0.12	-0.13	-0.16	-0.14	-0.16	-0.17	-0.18
BHAR (0)		-0.29	-0.12	-0.10	-0.03	-0.22	-0.18	-0.11	-0.02	-0.19	-0.12	-0.08	-0.10	-0.15	-0.13	-0.14	-0.17
BHAR (1)		-0.26	-0.13	-0.11	-0.03	-0.23	-0.23	-0.10	-0.06	-0.19	-0.10	-0.11	-0.14	-0.16	-0.18	-0.19	-0.18
NETHERLA	NDS								l								
CAR (0)		-0.08	0.05	0.11	0.14	0.08	0.12	0.17	0.16	0.11	0.16	0.15	0.14	0.15	0.15	0.14	0.12
CAR (1)		-0.08	0.06	0.12	0.12	0.08	0.13	0.15	0.13	0.13	0.15	0.14	0.12	0.14	0.13	0.11	0.10
BHAR (0)		-0.04	0.01	0.09	0.00	0.06	0.11	0.07	0.21	0.09	0.09	0.15	0.14	0.11	0.12	0.12	0.08
BHAR (1)		-0.04	0.01	0.05	-0.02	0.05	0.09	0.06	0.15	0.12	0.08	0.14	0.09	0.09	0.09	0.10	0.07
NEWZEALA	ND				<u> </u>												
CAR (0)		-0.13	0.03	0.01	0.04	0.06	0.08	0.10	0.08	0.07	0.09	0.06	0.04	0.11	0.09	0.05	0.01
CAR (1)		-0.07	0.04	0.04	0.04	0.08	0.09	0.09	0.06	0.09	0.08	0.05	0.02	0.09	0.07	0.03	-0.02
BHAR (0)		-0.12	0.03	-0.07	-0.10	0.08	0.09	0.05	0.02	0.12	0.10	0.11	0.09	0.11	0.11	0.03	0.05
BHAR (1)		-0.02	0.03	-0.06	-0.09	0.10	0.07	0.05	-0.03	0.12	0.10	0.07	0.07	0.09	0.06	-0.01	0.04

EW	J =		3	3			6	i			Ç)			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWA	Y																
CAR (0)		-0.24	-0.12	-0.06	-0.05	-0.11	-0.05	0.01	-0.02	-0.01	0.02	0.00	-0.05	0.01	-0.02	-0.04	-0.08
CAR (1)		-0.26	-0.11	-0.05	-0.08	-0.10	-0.03	0.00	-0.05	-0.02	0.00	-0.04	-0.09	-0.04	-0.05	-0.08	-0.12
BHAR (0)		-0.19	-0.07	-0.06	-0.01	-0.10	-0.04	-0.03	0.09	0.01	0.03	0.01	0.03	-0.01	-0.01	-0.02	-0.09
BHAR (1)		-0.20	-0.07	-0.03	-0.02	-0.08	-0.02	-0.04	0.03	0.00	0.02	-0.01	0.01	-0.04	-0.06	-0.01	-0.12
PORTUGA	AL								l								
CAR (0)		-0.35	-0.19	-0.13	-0.11	-0.19	-0.11	-0.08	-0.07	-0.13	-0.08	-0.06	-0.06	-0.12	-0.08	-0.06	-0.06
CAR (1)		-0.23	-0.10	-0.07	-0.06	-0.10	-0.06	-0.04	-0.04	-0.07	-0.05	-0.05	-0.05	-0.07	-0.05	-0.04	-0.05
BHAR (0)		-0.26	-0.08	-0.06	-0.05	-0.17	-0.08	-0.04	-0.04	-0.11	-0.03	-0.04	0.05	-0.11	-0.08	-0.06	-0.06
BHAR (1)		-0.22	-0.03	-0.04	-0.02	-0.14	-0.06	-0.02	-0.03	-0.08	-0.06	-0.05	0.03	-0.08	-0.05	-0.03	-0.07
SINGAPO	RE								l								
CAR (0)		-0.23	-0.07	-0.04	-0.05	-0.08	-0.04	-0.04	-0.05	-0.07	-0.05	-0.07	-0.09	-0.08	-0.08	-0.10	-0.12
CAR (1)		-0.19	-0.05	-0.04	-0.05	-0.05	-0.04	-0.05	-0.07	-0.07	-0.06	-0.09	-0.11	-0.09	-0.09	-0.12	-0.13
BHAR (0)		-0.20	-0.11	-0.01	-0.03	-0.06	-0.03	-0.04	0.01	-0.05	-0.06	-0.04	-0.10	-0.06	-0.03	-0.05	-0.08
BHAR (1)		-0.17	-0.12	0.00	-0.06	-0.05	-0.03	-0.07	-0.01	-0.06	-0.06	-0.04	-0.10	-0.07	-0.04	-0.11	-0.09
SPAIN									ļ								
CAR (0)		-0.20	-0.10	-0.04	-0.01	-0.07	-0.02	0.03	0.03	0.01	0.06	0.06	0.05	0.04	0.05	0.05	0.03
CAR (1)		-0.17	-0.07	-0.01	-0.01	-0.05	0.00	0.03	0.02	0.03	0.05	0.05	0.03	0.04	0.04	0.04	0.02
BHAR (0)		-0.20	-0.14	0.02	0.01	-0.10	0.01	0.02	0.01	0.03	0.07	0.07	-0.01	0.04	0.06	0.07	-0.01
BHAR (1)		-0.14	-0.14	0.00	0.01	-0.08	0.01	0.01	-0.02	0.00	0.03	0.00	-0.06	0.02	0.04	0.06	-0.02

EW	J =			3			(5			9)			1	12	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDE	N																
CAR (0)		-0.16	0.00	0.00	0.03	-0.01	0.03	0.04	0.03	0.02	0.06	0.03	0.01	0.05	0.04	0.00	-0.02
CAR (1)		-0.09	0.02	0.02	0.03	0.01	0.03	0.04	0.01	0.04	0.05	0.01	-0.02	0.02	0.01	-0.03	-0.04
BHAR (0)		-0.11	-0.03	0.00	-0.05	0.00	0.05	0.02	-0.01	0.03	0.02	0.02	-0.03	0.04	0.05	-0.01	-0.01
BHAR (1)		-0.07	-0.02	0.00	-0.04	0.02	0.04	0.02	-0.02	0.02	0.02	0.01	-0.05	0.03	0.03	-0.04	-0.01
SWITZERL	AND	Į.												l .			
CAR (0)		-0.01	0.09	0.11	0.16	0.11	0.12	0.16	0.15	0.12	0.15	0.13	0.11	0.16	0.15	0.11	0.07
CAR (1)		0.00	0.09	0.11	0.14	0.09	0.11	0.14	0.11	0.12	0.14	0.11	0.07	0.14	0.12	0.08	0.04
BHAR (0)		-0.03	0.05	0.06	0.08	0.10	0.14	0.09	0.22	0.11	0.09	0.15	0.10	0.16	0.20	0.13	0.09
BHAR (1)		-0.02	0.02	0.05	0.07	0.07	0.11	0.06	0.17	0.08	0.06	0.12	0.04	0.13	0.16	0.08	0.07
UK																	
CAR (0)		-0.09	0.07	0.08	0.12	0.10	0.12	0.16	0.14	0.12	0.15	0.12	0.08	0.17	0.15	0.09	0.03
CAR (1)		-0.08	0.05	0.07	0.09	0.07	0.10	0.12	0.09	0.10	0.12	0.08	0.03	0.13	0.10	0.04	-0.02
BHAR (0)		-0.12	-0.01	0.04	-0.02	0.09	0.09	0.04	0.19	0.11	0.10	0.12	0.07	0.14	0.14	0.07	0.00
BHAR (1)		-0.09	-0.03	0.01	-0.04	0.05	0.05	0.03	0.11	0.08	0.05	0.06	0.01	0.09	0.06	-0.01	-0.07
US																	
CAR (0)		-0.33	-0.21	-0.16	-0.19	-0.18	-0.13	-0.12	-0.17	-0.12	-0.11	-0.15	-0.19	-0.14	-0.15	-0.19	-0.23
CAR (1)		-0.34	-0.19	-0.16	-0.22	-0.16	-0.12	-0.14	-0.20	-0.12	-0.13	-0.18	-0.23	-0.17	-0.18	-0.22	-0.26
BHAR (0)		-0.32	-0.16	-0.15	-0.12	-0.19	-0.13	-0.17	-0.08	-0.12	-0.13	-0.12	-0.17	-0.13	-0.11	-0.15	-0.19
BHAR (1)		-0.26	-0.18	-0.16	-0.15	-0.16	-0.12	-0.18	-0.16	-0.12	-0.16	-0.18	-0.22	-0.17	-0.16	-0.21	-0.23

Panel B. The cross-sectional momentum using market-weighted return

H =	3 6 9 0.02 -0.01 -0.04 -0.		12	0												
CAR (0)).02 -0.01 -0.04 -0.	-0.02			6	3	12	9	6	3	12	9	6	3	H =	
CAR (1)	0.02 -0.01 -0.04 -0.	-0.02													.IA	AUSTRAI
BHAR (0)			-0.06	-0.01	0.01	-0.03	0.01	0.04	0.01	-0.06	0.01	0.02	-0.02	-0.18		CAR (0)
BHAR (1)	0.05 -0.04 -0.09 -0.	-0.05	-0.10	-0.04	-0.01	-0.04	-0.03	0.01	0.01	-0.06	-0.03	0.01	-0.03	-0.17		CAR (1)
AUSTRIA CAR (0)	0.01 -0.01 -0.11 -0.	-0.01	-0.02	-0.03	0.02	-0.01	-0.03	-0.06	0.03	-0.02	-0.02	-0.03	0.00	-0.12		BHAR (0)
CAR (0)	0.07 -0.06 -0.14 -0.	-0.07	-0.07	-0.07	-0.04	-0.08	-0.08	-0.10	0.02	-0.05	-0.02	-0.05	-0.03	-0.10		BHAR (1)
CAR (1)														<u>I</u>	A	AUSTRI
BHAR (0)	0.01 -0.01 -0.03 -0.	-0.01	-0.03	0.00	-0.01	0.00	0.00	0.00	-0.01	-0.05	-0.06	-0.07	-0.09	-0.15		CAR (0)
BHAR (1) -0.19 -0.11 -0.07 -0.08 -0.04 -0.04 -0.02 -0.01 0.01 0.03 0.02 -0.01 -0.05 BELGIUM CAR (0) -0.12 -0.03 0.00 0.03 0.04 0.10 0.12 0.08 0.05 0.08 0.06 0.03 0.04	0.05 -0.04 -0.05 -0.	-0.05	-0.06	-0.02	-0.03	-0.01	-0.01	-0.01	0.00	-0.03	-0.07	-0.08	-0.12	-0.19		CAR (1)
BELGIUM CAR (0) -0.12 -0.03 0.00 0.03 0.04 0.10 0.12 0.08 0.05 0.08 0.06 0.03 0.04 CAR (1) -0.10 -0.03 0.02 0.02 0.04 0.10 0.10 0.05 0.06 0.08 0.05 0.01 0.06 BHAR (0) -0.08 0.02 -0.14 0.03 0.03 0.05 0.10 0.07 0.03 0.17 0.13 0.08 0.02	0.01 0.01 -0.02 0.0	0.01	0.03	0.00	0.06	0.02	-0.01	-0.04	-0.09	-0.06	-0.10	-0.06	-0.08	-0.16		BHAR (0)
CAR (0)	0.05 -0.02 -0.08 -0.	-0.05	-0.01	0.02	0.03	0.01	-0.01	-0.02	-0.04	-0.04	-0.08	-0.07	-0.11	-0.19		BHAR (1)
CAR (1) -0.10 -0.03 0.02 0.02 0.04 0.10 0.10 0.05 0.06 0.08 0.05 0.01 0.06 BHAR (0) -0.08 0.02 -0.14 0.03 0.03 0.05 0.10 0.07 0.03 0.17 0.13 0.08 0.02															M	BELGIU
BHAR (0) -0.08 0.02 -0.14 0.03 0.03 0.05 0.10 0.07 0.03 0.17 0.13 0.08 0.02	0.04 0.06 0.02 -0.	0.04	0.03	0.06	0.08	0.05	0.08	0.12	0.10	0.04	0.03	0.00	-0.03	-0.12		CAR (0)
	0.06 0.05 0.01 -0.	0.06	0.01	0.05	0.08	0.06	0.05	0.10	0.10	0.04	0.02	0.02	-0.03	-0.10		CAR (1)
BHAR (1) -0.08 -0.01 -0.11 0.06 0.02 0.08 0.10 0.03 0.04 0.16 0.11 0.03 0.02	0.02 0.02 0.06 -0.	0.02	0.08	0.13	0.17	0.03	0.07	0.10	0.05	0.03	0.03	-0.14	0.02	-0.08		BHAR (0)
	0.02 0.02 0.04 -0.	0.02	0.03	0.11	0.16	0.04	0.03	0.10	0.08	0.02	0.06	-0.11	-0.01	-0.08		BHAR (1)
CANADA														I	A	CANAD
CAR (0) -0.10 0.02 0.08 0.10 -0.01 0.06 0.11 0.11 0.04 0.10 0.10 0.06 0.02	0.02 0.04 0.03 -0.	0.02	0.06	0.10	0.10	0.04	0.11	0.11	0.06	-0.01	0.10	0.08	0.02	-0.10		
CAR (1) -0.11 0.00 0.10 0.08 -0.02 0.05 0.10 0.07 0.06 0.09 0.08 0.03 0.01	0.01 0.02 0.01 -0.	0.01	0.03	0.08	0.09	0.06	0.07	0.10	0.05	-0.02	0.08	0.10	0.00	-0.11		CAR (1)
BHAR (0) -0.09 -0.03 0.04 -0.03 -0.04 0.04 0.09 0.05 0.03 0.03 0.06 0.00 0.00	0.00 0.05 0.02 0.0	0.00	0.00	0.06	0.03	0.03	0.05	0.09	0.04	-0.04	-0.03	0.04	-0.03	-0.09		BHAR (0)
BHAR (1) -0.08 -0.05 0.05 -0.04 -0.02 0.03 0.06 -0.01 0.03 0.01 0.02 -0.01 -0.03	0.03 0.00 -0.02 -0.	-0.03	-0.01	0.02	0.01	0.03	-0.01	0.06	0.03	-0.02	-0.04	0.05	-0.05	-0.08		BHAR (1)

MW	J =		:	3			(5			9)			1	12	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAI	RK																
CAR (0)		-0.06	0.03	0.05	0.08	0.04	0.08	0.13	0.14	0.07	0.11	0.13	0.12	0.10	0.12	0.12	0.09
CAR (1)		-0.08	0.01	0.05	0.06	0.04	0.09	0.13	0.13	0.08	0.11	0.11	0.10	0.08	0.10	0.09	0.07
BHAR (0)		-0.09	0.00	-0.01	0.06	0.01	0.01	0.00	0.07	0.01	0.01	0.06	-0.03	0.03	0.09	0.06	0.03
BHAR (1)		-0.07	-0.02	0.04	0.09	0.07	0.05	0.01	0.06	0.05	0.05	0.07	-0.04	0.04	0.07	0.04	0.01
FINLAN	D													<u>l</u>			
CAR (0)		-0.05	0.04	0.10	0.11	0.00	0.07	0.14	0.13	0.04	0.11	0.13	0.12	0.04	0.09	0.12	0.10
CAR (1)		-0.04	0.05	0.11	0.11	0.01	0.10	0.14	0.12	0.07	0.12	0.14	0.11	0.04	0.09	0.11	0.09
BHAR (0)		-0.09	-0.01	0.09	-0.01	-0.04	0.03	0.14	0.11	0.04	0.13	0.03	0.09	0.05	0.09	0.12	0.10
BHAR (1)		-0.02	0.03	0.11	0.00	0.01	0.01	0.12	0.05	0.03	0.11	0.02	0.07	0.03	0.05	0.10	0.09
FRANC	E																
CAR (0)		-0.32	-0.18	-0.14	-0.10	-0.19	-0.13	-0.07	-0.05	-0.17	-0.11	-0.07	-0.06	-0.10	-0.06	-0.05	-0.05
CAR (1)		-0.27	-0.14	-0.10	-0.08	-0.15	-0.08	-0.05	-0.04	-0.13	-0.09	-0.06	-0.05	-0.09	-0.05	-0.05	-0.05
BHAR (0)		-0.29	-0.10	-0.07	-0.04	-0.19	-0.09	-0.10	0.00	-0.18	-0.12	-0.11	-0.07	-0.10	-0.03	-0.01	0.00
BHAR (1)		-0.24	-0.10	-0.10	-0.02	-0.16	-0.06	-0.10	0.00	-0.15	-0.13	-0.06	-0.08	-0.09	-0.02	0.00	-0.01
GERMAN	NY													l			
CAR (0)		-0.18	-0.04	0.01	0.05	-0.05	0.04	0.08	0.06	0.01	0.07	0.06	0.04	0.02	0.03	0.03	0.01
CAR (1)		-0.18	-0.02	0.03	0.04	-0.03	0.05	0.07	0.04	0.01	0.05	0.04	0.02	-0.01	0.00	0.00	-0.01
BHAR (0)		-0.17	0.00	0.04	0.02	-0.04	0.08	0.07	0.11	0.00	0.04	0.03	0.06	0.00	0.03	0.03	-0.01
BHAR (1)		-0.15	-0.02	0.03	0.00	-0.06	0.06	0.03	0.05	-0.02	0.01	0.02	0.00	-0.05	0.00	-0.01	-0.05

MW	J =		3	3			ϵ	,			ç)			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECI	E																
CAR (0)		-0.12	-0.06	-0.07	-0.08	-0.04	-0.04	-0.03	-0.05	-0.05	-0.04	-0.04	-0.06	-0.07	-0.05	-0.06	-0.07
CAR (1)		-0.13	-0.06	-0.08	-0.09	-0.04	-0.04	-0.05	-0.07	-0.06	-0.04	-0.06	-0.07	-0.07	-0.07	-0.08	-0.08
BHAR (0)		-0.06	0.01	-0.03	0.03	-0.03	0.00	-0.05	-0.01	-0.01	-0.04	-0.01	-0.08	-0.06	-0.06	-0.09	-0.12
BHAR (1)		-0.09	0.01	-0.07	0.04	-0.02	-0.02	-0.02	-0.02	-0.02	-0.05	-0.06	-0.12	-0.04	-0.07	-0.11	-0.12
HONGKO	NG								[
CAR (0)		-0.13	-0.06	-0.04	-0.05	-0.09	-0.05	-0.04	-0.04	-0.09	-0.06	-0.05	-0.08	-0.12	-0.09	-0.11	-0.13
CAR (1)		-0.17	-0.07	-0.07	-0.07	-0.08	-0.05	-0.05	-0.06	-0.11	-0.07	-0.07	-0.10	-0.12	-0.10	-0.12	-0.14
BHAR (0)		-0.12	-0.10	-0.06	-0.11	-0.06	0.00	-0.01	-0.11	-0.08	-0.06	-0.05	-0.11	-0.09	-0.05	-0.09	-0.05
BHAR (1)		-0.17	-0.10	-0.10	-0.12	-0.10	-0.06	-0.04	-0.15	-0.13	-0.09	-0.10	-0.09	-0.12	-0.08	-0.13	-0.06
IRELAN	D								ļ								
CAR (0)		-0.05	-0.01	-0.06	-0.04	0.00	-0.01	-0.02	-0.02	-0.06	-0.04	-0.03	-0.03	-0.04	-0.05	-0.05	-0.05
CAR (1)		-0.03	-0.04	-0.07	-0.06	-0.01	-0.04	-0.04	-0.03	-0.08	-0.06	-0.04	-0.04	-0.08	-0.07	-0.06	-0.07
BHAR (0)		-0.06	-0.16	-0.13	-0.10	-0.04	0.02	-0.12	0.12	-0.08	-0.07	0.01	0.03	-0.04	-0.05	0.01	-0.04
BHAR (1)		-0.11	-0.16	-0.16	-0.09	-0.04	-0.02	-0.08	0.10	-0.10	-0.09	-0.02	-0.03	-0.12	-0.07	-0.06	-0.06
ISRAEL	<u> </u>								I								
CAR (0)		-0.16	-0.08	-0.05	-0.07	-0.09	-0.04	-0.04	-0.08	-0.03	-0.04	-0.05	-0.08	-0.05	-0.05	-0.07	-0.11
CAR (1)		-0.19	-0.09	-0.06	-0.11	-0.04	-0.02	-0.05	-0.09	-0.02	-0.06	-0.07	-0.10	-0.08	-0.08	-0.10	-0.13
BHAR (0)		-0.22	-0.13	-0.05	-0.13	-0.11	-0.05	-0.08	0.00	-0.02	0.01	0.01	0.09	-0.05	-0.05	-0.03	-0.05
BHAR (1)		-0.18	-0.12	-0.04	-0.12	-0.02	-0.01	-0.05	-0.03	0.00	-0.02	0.00	0.05	-0.07	-0.06	-0.06	-0.03

MW	J =		3	3			(5			ç)			1	12	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	1.
ITALY		0.13	0.00	0.00	0.02	0.02	0.00	0.05	0.06	0.00	0.06	0.00	0.00	0.06	0.00	0.00	0.00
CAR (0)		-0.13	-0.02	0.00	0.03	-0.03	0.02	0.05	0.06	0.00	0.06	0.08	0.08	0.06	0.09	0.08	0.09
CAR (1)		-0.07	0.02	0.03	0.05	-0.01	0.03	0.05	0.06	0.05	0.07	0.08	0.08	0.06	0.08	0.08	0.08
BHAR (0)		-0.07	-0.05	0.06	0.03	-0.01	-0.01	0.00	0.05	0.02	-0.01	0.06	-0.04	0.04	0.09	0.12	0.11
BHAR (1)		-0.08	-0.02	0.10	0.05	-0.04	-0.03	-0.01	0.06	0.02	0.02	0.02	-0.05	0.04	0.09	0.10	0.10
JAPAN									I								
CAR (0)		-0.19	-0.13	-0.08	-0.06	-0.15	-0.11	-0.06	-0.07	-0.13	-0.08	-0.07	-0.07	-0.10	-0.10	-0.09	-0.09
CAR (1)		-0.18	-0.12	-0.06	-0.06	-0.13	-0.08	-0.04	-0.07	-0.09	-0.06	-0.06	-0.08	-0.10	-0.10	-0.09	-0.09
BHAR (0)		-0.16	-0.07	-0.08	-0.01	-0.11	-0.11	-0.07	0.01	-0.12	-0.06	-0.03	-0.01	-0.09	-0.06	-0.12	-0.07
BHAR (1)		-0.16	-0.14	-0.15	-0.01	-0.13	-0.12	-0.07	-0.01	-0.12	-0.06	-0.06	-0.06	-0.12	-0.12	-0.16	-0.12
NETHERLA	NDS								I								
CAR (0)		-0.14	-0.13	-0.08	-0.05	-0.11	-0.08	-0.03	-0.03	-0.10	-0.06	-0.05	-0.06	-0.09	-0.07	-0.06	-0.07
CAR (1)		-0.17	-0.14	-0.08	-0.08	-0.13	-0.07	-0.03	-0.05	-0.09	-0.06	-0.05	-0.07	-0.10	-0.08	-0.08	-0.07
BHAR (0)		-0.10	-0.10	-0.08	-0.07	-0.13	-0.11	-0.06	0.04	-0.12	-0.09	-0.02	-0.03	-0.10	-0.05	-0.06	-0.05
BHAR (1)		-0.13	-0.15	-0.12	-0.06	-0.14	-0.12	-0.07	-0.02	-0.12	-0.12	-0.03	-0.07	-0.09	-0.09	-0.07	-0.06
NEWZEALA	ND																
CAR (0)		0.01	0.07	0.04	0.05	0.01	0.04	0.05	0.02	0.01	0.03	0.02	0.01	0.02	0.04	0.03	0.00
CAR (1)		-0.07	0.00	0.01	-0.01	-0.03	0.02	0.03	-0.02	-0.01	0.02	0.00	-0.02	0.00	0.02	0.01	-0.03
BHAR (0)		-0.04	0.07	-0.05	-0.03	0.00	0.01	0.04	-0.07	0.05	0.05	0.06	-0.01	-0.01	0.08	0.02	0.05
BHAR (1)		-0.11	-0.03	-0.11	-0.06	-0.06	-0.07	0.01	-0.13	0.03	0.03	0.03	-0.04	0.02	0.04	-0.01	0.05

MW	J =		3	3			ϵ	i			ç)			1	12	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWA	Y													1			
CAR (0)		-0.24	-0.16	-0.08	-0.06	-0.15	-0.03	0.04	0.03	-0.05	0.03	0.04	0.02	-0.02	0.02	0.03	0.00
CAR (1)		-0.24	-0.13	-0.05	-0.06	-0.10	0.01	0.05	0.02	-0.02	0.03	0.03	-0.01	-0.05	0.00	0.01	-0.02
BHAR (0)		-0.19	-0.11	-0.05	0.00	-0.13	0.01	0.07	0.12	0.00	0.05	-0.03	0.11	-0.02	0.00	0.00	0.00
BHAR (1)		-0.20	-0.09	-0.02	0.03	-0.08	0.02	0.08	0.08	0.00	0.07	-0.03	0.11	-0.04	-0.03	0.01	0.00
PORTUGA	AL								I								
CAR (0)		-0.04	-0.01	0.02	0.00	-0.06	-0.05	-0.03	-0.03	-0.02	-0.01	0.00	-0.02	-0.04	-0.03	-0.03	-0.02
CAR (1)		-0.02	0.00	0.02	0.01	-0.06	-0.04	-0.03	-0.03	-0.03	-0.02	-0.02	-0.03	-0.05	-0.03	-0.03	-0.03
BHAR (0)		-0.04	-0.02	-0.05	0.01	-0.04	-0.01	-0.03	0.03	-0.05	-0.01	0.04	0.02	-0.05	-0.04	-0.08	-0.02
BHAR (1)		0.04	0.02	-0.06	0.02	-0.07	0.00	0.00	0.02	-0.04	-0.02	0.05	0.00	-0.05	-0.04	-0.06	-0.01
SINGAPO	RE																
CAR (0)		-0.15	-0.10	-0.08	-0.08	-0.11	-0.08	-0.06	-0.08	-0.11	-0.09	-0.08	-0.08	-0.09	-0.07	-0.07	-0.07
CAR (1)		-0.22	-0.12	-0.10	-0.10	-0.12	-0.07	-0.07	-0.09	-0.12	-0.08	-0.09	-0.09	-0.09	-0.08	-0.07	-0.07
BHAR (0)		-0.16	-0.09	0.02	-0.03	-0.07	-0.09	-0.05	-0.03	-0.07	-0.09	-0.02	-0.11	-0.07	-0.03	-0.03	-0.02
BHAR (1)		-0.21	-0.16	0.02	-0.06	-0.10	-0.10	-0.08	-0.02	-0.12	-0.07	-0.01	-0.11	-0.07	-0.06	-0.08	-0.01
SPAIN									ļ								
CAR (0)		-0.18	-0.15	-0.09	-0.05	-0.13	-0.10	-0.04	0.00	-0.08	-0.05	0.00	0.03	-0.05	0.01	0.04	0.05
CAR (1)		-0.18	-0.13	-0.06	-0.04	-0.12	-0.09	-0.02	-0.01	-0.09	-0.02	0.03	0.03	-0.02	0.03	0.06	0.05
BHAR (0)		-0.22	-0.21	-0.10	-0.13	-0.21	-0.09	-0.05	0.00	-0.10	-0.08	-0.05	-0.04	-0.03	0.06	0.06	0.06
BHAR (1)		-0.14	-0.18	-0.07	-0.09	-0.13	-0.05	-0.03	-0.01	-0.11	-0.07	-0.07	-0.07	0.00	0.05	0.07	0.05

MW	J =		3	3				5			9)			1	2	
•	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		-0.02	0.00	-0.02	-0.02	-0.03	-0.02	-0.02	-0.02	-0.06	-0.04	-0.05	-0.07	-0.07	-0.07	-0.08	-0.10
CAR (1)		-0.05	-0.03	-0.04	-0.06	-0.04	-0.03	-0.03	-0.04	-0.05	-0.05	-0.06	-0.09	-0.10	-0.09	-0.11	-0.10
BHAR (0)		-0.02	-0.09	0.04	-0.13	-0.03	0.03	0.01	-0.03	-0.05	-0.06	-0.05	-0.09	-0.09	-0.07	-0.12	-0.06
BHAR (1)		-0.03	-0.09	0.03	-0.11	-0.05	0.00	0.00	-0.06	-0.07	-0.06	-0.08	-0.10	-0.11	-0.10	-0.13	-0.06
SWITZERLA	ND																
CAR (0)		-0.14	-0.01	0.02	0.06	-0.04	0.01	0.04	0.04	-0.01	0.04	0.04	0.02	0.03	0.05	0.03	0.02
CAR (1)		-0.08	0.02	0.05	0.07	-0.04	0.03	0.04	0.02	0.01	0.04	0.03	0.00	0.01	0.03	0.02	0.01
BHAR (0)		-0.15	-0.07	-0.07	-0.04	-0.08	0.03	0.00	0.11	-0.02	0.00	0.05	0.02	0.02	0.12	0.06	0.04
BHAR (1)		-0.12	-0.09	-0.06	-0.03	-0.04	0.05	-0.03	0.09	-0.03	0.00	0.01	-0.03	-0.02	0.07	0.05	0.02
UK																	
CAR (0)		-0.22	-0.11	-0.07	-0.02	-0.14	-0.07	-0.01	0.00	-0.09	-0.02	0.00	-0.02	-0.08	-0.02	-0.02	-0.04
CAR (1)		-0.22	-0.10	-0.05	-0.02	-0.12	-0.04	0.00	-0.02	-0.07	-0.01	0.00	-0.05	-0.06	-0.01	-0.03	-0.06
BHAR (0)		-0.23	-0.13	-0.10	-0.10	-0.13	-0.08	-0.04	0.05	-0.08	-0.01	0.00	0.00	-0.08	-0.03	-0.01	-0.04
BHAR (1)		-0.23	-0.14	-0.11	-0.07	-0.12	-0.07	-0.03	0.01	-0.05	0.00	-0.01	-0.05	-0.06	-0.04	-0.06	-0.08
US					<u> </u>				<u> </u>								
CAR (0)		-0.26	-0.16	-0.09	-0.08	-0.15	-0.07	-0.03	-0.04	-0.07	-0.03	-0.03	-0.04	-0.07	-0.05	-0.06	-0.06
CAR (1)		-0.24	-0.13	-0.07	-0.09	-0.11	-0.03	-0.02	-0.04	-0.04	-0.02	-0.03	-0.05	-0.08	-0.05	-0.06	-0.07
BHAR (0)		-0.26	-0.13	-0.14	-0.05	-0.14	-0.09	-0.11	0.04	-0.07	-0.04	-0.01	-0.04	-0.06	-0.02	-0.04	-0.03
BHAR (1)		-0.20	-0.17	-0.14	-0.05	-0.11	-0.06	-0.10	0.00	-0.04	-0.04	-0.03	-0.07	-0.09	-0.06	-0.07	-0.07

Panel C. The cross-sectional momentum using inversed volatility-weighted return

IVOL	J =			3		-section	(3111g 1111	ersea vo	g			•	1	2	
1102	H =	3			12	3	6		12	3			12	3			12
AUSTRAL	IA																
CAR (0)		-0.45	-0.19	-0.15	-0.13	-0.15	-0.13	-0.11	-0.14	-0.11	-0.08	-0.11	-0.15	-0.11	-0.11	-0.18	-0.22
CAR (1)		-0.44	-0.18	-0.14	-0.15	-0.15	-0.13	-0.12	-0.18	-0.11	-0.09	-0.15	-0.21	-0.14	-0.15	-0.22	-0.29
BHAR (0)		-0.34	-0.15	-0.12	-0.14	-0.15	-0.17	-0.15	-0.16	-0.09	-0.03	-0.05	-0.11	-0.11	-0.13	-0.16	-0.13
BHAR (1)		-0.26	-0.13	-0.08	-0.07	-0.09	-0.12	-0.09	-0.13	-0.09	-0.08	-0.08	-0.12	-0.11	-0.17	-0.23	-0.18
AUSTRIA	A					<u> </u>			<u> </u>					l			
CAR (0)		-0.07	0.01	0.06	0.09	0.00	0.07	0.12	0.14	0.09	0.13	0.15	0.13	0.11	0.13	0.11	0.08
CAR (1)		-0.12	-0.04	0.02	0.04	0.01	0.07	0.11	0.11	0.10	0.12	0.13	0.09	0.09	0.10	0.08	0.04
BHAR (0)		-0.10	-0.06	0.01	0.01	0.01	0.02	0.04	0.13	0.08	0.12	0.09	0.12	0.09	0.07	0.06	0.00
BHAR (1)		-0.10	-0.09	0.01	-0.04	0.01	0.07	0.09	0.12	0.05	0.08	0.09	0.08	0.07	0.08	0.03	-0.01
BELGIUN	M													l			
CAR (0)		-0.09	0.02	0.07	0.12	0.09	0.16	0.21	0.20	0.15	0.21	0.19	0.17	0.22	0.22	0.19	0.15
CAR (1)		-0.07	0.03	0.09	0.10	0.11	0.19	0.21	0.19	0.19	0.20	0.18	0.15	0.22	0.20	0.16	0.12
BHAR (0)		-0.11	-0.06	-0.07	0.00	0.07	0.14	0.14	0.19	0.16	0.21	0.22	0.19	0.22	0.17	0.19	0.06
BHAR (1)		-0.07	-0.01	0.02	0.00	0.08	0.16	0.13	0.17	0.18	0.17	0.21	0.09	0.20	0.15	0.16	0.03
CANADA	۸													l			
CAR (0)	_	-0.32	-0.16	-0.06	-0.01	-0.13	-0.05	0.03	0.01	-0.04	0.02	0.01	-0.04	0.01	-0.01	-0.05	-0.11
CAR (1)		-0.37	-0.17	-0.05	-0.07	-0.14	-0.04	0.02	-0.04	-0.03	0.00	-0.03	-0.10	-0.04	-0.06	-0.11	-0.17
BHAR (0)		-0.24	-0.17	-0.05	-0.04	-0.14	-0.06	-0.03	0.01	-0.07	-0.02	-0.02	-0.03	-0.01	-0.04	-0.05	-0.12
BHAR (1)		-0.27	-0.19	-0.04	-0.08	-0.13	-0.02	-0.04	-0.04	-0.05	-0.04	-0.06	-0.05	-0.07	-0.09	-0.08	-0.15

IVOL	J =			3			ť	5			Ģ)				12	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	, 9	12
DENMAR	RK																
CAR (0)		-0.17	0.07	0.11	0.17	0.08	0.14	0.20	0.19	0.15	0.20	0.18	0.15	0.23	0.21	0.17	0.12
CAR (1)		-0.19	0.05	0.12	0.16	0.09	0.14	0.18	0.16	0.15	0.17	0.14	0.10	0.19	0.16	0.12	0.07
BHAR (0)		-0.14	0.00	-0.01	0.04	0.04	0.05	0.10	0.21	0.12	0.11	0.18	0.08	0.20	0.21	0.15	0.05
BHAR (1)		-0.15	0.00	0.02	0.06	0.06	0.06	0.08	0.16	0.13	0.11	0.14	0.03	0.17	0.13	0.11	-0.01
FINLAN	D								l								
CAR (0)		-0.16	-0.04	0.02	0.02	-0.01	0.04	0.08	0.05	0.04	0.07	0.04	0.01	0.03	0.02	0.01	-0.01
CAR (1)		-0.13	-0.03	0.02	0.01	-0.02	0.05	0.06	0.02	0.04	0.05	0.02	-0.03	0.02	0.00	-0.01	-0.03
BHAR (0)		-0.19	-0.08	0.00	-0.04	-0.05	0.01	0.03	0.11	0.02	0.02	0.02	-0.03	0.02	0.06	0.05	0.04
BHAR (1)		-0.07	-0.08	0.06	-0.06	0.01	0.04	0.02	0.07	0.04	0.00	-0.01	-0.04	0.02	0.02	0.00	0.01
FRANCI	E								ļ								
CAR (0)		-0.35	-0.16	-0.12	-0.06	-0.16	-0.06	0.01	0.01	-0.07	0.00	0.02	0.01	0.00	0.03	0.01	-0.01
CAR (1)		-0.32	-0.15	-0.12	-0.08	-0.12	-0.05	0.02	0.00	-0.01	0.03	0.02	-0.01	0.01	0.02	0.00	-0.02
BHAR (0)		-0.28	-0.18	-0.05	-0.15	-0.16	-0.10	-0.05	-0.10	-0.09	-0.04	0.06	0.04	0.00	0.02	0.06	0.00
BHAR (1)		-0.26	-0.15	-0.06	-0.12	-0.12	-0.04	-0.02	0.01	-0.06	-0.03	0.05	-0.03	0.00	0.00	0.02	-0.02
GERMAN	JY													l			
CAR (0)		-0.21	-0.07	-0.02	0.01	-0.05	0.02	0.09	0.09	0.02	0.07	0.08	0.06	0.07	0.08	0.07	0.05
CAR (1)		-0.20	-0.07	-0.02	0.00	-0.05	0.02	0.08	0.06	0.02	0.06	0.05	0.03	0.06	0.05	0.04	0.03
BHAR (0)		-0.19	-0.12	-0.04	-0.16	-0.05	0.01	0.07	0.09	0.01	0.05	0.06	0.03	0.05	0.07	0.06	0.01
BHAR (1)		-0.15	-0.10	0.06	-0.07	-0.07	0.02	0.05	0.05	0.00	0.02	0.03	-0.03	0.02	0.04	0.01	0.01

IVOL	J =		3	3			(5			Ç)			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREEC	E																
CAR (0)		-0.22	-0.13	-0.15	-0.16	-0.13	-0.11	-0.10	-0.13	-0.12	-0.10	-0.14	-0.17	-0.12	-0.13	-0.16	-0.18
CAR (1)		-0.22	-0.14	-0.15	-0.17	-0.12	-0.10	-0.11	-0.15	-0.10	-0.10	-0.15	-0.18	-0.13	-0.15	-0.17	-0.20
BHAR (0)		-0.22	-0.06	-0.10	-0.01	-0.11	-0.07	-0.10	-0.06	-0.10	-0.09	-0.14	-0.12	-0.12	-0.15	-0.14	-0.23
BHAR (1)		-0.15	-0.05	-0.10	0.01	-0.12	-0.09	-0.11	-0.09	-0.08	-0.09	-0.13	-0.16	-0.11	-0.16	-0.18	-0.21
HONGKO	NG													l			
CAR (0)		-0.33	-0.21	-0.20	-0.22	-0.23	-0.17	-0.19	-0.23	-0.21	-0.20	-0.21	-0.26	-0.24	-0.22	-0.26	-0.29
CAR (1)		-0.41	-0.22	-0.23	-0.27	-0.23	-0.19	-0.22	-0.27	-0.24	-0.22	-0.25	-0.29	-0.28	-0.26	-0.29	-0.33
BHAR (0)		-0.28	-0.19	-0.19	-0.15	-0.21	-0.14	-0.15	-0.18	-0.20	-0.17	-0.18	-0.20	-0.25	-0.20	-0.23	-0.23
BHAR (1)		-0.32	-0.22	-0.21	-0.19	-0.23	-0.18	-0.16	-0.24	-0.24	-0.20	-0.21	-0.22	-0.29	-0.24	-0.25	-0.25
IRELAN	D													l			
CAR (0)		-0.17	-0.08	-0.06	-0.03	-0.06	-0.03	0.00	0.01	-0.06	-0.02	-0.01	-0.01	-0.01	0.00	-0.01	-0.02
CAR (1)		-0.15	-0.09	-0.06	-0.06	-0.07	-0.04	-0.01	-0.02	-0.06	-0.03	-0.02	-0.03	-0.03	-0.02	-0.03	-0.05
BHAR (0)		-0.11	-0.15	-0.16	-0.07	-0.08	-0.01	-0.08	0.10	-0.02	0.01	0.02	0.09	0.00	0.03	0.05	-0.05
BHAR (1)		-0.15	-0.16	-0.16	-0.04	-0.08	-0.02	-0.07	0.07	-0.10	-0.01	-0.02	0.00	-0.05	0.01	0.00	-0.08
ISRAEI																	
CAR (0)		-0.54	-0.43	-0.41	-0.41	-0.33	-0.28	-0.29	-0.33	-0.27	-0.24	-0.27	-0.30	-0.22	-0.20	-0.22	-0.26
CAR (1)		-0.60	-0.42	-0.40	-0.43	-0.31	-0.27	-0.31	-0.36	-0.26	-0.26	-0.30	-0.35	-0.24	-0.22	-0.25	-0.30
BHAR (0)		-0.37	-0.27	-0.29	-0.23	-0.29	-0.25	-0.26	-0.17	-0.25	-0.19	-0.22	-0.12	-0.21	-0.19	-0.20	-0.27
BHAR (1)		-0.38	-0.32	-0.30	-0.24	-0.24	-0.18	-0.24	-0.15	-0.25	-0.23	-0.25	-0.18	-0.21	-0.20	-0.22	-0.28

IVOL	J =		3	3			(5			Ģ)			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
CAR (0)		-0.08	0.00	0.06	0.08	0.01	0.08	0.12	0.10	0.09	0.12	0.11	0.09	0.10	0.11	0.09	0.06
CAR (1)		-0.09	0.01	0.06	0.07	0.03	0.09	0.11	0.09	0.11	0.11	0.09	0.06	0.10	0.10	0.07	0.04
BHAR (0)		-0.09	-0.01	0.06	0.04	-0.01	0.06	0.06	0.05	0.07	0.09	0.12	0.03	0.07	0.07	0.09	0.02
BHAR (1)		-0.09	-0.01	0.10	0.05	0.01	0.06	0.07	0.03	0.09	0.07	0.07	-0.03	0.07	0.07	0.07	0.02
JAPAN	<u> </u>																
CAR (0)		-0.28	-0.22	-0.18	-0.13	-0.24	-0.20	-0.13	-0.13	-0.20	-0.14	-0.13	-0.15	-0.14	-0.14	-0.15	-0.17
CAR (1)		-0.28	-0.22	-0.15	-0.13	-0.23	-0.17	-0.11	-0.14	-0.16	-0.12	-0.13	-0.16	-0.14	-0.16	-0.16	-0.18
BHAR (0)		-0.29	-0.12	-0.11	-0.04	-0.22	-0.18	-0.12	-0.03	-0.19	-0.11	-0.08	-0.10	-0.14	-0.13	-0.14	-0.16
BHAR (1)		-0.26	-0.12	-0.11	-0.04	-0.23	-0.22	-0.11	-0.07	-0.19	-0.10	-0.11	-0.13	-0.15	-0.18	-0.18	-0.17
NETHERLA	NDS																
CAR (0)		-0.10	0.01	0.07	0.10	0.03	0.09	0.14	0.14	0.08	0.14	0.14	0.12	0.13	0.13	0.12	0.11
CAR (1)		-0.12	0.02	0.07	0.07	0.03	0.11	0.13	0.11	0.10	0.14	0.12	0.10	0.12	0.11	0.10	0.09
BHAR (0)		-0.08	0.00	0.05	-0.03	0.04	0.10	0.07	0.21	0.07	0.07	0.15	0.14	0.09	0.10	0.10	0.09
BHAR (1)		-0.08	-0.02	0.00	-0.05	0.00	0.08	0.06	0.14	0.09	0.05	0.15	0.09	0.06	0.07	0.09	0.08
NEWZEALA	ND				l l												
CAR (0)	_	0.05	0.13	0.10	0.12	0.12	0.13	0.13	0.11	0.10	0.12	0.09	0.07	0.13	0.11	0.07	0.04
CAR (1)		0.04	0.09	0.08	0.07	0.10	0.11	0.11	0.07	0.10	0.10	0.07	0.03	0.09	0.08	0.04	0.00
BHAR (0)		0.02	0.05	0.04	-0.08	0.13	0.13	0.06	0.08	0.15	0.11	0.11	0.11	0.12	0.12	0.04	0.04
BHAR (1)		0.03	0.01	-0.01	-0.07	0.12	0.07	0.04	0.02	0.13	0.10	0.09	0.09	0.10	0.06	0.01	0.05

IVOL	J =			3			6	j			9)			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	Y																
CAR (0)		-0.22	-0.12	-0.04	-0.03	-0.10	-0.04	0.02	-0.01	-0.01	0.03	0.01	-0.04	0.02	-0.01	-0.04	-0.08
CAR (1)		-0.27	-0.12	-0.06	-0.07	-0.10	-0.02	0.01	-0.04	0.00	0.02	-0.02	-0.08	-0.03	-0.05	-0.07	-0.11
BHAR (0)		-0.16	-0.07	-0.01	0.00	-0.10	-0.02	0.00	0.10	0.03	0.02	0.01	0.03	0.00	0.00	-0.01	-0.08
BHAR (1)		-0.22	-0.09	-0.03	-0.06	-0.09	-0.01	-0.01	0.03	0.02	0.02	-0.01	0.02	-0.02	-0.05	-0.01	-0.10
PORTUGA	L																
CAR (0)		-0.21	-0.07	-0.03	-0.04	-0.06	0.00	0.02	0.01	0.00	0.01	0.00	-0.02	0.00	-0.01	-0.02	-0.03
CAR (1)		-0.20	-0.07	-0.03	-0.04	-0.06	0.00	0.01	-0.01	-0.01	0.00	-0.02	-0.04	-0.02	-0.02	-0.03	-0.05
BHAR (0)		-0.17	-0.03	-0.03	-0.02	-0.06	-0.04	0.01	-0.01	-0.05	0.03	0.01	0.01	0.00	0.00	-0.03	-0.08
BHAR (1)		-0.14	0.03	0.02	0.03	-0.10	0.01	0.01	-0.02	-0.03	0.00	-0.02	-0.03	-0.04	-0.02	-0.02	-0.08
SINGAPOI	RE																
CAR (0)		-0.19	-0.04	-0.01	-0.03	-0.08	-0.02	-0.01	-0.04	-0.05	-0.03	-0.04	-0.06	-0.06	-0.05	-0.07	-0.09
CAR (1)		-0.20	-0.05	-0.03	-0.05	-0.08	-0.04	-0.04	-0.06	-0.06	-0.05	-0.07	-0.09	-0.09	-0.08	-0.10	-0.11
BHAR (0)		-0.18	-0.13	-0.01	-0.05	-0.05	-0.01	-0.04	0.00	-0.04	-0.04	0.00	-0.07	-0.05	-0.01	-0.04	-0.06
BHAR (1)		-0.18	-0.14	0.01	-0.06	-0.05	0.00	-0.06	0.03	-0.06	-0.06	0.00	-0.08	-0.06	-0.02	-0.09	-0.06
SPAIN																	
CAR (0)		-0.17	-0.10	-0.02	0.00	-0.06	0.00	0.05	0.04	0.04	0.08	0.08	0.07	0.06	0.07	0.07	0.05
CAR (1)		-0.19	-0.10	-0.02	-0.01	-0.05	0.01	0.03	0.02	0.05	0.08	0.07	0.05	0.05	0.06	0.05	0.03
BHAR (0)		-0.16	-0.13	-0.02	0.01	-0.10	0.02	0.07	0.01	0.04	0.08	0.09	0.02	0.06	0.06	0.10	0.01
BHAR (1)		-0.18	-0.13	-0.02	-0.03	-0.08	0.04	0.02	-0.03	0.02	0.06	0.04	-0.05	0.03	0.03	0.09	-0.01

IVOL	J =		3	3			(5			ç)			1	12	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	N .													1			
CAR (0)		-0.13	-0.01	0.01	0.05	0.01	0.03	0.06	0.05	0.05	0.08	0.05	0.02	0.06	0.04	0.00	-0.01
CAR (1)		-0.13	-0.02	0.01	0.03	0.00	0.03	0.04	0.02	0.05	0.06	0.03	0.00	0.02	0.01	-0.02	-0.03
BHAR (0)		-0.07	-0.03	0.04	-0.05	0.03	0.07	0.05	0.03	0.05	0.04	0.03	-0.01	0.04	0.06	0.00	0.02
BHAR (1)		-0.08	-0.06	-0.01	0.00	0.03	0.05	0.06	0.01	0.05	0.05	0.03	-0.02	0.03	0.03	-0.03	0.00
SWITZERL	AND													l			
CAR (0)		-0.05	0.06	0.08	0.14	0.06	0.09	0.13	0.14	0.09	0.13	0.13	0.10	0.15	0.15	0.11	0.08
CAR (1)		-0.09	0.02	0.08	0.10	0.03	0.07	0.12	0.10	0.09	0.12	0.11	0.07	0.13	0.12	0.08	0.04
BHAR (0)		-0.05	0.03	0.01	0.06	0.05	0.10	0.08	0.21	0.09	0.09	0.14	0.10	0.15	0.18	0.13	0.07
BHAR (1)		-0.10	-0.04	0.00	0.04	0.01	0.05	0.05	0.16	0.05	0.06	0.11	0.03	0.11	0.14	0.08	0.06
UK																	
CAR (0)		-0.11	0.09	0.11	0.17	0.11	0.15	0.20	0.19	0.15	0.20	0.16	0.11	0.20	0.18	0.12	0.06
CAR (1)		-0.12	0.06	0.09	0.14	0.07	0.12	0.16	0.13	0.13	0.16	0.11	0.05	0.16	0.13	0.06	0.01
BHAR (0)		-0.12	0.00	0.10	0.02	0.07	0.09	0.06	0.23	0.11	0.11	0.17	0.10	0.16	0.19	0.13	0.02
BHAR (1)		-0.07	-0.07	0.08	0.00	0.04	0.07	0.05	0.18	0.10	0.08	0.11	0.04	0.12	0.11	0.04	-0.05
US																	
CAR (0)		-0.36	-0.24	-0.18	-0.20	-0.23	-0.14	-0.12	-0.15	-0.15	-0.11	-0.12	-0.16	-0.16	-0.14	-0.16	-0.20
CAR (1)		-0.37	-0.21	-0.17	-0.22	-0.19	-0.12	-0.12	-0.16	-0.13	-0.11	-0.14	-0.19	-0.18	-0.16	-0.19	-0.22
BHAR (0)		-0.34	-0.20	-0.16	-0.13	-0.22	-0.13	-0.16	-0.04	-0.14	-0.12	-0.09	-0.12	-0.14	-0.09	-0.11	-0.16
BHAR (1)		-0.29	-0.20	-0.17	-0.14	-0.18	-0.12	-0.16	-0.12	-0.13	-0.14	-0.14	-0.16	-0.17	-0.14	-0.17	-0.19

Appendix 4. Upper and Lower cut-offs for the time-series momentum strategy with investing 32% of the sample

This table reports the lower (upper) cut-off points for the time-series momentum under numerous implementation approaches with investing approximately one-third of the market from 1992 to 2012. Within each market, the lower (upper) level is determined by x% standard deviation plus (minus) mean of formation-return matrix which contains average returns over past J (J = three, six, nine and 12 months) for each stock at end of month if using monthly rebalancing, and at end of each holding period if using buy-and-hold across whole time period. x% is adjusted under different implementation approaches in order to have as same/close total number of stocks as the number in the cross-sectional momentum strategies to get fairly comparison. This is an effective "in-sample" means of calculating the cut-offs as they are based on the mean and standard deviations of the returns of the stocks in our universe over the entire sample period. The study also determined and applied cut-offs determined "out-of-sample" by setting new cut-offs each calendar year based on the history of stock returns realised in past period. When applying these "out-of-sample" cut-offs, I obtained results almost identical to those reported in this paper.

	J =			3					6						9						1	2		
	H =	3		6	9	12	3		6	9		12		3	6		9	12	2	3	6		9	12
AUSTRALIA	1																							
CAR (0)		-7% (9%)	-7% (9%) -7%	6 (9%) -79	6 (9%)	-5% (7%)	-5% (79	6) -5%	(7%)	-5% ((7%)	-4% (6%) -4%	(6%) -	4% (6	%) -4	% (6%)	3% (5	5%) -39	% (5%)	-3%	(5%) -	3% (5%)
CAR (1)		-7% (9%)	-7% (9%) -7%	6 (9%) -79	6 (9%)	-5% (7%)	-5% (79	6) -5%	(7%)	-5% ((7%)	-4% (6%) -4%	(6%) -	4% (6	%) -4	% (6%)	-3% (5%) -39	% (5%)	-3%	(5%) -	3% (5%)
BHAR (0)		-7% (9%)	-7% (9%) -7%	6 (9%) -79	6 (9%)	-5% (7%)	-5% (79	6) -5%	(7%)	-5% ((7%)	-4% (6%) -4%	(6%) -	4% (6	%) -4	% (6%)	-3% (5%) -39	% (5%)	-3%	(5%) -	4% (5%)
BHAR (1)		-7% (9%)	-7% (9%) -7%	6 (9%) -79	6 (9%)	-5% (7%)	-5% (79	6) -5%	(7%)	-5% ((7%)	-4% (6%) -4%	(6%) -	4% (6	%) -4	% (6%)	-3% (5%) -39	% (5%)	-3%	(5%) -	4% (5%)
AUSTRIA																								
CAR (0)		-4% (5%)	-4% (5%) -4%	6 (5%) -49	6 (5%)	-3% (4%)	-3% (49	6) -3%	(4%)	-3% ((4%)	-2% (3%) -2%	(3%) -	2% (3	%) -2	(3%)	-2% (3	3%) -29	% (3%)	-2%	(3%) -	2% (3%)
CAR (1)		-4% (5%)	-4% (5%) -4%	6 (5%) -4%	6 (5%)	-3% (4%)	-3% (49	6) -3%	(4%)	-3% ((4%)	-2% (3%) -2%	(3%) -	2% (3	%) -2	2% (3%)	-2% (3	3%) -29	% (3%)	-2%	(3%) -	2% (3%)
BHAR (0)		-4% (5%)	-4% (5%) -4%	6 (5%) -4%	6 (5%)	-3% (4%)	-3% (49	6) -3%	(4%)	-3% ((3%)	-2% (3%) -2%	(3%) -	2% (3	%) -2	2% (3%)	-2% (3	3%) -29	% (3%)	-2%	(3%) -	2% (3%)
BHAR (1)		-4% (5%)	-4% (5%) -4%	6 (5%) -4%	6 (5%)	-3% (4%)	-3% (49	6) -3%	(4%)	-3% ((3%)	-2% (3%) -2%	(3%) -	2% (3	%) -2	2% (3%)	-2% (3	3%) -29	% (3%)	-2%	(3%) -	2% (3%)
BELGIUM																								
CAR (0)		-3% (4%)	-3% (4	4%) -3%	6 (4%) -3%	6 (4%)	-2% (3%)	-2% (39	6) -2%	(3%)	-2% ((3%)	-2% (3%) -2%	(3%) -	2% (3	%) -2	2% (3%)	-2% (3	3%) -29	% (3%)	-2%	(3%) -	2% (3%)
CAR (1)		-3% (4%)	-3% (4	4%) -3%	6 (4%) -3%	6 (4%)	-2% (3%)	-2% (39	6) -2%	(3%)	-2% ((3%)	-2% (3%) -2%	(3%) -	2% (3	%) -2	(3%)	-2% (3	3%) -29	% (3%)	-2%	(3%) -	2% (3%)
BHAR (0)		-3% (4%)	-3% (4	4%) -3%	6 (4%) -49	6 (5%)	-2% (3%)	-2% (39	6) -2%	(3%)	-2% ((3%)	-2% (3%) -2%	(3%) -	2% (3	%) -2	2% (3%)	-2% (3	3%) -29	% (3%)	-2%	(3%) -	2% (3%)
BHAR (1)		-3% (4%)	-3% (4	4%) -3%	6 (4%) -49	6 (5%)	-2% (3%)	-2% (39	6) -2%	(3%)	-2% ((3%)	-2% (3%) -2%	(3%) -	2% (3	%) -2	(3%)	-2% (3	3%) -29	% (3%)	-2%	(3%) -	2% (3%)
CANADA																								
CAR (0)		-6% (9%)	-6% (9%) -6%	6 (9%) -6%	6 (9%)	-4% (7%)	-4% (79	6) -4%	(7%)	-4% ((7%)	-3% (6%) -3%	(6%) -	3% (6	%) -3	(6%)	-3% (6	5%) -39	% (6%)	-3%	(6%) -	3% (6%)
CAR (1)		-6% (9%)	-6% (9%) -6%	6 (9%) -6%	6 (9%)	-4% (7%)	-4% (79	6) -4%	(7%)	-4% ((7%)	-3% (6%) -3%	(6%) -	3% (6	%) -3	% (6%)	3% (6	5%) -39	% (6%)	-3%	(6%) -	3% (6%)
BHAR (0)		-6% (9%)	-6% (9%) -6%	6 (9%) -6%	6 (9%)	-4% (7%)	-4% (79	6) -4%	(7%)	-4% ((7%)	-3% (6%) -3%	(6%) -	3% (6	%) -3	(6%)	3% (5	5%) -39	% (5%)	-3%	(5%) -	3% (6%)
BHAR (1)		-6% (9%)	-6% (9%) -6%	6 (9%) -6%	6 (9%)	-4% (7%)	-4% (79	6) -4%	(7%)	-4% ((7%)	-3% (6%) -3%	(6%) -	3% (6	(%) -3	% (6%)	3% (5	5%) -39	% (5%)	-3%	(5%) -	3% (6%)
DENMARK																								
CAR (0)		-4% (5%)	-4% (5%) -4%	6 (5%) -49	6 (5%)	-3% (4%)	-3% (49	6) -3%	(4%)	-3% ((4%)	-3% (4%) -3%	(4%) -	3% (4	%) -3	(4%)	-2% (3	3%) -29	% (3%)	-2%	(3%) -	2% (3%)
CAR (1)		-4% (5%)	-4% (5%) -4%	6 (5%) -49	6 (5%)	-3% (4%)	-3% (49	6) -3%	(4%)	-3% ((4%)	-3% (4%) -3%	(4%) -	3% (4	%) -3	% (4%)	-2% (3	3%) -29	% (3%)	-2%	(3%) -	2% (3%)
BHAR (0)		-4% (5%)	-4% (5%) -4%	6 (5%) -4%	6 (5%)	-3% (4%)	-3% (49	6) -3%	(4%)	-3% ((4%)	-3% (4%) -3%	(4%) -	3% (4	%) -2	2% (3%)	-2% (3	3%) -29	% (3%)	-2%	(3%) -	2% (3%)
BHAR (1)		-4% (5%)	-4% (5%) -4%	6 (5%) -4%	6 (5%)	-3% (4%)	-3% (49	6) -3%	(4%)	-3% ((4%)	-3% (4%) -3%	(4%) -	3% (4	%) -2	2% (3%)	-2% (3	3%) -29	% (3%)	-2%	(3%) -	2% (3%)
FINLAND																								
CAR (0)		-5% (7%)	-5% (7%) -5%	6 (7%) -5%	6 (7%)	-3% (5%)	-3% (59	6) -3%	(5%)	-3% ((5%)	-3% (4%) -3%	(4%) -	3% (4	%) -3	3% (4%)	-2% (4	1%) -29	% (4%)	-2%	(4%) -	2% (4%)
CAR (1)		-5% (7%)	-5% (7%) -5%	6 (7%) -5%	6 (7%)	-3% (5%)	-3% (5%	6) -3%	(5%)	-3% ((5%)	-3% (4%) -3%	(4%) -	3% (4	%) -3	(4%)	-2% (4	1%) -29	% (4%)	-2%	(4%) -	2% (4%)
BHAR (0)		-5% (7%)	-5% (7%) -4%	6 (6%) -5%	6 (7%)	-3% (5%)	-3% (5%	6) -3%	(5%)	-3% ((5%)	-3% (4%) -3%	(4%) -	2% (4	%) -2	2% (4%)	-2% (4	1%) -29	% (4%)	-2%	(4%) -	2% (4%)
BHAR (1)		-5% (7%)	-5% (7%) -4%	6 (6%) -5%	6 (7%)	-3% (5%)	-3% (5%	6) -3%	(5%)	-3% ((5%)	-3% (4%) -3%	(4%) -	2% (4	%) -2	% (4%)	-2% (4	1%) -29	% (4%)	-2%	(4%) -	2% (4%)

	J =			3					6					9					12		
	H =	3	ϵ	,	9	12	3		6	9	12	. 3	;	6	9	12	3		6	9	12
FRANCE																					
CAR (0)		-5% (6%)	-5% (6%)	-5%	(6%) -5%	(6%)	-3% (5%)	-3% (5%) -3%	(5%) -3	% (5%)	-3% (4%)	-3% (4%) -3% (4%) -3%	(4%)	-2% (4%)	-2% (49	%) -2%	(4%) -	2% (4%)
CAR (1)		-5% (6%)	-5% (6%)	-5%	(6%) -5%	(6%)	-3% (5%)	-3% (5%) -3%	(5%) -3	% (5%)	-3% (4%)	-3% (4%) -3% (4%) -3%	(4%)	-2% (4%)	-2% (49	%) -2%	(4%) -	2% (4%)
BHAR (0)		-5% (6%)	-5% (6%)	-5%	(6%) -5%	(7%)	-3% (5%)	-3% (5%) -3%	(5%) -3	% (5%)	-3% (4%)	-3% (4%) -2% (4%) -2%	(4%)	-2% (4%)	-2% (49	%) -2%	(4%) -	2% (4%)
BHAR (1)		-5% (6%)	-5% (6%)	-5%	(6%) -5%	(7%)	-3% (5%)	-3% (5%) -3%	(5%) -3	% (5%)	-3% (4%)	-3% (4%) -2% (4%) -2%	(4%)	-2% (4%)	-2% (49	%) -2%	(4%) -	2% (4%)
GERMANY	7																				
CAR (0)		-6% (6%)	-6% (6%)	-6%	(6%) -6%	(6%)	-4% (5%)	-4% (5%) -4%	(5%) -4	% (5%)	-4% (4%)	-4% (4%) -4% (4%) -4%	(4%)	-3% (4%)	-3% (49	%) -3%	(4%) -	3% (4%)
CAR (1)		-6% (6%)	-6% (6%)	-6%	(6%) -6%	(6%)	-4% (5%)	-4% (5%) -4%	(5%) -4	% (5%)	-4% (4%)	-4% (4%) -4% (4%) -4%	(4%)	-3% (4%)	-3% (49	%) -3%	(4%) -	3% (4%)
BHAR (0)		-6% (6%)	-6% (6%)	-6%	(6%) -6%	(6%)	-4% (5%)	-4% (5%) -4%	(5%) -4	% (4%)	-4% (4%)	-4% (4%) -3% (4%) -3%	(4%)	-3% (4%)	-3% (49	%) -3%	(4%) -	3% (4%)
BHAR (1)		-6% (6%)	-6% (6%)	-6%	(6%) -6%	(6%)	-4% (5%)	-4% (5%) -4%	(5%) -4	% (4%)	-4% (4%)	-4% (4%) -3% (4%) -3%	(4%)	-3% (4%)	-3% (49	%) -3%	(4%) -	3% (4%)
GREECE																					
CAR (0)		-7% (9%)	-7% (9%)	-7%	(9%) -7%	(9%)	-5% (7%)	-5% (7%) -5%	(7%) -5	% (7%)	-5% (6%)	-5% (6%) -5% (6%) -5%	(6%)	-4% (5%)	-4% (59	%) -4%	(5%) -	4% (5%)
CAR (1)		-7% (9%)	-7% (9%)	-7%	(9%) -7%	(9%)	-5% (7%)	-5% (7%) -5%	(7%) -5	% (7%)	-5% (6%)	-5% (6%) -5% (6%) -5%	(6%)	-4% (5%)	-4% (59	%) -4%	(5%) -	4% (5%)
BHAR (0)		-7% (8%)	-7% (8%)	-8%	(9%) -8%	(9%)	-5% (7%)	-5% (6%) -5%	(7%) -5	% (6%)	-5% (6%)	-5% (6%) -4% (5%) -4%	(5%)	-4% (5%)	-4% (59	%) -4%	(5%) -	4% (5%)
BHAR (1)		-7% (8%)	-7% (8%)	-8%	(9%) -8%	(9%)	-5% (7%)	-5% (6%) -5%	(7%) -5	% (6%)	-5% (6%)	-5% (6%) -4% (5%) -4%	(5%)	-4% (5%)	-4% (59	%) -4%	(5%) -	4% (5%)
HONGKON	_																				
CAR (0)		-7% (10%)	-7% (10%)-7% ((10%)-7%	(10%)	-5% (8%)	-5% (8%) -5%	(8%) -5	% (8%)	-4% (7%)	-4% (7%) -4% (7%) -4%	(7%)	-4% (6%)	-4% (69	%) -4%	(6%) -	4% (6%)
CAR (1)		-7% (10%)	-7% (10%)-7% ((10%)-7%	(10%)	-5% (8%)	-5% (8%) -5%	(8%) -5	% (8%)	-4% (7%)	-4% (7%) -4% (7%) -4%	(7%)	-4% (6%)	-4% (69	%) -4%	(6%) -	4% (6%)
BHAR (0)		-7% (10%)	-6% (9%)	-7% ((10%)-6%	(8%)	-5% (7%)	-5% (7%) -5%	(7%) -5	% (7%)	-4% (7%)	-4% (7%) -4% (6%) -4%	(7%)	-3% (6%)	-3% (69	%) -3%	(6%) -	4% (6%)
BHAR (1)		-7% (10%)	-7% (9%)	-7% ((10%)-6%	(8%)	-5% (7%)	-5% (7%) -5%	(7%) -5	% (7%)	-4% (7%)	-4% (7%) -4% (6%) -4%	(7%)	-3% (6%)	-3% (69	%) -3%	(6%) -	4% (6%)
IRELAND																					
CAR (0)		-5% (7%)	-5% (7%)	-5%	(7%) -5%	(7%)	-4% (5%)	-4% (5%) -4%	(5%) -4	% (5%)	-3% (4%)	-3% (4%) -3% (4%) -3%	(4%)	-2% (4%)	-2% (49	%) -2%	(4%) -	2% (4%)
CAR (1)		-5% (7%)	-5% (7%)	-5%	(7%) -5%	(7%)	-4% (5%)	-4% (5%) -4%	(5%) -4	% (5%)	-3% (4%)	-3% (4%) -3% (4%) -3%	(4%)	-2% (4%)	-2% (49	%) -2%	(4%) -	2% (4%)
BHAR (0)		-5% (7%)	-5% (7%)	-5%	(7%) -5%	(7%)	-4% (5%)	-4% (5%) -4%	(5%) -4	% (5%)	-3% (4%)	-3% (4%) -3% (4%) -3%	(4%)	-2% (4%)	-2% (49	%) -2%	(4%) -	2% (4%)
BHAR (1)		-5% (7%)	-5% (7%)	-5%	(7%) -5%	(7%)	-4% (5%)	-4% (5%) -4%	(5%) -4	% (5%)	-3% (4%)	-3% (4%) -3% (4%) -3%	(4%)	-2% (4%)	-2% (49	%) -2%	(4%) -	2% (4%)
ISRAEL																					
CAR (0)		-6% (8%)	-6% (8%)	-6%	(8%) -6%	(8%)	-4% (6%)	-4% (6%) -4%	(6%) -4	% (6%)	-3% (5%)	-3% (5%) -3% (5%) -3%	(5%)	-3% (5%)	-3% (59	%) -3%	(5%) -	3% (5%)
CAR (1)		-6% (8%)	-6% (8%)	-6%	(8%) -6%	(8%)	-4% (6%)	-4% (6%) -4%	(6%) -4	% (6%)	-3% (5%)	-3% (5%) -3% (5%) -3%	(5%)	-3% (5%)	-3% (5%	%) -3%	(5%) -	3% (5%)
BHAR (0)		-6% (8%)	-6% (8%)	-6%	(8%) -6%	(8%)	-4% (6%)	-4% (6%) -4%	(6%) -4	% (6%)	-3% (5%)	-3% (5%) -3% (5%) -3%	(5%)	-3% (5%)	-3% (5%	%) -3%	(5%) -	3% (5%)
BHAR (1)		-6% (8%)	-6% (8%)	-6%	(8%) -6%	(8%)	-4% (6%)	-4% (6%) -4%	(6%) -4	% (6%)	-3% (5%)	-3% (5%) -3% (5%) -3%	(5%)	-3% (5%)	-3% (5%	%) -3%	(5%) -	3% (5%)

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ITALY																					
CAR (0)		-5% (5%)	-5% (5%)	-5%	(5%) -5%	(5%)	-4% (4%)	-4% (4%) -4%	(4%) -4	4% (4%)	-3% (3%)	3% (39	%) -3%	(3%) -39	% (3%)	-3% (3%) -3%	(3%) -3%	6 (3%) -	-3% (3%)
CAR (1)		-5% (5%)	-5% (5%)	-5%	(5%) -5%	(5%)	-4% (4%)	-4% (4%) -4%	(4%) -4	4% (4%)	-3% (3%)	-3% (39	%) -3%	(3%) -39	% (3%)	-3% (3%) -3%	(3%) -3%	6 (3%)	-3% (3%)
BHAR (0)		-5% (5%)	-5% (5%)	-5%	(5%) -5%	(6%)	-4% (4%)	-4% (4%) -4%	(4%) -4	4% (4%)	-3% (3%)	-3% (39	%) -3%	(3%) -39	% (3%)	-3% (3%) -3%	(3%) -3%	6 (3%)	-3% (3%)
BHAR (1)		-5% (5%)	-5% (5%)	-5%	(5%) -5%	(6%)	-4% (4%)	-4% (4%) -4%	(4%) -4	4% (4%)	-3% (3%)	-3% (39	%) -3%	(3%) -39	% (3%)	-3% (3%) -3%	(3%) -3%	6 (3%)	-3% (3%)
JAPAN																					
CAR (0)		-5% (5%)	-5% (5%)	-5%	(5%) -5%	(5%)	-4% (4%)	-4% (4%) -4%	(4%) -4	4% (4%)	-3% (3%)	3% (39	%) -3%	(3%) -39	% (3%)	-3% (3%) -3%	(3%) -3%	6 (3%)	-3% (3%)
CAR (1)		-5% (5%)	-5% (5%)	-5%	(5%) -5%	(5%)	-4% (4%)	-4% (4%) -4%	(4%) -4	4% (4%)	-3% (3%)	3% (39	%) -3%	(3%) -39	% (3%)	-3% (3%) -3%	(3%) -3%	6 (3%)	-3% (3%)
BHAR (0)		-5% (5%)	-5% (5%)	-5%	(6%) -5%	(6%)	-4% (4%)	-4% (4%) -4%	(4%) -4	4% (4%)	-3% (3%)	3% (39	%) -3%	(3%) -39	% (3%)	-2% (3%) -2%	(3%) -3%	6 (3%)	-2% (3%)
BHAR (1)		-5% (5%)	-5% (5%)	-5%	(6%) -5%	(6%)	-4% (4%)	-4% (4%) -4%	(4%)	4% (4%)	-3% (3%)	3% (39	%) -3%	(3%) -39	% (3%)	-2% (3%) -2%	(3%) -3%	6 (3%)	2% (3%)
NETHERLAN	DS																				
CAR (0)		-5% (6%)	-5% (6%)	-5%	(6%) -5%	(6%)	-3% (4%)	-3% (4%) -3%	(4%) -3	3% (4%)	-3% (4%)	3% (49	%) -3%	(4%) -39	% (4%)	-2% (3%) -2%	(3%) -2%	6 (3%)	-2% (3%)
CAR (1)		-5% (6%)	-5% (6%)	-5%	(6%) -5%	(6%)	-3% (4%)	-3% (4%) -3%	(4%) -	3% (4%)	-3% (4%)	3% (49	%) -3%	(4%) -39	% (4%)	-2% (3%) -2%	(3%) -2%	6 (3%)	2% (3%)
BHAR (0)		-4% (5%)	-5% (6%)	-4%	(5%) -5%	(6%)	-3% (4%)	-3% (4%) -3%	(4%) -3	3% (4%)	-2% (4%)) -2% (4%	%) -2%	(4%) -29	% (4%)	-2% (3%) -2%	(3%) -2%	6 (3%)	-2% (3%)
BHAR (1)		-4% (5%)	-5% (6%)	-4%	(5%) -5%	(6%)	-3% (4%)	-3% (4%) -3%	(4%) -3	3% (4%)	-2% (4%)	-2% (49	%) -2%	(4%) -29	% (4%)	-2% (3%) -2%	(3%) -2%	6 (3%)	2% (3%)
NEWZEALAN	ND																				
CAR (0)		-4% (6%)	-4% (6%)	-4%	(6%) -4%	(6%)	-3% (4%)	-3% (4%) -3%	(4%) -3	3% (4%)	-2% (4%)) -2% (4%	%) -2%	(4%) -29	% (4%)	-2% (4%) -2%	(4%) -2%	6 (4%)	-2% (4%)
CAR (1)		-4% (6%)	-4% (6%)	-4%	(6%) -4%	(6%)	-3% (4%)	-3% (4%) -3%	(4%) -3	3% (4%)	-2% (4%)) -2% (4%	%) -2%	(4%) -29	% (4%)	-2% (4%) -2%	(4%) -2%	6 (4%)	-2% (4%)
BHAR (0)		-4% (6%)	-4% (6%)	-4%	(6%) -4%	(6%)	-3% (4%)	-3% (4%) -3%	(5%) -3	3% (4%)	-2% (4%)) -2% (4%	%) -2%	(4%) -29	% (4%)	-2% (4%) -2%	(4%) -2%	6 (4%)	2% (4%)
BHAR (1)		-4% (6%)	-4% (6%)	-4%	(6%) -4%	(6%)	-3% (4%)	-3% (4%) -3%	(5%) -3	3% (4%)	-2% (4%)	-2% (49	%) -2%	(4%) -29	% (4%)	-2% (4%) -2%	(4%) -2%	6 (4%)	2% (4%)
NORWAY		,					1														
CAR (0)		-6% (8%)	-6% (8%)	-6%	(8%) -6%	(8%)	-4% (6%)	-4% (6%) -4%	(6%) -4	4% (6%)	-3% (5%)	3% (5%	%) -3%	(5%) -39	% (5%)	-3% (5%) -3%	(5%) -3%	6 (5%)	-3% (5%)
CAR (1)		-6% (8%)	-6% (8%)	-6%	(8%) -6%	(8%)	-4% (6%)	-4% (6%) -4%	(6%) -4	4% (6%)	-3% (5%)	3% (59	%) -3%	(5%) -39	% (5%)	-3% (5%) -3%	(5%) -3%	6 (5%)	-3% (5%)
BHAR (0)		-5% (7%)	-5% (7%)	-5%	(7%) -5%	(7%)	-4% (6%)	-4% (6%) -4%	(6%) -4	4% (5%)	-3% (5%)	3% (59	%) -3%	(5%) -39	% (5%)	-3% (5%) -3%	(4%) -3%	6 (5%)	3% (5%)
BHAR (1)		-5% (7%)	-5% (7%)	-5%	(7%) -5%	(7%)	-4% (6%)	-4% (6%) -4%	(6%)	4% (5%)	-3% (5%)	3% (59	%) -3%	(5%) -39	% (5%)	-3% (5%) -3%	(4%) -3%	6 (5%)	3% (5%)
PORTUGAI							1					•									
CAR (0)		-5% (6%)	-5% (6%)	-5%	(6%) -5%	(6%)	-3% (4%)	-3% (4%) -3%	(4%) -3	3% (4%)	-3% (4%)	3% (49	%) -3%	(4%) -39	% (4%)	-2% (4%) -2%	(4%) -2%	6 (4%)	2% (4%)
CAR (1)		-5% (6%)	-5% (6%)	-5%	(6%) -5%	(6%)	-3% (4%)	-3% (4%) -3%	(4%) -	3% (4%)	-3% (4%)	3% (49	%) -3%	(4%) -39	% (4%)	-2% (4%) -2%	(4%) -2%	6 (4%)	2% (4%)
BHAR (0)		-5% (6%)	-5% (6%)	-5%	(6%) -5%	(6%)	-3% (4%)	-3% (4%) -3%	(4%) -	3% (4%)	-3% (4%)	3% (49	%) -2%	(4%) -39	% (4%)	-2% (3%) -2%	(3%) -2%	6 (3%)	-2% (3%)
BHAR (1)		-5% (6%)	-5% (6%)	-5%	(6%) -5%	(6%)	-3% (4%)	-3% (4%) -3%	(4%) -3	3% (4%)	-3% (4%)	3% (49	%) -2%	(4%) -39	% (4%)	-2% (3%) -2%	(3%) -2%	6 (3%)	2% (3%)

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SINGAPORI	E																				_
CAR (0)		-5% (7%)	-5% (7%)) -5%	(7%) -5%	(7%)	-4% (6%)	-4% (6%)	-4%	(6%) -4	4% (6%)	-3% (5%)	-3% (5%	6) -3%	(5%) -3%	(5%)	-3% (5%) -3%	(5%) -3%	5 (5%) -	3% (5%)
CAR (1)		-5% (7%)	-5% (7%) -5%	(7%) -5%	(7%)	-4% (6%)	-4% (6%)	-4%	(6%) -4	4% (6%)	-3% (5%)	-3% (5%	6) -3%	(5%) -3%	6 (5%)	-3% (5%) -3%	(5%) -3%	5 (5%) -	3% (5%)
BHAR (0)		-5% (7%)	-5% (7%) -5%	(7%) -4%	(6%)	-4% (6%)	-4% (6%)	-4%	(6%) -4	4% (6%)	-3% (5%)	-3% (5%	6) -3%	(5%) -3%	6 (5%)	-3% (5%) -3%	(4%) -2%	6 (4%) -	3% (5%)
BHAR (1)		-5% (7%)	-5% (7%)) -5%	(7%) -4%	(6%)	-4% (6%)	-4% (6%)	-4%	(6%) -4	4% (6%)	-3% (5%)	-3% (5%	6) -3%	(5%) -3%	6 (5%)	-3% (5%) -3%	(4%) -2%	6 (4%) -	3% (5%)
SPAIN																					
CAR (0)		-4% (6%)	-4% (6%) -4%	(6%) -4%	(6%)	-3% (4%)	-3% (4%)	-3%	(4%) -3	3% (4%)	-3% (4%)	-3% (4%	6) -3%	(4%) -3%	6 (4%)	-2% (3%) -2%	(3%) -2%	6 (3%) -	2% (3%)
CAR (1)		-4% (6%)	-4% (6%)) -4%	(6%) -4%	(6%)	-3% (4%)	-3% (4%)	-3%	(4%) -3	3% (4%)	-3% (4%)	-3% (4%	6) -3%	(4%) -3%	6 (4%)	-2% (3%) -2%	(3%) -2%	5 (3%) -	2% (3%)
BHAR (0)		-4% (6%)	-4% (6%)) -4%	(5%) -5%	(6%)	-3% (4%)	-3% (4%)	-3%	(4%) -3	3% (4%)	-3% (4%)	-3% (4%	6) -3%	(4%) -3%	6 (4%)	-2% (3%) -2%	(3%) -2%	5 (3%) -	2% (3%)
BHAR (1)		-4% (6%)	-4% (6%) -4%	(5%) -5%	(6%)	-3% (4%)	-3% (4%)	-3%	(4%) -3	3% (4%)	-3% (4%)	-3% (4%	6) -3%	(4%) -3%	6 (4%)	-2% (3%) -2%	(3%) -2%	ó (3%) -	2% (3%)
SWEDEN		,																			
CAR (0)		-6% (8%)	-6% (8%)) -6%	(8%) -6%	(8%)	-5% (6%)	-5% (6%)	-5%	(6%) -5	5% (6%)	-4% (5%)	-4% (5%	6) -4%	(5%) -4%	6 (5%)	-3% (4%) -3%	(4%) -3%	6 (4%) -	3% (4%)
CAR (1)		-6% (8%)	-6% (8%)) -6%	(8%) -6%	(8%)	-5% (6%)	-5% (6%)) -5%	(6%) -:	5% (6%)	-4% (5%)	-4% (5%	6) -4%	(5%) -4%	6 (5%)	-3% (4%) -3%	(4%) -3%	6 (4%) -	3% (4%)
BHAR (0)		-6% (7%)	-6% (7%)) -6%	(7%) -6%	(7%)	-5% (6%)	-5% (6%)) -5%	(6%) -4	4% (5%)	-4% (5%)	-4% (5%	6) -4%	(5%) -4%	6 (5%)	-3% (4%) -3%	(4%) -3%	6 (4%) -	3% (4%)
BHAR (1)		-6% (7%)	-6% (7%)) -6%	(7%) -6%	(7%)	-5% (6%)	-5% (6%)) -5%	(6%) -4	4% (5%)	-4% (5%)	-4% (5%	6) -4%	(5%) -4%	6 (5%)	-3% (4%) -3%	(4%) -3%	6 (4%) -	3% (4%)
SWITZERLAN	ND	1					1					1					1				
CAR (0)		` ′	,	_	` ′	` ′	-2% (4%)	,		` ′	,	` ′	,	_	` '	` /	`	_	` /	` ′	` ′
CAR (1)		` /	,	,	` /	` /	-2% (4%)	,		` /		` '	,	,	` /	, ,	,	_	` /	` /	` /
BHAR (0)		-3% (5%)	-4% (5%)) -3%	(5%) -4%	(5%)	-2% (4%)	-2% (4%)) -2%	(4%) -2	2% (4%)	-2% (3%)	-2% (3%	6) -2%	(3%) -2%	6 (3%)	-2% (3%) -2%	(3%) -2%	5 (3%) -	2% (3%)
BHAR (1)		-3% (5%)	-4% (5%) -3%	(5%) -4%	(5%)	-2% (4%)	-2% (4%)) -2%	(4%) -2	2% (4%)	-2% (3%)	-2% (3%	6) -2%	(3%) -29	6 (3%)	-2% (3%) -2%	(3%) -2%	5 (3%) -	2% (3%)
UK		1					1					1					1				
CAR (0)		` ′	,	_	` ′	` ′	-4% (5%)	,		` ′		` ′	,	,	` '	` /	,	_	` '	` ′	` /
CAR (1)		-6% (7%)	-6% (7%)) -6%	(7%) -6%	(7%)	-4% (5%)	-4% (5%)) -4%	(5%) -4	4% (5%)	-4% (4%)	-4% (4%	6) -4%	(4%) -49	6 (4%)	-3% (4%) -3%	(4%) -3%	6 (4%) -	3% (4%)
BHAR (0)		-6% (7%)	-6% (7%)) -6%	(7%) -6%	(7%)	-4% (5%)	-4% (5%)	-4%	(5%) -4	4% (5%)	-4% (4%)	-4% (4%	6) -3%	(4%) -3%	6 (4%)	-3% (4%) -3%	(4%) -3%	6 (4%) -	3% (4%)
BHAR (1)		-6% (7%)	-6% (7%)) -6%	(7%) -6%	(7%)	-4% (5%)	-4% (5%)	-4%	(5%) -4	4% (5%)	-4% (4%)	-4% (4%	6) -3%	(4%) -3%	6 (4%)	-3% (4%) -3%	(4%) -3%	6 (4%) -	3% (4%)
US		1					1										1				
CAR (0)		-5% (7%)	-5% (7%)) -5%	(7%) -5%	(7%)	-3% (6%)	-3% (6%)) -3%	(6%) -3	3% (6%)	-2% (5%)	-2% (5%	6) -2%	(5%) -2%	6 (5%)	-2% (4%) -2%	(4%) -2%	6 (4%) -	2% (4%)
CAR (1)		` ′	,	_	` ′	` ′	-3% (6%)	,		` ′	,	` '	,	_	` ′	` ′	,	_	` ′	` /	` ′
BHAR (0)		-5% (7%)	-4% (7%)) -4%	(7%) -4%	(7%)	-3% (6%)	-3% (5%)) -3%	(6%) -3	3% (5%)	-2% (5%)	-2% (5%	6) -2%	(5%) -2%	6 (5%)	-2% (4%) -2%	(4%) -2%	6 (4%) -	2% (4%)
BHAR (1)		-5% (7%)	-4% (7%)) -4%	(7%) -4%	(7%)	-3% (6%)	-3% (5%)) -3%	(6%) -3	3% (5%)	-2% (5%)	-2% (5%	6) -2%	(5%) -2%	6 (5%)	-2% (4%) -2%	(4%) -2%	6 (4%) -	2% (4%)

Appendix 5. Upper and Lower cut-offs for the time-series momentum strategy with investing 60% of the sample

This table reports the lower (upper) cut-off points for the time-series momentum under numerous implementation approaches with investing approximately 60% of the market from 1992 to 2012. Within each market, the lower (upper) level is determined by x% standard deviation plus (minus) mean of formation-return matrix which contains average returns over past J (J = three, six, nine and 12 months) for each stock at end of month if using monthly rebalancing, and at end of each holding period if using buy-and-hold across whole time period. x% is adjusted under different implementation approaches in order to have as same/close total number of stocks as the number in the cross-sectional momentum strategies to get fairly comparison. This is an effective "in-sample" means of calculating the cut-offs as they are based on the mean and standard deviations of the returns of the stocks in our universe over the entire sample period. The study also determined and applied cut-offs determined "out-of-sample" by setting new cut-offs each calendar year based on the history of stock returns realised in past period. When applying these "out-of-sample" cut-offs, I obtained results almost identical to those reported in this paper.

	J =			3				6			9				12		
	H =	3	ϵ)	9	12	3 6	, 9	12		6	9	12	3	6	9	12
AUSTRALI	A																
CAR (0)		-3% (5%)	-3% (5%)	-3% (5	%) -3% (5%	(4%) -2%) -2% (4%)	-2% (4%)	-2% (4%)	-1% (3%)	-1% (3%) -	1% (3%) -1	% (3%) -19	6 (3%) -19	6 (3%) -19	% (3%) -	1% (3%)
CAR (1)		-3% (5%)	-3% (5%)	-3% (5	%) -3% (5%	6) -2% (4%) -2% (4%)	-2% (4%)	-2% (4%)	-1% (3%)	-1% (3%) -	1% (3%) -1	% (3%) -19	6 (3%) -19	6 (3%) -19	% (3%) -	1% (3%)
BHAR (0)		-3% (5%)	-3% (4%)	-3% (5	%) -2% (49	6) -2% (4%) -2% (4%)	-2% (4%)	-2% (4%)	-1% (3%)	-1% (3%) -	1% (3%) -1	% (3%) -19	6 (3%) -19	6 (3%) -19	% (3%) -	1% (3%)
BHAR (1)		-3% (5%)	-3% (4%)	-3% (5	%) -2% (4%	6) -2% (4%) -2% (4%)	-2% (4%)	-2% (4%)	-1% (3%)	-1% (3%) -	1% (3%) -1	% (3%) -19	% (3%) -1%	6 (3%) -19	% (3%) -	1% (3%)
AUSTRIA																	
CAR (0)		-1% (2%)	-1% (2%)	-1% (2	%) -1% (29	5) -1% (2%) -1% (2%)	-1% (2%)	-1% (2%)	-1% (1%)	-1% (1%) -	1% (1%) -1	% (1%) -19	% (2%) -1%	6 (2%) -19	% (2%) -	1% (2%)
CAR (1)		-1% (2%)	-1% (2%)	-1% (2	%) -1% (29	6) -1% (2%) -1% (2%)	-1% (2%)	-1% (2%)	-1% (1%)	-1% (1%) -	1% (1%) -1	% (1%) -19	6 (2%) -19	6 (2%) -19	% (2%) -	1% (2%)
BHAR (0)		-1% (2%)	-1% (2%)	-1% (2	%) -1% (29	6) -1% (2%) -1% (2%)	-1% (2%)	-1% (2%)	-1% (2%)	-1% (2%) -	1% (2%) -1	% (2%) -19	6 (1%) -19	6 (2%) -19	% (1%) -	1% (2%)
BHAR (1)		-1% (2%)	-1% (2%)	-1% (2	%) -1% (29	5) -1% (2%) -1% (2%)	-1% (2%)	-1% (2%)	-1% (2%)	-1% (2%) -	1% (2%) -1	% (2%) -19	6 (1%) -19	6 (2%) -19	6 (1%) -	1% (2%)
BELGIUM		1								1			1				
CAR (0)		, ,		,	,	,		, ,			-1% (2%) -					, ,	
CAR (1)		-1% (2%)	-1% (2%)	-1% (2	%) -1% (29	6) -1% (2%) -1% (2%)	-1% (2%)	-1% (2%)	-1% (2%)	-1% (2%) -	1% (2%) -1	% (2%) -19	% (1%) -1%	6 (1%) -19	6 (1%) -	1% (1%)
BHAR (0)		-1% (2%)	-1% (2%)	-1% (2	%) -1% (29	6) -1% (2%) -1% (2%)	-1% (2%)	-1% (2%)	-1% (2%)	-1% (2%) -	1% (2%) -1	% (2%) -19	% (2%) -1%	6 (2%) -19	6 (2%) -	1% (2%)
BHAR (1)		-1% (2%)	-1% (2%)	-1% (2	%) -1% (29	(2%) -1% (2%)	-1% (2%)	-1% (2%)	-1% (2%)	-1% (2%) -	1% (2%) -1	% (2%) -19	6 (2%) -19	6 (2%) -19	6 (2%) -	1% (2%)
CANADA																	
CAR (0)		-2% (5%)	-2% (5%)	-2% (5	%) -2% (5%	6) -1% (4%) -1% (4%)	-1% (4%)	-1% (4%)	-1% (4%)	-1% (4%) -	1% (4%) -1	% (4%) -19	% (3%) -1%	6 (3%) -19	6 (3%) -	1% (3%)
CAR (1)		-2% (5%)	-2% (5%)	-2% (5	%) -2% (5%	6) -1% (4%) -1% (4%)	-1% (4%)	-1% (4%)	-1% (4%)	-1% (4%) -	1% (4%) -1	% (4%) -19	% (3%) -1%	6 (3%) -19	6 (3%) -	1% (3%)
BHAR (0)		-2% (5%)	-2% (5%)	-2% (5	%) -2% (5%	6) -1% (4%) -1% (4%)	-1% (4%)	-1% (4%)	-1% (4%)	-1% (4%) -	1% (3%) -1	% (3%) -19	% (3%) -19	6 (3%) -19	% (3%) -	1% (3%)
BHAR (1)		-2% (5%)	-2% (5%)	-2% (5	%) -2% (5%	5) -1% (4%) -1% (4%)	-1% (4%)	-1% (4%)	-1% (4%)	-1% (4%) -	1% (3%) -1	% (3%) -19	6 (3%) -19	6 (3%) -19	6 (3%) -	1% (3%)
DENMARI	ζ	,								,							
CAR (0)		` ′	` ′	,	,	,	, ,	` ′	` ′	` ′	-1% (2%) -	` ′	` ′	` ′	` '	` ′	` ′
CAR (1)		-2% (3%)	-2% (3%)	-2% (3	%) -2% (3%	6) -1% (2%) -1% (2%)	-1% (2%)	-1% (2%)	-1% (2%)	-1% (2%) -	1% (2%) -1	% (2%) -19	% (2%) -1%	6 (2%) -19	6 (2%) -	1% (2%)
BHAR (0)		-2% (3%)	-2% (3%)	-2% (3	%) -2% (39	6) -1% (2%) -1% (2%)	-1% (2%)	-1% (2%)	-1% (2%)	-1% (2%) -	1% (2%) -1	% (2%) -19	% (2%) -19	6 (2%) -19	% (2%) -	1% (2%)
BHAR (1)		-2% (3%)	-2% (3%)	-2% (3	%) -2% (39	5) -1% (2%) -1% (2%)	-1% (2%)	-1% (2%)	-1% (2%)	-1% (2%) -	1% (2%) -1	% (2%) -19	6 (2%) -19	6 (2%) -19	6 (2%) -	1% (2%)
FINLAND		,								,							
CAR (0)		-2% (4%)	-2% (4%)	-2% (4	%) -2% (4%	6) -1% (3%) -1% (3%)	-1% (3%)	-1% (3%)	-1% (3%)	-1% (3%) -	1% (3%) -1	% (3%) -19	% (3%) -1%	6 (3%) -19	6 (3%) -	1% (3%)
CAR (1)		-2% (4%)	-2% (4%)	-2% (4	%) -2% (49	5) -1% (3%) -1% (3%)	-1% (3%)	-1% (3%)	-1% (3%)	-1% (3%) -	1% (3%) -1	% (3%) -19	% (3%) -19	6 (3%) -19	6 (3%) -	1% (3%)
BHAR (0)		-2% (3%)	-2% (4%)	-2% (3	%) -2% (49	5) -1% (3%) -1% (3%)	-1% (3%)	-1% (3%)	-1% (3%)	-1% (3%) -	1% (3%) -1	% (3%) -19	% (3%) -19	6 (3%) -19	% (3%) -	1% (3%)
BHAR (1)		-2% (3%)	-2% (4%)	-2% (3	%) -2% (49	5) -1% (3%) -1% (3%)	-1% (3%)	-1% (3%)	-1% (3%)	-1% (3%) -	1% (3%) -1	% (3%) -19	6 (3%) -19	6 (3%) -19	6 (3%) -	1% (3%)

-	J =			3					6					9					12		
	H =	3		6	9	12	3	6		9	12		3	6	9	12		3	6	9	12
FRANCE																					
CAR (0)	-1	2% (3%)	-2% (3%	6) -2%	(3%) -2%	(3%)	-1% (3%)	-1% (3%)	-1% ((3%) -1%	(3%)	-1% (2%) -1% (2	%) -1%	(2%)	-1% (2%)	-1% (2%) -1%	(2%) -1	% (2%)	-1% (2%)
CAR (1)	-1	2% (3%)	-2% (3%	6) -2%	(3%) -2%	(3%)	-1% (3%)	-1% (3%)	-1% ((3%) -1%	(3%)	-1% (2%) -1% (2	%) -1%	(2%)	-1% (2%)	-1% (2%) -1%	(2%) -1	% (2%)	-1% (2%)
BHAR (0)	-1	2% (3%)	-2% (3%	6) -2%	(3%) -2%	(3%)	-1% (3%)	-1% (3%)	-1% ((3%) -1%	(3%)	-1% (2%) -1% (2	%) -1%	(2%)	-1% (2%)	-1% (2%) -1%	(2%) -1	% (2%)	-1% (2%)
BHAR (1)	-:	2% (3%)	-2% (3%	6) -2%	(3%) -2%	(3%)	-1% (3%)	-1% (3%)	-1% ((3%) -1%	(3%)	-1% (2%) -1% (2	%) -1%	(2%)	-1% (2%)	-1% (2%) -1%	(2%) -1	% (2%)	-1% (2%)
GERMANY																					
CAR (0)	-1	2% (3%)	-2% (3%	6) -2%	(3%) -2%	(3%)	-2% (2%)	-2% (2%)	-2% ((2%) -2%	(2%)	-2% (2%) -2% (2	%) -2%	(2%)	-2% (2%)	-1% (2%) -1%	(2%) -1	% (2%)	-1% (2%)
CAR (1)	-1	2% (3%)	-2% (3%	6) -2%	(3%) -2%	(3%)	-2% (2%)	-2% (2%)	-2% ((2%) -2%	(2%)	-2% (2%) -2% (2	%) -2%	(2%)	-2% (2%)	-1% (2%) -1%	(2%) -1	% (2%)	-1% (2%)
BHAR (0)	-1	2% (3%)	-2% (3%	6) -2%	(3%) -2%	(3%)	-2% (2%)	-2% (2%)	-2% ((2%) -2%	(2%)	-2% (2%) -2% (2	%) -1%	(2%)	-1% (2%)	-1% (2%) -1%	(2%) -1	% (2%)	-1% (2%)
BHAR (1)	-:	2% (3%)	-2% (3%	6) -2%	(3%) -2%	(3%)	-2% (2%)	-2% (2%)	-2% ((2%) -2%	(2%)	-2% (2%) -2% (2	%) -1%	(2%)	-1% (2%)	-1% (2%) -1%	(2%) -1	% (2%)	-1% (2%)
GREECE																					
CAR (0)	-:	3% (5%)	-3% (5%	6) -3%	(5%) -3%	(5%)	-2% (4%)	-2% (4%)	-2% (4%) -2%	(4%)	-2% (3%) -2% (3	%) -2%	(3%)	-2% (3%)	-2% (3%) -2%	(3%) -2	% (3%)	-2% (3%)
CAR (1)	-:	3% (5%)	-3% (5%	6) -3%	(5%) -3%	(5%)	-2% (4%)	-2% (4%)	-2% (4%) -2%	(4%)	-2% (3%) -2% (3	%) -2%	(3%)	-2% (3%)	-2% (3%) -2%	(3%) -2	% (3%)	-2% (3%)
BHAR (0)	-:	3% (5%)	-3% (5%	6) -3%	(5%) -3%	(5%)	-2% (4%)	-2% (4%)	-2% ((4%) -2%	(4%)	-2% (3%) -2% (3	%) -2%	(3%)	-2% (3%)	-2% (3%) -2%	(3%) -2	% (3%)	-2% (3%)
BHAR (1)	-:	3% (5%)	-3% (5%	6) -3%	(5%) -3%	(5%)	-2% (4%)	-2% (4%)	-2% ((4%) -2%	(4%)	-2% (3%) -2% (3	%) -2%	(3%)	-2% (3%)	-2% (3%) -2%	(3%) -2	% (3%)	-2% (3%)
HONGKONG	j																				
CAR (0)	-:	3% (5%)	-3% (5%	6) -3%	(5%) -3%	(5%)	-2% (4%)	-2% (4%)	-2% (4%) -2%	(4%)	-1% (4%) -2% (4	%) -2%	(4%)	-2% (4%)	-1% (4%) -1%	(4%) -1	% (4%)	-1% (4%)
CAR (1)	-:	3% (5%)	-3% (5%	6) -3%	(5%) -3%	(5%)	-2% (4%)	-2% (4%)	-2% (4%) -2%	(4%)	-2% (4%) -2% (4	%) -2%	(4%)	-2% (4%)	-1% (4%) -1%	(4%) -1	% (4%)	-1% (4%)
BHAR (0)	-:	3% (5%)	-2% (5%	6) -3%	(5%) -2%	(5%)	-2% (4%)	-2% (4%)	-2% (4%) -2%	(4%)	-1% (4%) -1% (4	%) -1%	(4%)	-1% (4%)	-1% (4%) -1%	(3%) -1	% (3%)	-1% (4%)
BHAR (1)	-:	3% (5%)	-3% (5%	6) -3%	(5%) -2%	(5%)	-2% (4%)	-2% (4%)	-2% ((4%) -2%	(4%)	-1% (4%) -1% (4	%) -1%	(4%)	-1% (4%)	-1% (4%) -1%	(3%) -1	% (3%)	-1% (4%)
IRELAND																					
CAR (0)	-:	2% (4%)	-2% (49	6) -2%	(4%) -2%	(4%)	-2% (3%)	-2% (3%)	-2% ((3%) -2%	(3%)	-1% (3%) -1% (3	%) -1%	(3%)	-1% (3%)	-1% (2%) -1%	(2%) -1	% (2%)	-1% (2%)
CAR (1)	-:	2% (4%)	-2% (4%	6) -2%	(4%) -2%	(4%)	-2% (3%)	-2% (3%)	-2% ((3%) -2%	(3%)	-1% (3%) -1% (3	%) -1%	(3%)	-1% (3%)	-1% (2%) -1%	(2%) -1	% (2%)	-1% (2%)
BHAR (0)	-1	2% (4%)	-2% (4%	6) -2%	(4%) -2%	(4%)	-1% (3%)	-1% (3%)	-1% ((3%) -1%	(3%)	-2% (3%) -2% (3	%) -2%	(3%)	-1% (2%)	-1% (2%) -1%	(2%) -1	% (2%)	-1% (2%)
BHAR (1)	-:	2% (4%)	-2% (4%	6) -2%	(4%) -2%	(4%)	-1% (3%)	-1% (3%)	-1% ((3%) -1%	(3%)	-2% (3%) -2% (3	%) -2%	(3%)	-1% (2%)	-1% (2%) -1%	(2%) -1	% (2%)	-1% (2%)
ISRAEL																					
CAR (0)	-:	3% (4%)	-3% (49	6) -3%	(4%) -3%	(4%)	-2% (4%)	-2% (4%)	-2% (4%) -2%	(4%)	-1% (3%) -1% (3	%) -1%	(3%)	-1% (3%)	-1% (3%) -1%	(3%) -1	% (3%)	-1% (3%)
CAR (1)	-:	3% (4%)	-3% (4%	6) -3%	(4%) -3%	(4%)	-2% (4%)	-2% (4%)	-2% ((4%) -2%	(4%)	-1% (3%) -1% (3	%) -1%	(3%)	-1% (3%)	-1% (3%) -1%	(3%) -1	% (3%)	-1% (3%)
BHAR (0)	-:	2% (4%)	-2% (4%	6) -2%	(4%) -3%	(4%)	-2% (4%)	-2% (4%)	-2% ((4%) -2%	(4%)	-1% (3%) -1% (3	%) -1%	(3%)	-1% (3%)	-1% (3%) -1%	(3%) -1	% (3%)	-1% (3%)
BHAR (1)	-:	2% (4%)	-2% (4%	6) -2%	(4%) -3%	(4%)	-2% (4%)	-2% (4%)	-2% (4%) -2%	(4%)	-1% (3%) -1% (3	%) -1%	(3%)	-1% (3%)	-1% (3%) -1%	(3%) -1	% (3%)	-1% (3%)

	J =			3					6					9						12	!		
	H =	3	ϵ	5	9	12	3	(5	9	12		3	6		9	12		3	6		9	12
ITALY																							
CAR (0)		-2% (3%)	-2% (3%)	-2% ((3%) -2%	(3%)	-2% (2%)	-2% (2%)	-2%	(2%) -2%	6 (2%)	-2% (2%	5) -2%	(2%) -2	2% (2%) -2% ((2%)	-1% (29	6) -1%	6 (2%) -	1% (2%) -	1% (2%)
CAR (1)		-2% (3%)	-2% (3%)	-2% ((3%) -2%	(3%)	-2% (2%)	-2% (2%)	-2%	(2%) -2%	6 (2%)	-2% (2%	5) -2%	(2%) -2	% (2%) -2% ((2%)	-1% (29	6) -1%	6 (2%) -	1% (2%) -	1% (2%)
BHAR (0)		-2% (3%)	-2% (3%)	-2% ((3%) -2%	(3%)	-2% (2%)	-2% (2%)	-2%	(2%) -2%	6 (2%)	-2% (2%	5) -2%	(2%) -1	% (2%) -1% ((2%)	-1% (29	6) -1%	6 (2%) -	1% (2%) -	1% (2%)
BHAR (1)		-2% (3%)	-2% (3%)	-2% ((3%) -2%	(3%)	-2% (2%)	-2% (2%)	-2%	(2%) -2%	6 (2%)	-2% (2%	5) -2%	(2%) -1	% (2%) -1% ((2%)	-1% (29	6) -1%	6 (2%) -	1% (2%) -	1% (2%)
JAPAN																							
CAR (0)		-3% (3%)	-3% (3%)	-3% ((3%) -3%	(3%)	-2% (2%)	-2% (2%)	-2%	(2%) -2%	6 (2%)	-1% (2%	5) -1%	(2%) -1	% (2%) -1% ((2%)	-1% (19	6) -1%	6 (1%) -	1% (1%) -	1% (1%)
CAR (1)		-3% (3%)	-3% (3%)	-3% ((3%) -3%	(3%)	-2% (2%)	-2% (2%)	-2%	(2%) -2%	6 (2%)	-1% (2%	5) -1%	(2%) -1	% (2%) -1% ((2%)	-1% (19	6) -1%	6 (1%) -	1% (1%) -	1% (1%)
BHAR (0)		-2% (3%)	-2% (3%)	-3% ((3%) -3%	(3%)	-2% (2%)	-2% (2%)	-2%	(2%) -2%	6 (2%)	-1% (2%	5) -1%	(2%) -1	% (2%) -1% ((2%)	-1% (19	6) -1%	6 (1%) -	1% (2%) -	1% (1%)
BHAR (1)		-3% (3%)	-2% (3%)	-3% ((3%) -3%	(3%)	-2% (2%)	-2% (2%)	-2%	(2%) -2%	6 (2%)	-1% (2%	5) -1%	(2%) -1	% (2%) -1% ((2%)	-1% (19	6) -1%	6 (1%) -	1% (2%) -	1% (1%)
NETHERLAN	DS																						
CAR (0)		-2% (3%)	-2% (3%)	-2% ((3%) -2%	(3%)	-1% (3%)	-1% (3%)	-1%	(3%) -1%	6 (3%)	-1% (2%	5) -1%	(2%) -1	% (2%) -1% ((2%)	-1% (29	6) -1%	6 (2%) -	1% (2%) -	1% (2%)
CAR (1)		-2% (3%)	-2% (3%)	-2% ((3%) -2%	(3%)	-1% (3%)	-1% (3%)	-1%	(3%) -1%	6 (3%)	-1% (2%	5) -1%	(2%) -1	% (2%) -1% ((2%)	-1% (29	6) -1%	6 (2%) -	1% (2%) -	1% (2%)
BHAR (0)		-2% (3%)	-2% (3%)	-2% ((3%) -2%	(3%)	-1% (3%)	-1% (3%)	-1%	(3%) -1%	6 (2%)	-1% (2%	5) -1%	(2%) -1	% (2%) -1% ((2%)	-1% (29	6) -1%	6 (2%) -	1% (2%) -	1% (2%)
BHAR (1)		-2% (3%)	-2% (3%)	-2% ((3%) -2%	(3%)	-1% (3%)	-1% (3%)	-1%	(3%) -1%	6 (2%)	-1% (2%	5) -1%	(2%) -1	% (2%) -1% ((2%)	-1% (29	6) -1%	6 (2%) -	1% (2%) -	1% (2%)
NEWZEALAN	ND																						
CAR (0)		-2% (3%)	-2% (3%)	-2% ((3%) -2%	(3%)	-1% (3%)	-1% (3%)	-1%	(3%) -1%	6 (3%)	-1% (2%	5) -1%	(2%) -1	% (3%) -1% ((3%)	-1% (29	6) -1%	6 (2%) -	1% (2%) -	1% (2%)
CAR (1)		-2% (3%)	-2% (3%)	-2% ((3%) -2%	(3%)	-1% (3%)	-1% (3%)	-1%	(3%) -1%	6 (3%)	-1% (2%	5) -1%	(2%) -1	% (3%) -1% ((3%)	-1% (29	6) -1%	6 (2%) -	1% (2%) -	1% (2%)
BHAR (0)		-2% (3%)	-2% (3%)	-2% ((3%) -2%	(3%)	-1% (3%)	-1% (3%)	-1%	(3%) -1%	6 (3%)	-1% (3%	5) -1%	(3%) -1	% (3%) -1% ((2%)	-1% (29	6) -1%	6 (2%)	0% (2	2%) -	1% (2%)
BHAR (1)		-2% (3%)	-2% (3%)	-2% ((3%) -2%	(3%)	-1% (3%)	-1% (3%)	-1%	(3%) -1%	6 (3%)	-1% (3%	5) -1%	(3%) -1	% (3%) -1% ((2%)	-1% (29	6) -1%	6 (2%)	0% (2	2%) -	1% (2%)
NORWAY																							
CAR (0)		-2% (4%)	-2% (4%)	-2% ((4%) -2%	(4%)	-1% (3%)	-1% (3%)	-1%	(3%) -1%	6 (3%)	-1% (3%	5) -1%	(3%) -1	% (3%) -1% ((3%)	-1% (39	6) -1%	6 (3%) -	1% (3%) -	1% (3%)
CAR (1)		-2% (4%)	-2% (4%)	-2% ((4%) -2%	(4%)	-1% (3%)	-1% (3%)	-1%	(3%) -1%	6 (3%)	-1% (3%	5) -1%	(3%) -1	% (3%) -1% ((3%)	-1% (39	6) -1%	6 (3%) -	1% (3%) -	1% (3%)
BHAR (0)		-2% (4%)	-2% (4%)	-2% ((4%) -2%	(4%)	-1% (3%)	-1% (3%)	-1%	(3%) -1%	6 (3%)	-1% (3%	5) -1%	(3%) -1	% (3%) -1% ((3%)	-1% (39	6) -1%	6 (3%) -	1% (3%) -	1% (3%)
BHAR (1)		-2% (4%)	-2% (4%)	-2% ((4%) -2%	(4%)	-1% (3%)	-1% (3%)	-1%	(3%) -1%	6 (3%)	-1% (3%	5) -1%	(3%) -1	% (3%) -1% ((3%)	-1% (39	6) -1%	6 (3%) -	1% (3%) -	1% (3%)
PORTUGAL																							
CAR (0)		-1% (2%)	-1% (2%)	-1% ((2%) -1%	(2%)	-1% (2%)	-1% (2%)	-1%	(2%) -1%	6 (2%)	-1% (2%	5) -1%	(2%) -1	% (2%) -1% ((2%)	-1% (29	6) -1%	6 (2%) -	1% (2%) -	1% (2%)
CAR (1)		-1% (2%)	-1% (2%)	-1% ((2%) -1%	(2%)	-1% (2%)	-1% (2%)	-1%	(2%) -1%	6 (2%)	-1% (2%	5) -1%	(2%) -1	% (2%) -1% ((2%)	-1% (29	6) -1%	6 (2%) -	1% (2%) -	1% (2%)
BHAR (0)		-1% (2%)	-1% (2%)	-1% ((2%) -2%	(3%)	-1% (3%)	-1% (3%)	-1%	(2%) -1%	6 (3%)	-1% (2%	5) -1%	(2%) -1	% (2%) -1% ((2%)	-1% (29	6) -1%	6 (2%) -	1% (2%) -	1% (2%)
BHAR (1)		-1% (2%)	-1% (2%)	-1% ((2%) -2%	(3%)	-1% (3%)	-1% (3%)	-1%	(2%) -1%	6 (3%)	-1% (2%	5) -1%	(2%) -1	% (2%) -1% ((2%)	-1% (29	6) -1%	6 (2%) -	1% (2%) -	1% (2%)

J	=		3					6					9					12		
H	I =	3	6	9	12	3	6	i	9	12	3	3	6	9	12		3	6	9	12
SINGAPORE																				
CAR (0)	-2% (4%) -2% (4%) -2%	(4%) -2%	(4%)	-1% (3%)	-1% (3%)	-1%	(3%) -2%	6 (3%)	-1% (3%)	-1% (3%	6) -1%	(3%) -1	1% (3%)	-1% (3%) -1%	(3%) -1	% (3%)	-1% (3%)
CAR (1)	-2% (4%) -2% (4%) -2%	(4%) -2%	(4%)	-1% (3%)	-1% (3%)	-2%	(3%) -2%	6 (3%)	-1% (3%)	-1% (3%	ó) -1%	(3%) -1	1% (3%)	-1% (3%) -1%	(3%) -1	% (3%)	-1% (3%)
BHAR (0)	-2% (4%) -2% (4%) -2%	(4%) -2%	(4%)	-1% (3%)	-1% (3%)	-1%	(3%) -1%	6 (3%)	-1% (3%)	-1% (3%	6) -1%	(3%) -1	(3%)	-1% (3%) -1%	(3%) -1	% (3%)	-1% (3%)
BHAR (1)	-2% (4%) -2% (4%) -2%	(4%) -2%	(4%)	-1% (3%)	-1% (3%)	-1%	(3%) -1%	6 (3%)	-1% (3%)	-1% (3%	ó) -1%	(3%) -1	1% (3%)	-1% (3%) -1%	(3%) -1	% (3%)	-1% (3%)
SPAIN																				
CAR (0)	-2% (3%) -2% (3%) -2%	(3%) -2%	(3%)	-1% (2%)	-1% (2%)	-1%	(2%) -1%	6 (2%)	-1% (2%)	-1% (2%	ó) -1%	(2%) -1	1% (2%)	-1% (2%) -1%	(2%) -1	% (2%)	-1% (2%)
CAR (1)	-2% (3%) -2% (3%) -2%	(3%) -2%	(3%)	-1% (2%)	-1% (2%)	-1%	(2%) -1%	6 (2%)	-1% (2%)	-1% (2%	ó) -1%	(2%) -1	1% (2%)	-1% (2%) -1%	(2%) -1	% (2%)	-1% (2%)
BHAR (0)	-2% (3%) -2% (3%) -2%	(3%) -2%	(3%)	-1% (2%)	-1% (2%)	-1%	(2%) -1%	6 (2%)	-1% (2%)	-1% (2%	ó) -1%	(2%) -1	1% (2%)	-1% (2%) -1%	(2%) -1	% (2%)	-1% (2%)
BHAR (1)	-2% (3%) -2% (3%) -2%	(3%) -2%	(3%)	-1% (2%)	-1% (2%)	-1%	(2%) -1%	6 (2%)	-1% (2%)	-1% (2%	ó) -1%	(2%) -1	1% (2%)	-1% (2%) -1%	(2%) -1	% (2%)	-1% (2%)
SWEDEN																				
CAR (0)	-3% (4%) -3% (4%) -3%	(4%) -3%	(4%)	-2% (3%)	-2% (3%)	-2%	(3%) -2%	6 (3%)	-2% (3%)	-2% (3%	ó) -2%	(3%) -2	2% (3%)	-2% (3%) -2%	(3%) -2	% (3%)	-2% (3%)
CAR (1)	-3% (4%) -3% (4%) -3%	(4%) -3%	(4%)	-2% (3%)	-2% (3%)	-2%	(3%) -2%	6 (3%)	-2% (3%)	-2% (3%	ó) -2%	(3%) -2	2% (3%)	-2% (3%) -2%	(3%) -2	% (3%)	-2% (3%)
BHAR (0)	-3% (4%) -3% (4%) -3%	(4%) -3%	(4%)	-2% (3%)	-2% (3%)	-2%	(3%) -2%	6 (3%)	-2% (3%)	-2% (3%	(a) -2%	(3%) -2	2% (3%)	-1% (3%) -1%	(3%) -1	% (3%)	-1% (3%)
BHAR (1)	-3% (4%) -3% (4%) -3%	(4%) -3%	(4%)	-2% (3%)	-2% (3%)	-2%	(3%) -2%	6 (3%)	-2% (3%)	-2% (3%	ó) -2%	(3%) -2	2% (3%)	-1% (3%) -1%	(3%) -1	% (3%)	-1% (3%)
SWITZERLANI																				
CAR (0)	-1% (2%) -1% (2%) -1%	(2%) -1%	(2%)	-1% (2%)	-1% (2%)	-1%	(2%) -1%	6 (2%)	-1% (2%)	-1% (2%	ó) -1%	(2%) -1	1% (2%)	0% (2%) 0%	(2%) 0	% (2%)	0% (2%)
CAR (1)	-1% (2%) -1% (2%) -1%	(2%) -1%	(2%)	-1% (2%)	-1% (2%)	-1%	(2%) -1%	6 (2%)	-1% (2%)	-1% (2%	ó) -1%	(2%) -1	1% (2%)	0% (2%)) 0%	(2%) 0	% (2%)	0% (2%)
BHAR (0)	-1% (2%) -1% (2%) -1%	(2%) -1%	(2%)	-1% (2%)	-1% (2%)	-1%	(2%) -1%	6 (2%)	-1% (2%)	-1% (2%	ó) -1%	(2%) -1	1% (2%)	0% (2%)) 0%	(2%) 0	% (2%)	0% (2%)
BHAR (1)	-1% (2%) -1% (2%) -1%	(2%) -1%	(2%)	-1% (2%)	-1% (2%)	-1%	(2%) -1%	6 (2%)	-1% (2%)	-1% (2%	ó) -1%	(2%) -1	1% (2%)	0% (2%) 0%	(2%) 0	% (2%)	0% (2%)
UK																				
CAR (0)	-3% (4%) -3% (4%) -3%	(4%) -3%	(4%)	-2% (3%)	-2% (3%)	-2%	(3%) -2%	6 (3%)	-2% (2%)	-2% (2%	(a) -2%	(2%) -2	2% (2%)	-1% (2%) -1%	(2%) -1	% (2%)	-1% (2%)
CAR (1)	-3% (4%) -3% (4%) -3%	(4%) -3%	(4%)	-2% (3%)	-2% (3%)	-2%	(3%) -2%	6 (3%)	-2% (2%)	-2% (2%	(a) -2%	(2%) -2	2% (2%)	-1% (2%) -1%	(2%) -1	% (2%)	-1% (2%)
BHAR (0)	-3% (4%) -3% (4%) -3%	(4%) -3%	(4%)	-2% (3%)	-2% (3%)	-2%	(3%) -2%	6 (3%)	-2% (2%)	-2% (2%	ó) -1%	(2%) -1	1% (2%)	-1% (2%) -1%	(2%) -1	% (2%)	-1% (2%)
BHAR (1)	-3% (4%) -3% (4%) -3%	(4%) -3%	(4%)	-2% (3%)	-2% (3%)	-2%	(3%) -2%	6 (3%)	-2% (2%)	-2% (2%	ó) -1%	(2%) -1	1% (2%)	-1% (2%) -1%	(2%) -1	% (2%)	-1% (2%)
US																				
CAR (0)	-1% (4%) -1% (4%) -1%	(4%) -1%	(4%)	-1% (3%)	-1% (3%)	-1%	(3%) -1%	6 (3%)	0% (3%)	0% (3%) 0%	(3%) 0	% (3%)	0% (3%)) 0%	(3%) 0	% (3%)	0% (3%)
CAR (1)	-1% (4%) -1% (4%) -1%	(4%) -1%	(4%)	-1% (3%)	-1% (3%)	-1%	(3%) -1%	6 (3%)	0% (3%)	0% (3%) 0%	(3%) 0	% (3%)	0% (3%) 0%	(3%) 0	% (3%)	0% (3%)
BHAR (0)	-1% (4%) -1% (4%) -1%	(4%) -1%	(4%)	-1% (3%)	-1% (3%)	-1%	(3%) -1%	6 (3%)	0% (3%)	0% (3%) 0%	(3%) 0	% (3%)	0% (3%)) 0%	(3%) 0	% (3%)	0% (3%)
BHAR (1)	-1% (4%) -1% (4%) -1%	(4%) -1%	(4%)	-1% (3%)	-1% (3%)	-1%	(3%) -1%	6 (3%)	0% (3%)	0% (3%) 0%	(3%) 0	% (3%)	0% (3%) 0%	(3%) 0	% (3%)	0% (3%)

Appendix 6. Time-series momentum strategies investing 60% of sample

Panel A. The time-series momentum strategy using equal-weighted return

EW	J =		3		ii. The t		6			<u> </u>	9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRA	LIA																
CAR (0)		0.35%	0.39%	0.38%	0.33%	0.71%	0.64%	0.52%	0.34%	0.81%	0.71%	0.50%	0.30%	0.71%	0.51%	0.29%	0.12%
		1.6254	2.1344	2.7562	2.8349	2.9690	3.2583	3.2083	2.3729	3.5066	3.5412	2.8969	1.8931	3.0429	2.5830	1.6355	0.7225
CAR (1)		0.66%	0.53%	0.47%	0.32%	0.83%	0.68%	0.49%	0.28%	0.90%	0.67%	0.42%	0.19%	0.62%	0.39%	0.18%	0.02%
		3.1318	3.2826	3.8460	2.8844	3.8557	3.9578	3.2666	2.0210	4.2211	3.6224	2.5272	1.2604	2.8254	2.1431	1.0609	0.0949
BHAR (0)		0.46%	0.46%	0.21%	0.03%	0.78%	0.72%	0.29%	0.19%	0.88%	0.66%	0.49%	0.28%	0.78%	0.57%	0.28%	0.22%
		2.0290	2.3041	0.9366	0.1767	3.0301	3.3339	1.3106	0.9954	3.6538	3.1557	2.4772	1.5290	3.0994	2.6350	1.2808	0.9626
BHAR (1)		0.82%	0.40%	0.22%	-0.02%	0.92%	0.80%	0.19%	0.03%	0.84%	0.51%	0.35%	0.21%	0.64%	0.36%	0.08%	0.04%
		3.8551	2.0564	0.9656	-0.1169	3.9360	4.2689	0.7972	0.1489	3.5531	2.3505	1.7971	1.0543	2.6458	1.7793	0.3432	0.1887
AUSTRI	[A																
CAR (0)		0.81%	0.64%	0.60%	0.58%	0.80%	0.90%	0.87%	0.77%	1.15%	1.07%	0.84%	0.67%	1.17%	0.92%	0.72%	0.51%
		3.9265	3.6517	3.5525	3.7112	2.8424	3.4756	3.6739	3.5120	3.7891	3.6844	3.1028	2.8199	3.2585	2.8010	2.4437	1.9132
CAR (1)		0.93%	0.66%	0.62%	0.56%	0.94%	0.96%	0.85%	0.70%	1.20%	0.99%	0.76%	0.57%	1.06%	0.77%	0.59%	0.41%
		4.0882	3.6536	3.6633	3.5882	3.3718	3.7028	3.6440	3.2828	3.8189	3.3885	2.8888	2.4701	2.9489	2.4368	2.0834	1.5975
BHAR (0)		0.91%	0.69%	0.62%	0.59%	0.73%	0.54%	0.73%	0.79%	1.05%	1.04%	0.79%	0.84%	1.13%	0.90%	0.54%	0.31%
		3.4641	2.8563	2.0637	2.2706	2.3935	1.6997	2.6338	3.3252	3.2472	3.1911	2.6796	2.6271	3.2625	2.6471	1.5720	1.0354
BHAR (1)		1.25%	0.73%	0.67%	0.56%	0.89%	0.57%	0.72%	0.79%	1.04%	0.83%	0.71%	0.65%	0.94%	0.64%	0.30%	0.20%
		4.4971	2.7366	2.3217	2.1417	3.1457	1.8907	2.9049	3.4435	3.0381	2.3005	2.2839	2.0786	2.6276	1.6970	0.9302	0.6012
BELGIU	M	1															
CAR (0)		0.54%	0.62%	0.61%	0.62%	0.89%	0.94%	0.92%	0.82%	0.97%	1.04%	0.92%	0.78%	1.13%	1.01%	0.87%	0.74%
		2.9081	3.8622	4.2857	4.6217	3.7211	4.1304	4.3776	4.3276	3.7748	4.3360	4.1419	3.6898	4.3568	4.3239	3.9588	3.4830
CAR (1)		0.79%	0.67%	0.67%	0.62%	1.03%	0.98%	0.92%	0.77%	1.12%	1.06%	0.89%	0.74%	1.17%	0.97%	0.81%	0.68%
		4.3811	4.2205	4.7725	4.7286	4.3913	4.3085	4.5298	4.1936	4.2238	4.4982	4.0668	3.5402	4.8514	4.2998	3.7359	3.2075
BHAR (0)		0.57%	0.48%	0.31%	0.31%	0.83%	0.80%	0.60%	0.99%	0.95%	1.01%	0.91%	1.00%	1.17%	1.09%	0.87%	0.55%
		2.4440	2.1698	1.5458	1.4158	2.8486	3.0359	2.1316	4.8532	3.2911	3.2255	3.9296	4.2172	4.1416	4.1646	3.3880	2.1310
BHAR (1)		0.68%	0.31%	0.38%	0.32%	1.00%	0.80%	0.50%	0.98%	1.03%	0.86%	0.85%	0.78%	1.15%	0.99%	0.79%	0.50%
		3.0819	1.2078	1.9156	1.5549	4.0320	3.0229	1.7321	4.8400	3.2457	2.7558	3.7843	3.2820	4.5155	3.7993	3.0983	1.9242
CANAD	A		. =	. =	0 = 00/		1 000/	0.0501	0 = 40/			0.000/		4.500/	4 000/		
CAR (0)		0.82%	0.74%	0.71%	0.70%	1.15%	1.00%	0.96%	0.74%	1.27%	1.13%	0.89%	0.62%	1.38%	1.00%	0.70%	0.43%
~.~		3.6008	3.9171	4.1628	4.9233	4.4839	4.1187	4.6146	4.1109	4.5963	4.5777	4.0435	3.1040	4.9890	3.9546	3.0055	2.0042
CAR (1)		0.95%	0.79%	0.77%	0.65%	1.15%	1.03%	0.90%	0.62%	1.31%	1.08%	0.78%	0.48%	1.21%	0.83%	0.53%	0.26%
		4.4190	4.1108	4.6879	4.8432	4.1748	4.3130	4.5213	3.5305	4.7083	4.5756	3.6755	2.4629	4.4757	3.3806	2.3445	1.2354
BHAR (0)		0.97%	0.65%	0.76%	0.55%	1.02%	0.87%	0.87%	0.61%	1.28%	0.98%	0.72%	0.53%	1.33%	0.85%	0.75%	0.36%
		3.5478	2.3130	2.7561	2.1179	3.3992	3.0122	2.9827	2.4907	4.5415	3.2538	2.8537	2.0507	4.4254	3.0691	2.6679	1.4609
BHAR (1)		0.96%	0.68%	0.85%	0.50%	1.08%	1.05%	0.82%	0.48%	1.32%	0.99%	0.58%	0.47%	1.11%	0.73%	0.58%	0.21%
		3.7952	2.6260	3.4657	1.9154	3.3385	3.8849	2.8414	1.9616	4.6926	3.6137	2.3677	1.7729	3.8657	2.8282	2.2710	0.9864

EW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMA	RK																
CAR (0)		0.98%	1.03%	0.91%	0.89%	1.29%	1.23%	1.18%	1.07%	1.42%	1.40%	1.27%	1.08%	1.55%	1.42%	1.23%	1.05%
		5.9698	7.4977	7.2395	7.3920	5.6875	6.4339	6.5396	5.7902	5.7367	6.3244	5.6720	4.9051	6.5408	5.8642	5.2177	4.6129
CAR (1)		1.12%	1.02%	0.93%	0.84%	1.27%	1.20%	1.15%	0.96%	1.51%	1.39%	1.21%	1.01%	1.59%	1.32%	1.16%	0.94%
		7.1700	7.5706	7.2007	6.8123	5.4000	6.2285	5.9179	5.1255	6.5098	6.3509	5.2766	4.5978	6.4891	5.3740	4.8455	4.1183
BHAR (0)		1.16%	1.13%	0.71%	0.84%	1.18%	0.97%	1.00%	1.19%	1.37%	1.29%	1.02%	1.12%	1.30%	1.22%	1.09%	0.83%
		6.6064	5.9862	3.5731	3.7363	4.8079	4.2134	4.3793	5.5383	5.7091	5.2877	3.7983	4.7405	4.5834	4.1100	3.8943	3.0105
BHAR (1)		1.25%	1.12%	0.79%	0.84%	1.11%	1.15%	0.96%	1.14%	1.48%	1.57%	0.99%	1.07%	1.55%	1.25%	1.08%	0.76%
		6.5574	5.8784	3.5554	3.7600	3.8834	4.8138	3.8137	5.4316	6.2584	5.8166	3.9058	4.3831	5.8098	4.7558	3.8641	2.8131
FINLAN	D																
CAR (0)		0.62%	0.46%	0.50%	0.45%	1.07%	0.83%	0.87%	0.74%	0.93%	0.83%	0.67%	0.55%	1.14%	0.87%	0.71%	0.60%
		2.1375	1.8965	2.2611	2.1279	3.2842	2.5829	2.8410	2.5329	2.5618	2.3649	1.8959	1.6494	2.5022	1.9934	1.6771	1.5040
CAR (1)		0.81%	0.60%	0.53%	0.46%	1.09%	0.90%	0.83%	0.69%	1.02%	0.79%	0.63%	0.49%	0.97%	0.73%	0.60%	0.47%
		2.8569	2.5870	2.4391	2.1838	3.4612	2.8190	2.6505	2.3505	2.7863	2.0950	1.7470	1.4743	1.9972	1.6276	1.3835	1.2060
BHAR (0)		0.90%	0.30%	0.49%	0.68%	1.41%	1.08%	0.40%	0.94%	0.74%	0.33%	0.61%	0.29%	1.31%	1.15%	0.69%	0.91%
		2.7032	0.7707	1.4996	1.6499	3.5898	2.8706	0.8296	2.2129	1.6409	0.6060	1.3222	0.6599	2.6045	2.5136	1.3331	2.2024
BHAR (1)		1.16%	0.46%	0.51%	0.81%	1.04%	1.04%	0.19%	0.73%	0.72%	0.32%	0.34%	0.28%	1.03%	1.06%	0.53%	0.94%
		3.6863	1.2270	1.5632	2.0227	2.7873	2.4251	0.3971	1.7214	1.4460	0.5928	0.7291	0.6047	2.0398	2.1162	1.0736	2.3658
FRANC	E				-								1				
CAR (0)		0.09%	0.41%	0.41%	0.46%	0.53%	0.66%	0.69%	0.64%	0.64%	0.82%	0.74%	0.64%	0.80%	0.83%	0.72%	0.59%
		0.4629	2.8101	3.2961	4.0165	2.6250	3.8438	4.5729	4.4030	3.0673	4.2948	4.0159	3.6822	3.5797	4.0670	3.6910	3.1578
CAR (1)		0.73%	0.65%	0.61%	0.54%	0.91%	0.84%	0.79%	0.66%	1.06%	0.94%	0.80%	0.64%	1.03%	0.88%	0.72%	0.58%
		4.4060	4.8317	5.1810	4.9447	4.8960	5.2303	5.2955	4.6024	5.3120	4.9963	4.3026	3.7096	4.9783	4.3772	3.7761	3.1187
BHAR (0)		0.06%	0.21%	0.52%	0.07%	0.55%	0.67%	0.49%	0.50%	0.60%	0.68%	0.74%	0.69%	0.75%	0.82%	0.81%	0.55%
		0.2827	1.0172	2.4421	0.3734	2.4000	3.6407	2.2083	2.7573	2.5936	2.9964	3.6478	3.5083	3.3460	3.7073	3.8937	2.8819
BHAR (1)		0.60%	0.43%	0.70%	0.24%	0.86%	0.77%	0.55%	0.52%	0.97%	0.80%	0.77%	0.53%	1.00%	0.86%	0.77%	0.57%
		3.1142	2.2186	3.4813	1.1598	4.5140	4.6085	2.5610	3.0267	4.3281	3.4369	3.7116	2.5702	4.5605	3.9463	3.7430	2.9481
GERMA	NY																
CAR (0)		0.70%	0.72%	0.69%	0.66%	1.06%	0.96%	0.94%	0.80%	1.14%	1.11%	0.97%	0.82%	1.32%	1.10%	0.94%	0.78%
		3.1475	4.0262	4.5122	4.8097	4.1994	4.3151	4.7230	4.2660	4.4772	4.6738	4.2079	3.8024	4.9259	4.3904	3.9426	3.4118
CAR (1)		0.95%	0.80%	0.73%	0.64%	1.12%	0.97%	0.90%	0.73%	1.24%	1.10%	0.92%	0.76%	1.36%	1.07%	0.88%	0.71%
		4.5526	4.7959	5.1375	4.8561	4.7410	4.5473	4.5786	3.9731	5.0393	4.6845	4.0539	3.5978	5.2891	4.3736	3.7680	3.1790
BHAR (0)		0.71%	0.67%	0.78%	0.39%	1.03%	1.05%	0.81%	0.92%	1.17%	1.11%	0.98%	0.87%	1.32%	1.11%	0.91%	0.67%
		2.8716	2.6593	3.3623	1.3802	3.6046	4.4068	2.9044	3.6467	4.3674	4.1262	4.4156	3.4445	4.8359	4.4698	3.5164	2.9065
BHAR (1)		1.01%	0.63%	0.80%	0.37%	1.05%	1.05%	0.78%	0.82%	1.23%	1.01%	0.82%	0.77%	1.30%	1.02%	0.72%	0.63%
		4.3954	2.6289	3.5948	1.2457	4.0387	4.7850	2.8273	3.3647	4.9633	3.8113	3.6449	3.0599	4.8472	4.4038	2.9580	2.7216

EW	J =		3				6	i			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECI	Œ																
CAR (0)		0.70%	0.58%	0.31%	0.17%	0.87%	0.64%	0.34%	0.04%	0.50%	0.33%	0.00%	-0.33%	0.65%	0.41%	-0.01%	-0.35%
		1.3355	1.7306	1.1453	0.7270	1.4330	1.2627	0.8411	0.1228	0.8350	0.6965	-0.0037	-0.8246	1.0460	0.7602	-0.0192	-0.7223
CAR (1)		0.78%	0.47%	0.26%	0.13%	0.77%	0.52%	0.23%	-0.06%	0.51%	0.21%	-0.16%	-0.47%	0.84%	0.33%	-0.19%	-0.46%
		1.7901	1.5798	1.0375	0.5697	1.3680	1.1607	0.5996	-0.1651	0.9011	0.4609	-0.3793	-1.1375	1.4916	0.6263	-0.3841	-0.9412
BHAR (0)		0.85%	1.06%	0.84%	0.30%	1.38%	0.86%	0.38%	-0.06%	0.86%	1.00%	-0.31%	-0.01%	0.89%	0.10%	0.40%	-0.67%
		1.3208	2.4880	1.5672	0.7417	2.2862	1.5224	0.6896	-0.1150	1.3764	1.6161	-0.5984	-0.0132	1.3669	0.1623	0.6438	-1.2378
BHAR (1)		1.20%	0.95%	0.95%	0.38%	1.05%	0.75%	0.34%	0.00%	0.91%	0.99%	-0.19%	-0.23%	1.21%	-0.04%	0.36%	-0.44%
		2.0901	2.3259	1.7800	0.8599	1.5875	1.4935	0.6189	-0.0026	1.3631	1.5001	-0.3858	-0.4731	1.7801	-0.0782	0.6033	-0.8631
HONGKO	NG																
CAR (0)		0.57%	0.53%	0.37%	0.24%	0.84%	0.59%	0.40%	0.20%	0.58%	0.41%	0.19%	0.03%	0.64%	0.33%	0.12%	-0.02%
		2.5460	2.8634	2.1438	1.6104	2.6146	1.9121	1.5816	0.9243	1.6502	1.3176	0.7007	0.1315	1.9478	1.0862	0.4421	-0.0844
CAR (1)		0.50%	0.48%	0.32%	0.12%	0.74%	0.51%	0.26%	0.07%	0.46%	0.27%	0.06%	-0.08%	0.37%	0.16%	-0.02%	-0.13%
		2.3426	2.5748	1.8866	0.8474	2.1358	1.6885	1.0519	0.3354	1.3109	0.9230	0.2245	-0.3327	1.1993	0.5630	-0.0800	-0.5276
BHAR (0)		0.21%	0.06%	0.01%	0.26%	0.80%	0.45%	0.39%	0.25%	0.57%	0.27%	0.28%	0.04%	0.47%	0.31%	0.18%	0.26%
		0.7852	0.2056	0.0359	1.0633	2.4347	1.3351	1.1150	0.9598	1.4216	0.6213	0.9643	0.1123	1.1870	1.0982	0.5639	0.8747
BHAR (1)		-0.01%	0.07%	0.12%	0.14%	0.49%	0.34%	0.25%	0.07%	0.41%	-0.05%	0.22%	0.03%	0.03%	0.25%	-0.04%	0.06%
		-0.0374	0.2557	0.4153	0.5496	1.3311	1.0684	0.7397	0.2631	1.0579	-0.1250	0.7878	0.0810	0.0673	0.9190	-0.1243	0.1947
IRELAN	D																
CAR (0)		0.32%	0.43%	0.39%	0.48%	0.58%	0.53%	0.43%	0.44%	0.80%	0.72%	0.62%	0.48%	0.94%	0.69%	0.65%	0.53%
		0.9201	1.3010	1.3734	2.1327	1.1545	1.2129	1.1592	1.3284	1.5993	1.5319	1.4339	1.2360	1.7763	1.4367	1.4659	1.3193
CAR (1)		0.72%	0.57%	0.54%	0.54%	0.62%	0.52%	0.42%	0.37%	1.07%	0.77%	0.60%	0.43%	0.91%	0.72%	0.61%	0.41%
		1.9209	1.6237	1.9468	2.3925	1.2262	1.2168	1.1303	1.1461	2.2642	1.6651	1.4504	1.1572	1.7158	1.4942	1.3841	1.0364
BHAR (0)		0.92%	0.05%	-0.16%	0.58%	0.42%	0.60%	-0.50%	1.41%	0.53%	0.13%	0.72%	0.46%	1.29%	1.13%	0.77%	0.73%
		2.3394	0.1003	-0.3358	1.3162	0.7505	1.1752	-0.9340	2.9019	0.9238	0.2016	1.3870	0.8982	2.2496	2.1452	1.2946	1.3524
BHAR (1)		0.80%	0.10%	-0.14%	0.81%	0.13%	0.47%	-0.35%	1.00%	0.35%	0.74%	0.51%	0.14%	1.16%	0.76%	0.65%	0.51%
		1.7651	0.1804	-0.2735	1.7615	0.2412	0.8876	-0.7106	2.1963	0.6069	1.3136	0.9695	0.2842	2.1274	1.5129	1.1307	0.9194
ISRAEL	,								1				1				
CAR (0)		-0.27%	-0.07%	-0.07%	-0.09%	-0.14%	-0.06%	-0.10%	-0.13%	-0.06%	0.06%	0.01%	-0.06%	0.13%	0.11%	0.05%	-0.06%
		-1.4606	-0.4959	-0.5650	-0.6971	-0.6649	-0.3130	-0.5569	-0.7434	-0.2784	0.2711	0.0520	-0.3172	0.5633	0.4846	0.2328	-0.2886
CAR (1)		0.05%	0.08%	0.04%	-0.07%	0.15%	0.06%	-0.02%	-0.09%	0.18%	0.15%	0.04%	-0.05%	0.20%	0.13%	0.02%	-0.07%
		0.3036	0.5569	0.3068	-0.5262	0.7221	0.3272	-0.1094	-0.5558	0.8307	0.6793	0.1815	-0.2925	0.7856	0.5662	0.1000	-0.3380
BHAR (0)		-0.13%	-0.16%	-0.06%	-0.29%	$\boldsymbol{0.10\%}$	0.16%	-0.09%	0.26%	0.00%	0.15%	0.15%	0.28%	0.28%	0.04%	-0.07%	-0.05%
		-0.6287	-0.7366	-0.2757	-1.2665	0.4183	0.7325	-0.3705	1.1867	-0.0113	0.6052	0.6521	1.2068	1.2042	0.1394	-0.2310	-0.1840
BHAR (1)		-0.05%	-0.11%	0.03%	-0.29%	0.21%	0.13%	-0.04%	0.24%	0.19%	0.19%	0.07%	0.32%	0.32%	0.15%	-0.08%	-0.09%
		-0.2451	-0.4943	0.1498	-1.2652	0.8832	0.5776	-0.1751	1.0714	0.7472	0.7747	0.2937	1.3881	1.2673	0.5575	-0.2881	-0.2972

EW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		1.01%	0.86%	0.84%	0.82%	1.23%	1.28%	1.14%	1.02%	1.45%	1.42%	1.21%	1.00%	1.62%	1.34%	1.11%	0.93%
		5.0532	4.7956	5.6632	5.9543	4.7579	5.8568	5.5658	5.3480	5.3887	6.0808	5.5406	4.8418	5.9448	5.4463	4.8296	4.3620
CAR (1)		0.90%	0.84%	0.82%	0.78%	1.25%	1.20%	1.08%	0.89%	1.47%	1.34%	1.10%	0.90%	1.52%	1.16%	0.95%	0.83%
		4.4043	4.9894	5.5925	5.7365	5.2479	5.5250	5.3714	4.7453	5.5626	5.8612	5.0513	4.3748	6.1301	4.7715	4.2494	3.9283
BHAR (0)		0.99%	0.76%	0.88%	0.66%	1.16%	1.21%	0.99%	0.92%	1.45%	1.38%	1.38%	1.07%	1.53%	1.00%	0.89%	0.71%
		3.9863	3.2954	3.7097	3.0072	3.8630	3.6947	4.2010	3.4483	4.8682	4.8864	5.2179	4.8026	5.1666	3.5775	3.3966	2.6358
BHAR (1)		1.04%	0.81%	1.04%	0.63%	1.16%	1.17%	1.08%	0.85%	1.50%	1.13%	1.23%	0.93%	1.33%	1.00%	0.84%	0.72%
		4.8220	3.7604	4.2351	2.9301	4.1803	3.4541	4.4100	3.1782	4.7125	3.9681	4.9644	3.8804	4.4418	3.3599	3.1150	2.4684
JAPAN																	
CAR (0)		0.24%	0.06%	0.03%	0.10%	0.17%	0.06%	0.15%	0.09%	0.08%	0.14%	0.10%	0.02%	0.24%	0.12%	0.04%	-0.01%
		1.3208	0.3358	0.1676	0.8108	0.7204	0.2559	0.7743	0.5553	0.3335	0.6455	0.4900	0.1295	1.0119	0.5190	0.1984	-0.0320
CAR (1)		0.19%	0.03%	0.08%	0.07%	0.10%	0.11%	0.17%	0.04%	0.22%	0.19%	0.09%	-0.01%	0.24%	0.07%	0.01%	-0.04%
		1.0421	0.1837	0.5376	0.5868	0.4568	0.5230	0.9098	0.2276	0.9686	0.8750	0.4648	-0.0305	1.0083	0.3313	0.0327	-0.1996
BHAR (0)		0.19%	0.19%	0.21%	0.29%	0.26%	0.15%	0.18%	0.46%	0.14%	0.26%	0.23%	0.05%	0.22%	0.14%	0.12%	-0.03%
		0.8812	0.8819	0.9126	1.3292	1.0283	0.6011	0.7238	2.2885	0.5448	1.0691	1.0090	0.2641	0.9141	0.5612	0.4953	-0.1261
BHAR (1)		0.04%	0.17%	0.14%	0.34%	0.08%	0.00%	0.19%	0.26%	0.21%	0.34%	0.19%	-0.01%	0.20%	0.01%	-0.06%	-0.08%
		0.1821	0.8312	0.6161	1.7221	0.3213	-0.0116	0.8432	1.2671	0.9089	1.4999	0.8850	-0.0303	0.7853	0.0379	-0.2576	-0.4011
NETHERLA	NDS																
CAR (0)		1.14%	1.07%	1.00%	0.92%	1.38%	1.22%	1.16%	0.99%	1.47%	1.34%	1.16%	0.93%	1.57%	1.35%	1.14%	1.00%
		5.0411	5.8597	6.3352	6.2470	5.0008	5.0628	5.0828	4.3254	5.2206	4.9635	4.2266	3.3688	5.2098	4.5035	4.0197	3.6811
CAR (1)		1.16%	1.08%	0.97%	0.85%	1.32%	1.24%	1.10%	0.88%	1.27%	1.20%	0.97%	0.82%	1.40%	1.22%	1.00%	0.89%
		5.5187	6.1608	6.3868	5.7867	4.6656	5.1041	4.6714	3.6696	3.8506	4.1374	3.2241	2.8984	4.5120	4.0322	3.4812	3.2595
BHAR (0)		1.38%	1.07%	1.18%	0.88%	1.31%	1.40%	0.71%	1.48%	1.50%	1.50%	1.21%	1.10%	1.54%	1.40%	1.22%	0.85%
		4.8852	4.1384	3.7724	2.9616	4.0140	4.8326	2.1626	5.6112	5.0723	5.2216	4.7697	3.9715	4.9640	4.4876	3.9410	2.8052
BHAR (1)		1.47%	1.16%	0.97%	0.85%	1.35%	1.34%	0.74%	1.37%	1.35%	1.15%	1.16%	0.95%	1.37%	1.17%	1.08%	0.76%
		5.3308	4.9874	3.2505	2.9429	4.6357	4.7298	2.3827	5.0649	4.2264	3.7393	4.4272	3.2565	4.2890	3.8324	3.6606	2.4940
NEWZEALA	ND																
CAR (0)		0.80%	0.89%	0.70%	0.71%	1.50%	1.20%	1.04%	0.90%	1.52%	1.26%	1.13%	0.99%	1.65%	1.30%	1.07%	0.93%
		3.2989	4.1932	3.8295	4.8150	4.6170	4.4207	4.9242	5.0444	4.7445	4.8567	4.7254	4.5895	4.8667	4.6191	4.3498	4.2126
CAR (1)		1.01%	0.90%	0.77%	0.69%	1.48%	1.13%	1.01%	0.81%	1.39%	1.14%	1.04%	0.88%	1.45%	1.13%	0.93%	0.82%
		4.1347	4.1683	4.4984	4.8515	4.8504	4.6081	5.2410	4.8399	4.9320	4.8416	4.6461	4.2370	4.5939	4.2417	3.9210	3.8137
BHAR (0)		0.94%	1.08%	0.77%	0.39%	1.44%	1.23%	0.99%	0.86%	1.62%	1.40%	1.21%	0.93%	1.68%	1.63%	1.16%	1.15%
		3.2363	3.9966	2.6903	1.3204	4.3289	4.3687	3.5027	3.8864	4.6084	4.7055	4.6665	3.7825	5.0177	5.6402	4.6117	4.2393
BHAR (1)		1.25%	1.02%	0.77%	0.37%	1.68%	1.03%	1.06%	0.63%	1.42%	1.37%	1.08%	0.85%	1.56%	1.25%	1.03%	1.14%
-		3.9478	3.4392	2.6366	1.2221	5.0645	4.0169	3.8502	2.8766	4.6537	4.6475	4.1424	3.4710	4.7668	4.4060	4.3366	4.1713

EW	J =		3				6				9				12	2	-
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWA	Y																
CAR (0)		0.37%	0.58%	0.58%	0.53%	0.80%	0.69%	0.80%	0.61%	0.92%	0.86%	0.70%	0.52%	0.85%	0.70%	0.49%	0.32%
		1.3593	3.0423	3.7531	3.6924	2.4524	2.8519	3.6682	2.9067	2.8525	2.9736	2.5575	2.0042	2.4146	2.1379	1.5754	1.0740
CAR (1)		0.42%	0.62%	0.66%	0.48%	0.81%	0.80%	0.77%	0.53%	0.96%	0.79%	0.63%	0.39%	0.87%	0.56%	0.41%	0.18%
		1.5050	3.6650	4.5312	3.3270	2.6538	3.4232	3.6155	2.5458	2.9770	2.7227	2.2773	1.5154	2.4899	1.7270	1.2918	0.6375
BHAR (0)		0.42%	0.66%	0.32%	0.79%	0.62%	0.37%	0.66%	0.91%	1.07%	0.82%	0.89%	0.81%	0.95%	0.91%	0.59%	0.13%
		1.2717	1.8598	1.1804	2.6542	1.5689	0.8961	2.2323	3.4029	2.5806	2.3757	2.4179	2.2750	2.4436	2.1300	1.4296	0.3665
BHAR (1)		0.53%	0.81%	0.41%	0.78%	0.73%	0.42%	0.62%	0.75%	1.00%	0.82%	0.60%	0.82%	1.10%	0.71%	0.76%	0.09%
		1.5661	2.3832	1.5595	2.4429	1.7786	0.9896	2.0340	2.7038	2.3834	2.3367	1.7380	2.4035	2.7724	1.8265	1.8602	0.2550
PORTUG	AL																
CAR (0)		-0.05%	0.21%	0.36%	0.36%	-0.09%	0.17%	0.28%	0.22%	-0.10%	0.12%	0.24%	0.20%	-0.17%	0.15%	0.19%	0.17%
		-0.1688	0.9549	1.8642	2.0629	-0.2433	0.5358	0.9626	0.8440	-0.2548	0.3312	0.7265	0.6512	-0.4400	0.4037	0.5561	0.5260
CAR (1)		0.37%	0.53%	0.54%	0.49%	0.48%	0.55%	0.45%	0.37%	0.26%	0.35%	0.33%	0.25%	0.34%	0.40%	0.34%	0.29%
		1.3368	2.4874	2.7842	2.7828	1.3432	1.7345	1.5769	1.3635	0.6935	1.0000	1.0457	0.8357	0.8458	1.1117	0.9932	0.9133
BHAR (0)		-0.08%	0.31%	0.42%	0.32%	0.14%	0.36%	0.60%	0.24%	0.08%	0.41%	0.30%	0.83%	-0.14%	0.06%	0.43%	0.21%
		-0.2190	0.8999	1.3448	0.8215	0.3369	0.8564	1.7193	0.5847	0.1849	0.9065	0.7068	2.3313	-0.3372	0.1542	1.1804	0.5520
BHAR (1)		0.18%	0.56%	0.51%	0.54%	0.51%	0.62%	0.74%	0.32%	0.37%	0.47%	0.23%	0.70%	0.38%	0.28%	0.50%	0.15%
		0.5560	1.8334	1.7155	1.4840	1.3308	1.6926	2.1641	0.8166	0.9469	1.1679	0.6534	2.0754	1.0118	0.7024	1.3633	0.3993
SINGAPO	RE																
CAR (0)		0.62%	0.75%	0.65%	0.53%	1.20%	0.98%	0.74%	0.56%	1.02%	0.86%	0.68%	0.52%	0.82%	0.79%	0.63%	0.39%
		1.9465	3.5057	3.4985	3.1006	3.8500	3.5836	2.9180	2.4734	2.6859	2.5419	2.2991	2.0710	2.0245	2.3704	2.1749	1.5365
CAR (1)		0.71%	0.81%	0.64%	0.46%	1.27%	0.93%	0.66%	0.47%	0.96%	0.78%	0.59%	0.41%	0.90%	0.75%	0.54%	0.33%
		2.4035	4.3426	3.4897	2.7756	4.5554	3.4945	2.6541	2.1951	2.5536	2.4814	2.1279	1.7208	2.3396	2.4238	2.0416	1.3875
BHAR (0)		0.62%	0.78%	0.82%	0.49%	1.30%	1.05%	0.68%	0.65%	0.89%	0.81%	0.73%	0.62%	0.98%	1.09%	0.90%	0.68%
		1.5683	2.3891	3.3651	1.9548	3.3690	2.9982	1.7986	2.1442	1.9779	1.9245	2.5638	1.9426	2.0679	3.5465	3.0532	2.4615
BHAR (1)		0.76%	0.53%	0.85%	0.44%	1.12%	1.00%	0.56%	0.59%	0.83%	0.72%	0.80%	0.52%	0.93%	0.98%	0.44%	0.42%
		2.2806	2.0367	3.4769	1.7846	3.3490	2.9304	1.5103	2.0771	1.9776	1.8378	2.8856	1.7260	2.1782	3.4266	1.4144	1.5834
SPAIN																	
CAR (0)		0.40%	0.32%	0.36%	0.40%	0.35%	0.41%	0.57%	0.50%	0.55%	0.54%	0.57%	0.41%	0.80%	0.68%	0.63%	0.46%
		2.0915	1.7750	2.2372	2.7513	1.2191	1.5654	2.5647	2.4464	1.5846	1.6687	1.9801	1.5529	2.2010	2.0386	1.9883	1.5422
CAR (1)		0.41%	0.35%	0.39%	0.37%	0.39%	0.49%	0.61%	0.45%	0.50%	0.59%	0.51%	0.31%	0.73%	0.59%	0.54%	0.43%
		1.8654	1.9103	2.3463	2.5121	1.2646	1.8606	2.6925	2.1369	1.3220	1.8102	1.7843	1.1585	2.0256	1.7477	1.7215	1.4555
BHAR (0)		0.38%	-0.04%	0.45%	0.72%	0.34%	0.52%	0.53%	0.46%	0.36%	0.42%	0.58%	0.40%	0.77%	0.82%	0.71%	0.63%
		1.6243	-0.1420	1.6658	2.4251	1.0603	1.4132	1.3525	1.3779	0.8949	1.0124	1.4730	1.3340	2.1129	2.2592	2.1245	1.9760
BHAR (1)		0.50%	-0.08%	0.40%	0.62%	0.39%	0.88%	0.59%	0.36%	0.41%	0.47%	0.62%	0.39%	0.75%	0.66%	0.55%	0.57%
		1.9263	-0.2814	1.4689	2.0281	1.1240	2.7262	1.4836	1.0690	0.9955	1.0188	1.7401	1.2159	1.9780	1.8181	1.6603	1.7693

EW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	V																
CAR (0)		0.79%	1.01%	0.82%	0.78%	1.30%	1.12%	1.01%	0.85%	1.33%	1.29%	1.05%	0.85%	1.52%	1.31%	1.00%	0.75%
		2.3800	3.8335	3.6445	3.9803	3.6539	3.4170	3.5141	3.2699	3.1551	3.3775	3.0802	2.8359	3.7525	3.4940	2.9479	2.3984
CAR (1)		1.21%	1.08%	0.86%	0.77%	1.39%	1.09%	0.97%	0.78%	1.49%	1.24%	0.95%	0.75%	1.52%	1.10%	0.86%	0.64%
		4.0429	4.5566	4.1514	4.1176	3.8748	3.4197	3.5538	3.0502	3.6228	3.4482	2.9983	2.6007	4.0522	3.0515	2.6238	2.1138
BHAR (0)		0.76%	0.88%	0.63%	0.56%	1.38%	1.41%	1.09%	0.86%	1.31%	1.14%	0.79%	0.18%	1.71%	1.38%	1.22%	0.68%
		1.8939	2.6162	1.9135	1.5958	3.5136	4.3833	2.6714	2.6298	2.9412	2.4100	1.7706	0.4417	4.4762	3.6918	3.3115	1.9484
BHAR (1)		0.88%	1.00%	0.66%	0.62%	1.52%	0.95%	0.86%	0.75%	1.29%	0.97%	0.81%	-0.03%	1.68%	1.32%	1.10%	0.80%
		2.4814	3.2354	2.4056	1.8604	4.0483	2.3892	2.1435	2.2504	2.8239	2.0185	1.7401	-0.0761	4.5640	3.6483	3.0763	2.2203
SWITZERL	AND																
CAR (0)		0.78%	0.77%	0.67%	0.65%	1.15%	1.01%	0.94%	0.76%	1.19%	1.14%	0.88%	0.67%	1.26%	1.05%	0.82%	0.59%
		4.8888	5.3017	4.9818	5.4984	5.7557	5.1668	5.4803	4.9376	5.7422	6.0338	4.9457	3.9769	6.0873	5.2324	4.3300	3.2771
CAR (1)		0.86%	0.79%	0.68%	0.59%	1.18%	1.01%	0.87%	0.66%	1.16%	1.02%	0.77%	0.53%	1.17%	0.93%	0.68%	0.46%
		5.5734	5.3830	5.1118	5.0899	5.6861	5.2323	5.3142	4.2806	5.6192	5.4083	4.3198	3.1903	5.6302	4.7438	3.6452	2.5880
BHAR (0)		0.70%	0.85%	0.66%	0.77%	1.14%	1.09%	0.83%	1.03%	1.23%	1.21%	1.06%	0.86%	1.31%	1.25%	0.90%	0.78%
		3.8517	3.9682	3.1002	3.1924	5.0301	4.3944	4.1479	4.7467	5.3835	5.1841	4.7564	3.6857	5.9279	5.3615	3.6990	3.2487
BHAR (1)		0.87%	0.84%	0.71%	0.70%	1.09%	1.05%	0.77%	0.94%	1.20%	1.03%	0.89%	0.74%	1.20%	1.18%	0.70%	0.70%
		4.8775	3.8184	3.4030	3.0400	4.6735	4.2615	3.9824	4.3944	5.3616	4.5798	4.0145	2.9744	5.7061	5.3372	3.2419	3.0515
UK																	
CAR (0)		1.05%	1.06%	0.90%	0.90%	1.52%	1.29%	1.19%	1.07%	1.46%	1.34%	1.17%	1.01%	1.54%	1.29%	1.07%	0.88%
		5.2316	6.5141	6.6906	7.8804	7.0272	6.9509	7.6101	7.2798	6.7622	6.9331	6.2987	5.7183	6.9614	6.0386	5.2725	4.5038
CAR (1)		1.14%	1.01%	0.89%	0.83%	1.43%	1.20%	1.11%	0.96%	1.38%	1.23%	1.06%	0.88%	1.40%	1.14%	0.93%	0.76%
		6.2495	6.6793	7.4066	7.6793	7.1137	7.0520	7.4394	6.6963	6.8247	6.4443	5.7726	5.0148	6.4649	5.3403	4.5862	3.8986
BHAR (0)		0.96%	1.13%	1.07%	0.79%	1.49%	1.30%	1.07%	1.07%	1.51%	1.34%	1.20%	1.03%	1.45%	1.29%	0.97%	0.82%
		4.3073	5.5364	5.5024	3.5979	6.8181	6.9536	4.8965	6.3287	6.7894	5.9387	6.1209	5.1442	6.2287	5.9156	3.9445	3.9663
BHAR (1)		1.17%	1.04%	0.97%	0.71%	1.41%	1.21%	1.02%	0.88%	1.42%	1.21%	1.02%	0.88%	1.35%	1.08%	0.77%	0.66%
		6.1324	5.4434	5.6541	3.2694	7.2943	7.8414	5.1407	5.5450	6.9866	5.7932	5.1094	4.4522	6.2477	5.0956	3.2440	3.3384
US																	
CAR (0)		0.11%	0.21%	0.20%	0.17%	0.39%	0.39%	0.31%	0.18%	0.53%	0.44%	0.26%	0.11%	0.46%	0.28%	0.12%	-0.02%
		0.5972	1.3755	1.5203	1.3919	1.8139	2.0015	1.8101	1.1227	2.3644	2.0728	1.2834	0.5660	1.8808	1.1978	0.5352	-0.0898
CAR (1)		0.22%	0.26%	0.24%	0.13%	0.44%	0.41%	0.28%	0.12%	0.57%	0.38%	0.19%	0.03%	0.36%	0.19%	0.02%	-0.11%
		1.2944	1.8151	1.9328	1.1531	2.1707	2.2296	1.6423	0.7449	2.6227	1.8307	0.9470	0.1330	1.4921	0.8159	0.0932	-0.5247
BHAR (0)		0.06%	0.44%	0.21%	0.22%	0.30%	0.29%	0.15%	0.27%	0.56%	0.52%	0.37%	0.14%	0.44%	0.25%	0.15%	-0.05%
		0.3219	2.4517	1.0144	1.1120	1.2089	1.2019	0.5769	1.4388	2.3630	2.2761	1.8719	0.6474	1.7426	0.9133	0.5857	-0.2042
BHAR (1)		0.26%	0.38%	0.18%	0.10%	0.37%	0.27%	0.08%	0.07%	0.56%	0.35%	0.13%	-0.02%	0.27%	0.07%	-0.02%	-0.20%
		1.5319	2.0030	0.9360	0.4826	1.7651	1.2864	0.3235	0.4076	2.5233	1.4857	0.5936	-0.0982	1.0644	0.2491	-0.0804	-0.8090

Panel B. The time-series momentum strategy using market-weighted return

MW	J =		3				6	iituiii Su			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL	JA																
CAR (0)		0.89%	0.93%	0.75%	0.64%	1.22%	1.07%	0.87%	0.65%	1.37%	1.11%	0.85%	0.63%	1.04%	0.83%	0.60%	0.50%
		2.5730	3.8916	3.3953	3.3488	3.5727	3.7302	3.2388	2.7653	3.7981	3.4533	2.8330	2.5191	2.9728	2.6802	2.1511	2.0391
CAR (1)		0.91%	0.83%	0.72%	0.52%	1.21%	0.98%	0.77%	0.56%	1.21%	0.97%	0.71%	0.49%	0.89%	0.70%	0.52%	0.38%
		2.9150	3.6019	3.3173	2.7570	3.8543	3.3979	2.9191	2.5070	3.4312	3.0767	2.4945	2.0599	2.5538	2.3082	1.9332	1.6001
BHAR (0)		0.96%	1.05%	0.64%	0.34%	0.95%	1.36%	0.85%	0.22%	1.14%	0.87%	0.57%	0.88%	1.08%	1.24%	0.65%	0.86%
		1.7653	2.4249	1.4557	0.8412	2.0817	3.5586	2.2059	0.6551	2.5390	1.9731	1.4784	2.4021	2.5910	3.8174	2.0526	2.7147
BHAR (1)		1.23%	0.94%	0.63%	0.45%	1.33%	1.35%	0.71%	0.15%	1.14%	0.94%	0.50%	0.84%	0.84%	0.94%	0.58%	0.60%
		3.3110	2.0491	1.5895	1.2104	4.0702	3.8288	1.9746	0.4691	3.3350	2.1163	1.5722	2.3780	2.3026	3.0387	1.7725	1.9623
AUSTRI	A																
CAR (0)		0.24%	0.27%	0.22%	0.16%	0.53%	0.53%	0.39%	0.24%	0.81%	0.60%	0.32%	0.10%	0.60%	0.38%	0.22%	0.05%
		0.8295	1.1656	0.9999	0.8227	1.5213	1.6118	1.3415	0.9193	2.2368	1.7424	0.9681	0.3407	1.4102	0.9582	0.6530	0.1506
CAR (1)		0.20%	0.20%	0.18%	0.10%	0.45%	0.45%	0.28%	0.12%	0.75%	0.46%	0.20%	-0.02%	0.36%	0.21%	0.08%	-0.06%
		0.6410	0.8423	0.7982	0.4884	1.2827	1.3691	0.9609	0.4611	1.9780	1.3022	0.6287	-0.0689	0.8216	0.5390	0.2581	-0.2097
BHAR (0)		0.21%	0.31%	0.05%	0.20%	0.31%	-0.39%	-0.15%	0.21%	0.33%	0.50%	-0.13%	0.41%	0.52%	0.28%	0.33%	-0.17%
		0.5193	0.9205	0.1122	0.5169	0.8872	-0.9024	-0.4230	0.5777	0.7317	1.2077	-0.3336	1.0211	1.2692	0.7054	0.7318	-0.4460
BHAR (1)		0.17%	-0.10%	-0.04%	0.14%	0.16%	-0.27%	-0.13%	0.13%	0.29%	0.16%	-0.19%	0.03%	0.08%	0.04%	-0.05%	-0.37%
		0.3828	-0.2588	-0.0874	0.3898	0.3949	-0.6604	-0.3847	0.3621	0.6758	0.3752	-0.4991	0.0770	0.1958	0.0818	-0.1133	-0.8972
BELGIU	М																
CAR (0)		0.16%	0.36%	0.36%	0.43%	0.59%	0.75%	0.81%	0.71%	0.73%	0.91%	0.73%	0.52%	0.82%	0.72%	0.54%	0.49%
		0.5158	1.2527	1.4464	1.9302	1.4894	2.1462	2.6884	2.4943	2.0177	2.6042	2.3104	1.7030	2.2767	2.1611	1.6606	1.5334
CAR (1)		0.38%	0.34%	0.40%	0.42%	0.64%	0.82%	0.80%	0.61%	0.93%	0.91%	0.67%	0.46%	0.84%	0.66%	0.52%	0.45%
		1.1953	1.2316	1.6030	1.9745	1.6001	2.3773	2.7126	2.1608	2.5104	2.6452	2.1238	1.4845	2.2852	1.9215	1.5550	1.3678
BHAR (0)		0.27%	0.55%	-0.41%	0.31%	0.42%	0.32%	0.74%	0.98%	0.58%	0.71%	0.54%	0.46%	0.70%	0.75%	0.88%	0.15%
		0.6530	1.2960	-1.0600	0.7027	0.8063	0.6259	1.2830	1.9085	1.5252	1.6750	1.4361	1.1489	1.8771	1.8881	2.1084	0.3779
BHAR (1)		0.31%	0.26%	-0.17%	0.48%	0.79%	0.64%	0.62%	1.02%	0.87%	0.51%	0.70%	0.30%	0.75%	0.76%	0.92%	0.43%
		0.7563	0.6038	-0.4522	1.1296	1.6049	1.4347	1.1796	2.2721	2.0178	1.1938	1.8284	0.7387	1.9790	1.9214	2.1573	1.0557
CANAD	4																
CAR (0)		1.09%	0.91%	0.84%	0.89%	1.39%	1.26%	1.29%	1.12%	1.59%	1.49%	1.28%	1.05%	1.74%	1.41%	1.18%	0.96%
		3.2211	3.2786	3.1232	3.6253	3.7750	3.4979	3.8444	3.5534	3.7836	3.6492	3.2795	2.7187	4.0620	3.3562	2.7898	2.2774
CAR (1)		1.07%	0.83%	0.91%	0.78%	1.28%	1.27%	1.26%	0.98%	1.66%	1.43%	1.21%	0.93%	1.56%	1.26%	1.06%	0.84%
		3.2972	2.9507	3.4131	3.1749	3.4356	3.4822	3.7352	3.0794	3.8372	3.4833	3.0224	2.3638	3.5905	2.9576	2.4301	1.9893
BHAR (0)		1.01%	0.81%	0.89%	0.70%	1.20%	1.27%	1.76%	0.87%	1.76%	1.39%	1.36%	0.44%	1.55%	1.20%	0.95%	0.87%
		2.3749	1.7245	1.5299	1.3543	2.8246	2.6244	3.6226	1.7258	4.0245	2.9399	2.9740	0.9476	3.4893	2.6235	1.8369	1.9002
BHAR (1)		1.01%	0.65%	1.04%	0.62%	1.21%	1.31%	1.51%	0.52%	1.53%	1.24%	1.04%	0.36%	1.33%	0.90%	0.73%	0.65%
		2.4798	1.3646	1.9965	1.1902	2.7484	2.7431	3.0314	0.9927	3.1673	2.6094	2.0974	0.7353	2.8916	2.0907	1.5052	1.4608

MW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	RK																
CAR (0)		0.78%	0.95%	0.78%	0.76%	1.17%	1.07%	0.98%	0.93%	1.10%	1.13%	1.04%	0.95%	1.19%	1.07%	0.91%	0.89%
		2.8173	4.1015	3.6611	3.7086	3.0897	3.3705	3.3599	3.4316	2.6582	3.0079	2.8629	2.8586	3.0645	2.8402	2.4693	2.4977
CAR (1)		1.00%	0.91%	0.82%	0.70%	1.01%	0.94%	0.94%	0.85%	1.19%	1.12%	0.99%	0.95%	1.11%	0.95%	0.87%	0.81%
		3.6981	4.0280	3.8054	3.4100	2.6493	2.8474	3.1562	3.1087	2.8570	2.9005	2.7765	2.8182	2.7904	2.4374	2.2941	2.2082
BHAR (0)		0.76%	1.17%	0.58%	0.73%	1.23%	0.77%	1.11%	1.24%	1.08%	0.84%	0.76%	0.74%	0.66%	0.71%	0.77%	0.57%
		2.2341	2.9417	1.3815	1.5405	2.8206	1.7723	2.9150	3.4675	2.4623	1.9319	1.8461	1.8934	1.3935	1.4692	1.6545	1.1794
BHAR (1)		1.13%	1.06%	0.73%	0.90%	1.28%	1.14%	1.14%	1.26%	1.29%	1.36%	0.96%	0.86%	1.18%	0.86%	0.91%	0.65%
		3.1392	2.5060	1.8905	2.0521	2.8123	2.8950	2.8728	3.6370	2.7926	3.0987	2.4422	2.1650	2.7287	1.9309	2.0528	1.3192
FINLAN	D																
CAR (0)		0.93%	1.02%	1.20%	1.13%	1.21%	1.27%	1.48%	1.24%	1.64%	1.41%	1.25%	1.14%	1.52%	1.43%	1.42%	1.35%
		1.8215	2.3609	3.0122	3.0748	1.9898	2.1250	2.7607	2.4215	2.5978	2.3651	2.0801	1.9991	2.2845	2.1013	2.1515	2.1687
CAR (1)		0.97%	1.12%	1.21%	1.08%	1.38%	1.51%	1.46%	1.24%	1.51%	1.27%	1.13%	1.03%	1.29%	1.39%	1.32%	1.30%
		1.7840	2.4586	3.0209	2.8953	2.1336	2.5500	2.6736	2.4071	2.3001	2.0229	1.8591	1.8015	1.7690	1.9718	1.9714	2.0865
BHAR (0)		1.03%	1.20%	1.73%	1.01%	1.35%	1.68%	1.22%	1.26%	1.44%	1.01%	0.95%	1.22%	1.49%	1.69%	1.36%	1.78%
		1.6937	1.8563	2.6183	1.3171	1.9153	2.1873	1.5669	1.6272	1.9782	1.1450	1.1866	1.5896	1.9394	2.2246	1.8604	2.7307
BHAR (1)		1.66%	1.95%	1.97%	1.19%	1.41%	1.41%	1.04%	0.84%	1.24%	0.98%	0.82%	1.19%	1.23%	1.49%	1.18%	2.01%
		2.5954	2.8930	3.0162	1.5841	2.0621	1.8019	1.3426	1.0968	1.5037	1.1096	1.0266	1.4946	1.6130	2.0134	1.6913	3.2199
FRANCI	E																
CAR (0)		-0.24%	0.07%	0.08%	0.22%	0.17%	0.25%	0.35%	0.36%	0.15%	0.28%	0.27%	0.26%	0.18%	0.20%	0.26%	0.23%
		-0.8297	0.3478	0.4624	1.4372	0.6122	1.0504	1.6767	1.8397	0.5157	1.1122	1.0605	1.0162	0.6377	0.6971	0.9224	0.8651
CAR (1)		0.12%	0.20%	0.24%	0.23%	0.38%	0.39%	0.43%	0.36%	0.36%	0.32%	0.30%	0.23%	0.24%	0.25%	0.26%	0.24%
		0.4877	1.0851	1.5330	1.6095	1.4784	1.6552	2.1014	1.8309	1.3242	1.2529	1.1673	0.9184	0.8672	0.8823	0.9478	0.9034
BHAR (0)		-0.54%	0.05%	0.02%	-0.08%	0.18%	0.18%	0.19%	0.48%	0.17%	0.16%	0.34%	0.40%	0.18%	0.29%	0.45%	0.59%
		-1.6447	0.1613	0.0413	-0.2142	0.5840	0.5884	0.5695	1.5314	0.4853	0.4452	1.1697	1.2270	0.6357	0.8611	1.4630	1.8685
BHAR (1)		-0.20%	0.12%	0.04%	0.23%	0.41%	0.35%	0.20%	0.37%	0.52%	0.28%	0.45%	0.41%	0.15%	0.28%	0.36%	0.37%
		-0.5910	0.3803	0.1141	0.5935	1.3431	1.0667	0.5831	1.0929	1.7024	0.8106	1.5191	1.2145	0.4498	0.8406	1.1240	1.0841
GERMAN	VΥ																
CAR (0)		0.58%	0.66%	0.73%	0.65%	0.96%	1.10%	1.00%	0.73%	1.41%	1.26%	0.99%	0.71%	1.20%	0.92%	0.70%	0.48%
		2.1163	3.0953	3.9414	3.5626	2.7283	3.9888	3.6544	2.6270	3.9745	3.6840	2.7051	1.8994	2.6044	2.0935	1.5604	1.0879
CAR (1)		0.64%	0.76%	0.74%	0.57%	1.13%	1.15%	0.92%	0.65%	1.28%	1.11%	0.82%	0.57%	0.99%	0.82%	0.56%	0.36%
		2.4723	3.7120	3.9882	3.0829	3.4728	4.1183	3.1555	2.2489	3.5953	3.0276	2.1087	1.4645	2.1638	1.7973	1.2258	0.8098
BHAR (0)		0.50%	0.90%	0.69%	0.30%	0.70%	0.93%	0.69%	0.66%	1.47%	1.29%	0.88%	1.14%	1.11%	0.85%	0.82%	0.46%
		1.4216	2.4914	1.8940	0.8671	1.8219	2.6358	1.5358	2.0382	3.2720	2.7503	1.8304	2.6399	2.2041	1.6937	1.8698	0.9559
BHAR (1)		0.74%	0.88%	0.58%	0.27%	0.86%	1.18%	0.50%	0.68%	1.46%	1.13%	0.76%	0.77%	0.84%	0.82%	0.85%	0.37%
		2.1825	2.7800	1.6146	0.7940	2.6971	3.4211	1.0334	2.2302	3.3306	2.2304	1.6981	1.7373	1.7398	1.5690	1.8569	0.7263

MW	J =		3	3			6	i			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE	;																
CAR (0)		0.18%	0.04%	-0.07%	0.05%	0.61%	0.55%	0.43%	0.14%	-0.15%	0.00%	-0.18%	-0.38%	0.51%	0.32%	0.04%	-0.29%
		0.3714	0.0985	-0.1896	0.1553	0.9283	0.9620	0.8956	0.2983	-0.2222	-0.0028	-0.2874	-0.6108	0.7758	0.5064	0.0662	-0.4502
CAR (1)		0.22%	-0.07%	-0.09%	0.02%	0.84%	0.59%	0.42%	0.14%	-0.05%	-0.06%	-0.29%	-0.42%	0.85%	0.36%	-0.08%	-0.27%
		0.4342	-0.1594	-0.2506	0.0544	1.2831	1.1298	0.8869	0.3047	-0.0688	-0.0909	-0.4507	-0.6559	1.2871	0.5716	-0.1296	-0.4109
BHAR (0)		0.81%	0.56%	0.36%	0.46%	1.37%	1.00%	-0.23%	-0.02%	0.41%	0.62%	-0.43%	-0.22%	1.03%	0.26%	0.55%	-0.11%
		1.2505	0.7540	0.4711	0.7067	1.9087	1.4223	-0.3353	-0.0263	0.5167	0.9555	-0.4454	-0.2847	1.4275	0.3139	0.8754	-0.1261
BHAR (1)		0.69%	0.35%	0.34%	0.62%	1.61%	0.91%	-0.05%	0.10%	0.10%	0.86%	-0.52%	-0.15%	1.73%	0.42%	0.87%	0.48%
		1.0106	0.4549	0.4495	0.8308	2.1009	1.2948	-0.0612	0.1312	0.1134	1.1455	-0.5324	-0.2029	2.1655	0.5215	1.3271	0.5568
HONGKON	IG																
CAR (0)		0.79%	0.82%	0.77%	0.72%	1.50%	1.11%	0.96%	0.88%	1.14%	1.03%	0.88%	0.77%	1.20%	0.98%	0.87%	0.84%
		2.2447	3.0772	3.3398	3.3262	3.6806	2.9754	2.8919	2.8312	2.7467	2.6050	2.3948	2.2254	3.0365	2.6023	2.3897	2.3472
CAR (1)		0.84%	0.86%	0.83%	0.70%	1.51%	1.07%	0.91%	0.80%	1.16%	0.96%	0.82%	0.72%	1.09%	0.98%	0.84%	0.81%
		2.5359	3.3126	3.7203	3.3127	3.4160	2.7891	2.7637	2.6599	2.5757	2.4467	2.2434	2.0851	2.8942	2.6664	2.3207	2.2942
BHAR (0)		0.21%	0.39%	-0.18%	0.54%	1.44%	0.94%	1.13%	0.31%	1.13%	0.89%	1.28%	0.71%	1.01%	0.96%	0.78%	1.58%
		0.4818	0.8912	-0.3956	1.4303	3.3168	1.9510	2.2680	0.7512	2.2616	1.6780	3.1840	1.4920	2.2974	2.3157	1.7194	3.4100
BHAR (1)		0.22%	0.46%	-0.16%	0.50%	1.49%	0.70%	1.01%	0.23%	0.89%	0.60%	1.16%	0.82%	0.98%	1.17%	0.80%	1.44%
		0.5293	1.1293	-0.3445	1.3082	3.1130	1.3837	2.0601	0.5568	1.7539	1.1471	2.7102	1.7729	2.4112	2.9752	1.9094	3.3710
IRELANI)								1								
CAR (0)		0.66%	1.03%	0.70%	0.74%	1.23%	1.12%	0.69%	0.62%	0.96%	0.93%	0.66%	0.42%	1.25%	0.96%	0.86%	0.64%
		1.1686	2.1159	1.5840	2.0540	1.7349	1.7936	1.3099	1.2968	1.2224	1.4069	1.0840	0.7471	1.6931	1.4346	1.3405	1.1054
CAR (1)		1.44%	1.23%	0.86%	0.83%	1.37%	0.90%	0.58%	0.49%	1.10%	0.76%	0.54%	0.33%	0.90%	0.83%	0.71%	0.44%
		2.7233	2.5343	2.0279	2.4580	2.0375	1.4947	1.1421	1.0523	1.5680	1.2369	0.9402	0.6266	1.2333	1.2314	1.1286	0.7962
BHAR (0)		1.04%	0.32%	-0.86%	0.47%	0.58%	1.12%	-0.46%	1.94%	0.87%	0.15%	1.35%	0.55%	1.83%	1.35%	1.38%	1.64%
		1.4179	0.3787	-1.0185	0.5297	0.7265	1.5759	-0.6970	2.5283	0.9011	0.1695	1.5086	0.7271	2.1891	1.6086	1.7950	2.0264
BHAR (1)		1.27%	0.05%	-1.08%	0.65%	0.81%	1.02%	0.02%	1.71%	0.17%	0.13%	0.92%	-0.06%	1.08%	1.21%	0.93%	1.57%
		1.6461	0.0518	-1.1193	0.6460	1.0491	1.4576	0.0271	2.3216	0.1866	0.1313	1.0313	-0.0814	1.3175	1.4326	1.2692	1.9481
ISRAEL																	
CAR (0)		0.63%	0.65%	0.65%	0.53%	0.92%	0.84%	0.61%	0.41%	1.08%	0.72%	0.54%	0.33%	0.69%	0.52%	0.34%	0.09%
		1.7614	2.1164	2.4078	2.1392	1.9812	2.0744	1.7356	1.2011	2.1828	1.6404	1.3063	0.8524	1.2568	1.0542	0.7400	0.2127
CAR (1)		0.88%	0.81%	0.75%	0.48%	0.97%	0.77%	0.57%	0.25%	1.00%	0.63%	0.46%	0.25%	0.44%	0.35%	0.19%	0.00%
		2.4659	2.6156	2.8192	1.8439	2.1594	2.0614	1.6044	0.7423	2.1968	1.4052	1.1062	0.6243	0.7856	0.6970	0.4113	-0.0076
BHAR (0)		0.34%	0.20%	0.84%	0.02%	1.25%	1.16%	0.52%	1.22%	1.01%	0.96%	1.05%	0.88%	0.57%	0.25%	0.53%	0.15%
		0.8112	0.4556	1.9222	0.0572	2.4651	2.2143	1.2286	2.3948	2.0584	1.9591	2.4201	1.8407	1.0088	0.4334	1.0538	0.2501
BHAR (1)		0.52%	0.32%	0.96%	-0.02%	1.27%	1.22%	0.53%	1.17%	1.06%	0.73%	0.67%	0.85%	0.54%	0.50%	0.28%	0.30%
		1.1593	0.7240	2.4931	-0.0570	2.7333	2.5549	1.2189	2.3467	2.2369	1.5962	1.5186	1.7797	0.8948	0.8547	0.5469	0.4880

MW	J =		3				6	<u> </u>			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.70%	0.83%	0.79%	0.81%	0.91%	1.00%	0.93%	0.95%	1.08%	1.45%	1.39%	1.33%	1.48%	1.36%	1.27%	1.19%
		2.0386	2.7917	3.4544	4.1343	2.2360	3.1193	3.4659	3.7737	2.7670	4.1852	4.3172	4.3640	3.5701	3.4588	3.4040	3.3408
CAR (1)		0.89%	0.94%	0.87%	0.83%	1.08%	1.02%	0.94%	0.86%	1.58%	1.53%	1.38%	1.32%	1.39%	1.28%	1.17%	1.17%
		2.5892	3.3899	3.8573	4.3092	3.0157	3.4979	3.5712	3.4183	4.0676	4.5257	4.3613	4.3332	3.3976	3.1995	3.1318	3.2420
BHAR (0)		0.94%	0.48%	1.24%	0.51%	0.98%	0.99%	0.70%	1.37%	1.26%	1.18%	1.01%	1.36%	1.49%	1.07%	1.21%	0.96%
		2.0591	1.0480	2.7321	1.1515	2.1613	2.2081	1.8287	3.0123	2.8830	2.6637	2.3707	3.2682	3.0843	2.2785	2.3950	2.2502
BHAR (1)		1.08%	0.67%	1.60%	0.59%	0.93%	0.86%	0.78%	1.50%	1.71%	1.33%	0.80%	1.34%	1.19%	0.94%	1.39%	0.93%
		2.5252	1.4898	3.4799	1.3559	2.3648	2.0965	2.2172	3.3549	3.4842	2.8713	1.9334	3.2014	2.5427	2.0125	2.7734	2.0859
JAPAN																	
CAR (0)		0.07%	0.04%	0.10%	0.14%	0.11%	0.10%	0.20%	0.14%	0.19%	0.26%	0.22%	0.16%	0.25%	0.18%	0.16%	0.16%
		0.2645	0.1532	0.4778	0.8052	0.3199	0.3219	0.7478	0.6044	0.5505	0.8353	0.8035	0.6634	0.7417	0.5667	0.5704	0.6070
CAR (1)		0.12%	0.11%	0.16%	0.12%	0.21%	0.20%	0.25%	0.13%	0.30%	0.34%	0.22%	0.16%	0.25%	0.17%	0.16%	0.15%
		0.4859	0.4504	0.7906	0.7217	0.6680	0.7056	1.0064	0.5864	0.9029	1.1327	0.8362	0.6564	0.7728	0.5814	0.6067	0.6039
BHAR (0)		0.06%	0.24%	0.16%	0.44%	0.27%	0.22%	0.06%	0.43%	0.29%	0.37%	0.35%	0.20%	0.33%	0.32%	0.16%	0.12%
		0.1975	0.8032	0.4956	1.6444	0.7443	0.6101	0.1747	1.4981	0.7876	1.1566	1.0577	0.6857	0.9269	0.9600	0.5251	0.3995
BHAR (1)		0.02%	0.13%	0.01%	0.49%	0.30%	0.18%	0.09%	0.33%	0.24%	0.41%	0.21%	0.06%	0.21%	0.07%	0.06%	-0.09%
		0.0661	0.4454	0.0481	1.9205	0.9765	0.5843	0.2748	1.1545	0.7330	1.3586	0.6919	0.2249	0.6184	0.2019	0.2070	-0.2968
NETHERLA	NDS																
CAR (0)		0.38%	0.45%	0.42%	0.46%	0.72%	0.60%	0.51%	0.41%	0.79%	0.58%	0.49%	0.35%	0.47%	0.45%	0.39%	0.36%
		1.2593	1.8674	2.0317	2.5906	2.0711	1.8974	1.7706	1.5427	2.0981	1.6896	1.4631	1.1044	1.2175	1.1651	1.0769	1.0691
CAR (1)		0.63%	0.49%	0.44%	0.40%	0.70%	0.58%	0.50%	0.30%	0.55%	0.38%	0.35%	0.26%	0.15%	0.42%	0.28%	0.31%
		2.0767	2.0802	2.1948	2.2961	1.9001	1.7698	1.7130	1.0934	1.3378	1.0453	1.0049	0.8127	0.3579	1.0401	0.7636	0.9303
BHAR (0)		0.53%	0.26%	0.61%	0.31%	0.59%	0.66%	-0.35%	0.79%	0.75%	0.69%	0.40%	0.50%	0.48%	0.61%	0.39%	0.27%
		1.4110	0.6549	1.5175	0.6638	1.3753	1.4305	-0.6722	1.8085	1.7412	1.6211	0.9414	1.2397	1.0707	1.4370	0.8675	0.6289
BHAR (1)		0.92%	0.41%	0.44%	0.66%	0.38%	0.54%	-0.31%	0.69%	0.25%	0.23%	0.42%	0.45%	0.30%	0.36%	0.38%	-0.01%
		2.2612	1.0264	1.0956	1.4444	0.9650	1.1737	-0.5976	1.5003	0.5401	0.5118	0.9672	1.1149	0.6039	0.7870	0.8771	-0.0282
NEWZEALA	ND				-				-				1				
CAR (0)		1.34%	0.89%	0.62%	0.65%	1.65%	1.12%	0.92%	0.77%	1.20%	0.96%	0.77%	0.64%	1.42%	0.96%	0.87%	0.70%
		2.5854	2.8608	2.5558	3.0698	2.4689	2.4639	2.7487	2.7385	2.0533	2.4760	2.3334	2.1901	2.5657	2.4074	2.5950	2.3416
CAR (1)		0.89%	0.56%	0.50%	0.52%	0.99%	0.78%	0.73%	0.55%	0.86%	0.77%	0.62%	0.50%	0.87%	0.73%	0.65%	0.54%
		2.2155	2.1521	2.3803	2.7109	1.7883	2.0625	2.4739	2.2413	1.8514	2.2672	2.0456	1.8791	1.8917	1.9968	2.0740	1.8544
BHAR (0)		1.59%	0.83%	0.92%	0.01%	1.63%	1.10%	1.28%	0.71%	1.17%	0.79%	0.48%	0.41%	1.49%	1.39%	0.90%	0.53%
		2.6013	1.7363	1.3751	0.0103	3.5060	2.2903	3.2960	1.5636	1.8289	1.5142	1.0754	1.2214	2.6418	2.6412	2.5011	1.5435
BHAR (1)		1.14%	0.23%	0.50%	0.00%	1.14%	0.66%	0.91%	0.19%	0.67%	0.62%	0.36%	0.14%	0.90%	0.75%	0.55%	0.36%
		2.2577	0.5142	0.9635	-0.0048	2.6446	1.5021	2.3009	0.5172	1.3208	1.1208	0.7954	0.3909	1.9293	1.6936	1.5945	0.9568

MW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	,																
CAR (0)		-0.19%	0.22%	0.29%	0.39%	0.32%	0.51%	0.72%	0.63%	0.40%	0.64%	0.66%	0.59%	0.61%	0.75%	0.65%	0.50%
		-0.5469	0.9792	1.5855	2.3392	0.9022	1.7459	2.6119	2.4035	1.0375	1.9700	2.2739	2.2095	1.7207	2.2361	2.0508	1.5534
CAR (1)		0.01%	0.27%	0.44%	0.37%	0.54%	0.75%	0.81%	0.64%	0.76%	0.75%	0.72%	0.56%	0.80%	0.65%	0.62%	0.42%
		0.0246	1.2878	2.4337	2.1735	1.5405	2.4110	2.8648	2.4509	2.0325	2.4066	2.4946	2.0776	2.1267	1.8797	1.8165	1.2888
BHAR (0)		-0.53%	-0.26%	0.26%	0.83%	0.30%	0.16%	1.13%	0.68%	0.55%	0.93%	0.78%	1.26%	0.82%	0.94%	0.83%	0.44%
		-1.1503	-0.5510	0.6169	1.8341	0.6977	0.3439	2.7506	1.9842	1.1886	2.1057	2.2376	3.1833	1.9958	2.0718	1.8651	0.9588
BHAR (1)		-0.15%	0.21%	0.40%	0.86%	0.75%	0.29%	1.41%	0.62%	0.96%	1.18%	0.78%	1.22%	1.25%	0.66%	0.95%	0.57%
		-0.3206	0.4562	1.0910	1.8442	1.7316	0.6276	3.6819	1.6692	1.9222	2.9218	2.2595	3.0196	2.9083	1.4103	2.2744	1.2896
PORTUGA	L																
CAR (0)		1.00%	0.73%	0.84%	0.81%	0.12%	0.35%	0.67%	0.51%	0.04%	0.48%	0.57%	0.43%	0.25%	0.43%	0.49%	0.47%
		2.1904	2.0984	2.9513	3.1096	0.2074	0.8000	1.7966	1.5293	0.0779	1.0958	1.5052	1.1904	0.4338	0.9004	1.1685	1.1700
CAR (1)		1.06%	0.85%	0.98%	0.81%	0.47%	0.72%	0.73%	0.57%	0.49%	0.70%	0.61%	0.48%	0.45%	0.57%	0.61%	0.54%
		2.5263	2.6691	3.4205	3.1250	0.9120	1.6765	2.0030	1.6972	0.9908	1.6765	1.6666	1.3696	0.8136	1.2309	1.4640	1.3447
BHAR (0)		0.81%	-0.01%	0.80%	1.00%	0.16%	1.17%	1.11%	1.37%	0.23%	0.55%	1.18%	0.65%	0.72%	0.98%	0.63%	0.84%
		1.4172	-0.0263	1.8398	1.8739	0.2924	2.0394	2.2869	2.6041	0.3802	0.9602	2.0021	1.4048	1.3180	1.7635	1.0731	1.5576
BHAR (1)		1.18%	0.15%	0.65%	1.05%	0.74%	2.01%	1.34%	1.53%	0.62%	0.46%	0.66%	0.45%	0.72%	0.85%	0.53%	0.97%
		2.2063	0.3139	1.5322	2.0144	1.3461	3.3998	2.7688	2.5731	1.1412	0.8357	1.1062	1.1037	1.1587	1.4924	0.8768	1.7724
SINGAPOR	E								1				1				
CAR (0)		0.60%	0.66%	0.53%	0.49%	0.99%	0.66%	0.53%	0.51%	0.65%	0.60%	0.52%	0.52%	0.80%	0.73%	0.66%	0.52%
		1.8407	3.1056	2.7124	2.5769	2.9767	2.1262	1.7290	1.8269	1.7510	1.6558	1.4438	1.6620	1.8965	1.8111	1.7942	1.6301
CAR (1)		0.52%	0.65%	0.51%	0.41%	0.95%	0.58%	0.51%	0.45%	0.74%	0.62%	0.51%	0.48%	0.95%	0.76%	0.61%	0.52%
		1.5551	2.9647	2.4526	2.0337	2.7876	1.6696	1.6028	1.6305	1.9286	1.6505	1.3980	1.6040	2.0964	1.8243	1.6408	1.6863
BHAR (0)		0.55%	0.55%	0.91%	0.10%	1.24%	0.62%	0.58%	0.13%	0.88%	1.00%	0.59%	0.94%	0.92%	1.11%	0.80%	1.19%
		1.3110	1.4039	2.9037	0.2541	3.4469	1.5738	1.0694	0.2723	2.0551	2.2170	1.3390	2.3195	1.8454	2.9015	2.1959	2.9336
BHAR (1)		0.51%	0.04%	1.03%	0.01%	0.62%	0.45%	0.28%	0.34%	0.70%	0.87%	0.75%	0.79%	0.97%	1.01%	0.41%	0.90%
		1.2880	0.0963	3.1166	0.0196	1.5808	1.0194	0.4988	0.7558	1.5917	1.8638	1.5698	1.8859	1.8783	2.3434	1.0111	2.1396
SPAIN		0.120/	0.400/	0.400/	0.040/	0.000/	0.420/	0.440/	0.400/	0.000/	0.220/	0.4=0/	0.250/	0.610/	0.420/	0.260/	0.240/
CAR (0)		-0.13%	-0.12%	0.12%	0.24%	-0.09%	0.12%	0.41%	0.40%	0.20%	0.33%	0.47%	0.35%	0.61%	0.43%	0.36%	0.34%
GID (I)		-0.4485	-0.4681	0.5270	1.3223	-0.2282	0.3156	1.3140	1.4569	0.3996	0.7449	1.2409	0.9738	1.2043	0.9789	0.8519	0.8679
CAR (1)		-0.16%	0.03%	0.20%	0.26%	-0.10%	0.33%	0.53%	0.36%	0.33%	0.46%	0.44%	0.32%	0.50%	0.31%	0.33%	0.40%
		-0.4775	0.0957	0.8458	1.4260	-0.2482	0.9118	1.7347	1.3227	0.6611	1.1167	1.1734	0.9249	1.0742	0.7067	0.7769	1.0210
BHAR (0)		-0.18%	-0.44%	0.05%	-0.39%	0.07%	-0.18%	0.37%	0.21%	-0.18%	0.09%	0.83%	0.61%	0.28%	0.78%	0.78%	0.86%
DILAD (1)		-0.4135	-0.9077	0.1123	-0.8038	0.1466	-0.3401	0.6689	0.4230	-0.3393	0.1453	1.5908	1.2907	0.5141	1.5336	1.7563	1.8929
BHAR (1)		0.05%	-0.04%	0.10%	-0.28%	0.22%	0.46%	0.26%	0.24%	0.39%	0.76%	0.98%	0.72%	0.68%	0.80%	0.88%	0.83%
		0.1140	-0.0902	0.2433	-0.5441	0.4804	1.0305	0.4802	0.4938	0.7184	1.2214	1.9883	1.4625	1.3882	1.5343	2.0462	1.9547

MW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		0.53%	0.70%	0.53%	0.49%	0.83%	0.64%	0.68%	0.62%	0.91%	0.76%	0.66%	0.55%	0.53%	0.64%	0.51%	0.39%
		1.1643	1.9460	1.6371	1.6576	1.7862	1.5173	1.6947	1.5310	1.6941	1.4544	1.2939	1.0987	0.9466	1.1411	0.9163	0.7274
CAR (1)		0.69%	0.63%	0.54%	0.46%	0.81%	0.67%	0.69%	0.57%	0.95%	0.77%	0.59%	0.53%	0.62%	0.55%	0.41%	0.35%
		1.5387	1.8783	1.7853	1.5955	1.7526	1.5672	1.6790	1.3229	1.7958	1.4671	1.1656	1.0394	1.1003	0.9734	0.7371	0.6519
BHAR (0)		0.40%	0.61%	0.17%	-0.05%	1.01%	0.88%	1.09%	0.44%	0.92%	0.48%	0.30%	-0.02%	0.67%	0.74%	0.69%	0.54%
		0.7025	1.0772	0.3251	-0.0737	1.9996	1.7333	1.8062	0.7550	1.5813	0.7415	0.5148	-0.0261	1.1842	1.3101	1.1171	0.8708
BHAR (1)		0.67%	0.32%	0.19%	-0.11%	1.15%	0.50%	0.88%	0.24%	0.96%	0.63%	0.35%	-0.02%	1.03%	0.77%	0.73%	0.95%
		1.1528	0.5753	0.3621	-0.1695	2.2135	0.8785	1.4554	0.3826	1.6591	0.9237	0.5645	-0.0290	1.7357	1.2605	1.1519	1.4292
SWITZERLA	ND																
CAR (0)		0.11%	0.35%	0.35%	0.39%	0.72%	0.68%	0.62%	0.49%	0.52%	0.69%	0.51%	0.37%	0.80%	0.75%	0.52%	0.33%
		0.4942	2.1617	2.3408	2.9798	3.0924	2.9705	2.9819	2.6351	1.8999	2.7720	2.2353	1.6891	3.2456	3.0685	2.2399	1.5378
CAR (1)		0.40%	0.48%	0.48%	0.39%	0.80%	0.70%	0.61%	0.43%	0.72%	0.67%	0.51%	0.27%	0.82%	0.68%	0.43%	0.24%
		1.9190	2.7884	3.0181	2.9818	3.0924	3.0070	3.0085	2.3157	2.5678	2.7314	2.2689	1.3095	3.2564	2.7035	1.8648	1.1013
BHAR (0)		0.14%	0.37%	0.04%	0.43%	0.62%	0.57%	0.51%	0.68%	0.46%	0.64%	0.32%	0.39%	0.81%	1.03%	0.27%	0.56%
		0.5086	1.2524	0.1333	1.4215	2.3300	1.8647	1.7801	2.3599	1.5774	1.9407	1.1228	1.2935	2.7528	3.3034	0.8250	1.8923
BHAR (1)		0.34%	0.45%	0.12%	0.49%	0.70%	0.54%	0.54%	0.62%	0.66%	0.79%	0.29%	0.30%	0.76%	0.86%	0.24%	0.33%
		1.3095	1.5064	0.4255	1.6204	2.7067	1.8632	1.7418	2.1333	2.0934	2.1605	1.0159	1.0161	2.6949	2.9433	0.7673	1.1838
UK																	
CAR (0)		-0.08%	0.22%	0.30%	0.53%	0.40%	0.49%	0.65%	0.65%	0.34%	0.61%	0.64%	0.51%	0.64%	0.68%	0.49%	0.40%
		-0.2862	1.0083	1.5188	3.1102	1.2599	1.6665	2.4710	2.5948	0.9832	1.9565	2.1319	1.7720	1.8535	2.0712	1.5400	1.2918
CAR (1)		0.10%	0.32%	0.47%	0.56%	0.53%	0.63%	0.75%	0.62%	0.53%	0.76%	0.65%	0.48%	0.75%	0.63%	0.46%	0.32%
		0.3893	1.5311	2.3894	3.4159	1.6732	2.1374	2.8364	2.4996	1.5719	2.4158	2.1630	1.6658	2.2212	1.9164	1.4391	1.0379
BHAR (0)		-0.28%	0.26%	0.16%	0.02%	0.44%	0.58%	0.72%	0.70%	0.34%	0.55%	0.54%	0.59%	0.52%	0.54%	0.45%	0.55%
		-0.8788	0.8840	0.4989	0.0687	1.2551	1.6600	1.9220	2.0766	0.9204	1.5573	1.5728	1.6392	1.3950	1.4517	1.2277	1.5476
BHAR (1)		0.17%	0.17%	0.29%	0.31%	0.65%	0.58%	0.77%	0.48%	0.47%	0.72%	0.54%	0.55%	0.79%	0.43%	0.34%	0.39%
		0.5902	0.6064	0.9217	0.8849	2.0217	1.8003	2.2034	1.3718	1.3583	2.0678	1.5782	1.4625	2.1131	1.2114	0.9007	1.1301
US																	
CAR (0)		-0.13%	0.17%	0.29%	0.31%	0.22%	0.40%	0.44%	0.40%	0.55%	0.57%	0.52%	0.43%	0.56%	0.49%	0.40%	0.33%
		-0.6629	1.0210	1.9478	2.1024	0.9011	1.7451	2.0455	1.8950	2.0293	2.1651	1.9944	1.6951	1.8875	1.6678	1.3968	1.2052
CAR (1)		0.10%	0.31%	0.38%	0.32%	0.44%	0.50%	0.50%	0.39%	0.68%	0.62%	0.52%	0.39%	0.58%	0.48%	0.38%	0.30%
		0.4685	1.8860	2.5134	2.2310	1.7348	2.1533	2.2483	1.8286	2.4255	2.2935	1.9763	1.5551	1.9784	1.6364	1.3287	1.0774
BHAR (0)		-0.29%	0.34%	-0.12%	0.25%	0.15%	0.17%	0.27%	0.42%	0.55%	0.73%	0.58%	0.49%	0.59%	0.42%	0.36%	0.39%
		-1.1829	1.4167	-0.4238	0.9394	0.5265	0.6309	0.8524	1.9007	1.9469	2.5172	2.1009	1.7538	1.9130	1.3327	1.2245	1.2400
BHAR (1)		0.02%	0.15%	-0.06%	0.20%	0.30%	0.26%	0.25%	0.26%	0.77%	0.70%	0.48%	0.32%	0.52%	0.32%	0.25%	0.25%
		0.1002	0.5771	-0.2023	0.7078	1.0908	1.0710	0.7633	1.1926	2.6923	2.1204	1.6205	1.0576	1.5850	1.0123	0.8273	0.7794

Panel C. The time-series momentum strategy using inversed volatility-weighted return

IVOI	Y				time-sc.	iics iiioi			using ii	iverseu	9		ca ictui	11	10	•	
IVOL	J = H =	2	3	9	10	2	6	9	12	2		9	10	2	12		
AUSTRAL		3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
CAR (0)	ın.	0.62%	0.91%	0.80%	0.74%	1.37%	1.11%	0.95%	0.71%	1.51%	1.36%	1.01%	0.75%	1.40%	1.06%	0.75%	0.52%
0.11(0)		2.7054	5.0934	5.2132	5.2755	6.3997	5.9631	5.9580	4.9387	6.9609	6.9085	5.8238	4.7861	6.1070	5.4235	4.2671	3.1479
CAR (1)		0.75%	1.00%	0.90%	0.73%	1.36%	1.14%	0.90%	0.59%	1.57%	1.26%	0.89%	0.62%	1.24%	0.87%	0.59%	0.34%
		3.5530	5.6143	5.5110	4.7580	6.8393	6.6560	5.9628	4.3912	7.6035	6.7731	5.3624	4.1527	5.7176	4.5929	3.4391	2.1710
BHAR (0)		0.68%	0.93%	0.54%	0.49%	1.40%	0.88%	0.88%	0.46%	1.62%	1.18%	1.10%	0.79%	1.49%	1.18%	0.79%	0.75%
` '		2.7612	3.7161	1.6495	1.6915	4.7593	3.3391	2.8660	1.9524	7.1307	5.2848	4.5064	4.2307	5.9765	5.6396	3.4992	3.5974
BHAR (1)		0.82%	1.05%	1.08%	0.88%	1.50%	1.21%	0.92%	0.52%	1.47%	1.10%	0.78%	0.71%	1.32%	0.88%	0.61%	0.51%
		3.3795	3.1105	3.5800	2.5759	6.9385	4.4718	3.3393	2.0243	6.2584	4.9818	4.2212	3.6331	5.5783	4.5786	2.6545	2.5430
AUSTRIA	4																
CAR (0)		0.82%	0.64%	0.59%	0.57%	0.76%	0.85%	0.80%	0.76%	1.23%	1.09%	0.90%	0.73%	1.20%	1.00%	0.77%	0.58%
		4.6416	4.1801	4.0073	4.1711	2.9725	3.6129	3.6783	3.6382	4.4292	4.0440	3.4543	3.1356	3.4659	3.0235	2.5446	2.0988
CAR (1)		0.75%	0.50%	0.45%	0.47%	0.83%	0.85%	0.76%	0.68%	1.13%	0.95%	0.77%	0.61%	1.06%	0.77%	0.64%	0.48%
		3.8548	3.2375	3.0429	3.4566	3.4558	3.5280	3.3868	3.1988	3.9335	3.4918	2.9948	2.6857	3.0436	2.4293	2.1947	1.7895
BHAR (0)		0.95%	0.74%	0.73%	0.96%	0.82%	0.56%	0.56%	0.85%	1.07%	0.92%	0.79%	0.84%	1.18%	0.98%	0.64%	0.35%
		4.1534	3.2837	2.9914	3.6021	2.9260	1.8771	2.3273	3.7184	3.5993	2.9006	2.7577	2.8071	3.6759	2.8950	1.8925	1.2181
BHAR (1)		1.10%	0.68%	0.79%	0.85%	0.84%	0.75%	0.69%	1.08%	0.93%	0.75%	0.66%	0.69%	0.95%	0.77%	0.45%	0.36%
	_	4.0587	2.7035	2.9994	2.9770	3.3081	2.4806	2.9786	4.1083	2.8683	2.2829	2.0621	2.2256	2.7645	2.0080	1.3559	1.1041
BELGIUN	VI	0.500/	0.740/	0.540/	0.500/	0.0=0/	0.000/	0.000/	0.000/	0.000/	1.010/	0.040/	0 ==0/	4.450/	1.020/	0.000/	0.500/
CAR (0)		0.50%	0.54%	0.51%	0.59%	0.87%	0.90%	0.88%	0.80%	0.98%	1.01%	0.91%	0.77%	1.17%	1.03%	0.89%	0.78%
CAR (1)		3.2412	4.0443	4.2555	5.0463	4.6332	5.1913	5.1296	5.1769	4.6942	4.8324	4.7185	4.1874	5.3419	5.0352	4.5968	4.0488
CAR (1)		0.57%	0.52%	0.50%	0.52%	0.96%	0.91%	0.85%	0.75%	1.12%	1.01% 4.9254	0.89%	0.73%	1.22% 5.8634	1.02%	0.85% 4.3600	0.73%
BHAR (0)		3.7375 0.32%	4.1564 0.16%	4.3644 0.27%	4.8475 0.09%	5.2133 0.80%	5.0107 0.74%	5.0436 0.74%	4.8549 0.95%	5.3649 0.98%	1.13%	4.6039 0.93%	3.9735 0.92%	1.20%	5.0471 1.10%	0.95%	3.7384 0.52%
DHAK (0)		1.4769	0.7075	1.3026	0.4531	3.4680	3.0975	3.2584	4.9991	4.1277	4.5585	4.7050	4.4283	4.9755	4.6729	4.1100	2.2072
BHAR (1)		0.50%	0.7075	0.45%	0.4551	0.95%	0.73%	0.60%	0.98%	1.17%	1.01%	0.86%	0.67%	1.24%	1.11%	0.91%	0.55%
BHAK (1)		2.4967	1.7381	2.3736	1.7464	4.8601	2.9978	2.6123	5.2317	5.1237	4.2670	4.2346	3.2870	5.5808	4.6500	3.9085	2.3365
CANADA	١	2.1707	1.7501	2.5750	1.7 707	7.0001	2.,,,,	2.0123	3.2317	5.1257	1.2070	1.2310	5.2070	5.5000	7.0500	5.7005	2.5505
CAR (0)		1.08%	0.94%	0.87%	0.83%	1.47%	1.26%	1.15%	0.92%	1.54%	1.32%	1.06%	0.78%	1.63%	1.21%	0.89%	0.67%
		5.6895	5.3093	5.2558	5.9004	6.1477	5.2963	5.6438	5.1178	5.8289	5.6438	4.9844	3.9819	6.2230	5.0091	3.9568	3.1848
CAR (1)		1.03%	0.87%	0.85%	0.70%	1.45%	1.27%	1.06%	0.78%	1.52%	1.18%	0.92%	0.63%	1.31%	0.99%	0.72%	0.50%
		5.6743	4.6390	5.1944	5.2636	5.4163	5.3764	5.4673	4.5245	5.7795	5.2485	4.4536	3.2900	5.1676	4.2555	3.2522	2.4043
BHAR (0)		1.14%	1.02%	0.90%	0.77%	1.41%	1.24%	1.14%	0.57%	1.53%	0.92%	0.98%	0.33%	1.59%	1.18%	1.02%	0.64%
		4.7635	3.3189	3.4627	2.5154	5.1347	4.6124	3.9107	1.8716	5.6740	2.7612	4.0011	1.0183	5.6202	4.5045	3.8165	2.6975
BHAR (1)		1.08%	0.80%	0.96%	0.55%	1.36%	1.32%	0.99%	0.63%	1.50%	1.07%	0.80%	0.59%	1.34%	1.00%	0.87%	0.53%
		5.0871	3.5842	3.8592	2.2999	4.6618	5.1191	3.5366	2.6180	5.7636	4.0141	3.3278	2.3912	5.1480	4.0334	3.5465	2.5075
-																	

IVOL	J =		3				6				9				12	2	
_	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	K																
CAR (0)		0.94%	1.02%	0.90%	0.88%	1.31%	1.18%	1.18%	1.07%	1.40%	1.34%	1.24%	1.06%	1.51%	1.38%	1.18%	1.02%
		6.8946	7.8668	7.2000	7.3723	6.7980	6.6318	6.9088	6.1620	5.8888	6.1060	5.5554	4.9227	6.8021	5.9600	5.3223	4.7086
CAR (1)		0.98%	0.99%	0.88%	0.82%	1.25%	1.10%	1.11%	0.95%	1.40%	1.31%	1.15%	0.95%	1.49%	1.25%	1.08%	0.89%
		6.6853	7.2700	6.7971	6.5551	5.9289	5.9652	5.8855	5.3752	6.0373	5.8981	5.0640	4.4687	6.3921	5.3018	4.7614	4.1239
BHAR (0)		1.08%	1.20%	0.76%	0.74%	1.24%	0.92%	1.11%	1.24%	1.37%	1.27%	1.02%	1.15%	1.19%	1.22%	1.00%	0.87%
		6.7972	6.5978	3.8491	2.9154	6.0223	3.5625	4.8644	6.0303	5.8781	5.0051	3.9349	5.1304	4.1335	4.1761	3.5694	3.3268
BHAR (1)		1.07%	1.24%	0.81%	0.84%	1.15%	1.18%	0.95%	1.11%	1.46%	1.57%	1.02%	1.03%	1.54%	1.31%	1.00%	0.78%
		5.7941	5.9390	3.4987	3.3170	4.5501	5.2146	4.0743	5.3003	6.0376	5.6005	4.1629	4.4874	5.9475	4.9187	3.6309	3.1150
FINLAND)																
CAR (0)		0.64%	0.51%	0.53%	0.49%	0.96%	0.78%	0.84%	0.74%	0.97%	0.84%	0.69%	0.57%	1.23%	0.96%	0.82%	0.72%
		2.4040	2.2455	2.5749	2.4656	3.1471	2.5295	2.8475	2.6523	2.8157	2.4738	2.0454	1.7878	2.7538	2.2199	1.9340	1.8130
CAR (1)		0.77%	0.63%	0.55%	0.49%	1.00%	0.87%	0.82%	0.68%	1.10%	0.80%	0.68%	0.53%	1.05%	0.81%	0.71%	0.60%
		3.0463	2.8946	2.7502	2.4738	3.3983	2.8542	2.7710	2.4794	3.1815	2.1941	1.9451	1.6314	2.2172	1.8276	1.6552	1.5203
BHAR (0)		0.80%	0.42%	0.31%	0.75%	1.33%	1.08%	0.45%	0.88%	0.87%	0.41%	0.66%	0.28%	1.49%	1.26%	0.88%	1.11%
		2.6560	1.1869	1.0662	1.8067	3.7376	3.0838	0.9474	2.1387	2.0072	0.7472	1.4287	0.6451	3.0555	2.7536	1.7257	2.7266
BHAR (1)		1.01%	0.49%	0.40%	0.76%	0.99%	1.01%	0.20%	0.71%	0.88%	0.37%	0.45%	0.26%	1.22%	1.20%	0.76%	1.14%
		3.5253	1.4033	1.3977	1.9454	2.8959	2.4629	0.4478	1.7809	1.7706	0.6909	0.9644	0.5630	2.5261	2.4057	1.5344	2.9078
FRANCE																	
CAR (0)		0.29%	0.43%	0.35%	0.43%	0.62%	0.55%	0.57%	0.57%	0.73%	0.78%	0.77%	0.61%	0.97%	0.99%	0.77%	0.62%
		1.5184	2.8561	2.6047	3.9144	3.7969	3.4717	4.0754	4.2348	3.8817	4.6127	4.6414	3.9538	5.1093	5.3319	4.4410	3.7593
CAR (1)		0.60%	0.46%	0.35%	0.37%	0.77%	0.60%	0.66%	0.55%	1.00%	0.91%	0.79%	0.57%	1.14%	0.96%	0.71%	0.57%
		3.2659	2.7614	2.4137	2.9072	4.6168	3.6649	4.4620	3.6899	5.5213	5.3277	4.4622	3.6126	6.2314	4.7689	3.8672	3.2561
BHAR (0)		0.41%	-0.11%	0.38%	-0.45%	0.56%	0.24%	0.36%	0.17%	0.68%	0.62%	0.98%	0.95%	0.85%	1.09%	0.74%	0.81%
		1.4501	-0.3814	1.2801	-1.2880	2.8078	0.9143	1.4671	0.4199	3.7190	2.9228	3.8355	3.2594	4.3392	3.6100	2.2451	2.7944
BHAR (1)		0.55%	0.21%	0.46%	-0.05%	0.73%	0.53%	0.58%	0.78%	0.91%	0.95%	0.86%	0.76%	1.35%	1.02%	0.66%	0.71%
		2.1879	0.5644	1.3308	-0.1316	3.9512	2.7407	2.2387	3.1188	4.7141	3.7960	3.3247	2.5816	5.5845	3.1826	1.8531	2.1458
GERMAN	Y																
CAR (0)		0.80%	0.66%	0.62%	0.58%	1.07%	1.00%	1.04%	0.92%	1.21%	1.20%	1.10%	0.96%	1.44%	1.24%	1.08%	0.94%
		4.9427	4.1936	4.6687	4.7104	4.9125	5.1331	5.8492	5.2589	5.5017	5.5032	5.0576	4.7317	6.1749	5.3844	4.8563	4.3755
CAR (1)		0.94%	0.71%	0.69%	0.59%	1.14%	1.02%	1.02%	0.85%	1.29%	1.20%	1.03%	0.89%	1.46%	1.18%	1.00%	0.86%
		5.7252	4.3387	5.1448	4.6275	5.4468	5.4440	5.7965	4.9929	5.9736	5.4479	4.7676	4.4527	6.4665	5.2213	4.5995	4.0465
BHAR (0)		0.77%	0.51%	0.80%	-0.26%	0.96%	1.02%	0.96%	1.11%	1.21%	1.35%	1.00%	1.03%	1.41%	1.18%	1.02%	0.88%
		3.9018	2.1789	3.9152	-0.6481	3.8935	4.7430	3.7109	4.6819	4.9786	5.8043	4.3378	4.2071	5.8658	4.9150	4.2057	3.8907
BHAR (1)		1.10%	0.80%	1.21%	0.68%	0.96%	1.06%	0.89%	1.09%	1.37%	1.21%	0.86%	0.85%	1.40%	1.11%	0.85%	0.76%
		5.6540	3.5015	4.9756	3.0698	4.0904	5.2802	3.4886	4.5437	6.4803	5.3006	3.6004	3.6130	5.9771	5.0172	3.6653	3.4284

IVOL	J =		3	3			6	j			ç)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE	;																
CAR (0)		0.75%	0.67%	0.39%	0.23%	1.08%	0.77%	0.45%	0.14%	0.70%	0.52%	0.13%	-0.22%	0.84%	0.54%	0.12%	-0.25%
		1.4997	2.0403	1.4704	1.0046	1.8789	1.5892	1.1527	0.4057	1.2693	1.1375	0.3172	-0.5562	1.4213	1.0484	0.2410	-0.5207
CAR (1)		0.78%	0.58%	0.31%	0.14%	0.91%	0.63%	0.30%	0.01%	0.72%	0.36%	-0.07%	-0.40%	0.99%	0.44%	-0.10%	-0.38%
		1.8414	1.9923	1.2730	0.6101	1.7177	1.4641	0.8193	0.0206	1.3326	0.8199	-0.1768	-0.9655	1.8166	0.8689	-0.2081	-0.7770
BHAR (0)		0.75%	1.04%	0.59%	0.13%	1.51%	0.85%	0.32%	$\boldsymbol{0.08\%}$	1.00%	1.06%	-0.14%	0.08%	1.06%	0.27%	0.47%	-0.59%
		1.2099	2.5467	1.1169	0.2912	2.6178	1.5076	0.5735	0.1522	1.7008	1.7385	-0.2681	0.1946	1.6918	0.4525	0.7791	-1.0905
BHAR (1)		1.13%	1.09%	0.64%	0.36%	1.24%	0.89%	0.49%	-0.07%	1.08%	1.11%	-0.05%	-0.13%	1.41%	0.13%	0.41%	-0.22%
		2.0124	2.6811	1.2300	0.7944	1.9933	1.8476	0.8990	-0.1508	1.6866	1.7190	-0.1086	-0.2812	2.1731	0.2310	0.7029	-0.4282
HONGKON	\G																
CAR (0)		0.72%	0.63%	0.44%	0.30%	1.17%	0.78%	0.53%	0.32%	0.86%	0.61%	0.37%	0.20%	0.88%	0.53%	0.29%	0.13%
		3.6237	3.4888	2.7378	2.1487	4.0424	2.7480	2.2595	1.5350	2.7724	2.1205	1.4441	0.8606	2.8857	1.8982	1.1457	0.5245
CAR (1)		0.64%	0.65%	0.42%	0.19%	1.04%	0.64%	0.35%	0.17%	0.71%	0.44%	0.22%	0.08%	0.66%	0.39%	0.17%	0.03%
		3.0816	3.6471	2.5746	1.3762	3.4457	2.3379	1.4904	0.7923	2.2505	1.6109	0.8484	0.3317	2.3922	1.4758	0.6979	0.1114
BHAR (0)		0.38%	0.22%	-0.02%	0.44%	1.06%	0.60%	0.50%	0.28%	0.92%	0.56%	0.48%	0.28%	0.70%	0.58%	0.38%	0.55%
		1.5945	0.7208	-0.0751	1.7601	3.6369	1.9200	1.5010	1.0511	2.5684	1.3933	1.6160	0.8231	1.9281	2.2582	1.2160	1.9115
BHAR (1)		0.25%	0.18%	0.27%	0.28%	0.87%	0.58%	0.34%	0.09%	0.83%	0.23%	0.46%	0.22%	0.29%	0.57%	0.19%	0.41%
		0.9396	0.6689	0.9788	1.0989	2.6741	1.9542	1.0362	0.3140	2.6662	0.6347	1.6239	0.6734	0.8323	2.2362	0.5840	1.4790
IRELANI)				-				-								
CAR (0)		0.33%	0.46%	0.39%	0.50%	0.73%	0.71%	0.53%	0.46%	1.01%	0.92%	0.61%	0.45%	0.87%	0.60%	0.58%	0.44%
		1.0957	1.5425	1.4951	2.4619	1.6363	1.7951	1.5244	1.5141	2.2196	2.0845	1.5571	1.2877	1.7206	1.2889	1.3597	1.1766
CAR (1)		0.32%	0.28%	0.33%	0.41%	0.78%	0.63%	0.42%	0.37%	1.16%	0.78%	0.51%	0.35%	0.69%	0.55%	0.48%	0.31%
		0.8785	0.8059	1.2217	1.8870	1.7688	1.6159	1.2361	1.2588	2.6768	1.8241	1.3528	1.0320	1.3706	1.1953	1.1473	0.8312
BHAR (0)		0.69%	0.06%	-0.21%	0.52%	0.41%	0.70%	-0.41%	1.27%	0.82%	0.51%	0.65%	0.46%	1.22%	0.95%	0.65%	0.61%
		1.9239	0.1310	-0.4512	1.1673	0.7825	1.4733	-0.7739	2.5169	1.5109	0.8154	1.2108	0.9520	2.1983	1.7757	1.1063	1.1636
BHAR (1)		0.19%	-0.16%	-0.18%	0.22%	0.36%	0.52%	-0.50%	0.92%	0.52%	0.91%	0.38%	-0.06%	0.98%	0.55%	0.42%	0.36%
		0.4030	-0.2917	-0.3906	0.4598	0.7604	1.0972	-1.0076	1.9391	0.9380	1.6301	0.7300	-0.1251	1.8502	1.0811	0.7618	0.6920
ISRAEL		0.040/	0.000/	0.000/	0.000/	0.050/	0.060/	0.000/	0.400/	0.050/	0.160/	0.040/	0.400/	0.000	0.010/	0.000/	0.020/
CAR (0)		-0.01%	0.00%	-0.09%	-0.09%	0.05%	0.06%	-0.09%	-0.12%	0.27%	0.16%	0.01%	-0.10%	0.26%	0.21%	0.09%	-0.03%
GAR (II)		-0.0808	-0.0087	-0.6376	-0.6955	0.2513	0.2875	-0.4812	-0.6668	1.2616	0.6867	0.0240	-0.5096	1.0481	0.8805	0.4384	-0.1512
CAR (1)		0.13%	0.06%	-0.05%	-0.15%	0.28%	0.09%	-0.06%	-0.13%	0.36%	0.09%	-0.12%	-0.18%	0.32%	0.20%	0.06%	-0.06%
D*** D (0)		0.7378	0.3511	-0.3144	-1.0123	1.2955	0.4358	-0.2987	-0.7311	1.6476	0.3640	-0.5002	-0.8733	1.2711	0.8457	0.2838	-0.2917
BHAR (0)		0.10%	-0.30%	-0.17%	-0.18%	0.12%	0.02%	-0.10%	0.12%	0.35%	0.32%	0.27%	0.39%	0.46%	0.14%	0.03%	0.00%
DILLD (1)		0.4147	-0.8583	-0.6323	-0.5028	0.4397	0.0892	-0.4014	0.3877	1.5319	1.3326	1.2138	1.6876	1.8912	0.5279	0.0956	0.0181
BHAR (1)		0.23%	-0.16%	-0.25%	-0.51%	0.43%	0.29%	-0.08%	0.19%	0.47%	0.18%	0.09%	0.28%	0.58%	0.24%	-0.11%	-0.19%
-		1.0332	-0.6129	-0.7811	-1.4885	1.7554	0.9743	-0.3712	0.6809	1.8479	0.7098	0.3429	1.0774	2.3311	0.8689	-0.3525	-0.5839

IVOL	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.93%	0.75%	0.76%	0.76%	1.10%	1.12%	1.04%	0.95%	1.33%	1.33%	1.16%	0.97%	1.54%	1.29%	1.09%	0.94%
		5.2689	4.3772	5.5209	5.9580	4.6429	5.5652	5.3890	5.3807	5.5176	6.2610	5.9365	5.2323	6.1555	5.8520	5.2707	4.8377
CAR (1)		0.73%	0.65%	0.69%	0.66%	1.14%	1.11%	1.06%	0.89%	1.29%	1.22%	1.05%	0.86%	1.45%	1.12%	0.94%	0.84%
		3.7579	3.8423	4.9201	5.2327	5.1345	5.8134	5.9562	5.3667	5.1709	5.8628	5.3464	4.6607	6.5187	5.1428	4.6359	4.3988
BHAR (0)		0.91%	0.77%	0.76%	0.76%	1.00%	1.04%	0.85%	0.92%	1.28%	1.27%	1.42%	1.00%	1.48%	0.96%	0.98%	0.60%
		4.3106	3.6484	3.2504	3.5142	3.6273	3.4467	3.6970	3.5931	4.7752	4.9052	5.8708	4.7856	5.4109	3.8417	3.8219	2.3889
BHAR (1)		0.97%	0.86%	0.93%	0.72%	1.17%	1.06%	1.03%	0.87%	1.36%	1.06%	1.24%	0.83%	1.29%	1.02%	0.92%	0.64%
		5.0482	3.8498	3.5552	3.2323	4.8559	3.7122	4.3227	3.9335	4.5524	4.0691	5.7023	3.7556	4.7166	3.8063	3.4267	2.3944
JAPAN																	
CAR (0)		0.26%	0.11%	0.04%	0.11%	0.22%	0.08%	0.16%	0.10%	0.10%	0.15%	0.10%	0.04%	0.25%	0.11%	0.04%	0.01%
		1.5794	0.7026	0.2877	0.9121	0.9917	0.3839	0.8639	0.6080	0.4561	0.6879	0.5130	0.2215	1.0905	0.5169	0.2207	0.0511
CAR (1)		0.21%	0.07%	0.08%	0.06%	0.17%	0.13%	0.18%	0.04%	0.23%	0.19%	0.09%	0.01%	0.23%	0.07%	0.01%	-0.02%
		1.3370	0.4445	0.6131	0.5553	0.8056	0.6807	1.0101	0.2821	1.0607	0.9215	0.4916	0.0734	1.0425	0.3379	0.0642	-0.0940
BHAR (0)		0.20%	0.19%	0.21%	0.25%	0.29%	0.20%	0.21%	0.42%	0.16%	0.26%	0.26%	0.08%	0.23%	0.15%	0.14%	0.03%
		1.0010	0.9460	0.9608	1.2013	1.2182	0.8170	0.9062	2.0632	0.6512	1.1225	1.1772	0.4530	1.0076	0.6290	0.5719	0.1513
BHAR (1)		0.08%	0.16%	0.14%	0.30%	0.15%	0.05%	0.23%	0.21%	0.23%	0.33%	0.21%	0.03%	0.21%	0.04%	-0.03%	-0.03%
		0.4549	0.8701	0.7026	1.6075	0.6704	0.2307	1.0786	1.0719	1.0249	1.5420	0.9918	0.1955	0.8843	0.1775	-0.1428	-0.1452
NETHERLA	NDS																
CAR (0)		0.86%	0.86%	0.80%	0.76%	1.30%	1.18%	1.10%	0.94%	1.34%	1.25%	1.05%	0.84%	1.48%	1.25%	1.03%	0.91%
		4.5909	5.3114	5.9354	6.2114	5.4718	5.5354	5.4805	4.7673	5.0257	5.0540	4.3523	3.4916	5.5676	4.6932	4.0664	3.7801
CAR (1)		0.96%	0.93%	0.80%	0.70%	1.30%	1.17%	1.03%	0.83%	1.18%	1.10%	0.89%	0.74%	1.31%	1.13%	0.90%	0.82%
		5.2633	5.8010	6.2380	5.7870	5.2883	5.3729	5.0202	4.0726	3.9375	4.3597	3.4289	3.0380	4.7072	4.1476	3.4511	3.3734
BHAR (0)		0.98%	0.92%	1.00%	0.85%	1.36%	1.37%	0.71%	1.42%	1.33%	1.44%	1.16%	0.97%	1.45%	1.37%	1.20%	0.76%
		4.3099	4.0661	3.4595	3.1964	4.7295	5.3332	2.3837	5.8263	4.4719	5.3253	4.8927	3.8862	5.3412	4.9378	4.0019	2.6738
BHAR (1)		1.20%	0.98%	0.81%	$\boldsymbol{0.80\%}$	1.26%	1.23%	0.65%	1.26%	1.20%	0.98%	1.18%	0.89%	1.31%	1.10%	1.07%	0.65%
		4.7627	4.6486	2.5232	3.2357	5.0856	4.7263	2.3697	5.3122	4.0235	3.3789	4.9798	3.4860	4.4791	4.1161	3.7122	2.3491
NEWZEALA	.ND																
CAR (0)		1.58%	1.33%	0.95%	0.89%	1.73%	1.30%	1.09%	0.92%	1.57%	1.29%	1.13%	0.96%	1.87%	1.37%	1.12%	0.97%
		2.8228	3.7006	3.5975	4.3081	4.8056	4.9196	5.3085	5.2935	5.5349	5.4745	5.1023	4.8334	4.8402	4.7889	4.6696	4.7705
CAR (1)		1.54%	1.15%	0.88%	0.79%	1.55%	1.14%	0.99%	0.79%	1.36%	1.12%	0.99%	0.82%	1.56%	1.14%	0.94%	0.83%
		2.9901	3.5641	3.8049	4.2252	4.6718	4.7960	5.2270	4.8436	5.5653	5.1731	4.7782	4.2910	4.9165	4.5027	4.3048	4.3415
BHAR (0)		1.72%	1.22%	1.40%	0.50%	1.74%	1.42%	1.07%	0.97%	1.63%	1.35%	1.08%	0.73%	1.86%	1.58%	1.21%	1.05%
		2.9026	5.1476	2.3385	2.0474	6.1097	5.4005	4.1464	3.8593	5.7914	4.8984	5.0005	3.2854	5.1546	4.8400	4.7583	4.3289
BHAR (1)		1.55%	1.00%	1.01%	0.48%	1.83%	1.10%	0.98%	0.74%	1.26%	1.21%	0.98%	0.66%	1.60%	1.17%	1.08%	1.07%
		3.6680	3.5766	2.2564	1.7319	5.5546	3.8212	4.0388	2.5952	4.5900	4.3691	4.5486	3.1109	4.9679	3.9373	4.8729	4.4446

IVOL	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	7																
CAR (0)		0.47%	0.63%	0.61%	0.56%	0.79%	0.68%	0.80%	0.66%	0.88%	0.86%	0.74%	0.58%	0.81%	0.75%	0.57%	0.40%
		1.8709	3.7020	4.5152	4.5432	2.7471	3.1143	4.1746	3.6508	2.8739	3.2153	2.9460	2.4477	2.4975	2.4765	2.0607	1.5128
CAR (1)		0.48%	0.63%	0.69%	0.52%	0.81%	0.82%	0.79%	0.59%	1.05%	0.85%	0.71%	0.48%	0.95%	0.62%	0.54%	0.29%
		2.0343	4.0447	5.3395	4.1735	3.0285	3.8163	4.1531	3.2424	3.6274	3.2746	2.8304	2.0568	2.9820	2.0887	1.8998	1.1433
BHAR (0)		0.59%	0.77%	0.57%	0.90%	0.71%	0.60%	0.82%	1.05%	0.96%	0.66%	0.76%	0.75%	1.00%	1.08%	0.68%	0.15%
		1.8152	2.0093	1.6432	2.9334	1.9414	1.5734	2.6886	4.1957	2.4947	1.9640	2.1775	2.2585	2.7286	2.6817	1.7092	0.4356
BHAR (1)		0.56%	0.98%	0.39%	0.88%	0.71%	0.51%	0.85%	0.79%	1.00%	0.68%	0.58%	0.78%	1.32%	0.93%	0.79%	0.13%
		1.8117	3.3378	1.5351	2.8144	2.0059	1.1952	2.8434	3.1375	2.5742	1.9300	1.6751	2.4512	3.5351	2.5918	2.0391	0.3947
PORTUGA	L																
CAR (0)		0.25%	0.42%	0.43%	0.32%	0.46%	0.46%	0.42%	0.31%	0.42%	0.33%	0.31%	0.21%	0.39%	0.44%	0.33%	0.32%
		0.7275	1.6154	1.7870	1.4975	1.3657	1.4910	1.5306	1.2095	1.2878	1.0531	1.0259	0.7409	1.1862	1.3991	1.0912	1.1042
CAR (1)		0.39%	0.51%	0.43%	0.32%	0.56%	0.50%	0.36%	0.26%	0.50%	0.25%	0.23%	0.12%	0.54%	0.42%	0.35%	0.35%
		1.1772	1.7189	1.4296	1.2236	1.6686	1.5586	1.2813	0.9614	1.5335	0.7753	0.7589	0.4203	1.6476	1.3112	1.1279	1.2070
BHAR (0)		0.10%	0.26%	0.98%	0.27%	0.52%	0.21%	0.99%	0.45%	0.36%	0.46%	0.44%	0.53%	0.53%	0.35%	0.72%	0.28%
		0.1848	0.4974	1.8266	0.5091	1.2069	0.5023	1.7768	0.9640	1.0055	1.1648	1.1108	1.4938	1.4079	0.9186	1.7884	0.6892
BHAR (1)		0.48%	0.85%	1.35%	0.57%	0.61%	1.02%	0.94%	0.36%	0.63%	0.55%	0.27%	0.35%	0.46%	0.42%	0.65%	0.23%
		0.9771	1.8681	2.2117	1.0771	1.4688	2.0311	1.5324	0.7403	1.6253	1.4272	0.6069	0.9305	1.3466	1.0629	1.4689	0.5654
SINGAPOR	E																
CAR (0)		0.81%	0.83%	0.72%	0.57%	1.37%	1.21%	0.97%	0.78%	1.16%	1.06%	0.87%	0.71%	0.95%	0.94%	0.82%	0.59%
		2.8339	4.0514	3.9289	3.1645	5.1164	4.7826	3.9999	3.5436	3.2832	3.2289	2.9746	2.8109	2.4074	2.8996	3.0447	2.5410
CAR (1)		0.75%	0.85%	0.74%	0.53%	1.33%	1.13%	0.86%	0.66%	1.15%	1.02%	0.79%	0.61%	0.96%	0.89%	0.71%	0.53%
		2.7153	4.9074	4.3504	3.2247	5.1493	4.4526	3.5406	3.0898	3.2838	3.3202	2.8418	2.4828	2.4941	2.9720	2.8732	2.4053
BHAR (0)		0.77%	0.76%	0.71%	0.52%	1.38%	1.06%	0.89%	0.76%	1.05%	1.11%	0.96%	1.05%	1.25%	1.30%	1.22%	1.17%
		2.2092	2.3913	2.6021	2.1574	4.2118	3.2301	2.5699	2.6350	2.5780	2.8193	3.3766	3.3299	2.9660	4.3266	3.7941	3.8323
BHAR (1)		0.89%	0.63%	1.25%	0.45%	1.26%	1.18%	0.86%	0.79%	1.03%	1.00%	1.00%	0.97%	1.05%	1.16%	0.90%	1.02%
		3.1233	2.4825	4.0279	1.8268	4.0779	3.5749	2.5081	2.8305	2.7113	2.5863	3.5296	2.8142	2.5454	3.6194	2.8530	3.4228
SPAIN																	
CAR (0)		0.48%	0.41%	0.45%	0.49%	0.41%	0.46%	0.61%	0.52%	0.65%	0.57%	0.58%	0.44%	0.84%	0.71%	0.69%	0.56%
		2.7664	2.5927	3.3421	3.8547	1.5493	2.0106	3.0233	2.7696	2.1385	1.9868	2.2089	1.7786	2.5212	2.3296	2.3437	2.0021
CAR (1)		0.39%	0.37%	0.43%	0.42%	0.30%	0.45%	0.58%	0.44%	0.54%	0.60%	0.50%	0.34%	0.69%	0.62%	0.61%	0.53%
		1.9089	2.2650	2.9414	3.1023	1.0492	1.9191	2.7307	2.2641	1.6408	2.1069	1.9341	1.3583	2.1211	1.9904	2.0745	1.9399
BHAR (0)		0.51%	0.09%	0.59%	0.49%	0.35%	0.51%	0.55%	0.42%	0.46%	0.38%	0.56%	0.46%	0.70%	0.82%	0.83%	0.73%
		2.4275	0.3393	2.2779	1.4821	1.2499	1.5477	1.4906	1.2900	1.2664	0.9207	1.4511	1.5641	2.1416	2.4366	2.7247	2.4513
BHAR (1)		0.44%	0.16%	0.70%	0.49%	0.21%	0.78%	0.51%	0.35%	0.45%	0.45%	0.64%	0.43%	0.64%	0.62%	0.70%	0.59%
		1.7881	0.5250	2.2886	1.3943	0.6554	2.6750	1.3379	1.0408	1.2488	1.0262	1.7898	1.3094	1.9148	1.8248	2.2567	1.9375

IVOL	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	V																
CAR (0)		0.91%	1.02%	0.89%	0.88%	1.28%	1.10%	1.04%	0.89%	1.38%	1.33%	1.11%	0.92%	1.55%	1.32%	1.06%	0.82%
		3.1451	4.3646	4.4648	5.0850	4.0508	3.6473	3.8903	3.6047	3.5348	3.7617	3.4514	3.2239	4.1208	3.7437	3.3047	2.7782
CAR (1)		1.04%	1.01%	0.90%	0.85%	1.27%	1.04%	0.99%	0.81%	1.52%	1.30%	1.00%	0.83%	1.50%	1.10%	0.92%	0.69%
		3.8964	4.9388	4.8420	5.0478	3.9614	3.4786	3.8364	3.2734	3.9648	3.8595	3.3305	3.0609	4.2831	3.2529	3.0130	2.4152
BHAR (0)		0.93%	1.00%	0.80%	0.70%	1.39%	1.30%	1.15%	0.99%	1.32%	1.17%	0.83%	0.29%	1.78%	1.44%	1.23%	0.67%
		2.5205	3.3246	2.6518	2.1921	3.9171	4.0656	3.0247	3.0271	3.1635	2.6181	1.8934	0.7267	4.9016	4.0071	3.3657	1.9260
BHAR (1)		1.01%	1.26%	0.97%	1.01%	1.41%	0.84%	1.05%	0.84%	1.26%	1.08%	0.83%	0.08%	1.67%	1.31%	1.07%	0.74%
		3.0302	3.4784	2.5729	2.7096	4.2471	2.0749	2.8624	2.6166	2.8291	2.3586	1.8032	0.1738	4.7302	3.7811	3.1177	2.0683
SWITZERL	AND																
CAR (0)		0.56%	0.57%	0.53%	0.55%	0.91%	0.85%	0.83%	0.71%	1.02%	1.03%	0.82%	0.63%	1.10%	0.93%	0.75%	0.57%
		4.0834	4.3686	4.3332	5.4040	5.2017	4.9120	5.6151	5.2955	5.6349	6.1501	5.2952	4.2653	6.3646	5.5312	4.5464	3.5026
CAR (1)		0.56%	0.54%	0.53%	0.47%	0.91%	0.83%	0.77%	0.60%	1.01%	0.93%	0.73%	0.52%	1.02%	0.84%	0.64%	0.46%
		4.1715	4.1005	4.3308	4.6496	4.9755	4.8859	5.4093	4.4703	5.5959	5.7554	4.7712	3.5050	6.0128	5.0299	3.8486	2.8141
BHAR (0)		0.42%	0.54%	0.53%	0.59%	0.86%	0.93%	0.75%	0.91%	1.06%	1.07%	0.93%	0.79%	1.16%	1.11%	0.74%	0.66%
		2.7428	2.8567	2.7660	2.5436	4.2271	4.1549	4.1130	4.4397	5.1717	5.1306	4.5592	3.6230	6.3696	5.8875	3.5165	3.0316
BHAR (1)		0.52%	0.54%	0.52%	0.51%	0.80%	0.86%	0.66%	0.82%	1.03%	0.94%	0.74%	0.68%	1.02%	1.00%	0.56%	0.56%
		3.4496	2.7609	2.8235	2.2237	3.7981	3.9484	3.6960	3.9275	5.0665	4.7417	3.6519	2.8958	6.0751	5.4873	2.9207	2.6414
UK																	
CAR (0)		1.03%	1.06%	0.92%	0.94%	1.52%	1.35%	1.27%	1.13%	1.55%	1.47%	1.29%	1.10%	1.64%	1.38%	1.16%	0.97%
		6.9995	8.4339	8.2792	9.4907	8.9367	9.0037	9.5493	8.6689	8.9020	8.9672	7.9054	6.9631	8.9879	7.4277	6.4089	5.5198
CAR (1)		1.02%	0.96%	0.88%	0.85%	1.39%	1.24%	1.20%	1.03%	1.49%	1.38%	1.19%	0.98%	1.51%	1.23%	1.01%	0.84%
		7.4542	8.0430	8.4537	8.7785	8.5896	8.5771	9.0776	7.9983	9.1210	8.4241	7.3401	6.1845	8.3405	6.5521	5.6224	4.8328
BHAR (0)		0.97%	1.19%	1.16%	1.01%	1.43%	1.32%	1.13%	1.13%	1.55%	1.42%	1.24%	1.07%	1.56%	1.44%	1.15%	0.92%
		6.1902	6.8691	7.0515	5.2611	8.1711	8.0626	5.7541	7.3135	8.3877	7.3645	6.9217	5.5828	8.2095	7.5466	5.3977	4.8442
BHAR (1)		1.17%	0.97%	1.06%	0.84%	1.37%	1.24%	1.09%	0.98%	1.56%	1.38%	1.17%	0.94%	1.50%	1.24%	0.96%	0.74%
		6.8315	5.7422	6.1304	4.7156	8.3396	8.7708	6.0461	6.8668	8.9670	6.9832	5.9335	4.9296	8.4307	6.6167	4.4834	3.8782
US																	
CAR (0)		-0.05%	0.10%	0.16%	0.16%	0.18%	0.31%	0.31%	0.23%	0.43%	0.44%	0.33%	0.21%	0.42%	0.33%	0.23%	0.12%
		-0.3049	0.7608	1.3017	1.4078	0.9420	1.7469	1.9048	1.4928	2.1866	2.2836	1.7553	1.1931	1.9417	1.5493	1.1041	0.6496
CAR (1)		0.09%	0.19%	0.23%	0.16%	0.32%	0.38%	0.32%	0.20%	0.54%	0.42%	0.29%	0.17%	0.41%	0.29%	0.17%	0.07%
		0.6205	1.4984	1.9200	1.5226	1.6980	2.2087	1.9723	1.3217	2.7407	2.2241	1.5752	0.9602	1.8907	1.3647	0.8484	0.3935
BHAR (0)		-0.08%	0.35%	0.12%	0.20%	0.14%	0.24%	0.11%	0.29%	0.48%	0.53%	0.43%	0.25%	0.42%	0.30%	0.28%	0.07%
		-0.4276	2.2130	0.5872	1.1978	0.6375	1.1318	0.4470	1.7279	2.2883	2.6439	2.3895	1.3258	1.8889	1.2141	1.2079	0.3143
BHAR (1)		0.10%	0.30%	0.10%	0.15%	0.22%	0.25%	0.05%	0.12%	0.49%	0.40%	0.24%	0.09%	0.30%	0.15%	0.13%	-0.06%
		0.6023	1.9048	0.4816	0.8463	1.1115	1.3073	0.1980	0.7192	2.4512	1.8928	1.1697	0.4475	1.3107	0.6093	0.5714	-0.2546

Appendix 7. Cross-sectional momentum strategy - winner (loser) contains top (bottom) 30%

Panel A. The cross-sectional momentum strategy using equal-weighted return

EW	J =		3				6				9				1:	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAI	LIA																
CAR (0)		0.40%	0.44%	0.34%	0.30%	0.56%	0.47%	0.38%	0.22%	0.53%	0.46%	0.27%	0.09%	0.51%	0.32%	0.11%	-0.06%
		1.8360	2.2854	2.0978	2.2542	2.0157	1.9468	1.9087	1.3167	1.8655	1.8498	1.2489	0.4681	1.8737	1.3165	0.5282	-0.3249
CAR (1)		0.60%	0.50%	0.39%	0.26%	0.65%	0.51%	0.35%	0.15%	0.63%	0.41%	0.20%	-0.01%	0.46%	0.22%	0.01%	-0.15%
		2.7367	2.7778	2.6134	1.9861	2.5229	2.2769	1.8995	0.9484	2.4408	1.7847	1.0146	-0.0406	1.8180	0.9642	0.0314	-0.8599
BHAR (0)		0.41%	0.49%	0.12%	0.08%	0.62%	0.43%	0.02%	0.19%	0.53%	0.44%	0.25%	0.21%	0.54%	0.32%	0.23%	0.04%
		1.7384	2.5707	0.5173	0.4622	2.0467	1.6412	0.0603	1.1091	1.7483	1.6791	1.1247	1.1274	1.8147	1.1947	0.9839	0.1488
BHAR (1)		0.64%	0.40%	0.03%	-0.01%	0.72%	0.51%	0.02%	0.06%	0.59%	0.32%	0.19%	0.15%	0.48%	0.21%	0.00%	-0.07%
		2.7340	2.1099	0.1151	-0.0447	2.6171	2.0314	0.0808	0.3745	2.1072	1.2986	0.8835	0.7322	1.7588	0.8506	-0.0181	-0.2796
AUSTRI	A																
CAR (0)		0.80%	0.64%	0.63%	0.63%	0.77%	0.78%	0.79%	0.73%	1.05%	1.00%	0.90%	0.75%	1.07%	0.95%	0.80%	0.62%
		3.2849	3.0830	3.1598	3.5628	2.7610	2.8743	3.0842	3.1723	3.2516	3.1335	2.9982	2.7736	3.1198	2.8614	2.6185	2.2239
CAR (1)		0.83%	0.64%	0.63%	0.58%	0.83%	0.81%	0.79%	0.67%	1.15%	0.97%	0.86%	0.67%	1.07%	0.88%	0.71%	0.53%
		3.3494	3.0113	3.1722	3.2829	2.9743	2.9464	3.1139	2.9991	3.4713	3.0456	2.9085	2.5470	3.1509	2.7672	2.4322	2.0205
BHAR (0)		0.81%	0.52%	0.54%	0.33%	0.74%	0.62%	0.75%	0.91%	1.05%	1.02%	1.02%	0.86%	1.08%	0.90%	0.67%	0.36%
		2.8778	2.0285	1.6073	1.3839	2.6257	2.0013	2.3828	3.5264	3.1367	2.8642	3.5104	3.0481	3.0238	2.6203	1.9452	1.1919
BHAR (1)		0.93%	0.47%	0.49%	0.28%	0.84%	0.66%	0.84%	0.86%	1.08%	0.93%	0.97%	0.75%	1.05%	0.83%	0.44%	0.21%
		3.5574	1.7255	1.4486	1.1551	2.9573	2.3054	2.8809	3.5248	3.1628	2.5642	3.4510	2.6112	3.0257	2.5103	1.3176	0.6817
BELGIU	M	0.7807	0.5001	0.4004	0	0.0001		0.000/	. =	1.000/	1.000/		0.000/		1.000/	0.010/	
CAR (0)		0.62%	0.68%	0.68%	0.67%	0.88%	0.92%	0.89%	0.79%	1.08%	1.09%	0.97%	0.80%	1.20%	1.09%	0.91%	0.75%
		3.3388	4.0915	4.4581	4.7202	3.8845	4.2302	4.4326	4.2976	4.4079	4.6400	4.3927	3.8943	4.7225	4.4501	3.9337	3.4115
CAR (1)		0.84%	0.74%	0.74%	0.66%	0.97%	0.96%	0.89%	0.75%	1.21%	1.09%	0.93%	0.74%	1.20%	1.02%	0.83%	0.67%
		4.6650	4.4326	4.8793	4.7780	4.2838	4.5176	4.5451	4.1340	5.0677	4.7079	4.3254	3.6330	4.8604	4.3096	3.6681	3.0985
BHAR (0)		0.60%	0.58%	0.53%	0.39%	0.88%	0.94%	0.76%	0.91%	1.09%	1.05%	1.02%	0.92%	1.17%	1.09%	0.94%	0.61%
DII. D (1)		2.9991	2.7036	2.5048	1.6827	3.4869	4.0397	3.2141	4.8241	4.3354	3.9949	4.5802	4.0796	4.4244	4.2792	3.9098	2.5834
BHAR (1)		0.75%	0.53%	0.58%	0.34%	0.90%	0.94%	0.76%	0.83%	1.15%	0.93%	0.94%	0.65%	1.11%	1.04%	0.82%	0.57%
CANAD		3.9559	2.4309	2.6449	1.5212	3.8144	4.2773	3.3505	4.5313	4.8193	3.5805	4.3479	2.8680	4.5511	4.2834	3.4321	2.4341
CANAD	A	0.68%	0.49%	0.53%	0.55%	0.73%	0.72%	0.76%	0.57%	0.96%	0.88%	0.68%	0.38%	1.07%	0.73%	0.43%	0.15%
CAR (0)		2.5718	2.1822	2.6508	3.3294	2.3578	2.5525	3.1587	2.7924	2.8076	2.9431	2.6151	1.7050	3.2170	2.4946	1.6336	0.13%
CAP (1)		0.69%	0.53%	0.61%	0.49%	0.81%	0.81%	0.75%	0.45%	1.04%	0.85%	0.57%	0.23%	0.94%	0.57%	0.26%	-0.02%
CAR (1)		2.7125	2.3658	3.2357	3.1956	2.6043	3.0072	3.3782	2.3817	3.2334	3.0552	2.3648	1.0872	3.0805	2.0732	1.0543	-0.02 % -0.0693
DILAD (O)		0.77%			1	0.57%	0.54%			0.86%	0.76%	0.64%		1.04%	0.60%	0.53%	
BHAR (0)		0.77% 2.4771	0.31% 0.9507	0.50% 1.6377	0.51% 1.8534	1.6041	1.6746	0.48% 1.5352	0.59% 2.3428	2.3406	2.0782	0.64% 2.5166	0.48% 1.7290	2.9702	2.0540	1.7446	0.12% 0.4040
DHAD (1)			0.9507	0.61%	0.43%	0.76%	0.81%	0.56%	0.44%	0.95%	0.71%	0.46%	0.40%	0.92%	0.54%	0.39%	0.4040
BHAR (1)		0.77% 2.9164	1.1673	2.2689	1.5885	2.3240	2.6966	1.9225	1.7467	2.8163	2.1893	1.8309	1.3950	2.9020	1.9985	1.4231	
-		2.9104	1.10/3	2.2009	1.3003	2.3240	2.0900	1.9223	1./40/	2.0103	2.1093	1.0309	1.3930	2.9020	1.9963	1.4231	0.0502

EW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	K																
CAR (0)		0.91%	0.91%	0.82%	0.81%	1.22%	1.15%	1.07%	0.93%	1.33%	1.28%	1.08%	0.91%	1.41%	1.19%	0.99%	0.81%
		5.5900	6.4282	6.1289	6.5763	6.6870	6.3734	6.2230	5.5919	6.4515	6.1886	5.2676	4.6113	6.3178	5.2804	4.4700	3.8546
CAR (1)		0.99%	0.91%	0.84%	0.76%	1.26%	1.12%	1.03%	0.84%	1.36%	1.20%	0.99%	0.79%	1.32%	1.06%	0.88%	0.70%
		6.0792	6.3488	6.1101	6.0476	6.7461	6.0606	5.8289	4.9587	6.3448	5.6593	4.7329	4.0219	5.9415	4.6558	3.9934	3.3753
BHAR (0)		0.96%	0.94%	0.62%	$\boldsymbol{0.80\%}$	1.19%	0.99%	1.03%	1.10%	1.28%	1.12%	1.17%	0.88%	1.47%	1.25%	0.95%	0.77%
		5.4601	4.9684	3.5972	4.1168	6.2090	4.8176	5.1964	5.7460	6.0060	4.7398	5.0351	3.9337	6.0638	5.1461	3.9202	3.1214
BHAR (1)		0.99%	0.87%	0.79%	0.76%	1.21%	0.97%	1.00%	1.01%	1.33%	1.14%	1.11%	0.72%	1.35%	1.05%	0.87%	0.57%
		5.7328	4.8972	4.2239	3.9345	6.4771	4.4827	4.8345	5.5074	6.0361	4.9906	4.9778	3.0399	5.6953	4.2814	3.5791	2.3820
FINLANI	D																
CAR (0)		0.56%	0.56%	0.59%	0.51%	0.82%	0.79%	0.73%	0.57%	0.92%	0.79%	0.61%	0.44%	0.78%	0.61%	0.47%	0.32%
		2.2965	2.9056	3.4881	3.2787	2.9533	3.3027	3.2820	2.5354	3.2924	2.9111	2.2181	1.6298	2.4416	1.9156	1.5167	1.0629
CAR (1)		0.75%	0.66%	0.63%	0.49%	0.92%	0.79%	0.70%	0.48%	0.94%	0.72%	0.51%	0.34%	0.71%	0.49%	0.36%	0.24%
		3.3669	3.6493	3.9584	3.1438	3.5162	3.4716	3.0684	2.1241	3.3205	2.5224	1.7688	1.2514	2.1910	1.5079	1.1461	0.8002
BHAR (0)		0.47%	0.41%	0.55%	0.21%	0.83%	0.93%	0.66%	0.99%	0.98%	0.55%	0.51%	0.41%	0.71%	0.81%	0.51%	0.54%
		1.4659	1.3041	2.0189	0.5615	2.6715	3.5253	2.3265	3.5192	3.4041	1.6005	1.6430	1.2625	2.1523	2.5205	1.4786	1.7228
BHAR (1)		0.93%	0.47%	0.63%	0.22%	1.01%	0.94%	0.64%	0.84%	0.91%	0.47%	0.34%	0.34%	0.70%	0.67%	0.30%	0.44%
		3.8339	1.6804	2.5364	0.6123	3.5440	3.8059	2.2409	3.0797	3.1284	1.3246	1.0332	1.0267	2.1201	2.1216	0.8536	1.4404
FRANCE	E																
CAR (0)		-0.02%	0.30%	0.34%	0.41%	0.44%	0.55%	0.61%	0.55%	0.53%	0.68%	0.61%	0.49%	0.68%	0.66%	0.55%	0.43%
		-0.0740	1.6596	2.1957	3.0132	1.7291	2.4598	3.1185	2.9926	2.0101	2.7938	2.6254	2.2873	2.5221	2.5849	2.2658	1.8760
CAR (1)		0.50%	0.52%	0.51%	0.47%	0.75%	0.73%	0.69%	0.56%	0.82%	0.77%	0.63%	0.46%	0.83%	0.69%	0.52%	0.40%
		2.3503	3.0510	3.5285	3.6286	3.1570	3.5031	3.5760	3.1145	3.1919	3.1985	2.7458	2.1926	3.1754	2.7662	2.2064	1.7919
BHAR (0)		-0.04%	0.08%	0.36%	0.02%	0.41%	0.58%	0.30%	0.42%	0.47%	0.54%	0.66%	0.52%	0.61%	0.67%	0.70%	0.43%
		-0.1393	0.3489	1.4507	0.0880	1.4904	2.3301	1.1029	2.0710	1.7259	2.0455	2.7829	2.1763	2.2088	2.4926	2.7000	1.7135
BHAR (1)		0.38%	0.16%	0.49%	0.14%	0.66%	0.73%	0.41%	0.42%	0.70%	0.57%	0.66%	0.33%	0.75%	0.70%	0.59%	0.44%
		1.6025	0.7032	2.0762	0.5535	2.6874	3.1518	1.5729	2.2299	2.6462	2.0618	2.8254	1.2595	2.7680	2.8313	2.2257	1.7750
GERMAN	ΙΥ																
CAR (0)		0.73%	0.69%	0.66%	0.63%	0.94%	0.89%	0.86%	0.72%	1.02%	0.98%	0.82%	0.65%	1.10%	0.90%	0.72%	0.58%
		3.1517	3.5953	3.7650	3.9150	3.5384	3.7001	3.7765	3.3641	3.6733	3.6247	3.1195	2.6871	3.7217	3.1348	2.6450	2.2773
CAR (1)		0.89%	0.74%	0.69%	0.61%	1.03%	0.91%	0.82%	0.65%	1.10%	0.95%	0.76%	0.58%	1.08%	0.83%	0.64%	0.51%
		4.0928	4.0623	4.0388	3.8781	4.1281	3.8092	3.5871	3.0752	3.9691	3.4667	2.8967	2.4235	3.6662	2.9077	2.3981	2.0490
BHAR (0)		0.66%	0.55%	0.61%	0.26%	0.98%	0.98%	0.84%	$\boldsymbol{0.80\%}$	1.00%	0.90%	0.83%	0.59%	1.07%	0.91%	0.72%	0.42%
		2.4565	2.0951	2.4850	0.8638	3.2775	3.6022	2.5719	2.9296	3.4022	2.9277	3.3104	1.9575	3.6925	3.2331	2.5561	1.6048
BHAR (1)		0.87%	0.44%	0.62%	0.22%	1.03%	0.97%	0.81%	0.65%	1.04%	0.79%	0.67%	0.41%	1.04%	0.79%	0.54%	0.40%
		3.4440	1.7664	2.6036	0.6826	3.8827	3.4516	2.4622	2.4417	3.5880	2.5605	2.5957	1.3554	3.5771	2.9565	2.0433	1.5559

EW	J =		3	;			6				9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		0.21%	0.31%	0.26%	0.19%	0.33%	0.32%	0.22%	0.04%	0.31%	0.23%	0.04%	-0.08%	0.20%	-0.01%	-0.15%	-0.24%
		0.6442	1.1240	1.0902	0.8769	0.8623	0.9353	0.7092	0.1429	0.7824	0.6396	0.1091	-0.2467	0.4802	-0.0211	-0.3968	-0.6489
CAR (1)		0.38%	0.33%	0.29%	0.15%	0.36%	0.35%	0.18%	-0.01%	0.44%	0.20%	0.01%	-0.13%	0.13%	-0.08%	-0.21%	-0.30%
		1.1826	1.2604	1.2549	0.6876	0.9809	1.0522	0.5778	-0.0409	1.1503	0.5540	0.0260	-0.3959	0.3118	-0.2111	-0.5362	-0.8086
BHAR (0)		0.12%	0.61%	0.32%	0.38%	0.38%	0.51%	0.22%	0.28%	0.42%	0.42%	-0.03%	0.06%	0.27%	-0.14%	-0.19%	-0.66%
		0.2970	1.6084	0.9280	1.0502	0.9435	1.2221	0.5634	0.6274	1.0115	1.1611	-0.0592	0.1709	0.6353	-0.3113	-0.4685	-1.4044
BHAR (1)		0.46%	0.60%	0.26%	0.36%	0.38%	0.38%	0.14%	0.23%	0.57%	0.42%	0.23%	-0.07%	0.17%	-0.18%	-0.27%	-0.55%
		1.1980	1.4898	0.7469	0.9564	0.9740	1.0178	0.3346	0.5508	1.4096	1.1173	0.5660	-0.2021	0.3972	-0.4116	-0.7325	-1.2389
HONGKON	G																
CAR (0)		0.13%	0.27%	0.19%	0.06%	0.35%	0.30%	0.11%	-0.07%	0.26%	0.13%	-0.11%	-0.31%	0.05%	-0.10%	-0.33%	-0.47%
		0.4183	1.2358	1.0198	0.3640	1.1294	1.0958	0.4393	-0.3267	0.7543	0.4210	-0.3684	-1.1705	0.1533	-0.3162	-1.0867	-1.7431
CAR (1)		0.18%	0.30%	0.15%	0.00%	0.39%	0.25%	0.01%	-0.17%	0.17%	0.00%	-0.25%	-0.42%	-0.04%	-0.22%	-0.45%	-0.55%
		0.6701	1.5165	0.8384	-0.0134	1.3291	0.9072	0.0237	-0.7541	0.5228	-0.0058	-0.8866	-1.6491	-0.1077	-0.6921	-1.5376	-2.1364
BHAR (0)		0.02%	0.01%	-0.12%	0.14%	0.25%	0.36%	-0.05%	0.07%	0.22%	0.10%	-0.04%	-0.40%	0.00%	0.01%	-0.30%	-0.38%
		0.0453	0.0254	-0.3816	0.4335	0.6786	1.1515	-0.1337	0.2874	0.5867	0.2622	-0.1184	-1.2247	0.0076	0.0326	-0.8704	-1.3301
BHAR (1)		-0.12%	-0.02%	-0.16%	0.02%	0.14%	0.24%	-0.22%	-0.06%	0.03%	-0.08%	-0.23%	-0.48%	-0.24%	-0.14%	-0.42%	-0.49%
		-0.3742	-0.0508	-0.5234	0.0730	0.4381	0.8425	-0.6208	-0.2183	0.0780	-0.2148	-0.7851	-1.5640	-0.6632	-0.4472	-1.2204	-1.7241
IRELAND)				-				1								
CAR (0)		0.54%	0.51%	0.45%	0.46%	0.66%	0.44%	0.53%	0.50%	0.76%	0.63%	0.58%	0.44%	0.75%	0.63%	0.47%	0.32%
		1.8619	1.7640	1.8572	2.3424	1.7062	1.2355	1.7785	1.7905	1.9894	1.7409	1.6904	1.3701	1.9148	1.5918	1.2348	0.9075
CAR (1)		0.84%	0.65%	0.54%	0.46%	0.70%	0.51%	0.55%	0.45%	0.86%	0.67%	0.53%	0.39%	0.73%	0.58%	0.38%	0.21%
		2.8397	2.2760	2.3427	2.2949	1.8462	1.4741	1.8547	1.6072	2.2906	1.8183	1.5484	1.1794	1.7986	1.4408	1.0054	0.5974
BHAR (0)		0.58%	-0.22%	-0.03%	0.34%	0.55%	0.40%	-0.01%	0.77%	0.63%	0.16%	1.03%	0.47%	0.94%	1.02%	0.57%	0.13%
		1.6428	-0.5433	-0.0857	0.9011	1.2659	0.9587	-0.0261	2.1144	1.5727	0.3668	2.8339	1.2481	2.1290	2.4515	1.3006	0.2947
BHAR (1)		0.70%	0.03%	0.05%	0.76%	0.50%	0.15%	0.10%	0.44%	0.53%	0.46%	0.71%	0.19%	0.70%	0.73%	0.32%	-0.06%
		1.8567	0.0913	0.1334	2.0584	1.2346	0.3418	0.2429	1.2701	1.3923	1.1876	1.8620	0.5003	1.7036	1.7028	0.7131	-0.1311
ISRAEL		0.010/	0.000/	0.040/	0.040/	0.000/	0.000/	0.040/	0.0=0/	0.000/	0.050/	0.050/	0.4.60/	0.050/	0.000/	0.400/	0.250/
CAR (0)		-0.21%	0.00%	-0.01%	-0.04%	0.02%	0.09%	0.04%	-0.07%	0.00%	0.05%	-0.05%	-0.16%	-0.05%	-0.08%	-0.18%	-0.27%
GAR (I)		-1.1776	-0.0155	-0.0408	-0.3156	0.0894	0.4380	0.2148	-0.3758	0.0104	0.1955	-0.2184	-0.8125	-0.1979	-0.3296	-0.8093	-1.2864
CAR (1)		0.02%	0.12%	0.08%	-0.03%	0.26%	0.20%	0.06%	-0.07%	0.20%	0.09%	-0.04%	-0.19%	0.00%	-0.07%	-0.22%	-0.29%
		0.1108	0.7487	0.5326	-0.2387	1.1204	0.9231	0.3103	-0.3976	0.8147	0.3689	-0.1994	-0.9801	0.0136	-0.3093	-1.0212	-1.4304
BHAR (0)		-0.18%	-0.11%	-0.21%	-0.29%	0.07%	0.16%	-0.01%	0.33%	0.04%	-0.05%	0.12%	-0.04%	0.00%	0.01%	-0.10%	-0.24%
DILAD (1)		-0.9640	-0.6011	-0.8837	-1.4266	0.2558	0.6986	-0.0426	1.6613	0.1543	-0.1821	0.5571	-0.1642	-0.0167	0.0437	-0.3930	-0.9504
BHAR (1)		0.02%	0.00%	-0.14%	-0.28%	0.23%	0.19%	0.01%	0.27%	0.13%	-0.03%	0.06%	-0.06%	0.05%	0.01%	-0.12%	-0.22%
		0.1201	0.0021	-0.6325	-1.3800	0.9272	0.8488	0.0486	1.4061	0.5268	-0.1191	0.2951	-0.2813	0.1889	0.0450	-0.4842	-0.9004

EW	J =		3				6	i			9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.60%	0.62%	0.66%	0.64%	0.82%	0.85%	0.84%	0.73%	0.99%	0.96%	0.85%	0.72%	0.98%	0.90%	0.78%	0.63%
		2.8434	3.4649	4.4074	4.6676	3.2268	3.9205	4.3455	4.0432	4.0000	4.1785	3.9021	3.4349	3.7944	3.6383	3.3062	2.7999
CAR (1)		0.71%	0.70%	0.69%	0.63%	0.88%	0.88%	0.81%	0.68%	1.02%	0.93%	0.79%	0.64%	0.96%	0.84%	0.69%	0.57%
		3.6505	4.3612	4.8915	4.7564	3.8363	4.3253	4.3715	3.8554	4.2661	4.1170	3.6322	3.0870	3.8444	3.4506	2.9628	2.5671
BHAR (0)		0.55%	0.56%	0.75%	0.64%	0.72%	0.73%	0.75%	0.63%	0.92%	0.79%	0.98%	0.54%	0.94%	0.85%	0.85%	0.60%
		2.1565	2.3983	3.1573	2.8182	2.5506	2.8956	3.0883	2.7644	3.4418	3.1357	4.1499	2.2417	3.6106	3.2492	3.3992	2.3085
BHAR (1)		0.70%	0.58%	0.85%	0.64%	0.78%	0.76%	0.80%	0.59%	0.97%	0.82%	0.86%	0.37%	0.94%	0.82%	0.74%	0.59%
		3.2358	2.7286	3.7332	2.9460	3.1442	3.0152	3.3618	2.6658	3.7761	3.2566	3.7627	1.3974	3.5698	3.1432	2.8913	2.2941
JAPAN																	
CAR (0)		-0.11%	-0.20%	-0.13%	-0.02%	-0.36%	-0.27%	-0.11%	-0.12%	-0.31%	-0.15%	-0.15%	-0.20%	-0.14%	-0.21%	-0.24%	-0.28%
		-0.5990	-1.1160	-0.8152	-0.1603	-1.4920	-1.2049	-0.5264	-0.6477	-1.2007	-0.6120	-0.6433	-1.0021	-0.5419	-0.8496	-1.0744	-1.3631
CAR (1)		-0.03%	-0.14%	-0.03%	-0.01%	-0.24%	-0.12%	-0.03%	-0.12%	-0.07%	-0.04%	-0.10%	-0.20%	-0.07%	-0.20%	-0.25%	-0.29%
		-0.1640	-0.7964	-0.1998	-0.0808	-0.9919	-0.5633	-0.1481	-0.7058	-0.2607	-0.1795	-0.4727	-1.0584	-0.2676	-0.8459	-1.1353	-1.4409
BHAR (0)		-0.18%	0.09%	-0.10%	0.15%	-0.27%	-0.25%	-0.16%	0.16%	-0.22%	-0.11%	0.05%	-0.06%	-0.15%	-0.20%	-0.26%	-0.31%
		-0.8103	0.3902	-0.4287	0.6552	-0.9744	-0.9254	-0.6586	0.7794	-0.7956	-0.4090	0.2144	-0.3029	-0.5506	-0.7663	-1.0438	-1.2888
BHAR (1)		-0.10%	0.07%	-0.11%	0.19%	-0.30%	-0.44%	-0.12%	0.04%	-0.17%	0.01%	-0.02%	-0.15%	-0.15%	-0.36%	-0.40%	-0.37%
		-0.4718	0.3345	-0.4791	0.9792	-1.2089	-1.6820	-0.5480	0.2028	-0.6653	0.0205	-0.0998	-0.7642	-0.5955	-1.4152	-1.6835	-1.5440
NETHERLAN	NDS				1				1								
CAR (0)		0.80%	0.70%	0.71%	0.70%	1.02%	0.94%	0.95%	0.84%	1.15%	1.11%	0.98%	0.85%	1.29%	1.11%	0.97%	0.86%
		3.4671	4.0310	4.5185	4.5206	4.2375	4.2892	4.4182	4.0770	4.3761	4.2507	3.7542	3.4531	4.3956	3.8170	3.4497	3.1468
CAR (1)		0.73%	0.72%	0.75%	0.64%	1.02%	0.98%	0.92%	0.77%	1.17%	1.06%	0.91%	0.76%	1.16%	1.00%	0.88%	0.78%
		3.4781	4.3084	4.6883	4.1920	4.3673	4.3692	4.1521	3.7103	4.4037	3.9120	3.4301	3.0867	3.9087	3.4295	3.1143	2.9037
BHAR (0)		0.88%	0.51%	0.70%	0.31%	0.87%	0.89%	0.79%	1.00%	1.17%	0.89%	1.03%	0.75%	1.27%	1.18%	1.08%	0.91%
		3.2470	1.9980	2.8112	1.1235	3.1471	3.7929	2.5778	4.8217	4.3182	2.9602	4.0173	2.8224	4.0187	3.9768	3.6012	3.0428
BHAR (1)		0.81%	0.51%	0.69%	0.32%	0.88%	0.86%	0.78%	0.86%	1.15%	0.86%	0.95%	0.54%	1.11%	1.08%	0.99%	0.89%
		3.0668	2.0848	2.8145	1.2642	3.3352	3.5771	2.6161	3.9442	4.0471	2.9490	3.5818	1.8948	3.5411	3.5389	3.4873	2.9752
NEWZEALA	ND	0.050/	0.000/	0.770/	0 ==0/	1.220/	4.440/	0.000/	0.060/	1.210/	4.450/	0.040/	0 = 60/	1.250/	4.440/	0.040/	0.660/
CAR (0)		0.85%	0.92%	0.75%	0.75%	1.32%	1.14%	0.99%	0.86%	1.31%	1.15%	0.94%	0.76%	1.35%	1.11%	0.84%	0.66%
GAR (II)		4.1750	4.7808	4.5201	5.2679	5.2865	5.0549	5.1725	5.1082	5.3373	5.2863	4.6843	4.2061	5.5175	4.7154	3.8412	3.2454
CAR (1)		0.98%	0.91%	0.78%	0.73%	1.33%	1.11%	0.95%	0.78%	1.30%	1.07%	0.85%	0.67%	1.33%	0.96%	0.73%	0.56%
		4.6087	4.7531	4.9453	5.1668	5.4344	5.1357	5.0766	4.7428	5.5754	5.1068	4.3607	3.7445	5.4193	4.1287	3.3949	2.7887
BHAR (0)		0.99%	1.00%	0.75%	0.38%	1.32%	1.26%	0.92%	0.80%	1.33%	1.02%	1.07%	0.78%	1.43%	1.28%	0.85%	0.74%
DILAD (1)		4.3124	4.2701	3.1909	1.5402	4.6625	5.0838	3.6573	4.0051	5.3640	4.1468	4.7382	3.6444	5.6892	5.0027	3.6117	2.7572
BHAR (1)		1.26%	1.06%	0.73%	0.49%	1.39%	1.15%	0.94%	0.57%	1.30%	1.03%	0.96%	0.70%	1.41%	1.03%	0.69%	0.67%
		4.3869	4.4655	3.0511	2.0184	5.0298	4.7694	3.8454	2.7153	5.2057	4.2292	4.2636	3.2733	5.3529	3.8213	2.7528	2.5873

EW	J =		3				6				9				13	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	Y																
CAR (0)		0.57%	0.52%	0.53%	0.48%	0.66%	0.66%	0.68%	0.48%	0.85%	0.81%	0.67%	0.45%	0.82%	0.60%	0.44%	0.23%
		2.1763	2.6088	2.8120	2.5866	2.5345	2.6985	2.7986	2.0321	2.8585	2.6940	2.2583	1.6230	2.4037	1.7860	1.3806	0.7378
CAR (1)		0.50%	0.53%	0.55%	0.40%	0.71%	0.73%	0.64%	0.40%	0.88%	0.77%	0.58%	0.32%	0.79%	0.54%	0.33%	0.13%
		1.9332	2.6331	2.8212	2.1032	2.7243	2.8888	2.5229	1.6558	2.8288	2.5057	1.9572	1.1524	2.2769	1.6285	1.0227	0.4080
BHAR (0)		0.65%	0.62%	0.38%	0.76%	0.56%	0.53%	0.54%	0.84%	0.84%	0.72%	0.88%	0.63%	0.80%	0.57%	0.52%	0.34%
		2.0594	1.9628	1.3667	2.5694	1.9696	1.6814	1.8572	3.4014	2.6191	2.0629	2.8853	1.8057	2.2101	1.5658	1.6228	0.9256
BHAR (1)		0.69%	0.59%	0.57%	0.67%	0.75%	0.66%	0.53%	0.67%	0.91%	0.69%	0.76%	0.55%	0.86%	0.55%	0.55%	0.28%
		2.3968	2.0739	2.1251	2.2303	2.7166	2.0043	1.8409	2.4712	2.8499	2.1413	2.5681	1.6418	2.4318	1.4920	1.7946	0.8086
PORTUGA	L																
CAR (0)		0.05%	0.27%	0.38%	0.36%	0.19%	0.35%	0.38%	0.37%	0.18%	0.37%	0.39%	0.33%	0.22%	0.36%	0.32%	0.25%
		0.1926	1.1826	1.8084	1.9057	0.5897	1.1442	1.3425	1.4225	0.5348	1.0980	1.2595	1.1212	0.5857	1.0132	0.9455	0.7715
CAR (1)		0.31%	0.46%	0.47%	0.44%	0.50%	0.53%	0.49%	0.43%	0.48%	0.56%	0.45%	0.36%	0.54%	0.49%	0.37%	0.29%
		1.1056	1.9203	2.1537	2.2563	1.4345	1.7086	1.7373	1.6605	1.3483	1.6694	1.4751	1.2100	1.4140	1.3436	1.0625	0.8891
BHAR (0)		-0.04%	0.43%	0.17%	0.28%	0.18%	0.46%	0.40%	0.46%	0.15%	0.53%	0.72%	0.83%	0.16%	0.13%	0.28%	0.13%
		-0.0988	1.3243	0.5513	0.8034	0.4894	1.3219	1.0699	1.3705	0.4092	1.2723	1.9020	2.3732	0.4005	0.3412	0.7523	0.3446
BHAR (1)		0.06%	0.49%	0.27%	0.35%	0.41%	0.55%	0.56%	0.45%	0.36%	0.60%	0.57%	0.78%	0.35%	0.31%	0.37%	0.13%
		0.1892	1.5848	0.8334	1.0674	1.0949	1.6548	1.5857	1.3316	0.9932	1.6219	1.7237	2.2116	0.8851	0.7963	1.0023	0.3323
SINGAPOI	RE																
CAR (0)		0.43%	0.53%	0.42%	0.30%	0.58%	0.52%	0.35%	0.20%	0.43%	0.34%	0.14%	-0.02%	0.28%	0.18%	0.00%	-0.11%
		1.3828	2.3088	2.0258	1.5933	1.7671	1.8124	1.3331	0.8507	1.2311	1.0706	0.4918	-0.0677	0.7922	0.5582	-0.0057	-0.4157
CAR (1)		0.57%	0.59%	0.41%	0.28%	0.68%	0.52%	0.29%	0.15%	0.47%	0.27%	0.05%	-0.09%	0.28%	0.12%	-0.08%	-0.15%
		1.8581	2.8755	1.9946	1.4980	2.3264	1.9018	1.1458	0.6614	1.3846	0.8868	0.1927	-0.3384	0.8452	0.3852	-0.2753	-0.5713
BHAR (0)		0.46%	0.37%	0.44%	0.45%	0.61%	0.58%	0.25%	0.39%	0.54%	0.34%	0.31%	-0.13%	0.37%	0.33%	0.20%	-0.11%
		1.3738	1.1841	1.6703	2.1045	1.5967	1.7377	0.7211	1.4933	1.4310	0.9632	1.1291	-0.3890	0.9734	1.0134	0.6473	-0.3761
BHAR (1)		0.57%	0.32%	0.46%	0.35%	0.70%	0.60%	0.16%	0.34%	0.59%	0.23%	0.37%	-0.16%	0.27%	0.27%	-0.03%	-0.09%
		1.7353	1.2357	1.7773	1.7467	2.2870	2.0728	0.4952	1.3502	1.7568	0.7358	1.4656	-0.5222	0.8005	0.8894	-0.1012	-0.2900
SPAIN																	
CAR (0)		0.49%	0.43%	0.47%	0.48%	0.60%	0.60%	0.64%	0.56%	0.71%	0.70%	0.64%	0.54%	0.80%	0.71%	0.63%	0.52%
		2.5929	2.6646	3.0538	3.3323	2.8735	2.8445	3.0806	2.9215	2.7790	2.7511	2.5901	2.3582	2.9267	2.6149	2.3785	2.0575
CAR (1)		0.51%	0.47%	0.51%	0.45%	0.60%	0.64%	0.62%	0.51%	0.73%	0.68%	0.59%	0.48%	0.76%	0.67%	0.56%	0.47%
		2.9610	2.9711	3.1648	3.1780	2.8032	2.8756	2.9328	2.6583	2.7927	2.6167	2.4148	2.1095	2.8315	2.4914	2.1618	1.8895
BHAR (0)		0.29%	0.23%	0.55%	0.49%	0.43%	0.53%	0.61%	0.45%	0.66%	0.69%	0.68%	0.35%	0.75%	0.74%	0.78%	0.40%
		1.3123	1.0302	2.3869	2.1335	1.9390	2.1852	2.0738	2.1760	2.4235	2.4094	2.7059	1.5171	2.6542	2.7067	2.7749	1.4515
BHAR (1)		0.44%	0.19%	0.50%	0.46%	0.36%	0.55%	0.56%	0.35%	0.63%	0.59%	0.50%	0.24%	0.71%	0.68%	0.69%	0.29%
		2.1158	0.7651	2.0744	1.9399	1.5835	2.2301	1.9567	1.7364	2.3089	2.0255	1.9740	0.9574	2.6069	2.4856	2.4737	1.0671

EW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		0.89%	0.86%	0.65%	0.63%	1.01%	0.88%	0.79%	0.64%	1.02%	0.97%	0.73%	0.55%	1.08%	0.81%	0.56%	0.42%
		2.8840	3.2778	2.8985	3.2360	2.8192	2.7975	2.8512	2.4879	2.7780	2.8551	2.2553	1.8722	2.8825	2.2374	1.6430	1.3278
CAR (1)		1.06%	0.86%	0.68%	0.59%	1.10%	0.91%	0.76%	0.57%	1.07%	0.90%	0.63%	0.45%	0.98%	0.67%	0.45%	0.34%
		3.5847	3.4873	3.2010	3.1598	3.2918	3.0327	2.7797	2.2914	2.9432	2.6446	1.9773	1.5706	2.6839	1.8962	1.3294	1.0981
BHAR (0)		1.07%	0.82%	0.75%	0.28%	1.09%	1.03%	0.72%	0.59%	1.14%	0.72%	0.80%	0.28%	1.07%	0.96%	0.66%	0.48%
		3.1577	2.5254	2.5625	0.7870	2.9335	3.2238	1.7659	1.8611	2.8618	1.7623	2.0956	0.8262	2.7098	2.7242	1.7987	1.5841
BHAR (1)		1.07%	0.76%	0.76%	0.34%	1.13%	0.96%	0.73%	0.49%	1.05%	0.82%	0.75%	0.15%	1.04%	0.82%	0.58%	0.45%
		3.4638	2.5716	3.0186	1.0198	3.3203	3.1386	1.8638	1.5690	2.8463	2.2637	2.0143	0.4163	2.8094	2.3426	1.6316	1.4623
SWITZERLA	ND																
CAR (0)		0.77%	0.67%	0.58%	0.59%	0.92%	0.79%	0.78%	0.66%	0.94%	0.90%	0.77%	0.59%	1.02%	0.84%	0.67%	0.49%
		3.9206	3.8093	3.4256	3.9109	4.0176	3.3456	3.4700	3.2944	3.4706	3.3668	3.0540	2.5664	3.5572	3.0435	2.5444	1.9951
CAR (1)		0.74%	0.63%	0.58%	0.53%	0.87%	0.77%	0.72%	0.57%	0.95%	0.85%	0.69%	0.49%	0.96%	0.75%	0.56%	0.40%
		4.0643	3.5062	3.4145	3.5942	3.6705	3.1405	3.2296	2.8521	3.4279	3.1668	2.7648	2.1357	3.4117	2.7613	2.1764	1.6361
BHAR (0)		0.65%	0.60%	0.52%	0.50%	0.93%	0.87%	0.67%	0.93%	1.02%	0.85%	0.87%	0.74%	1.06%	0.96%	0.72%	0.55%
		3.0456	2.2758	2.1122	1.7827	3.8023	3.2853	2.5581	4.2038	3.6172	2.7849	3.3253	2.7193	3.6809	3.4151	2.5207	1.9790
BHAR (1)		0.66%	0.47%	0.56%	0.49%	0.78%	0.80%	0.60%	0.82%	0.92%	0.75%	0.75%	0.52%	0.91%	0.84%	0.55%	0.50%
		3.2551	1.7517	2.3267	1.7809	3.1193	3.0217	2.4010	3.8854	3.2438	2.4960	2.9535	1.7513	3.2267	3.1107	2.0238	1.8333
UK																	
CAR (0)		0.94%	0.94%	0.80%	0.79%	1.31%	1.11%	1.02%	0.88%	1.31%	1.19%	1.00%	0.81%	1.42%	1.15%	0.89%	0.70%
		4.3305	4.9345	4.9220	5.5571	5.0709	4.7737	5.0413	4.7981	4.9248	4.8681	4.3719	3.8648	5.2264	4.4260	3.6744	3.0772
CAR (1)		0.95%	0.89%	0.77%	0.72%	1.23%	1.03%	0.93%	0.76%	1.21%	1.07%	0.87%	0.67%	1.25%	0.98%	0.73%	0.56%
		4.4188	4.8482	5.0051	5.1498	5.0024	4.7110	4.7761	4.2558	4.7228	4.4791	3.8500	3.2559	4.6559	3.8311	3.0742	2.5419
BHAR (0)		0.79%	0.75%	0.89%	0.48%	1.24%	1.05%	0.84%	1.07%	1.28%	1.06%	1.03%	0.81%	1.38%	1.22%	0.87%	0.70%
		3.1615	3.0715	3.5226	1.9092	4.5682	4.0411	3.1715	6.4873	4.5341	3.7353	4.4562	3.3378	4.8899	4.7788	3.1136	2.7903
BHAR (1)		0.91%	0.67%	0.81%	0.40%	1.15%	0.99%	0.82%	0.90%	1.20%	0.91%	0.82%	0.63%	1.20%	0.99%	0.60%	0.50%
		3.9555	2.9620	3.5053	1.6004	4.6847	4.2425	3.3973	5.8234	4.6679	3.4472	3.5976	2.5947	4.5569	4.1476	2.2669	2.0982
US																	
CAR (0)		-0.10%	0.02%	0.08%	0.04%	0.09%	0.19%	0.16%	0.03%	0.26%	0.22%	0.08%	-0.07%	0.18%	0.05%	-0.08%	-0.20%
		-0.5217	0.0988	0.5744	0.3270	0.3865	0.8736	0.8454	0.1688	1.0267	0.8917	0.3543	-0.3424	0.6584	0.2082	-0.3410	-0.9016
CAR (1)		-0.05%	0.10%	0.13%	0.01%	0.21%	0.27%	0.14%	-0.02%	0.32%	0.19%	0.02%	-0.14%	0.10%	-0.02%	-0.17%	-0.27%
		-0.2710	0.6066	0.9308	0.0761	0.9559	1.3328	0.7648	-0.1190	1.3281	0.7920	0.0756	-0.6994	0.3789	-0.0766	-0.7200	-1.2378
BHAR (0)		-0.18%	0.03%	0.02%	0.03%	0.07%	0.22%	-0.20%	0.30%	0.27%	0.14%	0.24%	-0.03%	0.20%	0.19%	0.01%	-0.18%
		-0.8058	0.1614	0.0732	0.1565	0.2416	0.8826	-0.6921	1.7554	0.9993	0.4997	1.1527	-0.1195	0.7153	0.7114	0.0248	-0.6849
BHAR (1)		-0.04%	-0.04%	-0.01%	-0.05%	0.14%	0.24%	-0.20%	0.09%	0.28%	0.00%	0.01%	-0.21%	-0.01%	-0.01%	-0.20%	-0.32%
		-0.2083	-0.1947	-0.0460	-0.2372	0.6130	1.0980	-0.7273	0.5643	1.0744	-0.0044	0.0319	-0.8976	-0.0267	-0.0328	-0.8030	-1.2230

Panel B. The cross-sectional momentum strategy using market-weighted return

MW	J =		3				6			using in	9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL	IA																
CAR (0)		0.65%	0.73%	0.64%	0.59%	1.01%	0.86%	0.80%	0.58%	0.79%	0.81%	0.59%	0.39%	0.87%	0.67%	0.42%	0.27%
		2.0532	2.8348	2.7934	2.8431	2.6967	2.6100	2.7739	2.2395	2.0498	2.3316	1.8344	1.4103	2.1976	1.8715	1.3143	0.9432
CAR (1)		0.56%	0.65%	0.59%	0.48%	0.86%	0.84%	0.72%	0.45%	0.79%	0.78%	0.49%	0.26%	0.76%	0.53%	0.33%	0.13%
		1.8723	2.6284	2.6467	2.4025	2.4690	2.6780	2.5375	1.8105	2.1050	2.3437	1.6330	0.9884	2.0323	1.5799	1.0937	0.4711
BHAR (0)		0.69%	0.63%	0.10%	0.12%	0.90%	0.64%	0.29%	0.30%	0.56%	0.65%	0.36%	0.87%	0.93%	0.78%	0.26%	0.70%
		1.3199	1.6097	0.2433	0.2825	2.0209	1.5982	0.7630	0.9401	1.1369	1.4607	0.8420	2.9417	2.2331	1.9588	0.7134	1.8928
BHAR (1)		0.75%	0.59%	0.13%	0.17%	0.69%	0.70%	0.29%	0.24%	0.59%	0.76%	0.37%	0.78%	0.70%	0.62%	0.07%	0.54%
		2.0671	1.4793	0.3379	0.4506	1.7471	1.7630	0.7875	0.7844	1.4021	1.8252	1.0462	2.5685	1.7884	1.6357	0.1892	1.5099
AUSTRIA	4																
CAR (0)		0.14%	0.19%	0.15%	0.10%	0.25%	0.20%	0.18%	0.14%	0.37%	0.22%	0.15%	0.06%	0.18%	0.09%	-0.04%	-0.11%
		0.4014	0.6887	0.5522	0.4508	0.6992	0.5613	0.5650	0.5407	0.9099	0.5635	0.4301	0.1837	0.4358	0.2418	-0.1066	-0.3455
CAR (1)		0.07%	0.13%	0.11%	0.02%	0.26%	0.18%	0.15%	0.08%	0.29%	0.17%	0.10%	0.00%	0.18%	0.06%	-0.09%	-0.12%
		0.1970	0.4542	0.4143	0.0729	0.7261	0.5129	0.4872	0.3061	0.7064	0.4508	0.3058	0.0062	0.4479	0.1710	-0.2665	-0.3840
BHAR (0)		0.01%	0.25%	0.04%	-0.19%	0.11%	-0.22%	-0.19%	0.10%	0.18%	0.40%	0.26%	0.33%	0.07%	-0.21%	-0.26%	-0.18%
		0.0315	0.6282	0.0766	-0.4998	0.3270	-0.6102	-0.4317	0.2440	0.3787	0.8814	0.7434	0.9201	0.1601	-0.5031	-0.6779	-0.3937
BHAR (1)		0.02%	0.02%	-0.06%	-0.16%	-0.07%	-0.20%	-0.01%	0.05%	0.23%	0.22%	0.22%	0.12%	-0.07%	-0.24%	-0.42%	-0.22%
		0.0636	0.0377	-0.1411	-0.4471	-0.1817	-0.5290	-0.0129	0.1365	0.5368	0.5222	0.6769	0.3438	-0.1792	-0.5592	-1.0683	-0.5464
BELGIUN	И			0.4407		0 = 404	0 = 404	0 = 40/	0.400/		0 = 404	0.4504		/			
CAR (0)		0.22%	0.42%	0.44%	0.43%	0.56%	0.56%	0.51%	0.42%	0.55%	0.56%	0.46%	0.27%	0.53%	0.53%	0.31%	0.18%
		0.7868	1.8342	2.1296	2.3556	1.7301	1.8104	1.8208	1.6142	1.5479	1.6758	1.5215	0.8984	1.3669	1.4730	0.9075	0.5634
CAR (1)		0.53%	0.48%	0.53%	0.47%	0.52%	0.56%	0.49%	0.36%	0.53%	0.57%	0.39%	0.19%	0.48%	0.42%	0.23%	0.11%
DYY 1 D (0)		1.9994	2.2194	2.5355	2.6714	1.5483	1.8271	1.7673	1.3622	1.4163	1.7467	1.2798	0.6246	1.2379	1.1857	0.6744	0.3557
BHAR (0)		0.03%	0.71%	0.05%	0.15%	0.58%	0.23%	0.44%	0.23%	0.44%	0.51%	0.65%	0.15%	0.29%	0.37%	0.23%	-0.01%
DILAD (1)		0.0843	2.0532	0.1307	0.4437	1.5046	0.6770	1.3287	0.6776	1.1743	1.4826	1.9218	0.4549	0.7471	1.0437	0.5679	-0.0267
BHAR (1)		0.33%	0.55%	0.22%	0.29%	0.57%	0.45%	0.40%	0.13%	0.62%	0.48%	0.81%	-0.15%	0.43%	0.51%	0.15%	0.21%
CANADA	\	0.9966	1.5985	0.5697	0.8768	1.4708	1.2279	1.3127	0.3441	1.6744	1.4763	2.6323	-0.4371	1.1211	1.3345	0.3427	0.4966
CANADA	,	0.76%	0.69%	0.79%	0.78%	0.93%	1.02%	1.01%	0.79%	1.45%	1.29%	1.04%	0.74%	1.23%	0.96%	0.76%	0.52%
CAR (0)		1.9964	2.3224	2.8378	3.2274	2.1078	2.5247	2.7568	2.3040	2.7725	2.6692	2.3049	1.7236	2.2707	1.9429	1.6129	1.1473
CAR (1)		0.67%	0.67%	0.88%	0.66%	0.95%	1.10%	1.01%	0.67%	1.49%	1.21%	0.91%	0.59%	1.02%	0.84%	0.64%	0.37%
CAR (1)		1.8190	2.2122	3.2397	2.7740	2.1185	2.7064	2.7432	1.9462	2.7670	2.5251	2.0234	1.3394	1.9583	1.7162	1.3580	0.8178
BHAR (0)		0.69%	0.39%	0.55%	0.57%	1.07%	1.17%	1.49%	0.56%	1.59%	1.08%	1.25%	0.48%	1.18%	0.97%	0.51%	0.58%
DIIAK (U)		1.4903	0.8627	1.0969	1.2268	2.1576	2.2610	2.8633	1.1953	2.8840	1.9591	2.4878	0.48%	2.0570	1.8303	0.8696	1.0618
BHAR (1)		0.68%	0.3027	0.72%	0.42%	1.08%	2.2010 1.18%	1.33%	0.21%	1.61%	0.93%	1.02%	0.9301	0.78%	0.72%	0.3090	0.42%
DIIAK (1)		1.6741	0.6592	1.5562	0.42%	2.1976	2.2250	2.5465	0.4349	2.7719	1.6951	1.9053	0.6981	1.3956	1.4610	0.3961	0.42%
		1.0/41	0.0392	1.3302	0.0032	2.19/0	2.2230	2.3403	0.4349	2.//19	1.0931	1.9033	0.0961	1.3930	1.4010	0.3901	0./954

MW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	K																
CAR (0)		0.79%	0.82%	0.69%	0.68%	1.15%	0.99%	0.94%	0.88%	1.00%	1.06%	0.94%	0.89%	1.23%	1.08%	0.94%	0.84%
		2.9423	3.3832	3.1760	3.4133	3.7121	3.1601	3.1128	3.0255	2.8899	2.9261	2.7062	2.7079	3.1361	2.6770	2.3926	2.2367
CAR (1)		0.97%	0.80%	0.69%	0.65%	1.12%	0.94%	0.90%	0.82%	1.02%	1.02%	0.91%	0.83%	1.09%	0.94%	0.83%	0.76%
		3.6750	3.3027	3.1188	3.1745	3.4558	2.8280	2.8308	2.7638	2.6945	2.6839	2.5582	2.4670	2.6655	2.2454	2.1044	2.0433
BHAR (0)		0.40%	0.79%	0.40%	0.64%	1.00%	0.82%	0.61%	1.18%	0.72%	0.58%	1.02%	0.64%	1.17%	1.23%	1.17%	0.84%
		1.1758	1.9870	1.0929	1.5119	2.8554	2.0262	1.4448	3.4945	1.8026	1.2496	2.8537	1.8667	2.6398	2.9235	2.3059	1.8350
BHAR (1)		0.85%	0.76%	0.66%	0.76%	1.06%	0.84%	0.61%	1.08%	0.97%	0.99%	1.06%	0.62%	1.17%	0.96%	1.22%	0.70%
		2.8762	1.9052	1.8818	1.9905	2.8200	1.9689	1.5094	3.3347	2.2475	2.3109	3.0453	1.7732	2.6771	2.1618	2.4912	1.4932
FINLANI	D																
CAR (0)		0.60%	0.94%	1.10%	1.03%	1.11%	1.31%	1.51%	1.35%	1.52%	1.52%	1.52%	1.46%	1.44%	1.49%	1.53%	1.31%
		1.2543	2.2430	2.9591	3.0884	1.9580	2.5858	3.3424	3.0561	2.7097	2.8060	2.8334	2.9118	2.4691	2.5108	2.6583	2.3685
CAR (1)		0.96%	1.11%	1.21%	1.05%	1.23%	1.48%	1.54%	1.33%	1.57%	1.53%	1.53%	1.39%	1.59%	1.59%	1.51%	1.30%
		1.9208	2.5778	3.2869	3.0434	2.1951	3.0222	3.3485	3.0103	2.7832	2.7429	2.8380	2.7357	2.5674	2.5974	2.5820	2.3205
BHAR (0)		0.54%	0.84%	1.76%	0.67%	0.80%	1.84%	1.88%	1.95%	1.45%	1.62%	0.76%	1.92%	0.94%	1.57%	1.42%	1.50%
		0.8474	1.2975	2.6563	0.9050	1.2496	2.7403	3.2898	3.2430	2.2465	2.5767	1.0912	3.0899	1.4479	2.2862	2.2616	2.4833
BHAR (1)		1.29%	1.31%	1.85%	0.82%	1.37%	1.58%	1.90%	1.63%	1.61%	1.56%	0.95%	1.79%	1.36%	1.37%	1.24%	1.47%
		2.1193	2.0230	2.9527	1.1703	2.3285	2.6214	3.2286	2.7304	2.6024	2.4352	1.3763	2.8218	2.1014	2.1041	1.9819	2.4107
FRANCI	E																
CAR (0)		-0.39%	-0.11%	0.03%	0.18%	-0.19%	0.09%	0.33%	0.31%	0.01%	0.28%	0.31%	0.21%	0.21%	0.25%	0.24%	0.15%
		-1.4714	-0.5347	0.1460	1.1737	-0.6355	0.3547	1.4611	1.4033	0.0243	0.9572	1.0654	0.7360	0.6090	0.7400	0.7021	0.4491
CAR (1)		-0.21%	0.08%	0.19%	0.20%	0.12%	0.33%	0.41%	0.33%	0.27%	0.37%	0.35%	0.18%	0.26%	0.29%	0.20%	0.14%
		-0.8539	0.4428	1.1141	1.2896	0.4348	1.3887	1.8365	1.4624	0.9031	1.2862	1.1918	0.6178	0.7681	0.8426	0.5916	0.4350
BHAR (0)		-0.43%	-0.22%	-0.14%	0.00%	-0.13%	0.17%	0.17%	0.29%	0.17%	0.47%	0.51%	0.25%	0.37%	0.39%	0.39%	0.21%
		-1.4164	-0.6887	-0.4243	-0.0105	-0.4299	0.5442	0.4693	0.9865	0.5227	1.2561	1.5874	0.6799	1.0373	1.0971	1.0007	0.5926
BHAR (1)		-0.33%	-0.24%	-0.11%	0.10%	0.05%	0.38%	0.25%	0.23%	0.28%	0.44%	0.43%	0.15%	0.32%	0.28%	0.23%	0.08%
		-1.0323	-0.8277	-0.3722	0.2918	0.1562	1.2134	0.7163	0.7781	0.8448	1.1917	1.3172	0.3920	0.9028	0.8273	0.5937	0.2468
GERMAN	ΙΥ																
CAR (0)		0.40%	0.48%	0.55%	0.52%	0.70%	0.81%	0.78%	0.63%	0.83%	0.75%	0.63%	0.51%	0.61%	0.50%	0.44%	0.36%
		1.3619	1.9727	2.5973	2.6799	2.0270	2.6012	2.5956	2.1335	2.2494	2.0523	1.7295	1.4377	1.4223	1.1989	1.0649	0.9097
CAR (1)		0.43%	0.54%	0.59%	0.47%	0.84%	0.90%	0.78%	0.59%	0.83%	0.71%	0.60%	0.45%	0.50%	0.44%	0.38%	0.29%
		1.5138	2.4410	2.9179	2.4330	2.4415	2.7880	2.4931	1.9572	2.0336	1.8435	1.6056	1.2557	1.1606	1.0731	0.9327	0.7539
BHAR (0)		0.29%	0.46%	0.67%	0.31%	0.58%	0.70%	0.55%	0.75%	0.94%	0.79%	0.54%	0.53%	0.49%	0.63%	0.54%	0.40%
		0.8893	1.2934	2.0116	0.8396	1.4945	1.8509	1.3650	2.2014	2.4040	2.0439	1.2535	1.3847	1.1176	1.3683	1.1938	0.8371
BHAR (1)		0.26%	0.38%	0.56%	0.30%	0.64%	0.74%	0.36%	0.76%	0.71%	0.71%	0.41%	0.22%	0.27%	0.49%	0.61%	0.24%
		0.7138	1.0699	1.7179	0.8190	1.7306	1.9652	0.8484	2.1656	1.6536	1.6389	0.9762	0.5101	0.6313	1.1059	1.3410	0.5026

MW	J =		3	;			6	i			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE																	
CAR (0)		0.74%	0.71%	0.50%	0.54%	0.81%	0.81%	0.61%	0.54%	1.00%	0.92%	0.73%	0.67%	0.77%	0.57%	0.43%	0.35%
		1.1347	1.3385	1.1558	1.4367	1.1705	1.2938	1.1781	1.1801	1.4565	1.4695	1.3471	1.3777	1.1318	0.9310	0.7832	0.6943
CAR (1)		0.83%	0.63%	0.52%	0.51%	1.15%	0.81%	0.63%	0.54%	1.03%	0.81%	0.73%	0.61%	0.99%	0.56%	0.43%	0.30%
		1.2798	1.2239	1.2372	1.3601	1.6332	1.3751	1.2797	1.2135	1.4922	1.3831	1.4290	1.3148	1.5106	0.9888	0.8284	0.6018
BHAR (0)		1.14%	1.57%	1.01%	1.46%	1.15%	1.16%	0.55%	0.74%	1.44%	0.62%	1.05%	0.55%	1.33%	0.76%	0.41%	-0.07%
		1.5031	2.0444	1.3551	1.8805	1.4823	1.6158	0.7167	1.0525	1.8253	0.8970	1.7780	0.9186	1.7781	1.0704	0.6037	-0.1013
BHAR (1)		0.95%	1.52%	0.48%	1.77%	1.14%	0.78%	0.88%	0.57%	0.83%	0.80%	1.24%	0.04%	1.59%	0.91%	0.45%	0.11%
		1.2380	1.6944	0.6582	2.0207	1.5343	1.1350	1.1387	0.8201	0.9969	1.0332	1.6572	0.0646	2.0095	1.2665	0.6891	0.1770
HONGKON	IG																
CAR (0)		0.45%	0.46%	0.42%	0.34%	0.66%	0.53%	0.40%	0.28%	0.54%	0.41%	0.28%	0.11%	0.61%	0.40%	0.15%	0.06%
		1.1048	1.6056	1.6594	1.4472	1.6321	1.3801	1.1249	0.8643	1.1005	0.8897	0.6587	0.2804	1.2518	0.8416	0.3541	0.1556
CAR (1)		0.32%	0.47%	0.38%	0.30%	0.60%	0.47%	0.32%	0.17%	0.40%	0.29%	0.15%	-0.01%	0.46%	0.28%	0.06%	-0.01%
		0.8489	1.6492	1.4497	1.2417	1.4102	1.1629	0.9019	0.5244	0.7853	0.6197	0.3506	-0.0394	0.9414	0.6107	0.1427	-0.0167
BHAR (0)		0.51%	0.51%	0.05%	0.51%	0.74%	0.61%	0.37%	0.27%	0.74%	0.71%	0.59%	-0.03%	0.67%	0.56%	0.06%	0.00%
		1.1082	1.1492	0.0916	1.4085	1.6769	1.2482	0.8409	0.5867	1.3453	1.2997	1.1353	-0.0506	1.2914	1.1072	0.1210	-0.0090
BHAR (1)		0.22%	0.45%	-0.15%	0.38%	0.23%	0.23%	-0.11%	0.07%	0.18%	0.35%	0.27%	-0.01%	0.35%	0.41%	0.03%	0.00%
		0.4975	1.1301	-0.3083	1.0132	0.4832	0.4644	-0.2345	0.1498	0.3298	0.6189	0.5121	-0.0148	0.6576	0.8388	0.0651	0.0039
IRELAND)				-				1								
CAR (0)		1.07%	0.95%	0.51%	0.58%	1.69%	1.11%	0.83%	0.68%	1.26%	0.78%	0.44%	0.41%	1.02%	0.54%	0.19%	0.12%
		1.9604	2.0043	1.1203	1.4909	2.3924	1.6746	1.3909	1.2528	1.7835	1.1951	0.7165	0.7103	1.3527	0.7482	0.2732	0.1959
CAR (1)		1.22%	0.83%	0.52%	0.51%	1.45%	0.96%	0.66%	0.56%	1.04%	0.48%	0.31%	0.29%	0.78%	0.28%	0.05%	-0.06%
		2.4812	1.7900	1.2070	1.3909	2.1691	1.4902	1.1508	1.0477	1.5435	0.7471	0.5160	0.5133	1.0587	0.3885	0.0739	-0.1089
BHAR (0)		0.80%	0.26%	-0.20%	0.25%	1.24%	1.05%	-0.15%	1.41%	0.77%	-0.03%	1.22%	0.40%	0.97%	0.60%	0.26%	0.21%
		1.2587	0.3033	-0.2815	0.2820	1.5043	1.3568	-0.1993	1.9847	1.0640	-0.0369	1.7816	0.5385	1.2141	0.7729	0.3281	0.2683
BHAR (1)		0.97%	0.46%	-0.31%	0.58%	1.25%	0.68%	0.29%	1.20%	0.35%	-0.15%	0.81%	-0.01%	0.35%	0.40%	-0.14%	-0.03%
		1.7415	0.6067	-0.4628	0.6637	1.7339	0.8580	0.4353	1.8001	0.5133	-0.1835	1.2126	-0.0108	0.4603	0.5430	-0.1700	-0.0419
ISRAEL		0.4007	0.5001	0.5001	0.400/		1000		0.740/	0.0=0/	0.6004	0.4507	0.00/	0.000/	0.6004	0.4007	
CAR (0)		0.48%	0.60%	0.60%	0.42%	1.11%	1.02%	0.77%	0.51%	0.95%	0.69%	0.46%	0.29%	0.89%	0.68%	0.49%	0.24%
		1.3537	1.8719	1.9364	1.4826	2.5840	2.4505	1.8975	1.2593	1.9783	1.4559	0.9667	0.6285	1.8751	1.3962	1.0006	0.5053
CAR (1)		0.56%	0.65%	0.64%	0.32%	1.16%	0.99%	0.63%	0.42%	0.94%	0.56%	0.35%	0.19%	0.70%	0.57%	0.33%	0.10%
		1.6351	1.7933	2.0032	1.0251	2.5662	2.2716	1.4855	0.9953	1.9415	1.1193	0.7077	0.4081	1.4427	1.1414	0.6696	0.2202
BHAR (0)		-0.25%	0.39%	0.64%	0.31%	0.48%	1.28%	0.13%	1.49%	0.51%	0.35%	0.43%	0.41%	0.50%	0.58%	0.43%	0.34%
		-0.5378	0.6862	1.4927	0.8141	0.8648	2.7556	0.2404	3.8614	0.8977	0.5703	0.7790	0.6793	0.9876	1.1100	0.8409	0.5754
BHAR (1)		0.54%	0.95%	0.67%	0.37%	1.04%	1.27%	0.41%	1.27%	1.05%	0.60%	0.32%	0.89%	0.59%	0.46%	0.30%	0.26%
		1.3716	2.0140	1.5747	0.9237	2.0308	2.8315	0.8220	2.8678	2.0128	1.0940	0.6023	1.5977	1.1401	0.8297	0.5675	0.4287

MW	J =		3	3			6	i			9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.15%	0.50%	0.50%	0.57%	0.45%	0.59%	0.60%	0.66%	0.63%	0.73%	0.71%	0.71%	0.51%	0.68%	0.73%	0.72%
		0.4710	1.7796	2.1276	2.7445	1.1412	1.7257	1.9639	2.3122	1.5110	1.8800	1.9140	2.1196	1.1566	1.6029	1.8518	1.9773
CAR (1)		0.39%	0.60%	0.61%	0.62%	0.60%	0.66%	0.66%	0.65%	0.75%	0.78%	0.75%	0.70%	0.57%	0.73%	0.74%	0.73%
		1.1828	2.2782	2.7010	2.9486	1.6489	1.9827	2.1896	2.3242	1.8070	2.0383	2.0657	2.1304	1.3118	1.7553	1.9313	2.0618
BHAR (0)		0.38%	0.25%	0.52%	0.47%	0.44%	0.16%	0.51%	0.87%	0.59%	0.54%	0.92%	0.33%	0.44%	0.53%	1.00%	0.49%
		0.9060	0.6346	1.1022	1.0690	0.9880	0.3556	1.1622	1.9574	1.2859	1.2315	2.1577	0.7879	0.9888	1.0986	2.1396	1.1397
BHAR (1)		0.19%	0.18%	0.71%	0.64%	0.29%	0.25%	0.53%	0.90%	0.67%	0.77%	0.84%	0.25%	0.37%	0.45%	0.98%	0.40%
		0.4729	0.4555	1.5761	1.4968	0.7147	0.6265	1.2890	2.1187	1.4002	1.7112	2.0614	0.5954	0.8457	1.0538	2.1717	0.9779
JAPAN																	
CAR (0)		-0.15%	-0.18%	-0.03%	0.00%	-0.35%	-0.17%	-0.04%	-0.11%	-0.16%	-0.07%	-0.09%	-0.15%	-0.13%	-0.21%	-0.21%	-0.23%
		-0.5193	-0.6601	-0.1444	0.0108	-0.9805	-0.5142	-0.1466	-0.4503	-0.4112	-0.1959	-0.3044	-0.6028	-0.3494	-0.6435	-0.7226	-0.9137
CAR (1)		-0.10%	-0.10%	0.04%	0.01%	-0.17%	0.00%	0.03%	-0.10%	0.07%	0.01%	-0.08%	-0.15%	-0.13%	-0.22%	-0.22%	-0.24%
		-0.3672	-0.3493	0.1736	0.0522	-0.4819	-0.0090	0.1110	-0.4425	0.1840	0.0449	-0.2746	-0.6086	-0.3674	-0.7009	-0.7813	-0.9863
BHAR (0)		-0.12%	0.09%	-0.16%	0.09%	-0.12%	-0.12%	-0.24%	0.17%	-0.01%	0.02%	0.15%	0.13%	-0.10%	-0.23%	-0.39%	-0.22%
		-0.3410	0.2778	-0.5030	0.3225	-0.3076	-0.3268	-0.6703	0.5423	-0.0142	0.0656	0.4788	0.4026	-0.2762	-0.6492	-1.2322	-0.6819
BHAR (1)		-0.05%	-0.13%	-0.42%	0.12%	-0.20%	-0.22%	-0.21%	0.13%	-0.06%	-0.02%	-0.05%	-0.04%	-0.23%	-0.55%	-0.56%	-0.51%
		-0.1615	-0.3982	-1.3481	0.5254	-0.5507	-0.6538	-0.6315	0.4502	-0.1510	-0.0700	-0.1703	-0.1453	-0.6716	-1.6482	-1.8650	-1.5528
NETHERLAN	NDS																
CAR (0)		0.10%	-0.07%	0.09%	0.25%	-0.12%	-0.07%	0.13%	0.17%	-0.10%	0.12%	0.13%	0.11%	0.03%	-0.09%	-0.10%	-0.08%
		0.3021	-0.2987	0.4463	1.3105	-0.3802	-0.2259	0.4573	0.6477	-0.2812	0.3373	0.3938	0.3609	0.0855	-0.2397	-0.2622	-0.2354
CAR (1)		-0.06%	-0.10%	0.17%	0.17%	-0.23%	-0.02%	0.13%	0.12%	0.18%	0.15%	0.17%	0.05%	-0.07%	-0.13%	-0.12%	-0.08%
		-0.2221	-0.4037	0.8043	0.9057	-0.6846	-0.0575	0.4411	0.4516	0.5149	0.4320	0.5053	0.1632	-0.1804	-0.3361	-0.3224	-0.2589
BHAR (0)		0.21%	-0.44%	-0.04%	-0.45%	-0.21%	-0.45%	-0.22%	0.42%	-0.12%	0.00%	0.22%	-0.01%	0.14%	0.03%	-0.27%	0.23%
		0.5791	-1.1096	-0.1000	-1.0303	-0.5812	-1.1938	-0.4919	1.1947	-0.3191	0.0030	0.6213	-0.0349	0.3436	0.0760	-0.6317	0.5548
BHAR (1)		0.15%	-0.65%	-0.11%	-0.26%	-0.23%	-0.60%	-0.23%	0.28%	-0.06%	-0.01%	0.26%	-0.22%	0.01%	-0.07%	-0.22%	0.13%
		0.4221	-1.7177	-0.3022	-0.6136	-0.5830	-1.4005	-0.4845	0.7921	-0.1414	-0.0142	0.7126	-0.5443	0.0198	-0.1536	-0.5220	0.2990
NEWZEALA	ND																
CAR (0)		0.78%	0.58%	0.47%	0.53%	0.86%	0.65%	0.58%	0.51%	0.81%	0.83%	0.65%	0.47%	1.00%	0.80%	0.48%	0.19%
		2.2973	2.5916	2.3416	2.7951	2.7030	2.2994	2.2529	2.0816	2.2962	2.5085	2.0363	1.6181	2.5856	2.1729	1.3801	0.5575
CAR (1)		0.45%	0.42%	0.43%	0.42%	0.57%	0.53%	0.51%	0.39%	0.77%	0.75%	0.55%	0.35%	0.88%	0.62%	0.32%	0.05%
		1.6127	1.8939	2.2301	2.3248	1.7886	1.8855	1.9211	1.6275	2.2045	2.2783	1.7504	1.2343	2.3153	1.7114	0.8934	0.1378
BHAR (0)		0.70%	0.32%	0.61%	-0.57%	1.27%	0.83%	0.59%	0.23%	1.06%	0.91%	0.85%	0.22%	1.26%	1.04%	0.35%	0.40%
		1.5895	0.4638	1.8262	-0.8793	3.6929	2.5561	1.7341	0.7876	3.1100	2.6148	2.3664	0.7735	3.1298	2.5863	0.8102	1.0463
BHAR (1)		0.38%	0.16%	0.28%	-0.43%	0.73%	0.46%	0.37%	-0.10%	0.70%	0.78%	0.74%	-0.05%	1.04%	0.73%	-0.13%	0.43%
		0.8527	0.2377	0.9026	-0.6862	2.1230	1.4295	1.0226	-0.3772	2.0265	1.9228	2.0428	-0.1751	2.6129	1.8713	-0.2535	1.0794

MW	J =		3				6	i			9	1			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	,																
CAR (0)		0.07%	0.18%	0.29%	0.36%	0.26%	0.42%	0.50%	0.39%	0.43%	0.60%	0.62%	0.47%	0.60%	0.49%	0.42%	0.28%
		0.2272	0.7386	1.4443	1.8999	0.7766	1.4320	1.9200	1.5902	1.1502	1.7619	1.9687	1.5546	1.5665	1.3238	1.1967	0.8198
CAR (1)		0.07%	0.25%	0.39%	0.32%	0.44%	0.53%	0.54%	0.35%	0.54%	0.69%	0.59%	0.38%	0.53%	0.52%	0.35%	0.21%
		0.2260	1.0259	1.8787	1.6045	1.2841	1.7862	1.9764	1.3878	1.4346	1.9943	1.7837	1.2205	1.4152	1.4227	0.9904	0.6022
BHAR (0)		-0.03%	0.29%	0.29%	0.66%	0.21%	0.41%	0.39%	0.61%	0.36%	0.47%	0.45%	0.42%	0.42%	0.49%	0.68%	0.32%
		-0.0680	0.7567	0.7742	1.6308	0.5384	1.0442	1.0325	1.7559	0.8126	1.1040	1.1682	1.0455	0.9823	1.2756	1.6298	0.7483
BHAR (1)		-0.01%	0.28%	0.61%	0.57%	0.55%	0.67%	0.46%	0.47%	0.47%	0.64%	0.54%	0.25%	0.51%	0.36%	0.67%	0.28%
		-0.0254	0.7460	1.9704	1.4877	1.3804	1.8516	1.1702	1.2633	1.1566	1.7253	1.3908	0.6574	1.2156	0.9585	1.6869	0.6860
PORTUGA	L																
CAR (0)		0.69%	0.46%	0.57%	0.58%	0.14%	0.11%	0.28%	0.24%	0.09%	0.20%	0.22%	0.20%	0.15%	0.26%	0.30%	0.30%
		1.2956	1.1596	1.7205	1.9498	0.2649	0.2519	0.7449	0.7113	0.1776	0.4276	0.5271	0.5288	0.2698	0.5522	0.6729	0.7029
CAR (1)		0.84%	0.50%	0.66%	0.55%	-0.01%	0.25%	0.31%	0.25%	0.16%	0.28%	0.24%	0.19%	0.30%	0.32%	0.32%	0.34%
		1.7880	1.3248	2.0063	1.9218	-0.0134	0.5969	0.8484	0.7600	0.3293	0.6523	0.6218	0.5268	0.5765	0.7121	0.7440	0.8118
BHAR (0)		0.69%	0.13%	0.13%	0.78%	0.15%	0.57%	0.27%	0.60%	0.05%	0.19%	0.72%	0.38%	-0.07%	0.32%	0.13%	0.64%
		1.1606	0.2418	0.3259	1.4221	0.2625	0.9930	0.5161	1.1506	0.0921	0.3651	1.4101	0.8943	-0.1198	0.6080	0.2384	1.1180
BHAR (1)		1.34%	0.35%	0.34%	0.97%	0.10%	0.94%	0.53%	0.62%	0.21%	0.22%	0.71%	0.34%	0.24%	0.34%	0.14%	0.62%
		2.6087	0.7680	0.9157	1.8552	0.1935	1.6965	1.0456	1.2346	0.4658	0.4688	1.5473	0.8313	0.4781	0.6628	0.2716	1.0783
SINGAPOR	E				1				-								
CAR (0)		0.08%	0.19%	0.04%	0.05%	0.22%	0.04%	-0.03%	-0.11%	0.07%	0.09%	-0.04%	-0.14%	0.06%	-0.08%	-0.17%	-0.16%
		0.1978	0.7675	0.1918	0.2434	0.5710	0.1122	-0.0876	-0.3618	0.1659	0.2337	-0.1188	-0.4467	0.1481	-0.2133	-0.4975	-0.5001
CAR (1)		-0.06%	0.18%	0.03%	-0.01%	0.10%	0.01%	-0.08%	-0.15%	0.05%	0.05%	-0.09%	-0.16%	-0.02%	-0.14%	-0.20%	-0.15%
		-0.1343	0.7708	0.1564	-0.0342	0.2537	0.0276	-0.2588	-0.5418	0.1082	0.1216	-0.2650	-0.5657	-0.0555	-0.3525	-0.5868	-0.5005
BHAR (0)		-0.02%	0.12%	0.48%	0.02%	0.18%	0.01%	-0.23%	0.00%	0.29%	0.15%	0.09%	-0.27%	0.23%	0.13%	0.14%	0.05%
		-0.0354	0.3101	1.6540	0.0511	0.4064	0.0306	-0.4936	-0.0103	0.6472	0.3368	0.2193	-0.5604	0.5389	0.3298	0.3257	0.1492
BHAR (1)		-0.21%	-0.22%	0.47%	-0.06%	-0.06%	-0.08%	-0.34%	0.11%	0.07%	-0.01%	0.22%	-0.38%	0.03%	0.10%	-0.13%	0.09%
CD L TO		-0.4822	-0.5276	1.5870	-0.1500	-0.1381	-0.2063	-0.7265	0.2963	0.1727	-0.0321	0.5733	-0.8139	0.0760	0.2286	-0.3098	0.2423
SPAIN		0.040/	0.100/	0.020/	0.220/	0.020/	0.010/	0.260/	0.210/	0.020/	0.210/	0.420/	0.450/	0.740/	0.450/	0.400/	0.520/
CAR (0)		-0.04%	-0.18%	0.03%	0.22%	-0.02%	-0.01%	0.26%	0.31%	0.02%	0.21%	0.42%	0.45%	0.54%	0.47%	0.49%	0.53%
CAD (1)		-0.1518	-0.6950	0.1437	1.0661	-0.0636	-0.0281	0.8639	1.2565	0.0578	0.5803	1.3109	1.5161	1.4107	1.2934	1.4191	1.6171
CAR (1)		-0.11%	-0.17%	0.15%	0.24%	-0.04%	0.11%	0.38%	0.33%	0.24%	0.36%	0.50%	0.45%	0.54%	0.45%	0.50%	0.53%
DILLAD (O)		-0.3638	-0.6202	0.5993	1.2400	-0.1230	0.3213	1.3083	1.3131	0.5892	0.9750	1.5853	1.5159	1.4499	1.2510	1.4563	1.6082
BHAR (0)		-0.54%	-0.60%	-0.08%	-0.20%	-0.49%	-0.31%	-0.08%	0.80%	-0.38%	0.08%	0.51%	0.50%	0.48%	0.81%	0.91%	0.65%
DILAD (1)		-1.3444	-1.5015	-0.1870	-0.5135	-1.2140	-0.7082	-0.1565	1.8185	-0.8331	0.1817	1.4177	1.3109	1.2437	2.1874	2.2345	1.9096
BHAR (1)		-0.14%	-0.58%	0.00%	0.00%	-0.37%	-0.04%	0.01%	0.72%	-0.07%	0.04%	0.41%	0.32%	0.43%	0.61%	0.82%	0.49%
		-0.3970	-1.4424	-0.0028	-0.0087	-0.8736	-0.0960	0.0126	1.6692	-0.1672	0.0976	1.0501	0.8018	1.1041	1.6421	1.9972	1.4107

MW	J =		3				6				9				1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		0.81%	0.50%	0.26%	0.24%	0.70%	0.27%	0.19%	0.09%	0.48%	0.22%	0.05%	-0.04%	0.13%	-0.03%	-0.20%	-0.22%
		1.9984	1.6037	0.9006	0.8648	1.6854	0.7408	0.5124	0.2464	0.9942	0.4879	0.1165	-0.0791	0.2470	-0.0565	-0.3535	-0.3908
CAR (1)		0.60%	0.34%	0.17%	0.11%	0.49%	0.24%	0.08%	0.02%	0.34%	0.06%	-0.04%	-0.18%	-0.16%	-0.20%	-0.33%	-0.26%
		1.6734	1.1965	0.6124	0.3912	1.2500	0.6350	0.2076	0.0449	0.7463	0.1368	-0.0861	-0.3694	-0.2885	-0.3501	-0.5648	-0.4528
BHAR (0)		0.87%	0.52%	0.58%	0.02%	0.58%	0.51%	0.36%	0.11%	0.41%	-0.33%	-0.23%	-0.34%	0.18%	0.39%	-0.02%	-0.14%
		1.7206	1.0532	1.1913	0.0434	1.3362	1.2003	0.7507	0.2065	0.8759	-0.6487	-0.4566	-0.5369	0.3425	0.6755	-0.0388	-0.2105
BHAR (1)		0.69%	0.34%	0.57%	0.01%	0.55%	0.42%	0.43%	-0.02%	0.20%	-0.26%	-0.40%	-0.41%	-0.02%	0.20%	-0.19%	-0.25%
		1.4784	0.6658	1.2863	0.0214	1.3433	0.9476	0.9121	-0.0291	0.4318	-0.4757	-0.7229	-0.6190	-0.0357	0.3261	-0.3337	-0.3667
SWITZERLA	.ND																
CAR (0)		-0.03%	0.25%	0.32%	0.40%	0.30%	0.41%	0.52%	0.46%	0.38%	0.49%	0.45%	0.37%	0.54%	0.50%	0.46%	0.33%
		-0.1231	1.2452	1.7573	2.4463	1.0471	1.5655	2.1935	2.1131	1.2769	1.7104	1.6503	1.4367	1.7891	1.6717	1.5843	1.2400
CAR (1)		0.15%	0.36%	0.43%	0.39%	0.32%	0.52%	0.56%	0.41%	0.52%	0.53%	0.45%	0.30%	0.53%	0.47%	0.38%	0.26%
		0.6953	1.8412	2.3447	2.4363	1.2043	2.0091	2.3627	1.9029	1.7255	1.8643	1.6592	1.2035	1.7371	1.5670	1.3364	0.9853
BHAR (0)		-0.11%	0.18%	-0.10%	0.28%	0.20%	0.31%	0.43%	0.71%	0.36%	0.30%	0.42%	0.36%	0.61%	0.80%	0.42%	0.51%
		-0.3904	0.6205	-0.3441	0.8675	0.6708	0.9962	1.4554	2.6519	1.0764	0.8663	1.4251	1.0690	1.8698	2.4493	1.3024	1.5679
BHAR (1)		0.09%	0.19%	0.10%	0.36%	0.34%	0.49%	0.51%	0.63%	0.51%	0.41%	0.35%	0.11%	0.40%	0.62%	0.34%	0.30%
		0.3547	0.6674	0.3431	1.1720	1.2002	1.6261	1.7585	2.3251	1.4364	1.1392	1.1291	0.3216	1.2056	1.9710	1.0859	0.9516
UK																	
CAR (0)		0.00%	0.16%	0.18%	0.37%	0.07%	0.23%	0.41%	0.40%	0.15%	0.42%	0.40%	0.29%	0.51%	0.44%	0.29%	0.18%
		-0.0072	0.5486	0.6863	1.6152	0.1760	0.6398	1.2855	1.3850	0.3407	1.0547	1.0913	0.8679	1.1403	1.0469	0.7342	0.4986
CAR (1)		0.01%	0.18%	0.30%	0.36%	0.24%	0.37%	0.49%	0.37%	0.40%	0.50%	0.43%	0.24%	0.47%	0.37%	0.21%	0.10%
		0.0144	0.5895	1.1031	1.5844	0.6369	1.0390	1.5562	1.3064	0.9382	1.2798	1.1710	0.7315	1.0653	0.9090	0.5389	0.2799
BHAR (0)		-0.21%	0.07%	0.19%	0.15%	0.13%	0.33%	0.35%	0.69%	0.03%	0.23%	0.45%	0.47%	0.37%	0.42%	0.24%	0.32%
		-0.5204	0.1636	0.4928	0.4042	0.3105	0.8408	0.7766	2.3511	0.0654	0.4670	1.1621	1.1391	0.7682	0.9615	0.5210	0.7158
BHAR (1)		0.12%	0.09%	0.29%	0.32%	0.20%	0.33%	0.51%	0.53%	0.32%	0.29%	0.28%	0.34%	0.29%	0.13%	-0.04%	0.01%
		0.3042	0.2244	0.7755	0.9143	0.5305	0.8851	1.2802	1.7435	0.7543	0.6633	0.7165	0.8466	0.6405	0.2974	-0.0901	0.0260
US																	
CAR (0)		-0.36%	-0.11%	0.08%	0.10%	-0.16%	0.14%	0.25%	0.19%	0.19%	0.31%	0.30%	0.21%	0.23%	0.24%	0.20%	0.12%
		-1.6250	-0.5879	0.4917	0.6464	-0.5719	0.5736	1.1015	0.8854	0.6539	1.0714	1.0786	0.7870	0.7258	0.7708	0.6619	0.4281
CAR (1)		-0.24%	0.03%	0.17%	0.10%	0.10%	0.33%	0.32%	0.21%	0.38%	0.38%	0.31%	0.18%	0.26%	0.27%	0.19%	0.10%
		-1.0455	0.1765	1.0656	0.6854	0.3680	1.3278	1.3764	0.9396	1.2541	1.2819	1.1013	0.7064	0.8268	0.8539	0.6371	0.3539
BHAR (0)		-0.53%	-0.03%	-0.32%	0.17%	-0.22%	0.03%	-0.17%	0.41%	0.15%	0.27%	0.45%	0.26%	0.33%	0.39%	0.31%	0.23%
		-1.9092	-0.1162	-1.0324	0.6179	-0.6819	0.1007	-0.5398	1.8696	0.4801	0.8284	1.6398	0.9114	1.0023	1.2072	0.9779	0.6942
BHAR (1)		-0.22%	-0.19%	-0.25%	0.13%	-0.05%	0.17%	-0.11%	0.30%	0.34%	0.22%	0.31%	0.04%	0.18%	0.21%	0.14%	0.07%
		-0.8307	-0.6383	-0.8467	0.4227	-0.1540	0.6573	-0.3341	1.3277	1.0055	0.5909	1.0446	0.1440	0.5135	0.6339	0.4409	0.1972

Panel C. The cross-sectional momentum strategy using inversed volatility-weighted return

IVOL	J =		3				6		57 451118	inverse	9				12	<u> </u>	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL	IA																
CAR (0)		0.90%	0.80%	0.66%	0.63%	1.31%	0.98%	0.75%	0.50%	1.18%	1.02%	0.71%	0.47%	1.22%	0.92%	0.71%	0.42%
		2.9875	3.1973	2.8935	3.3427	4.0125	2.9438	2.4111	1.8213	3.3093	2.9775	2.1954	1.6587	3.1684	2.4779	2.0001	1.2652
CAR (1)		0.77%	0.77%	0.76%	0.57%	1.15%	0.92%	0.70%	0.36%	1.18%	0.90%	0.59%	0.36%	1.10%	0.76%	0.56%	0.28%
		2.8155	3.1249	3.4815	2.9507	3.3405	2.6604	2.2369	1.2918	3.3994	2.6265	1.8853	1.2668	2.8803	2.0820	1.5811	0.8580
BHAR (0)		0.92%	0.97%	0.31%	0.44%	1.29%	0.76%	0.18%	0.61%	1.18%	1.10%	0.79%	0.70%	1.47%	1.14%	0.79%	0.59%
		2.3255	2.7548	0.7260	1.4646	3.1364	1.9447	0.3889	1.8730	3.3884	3.0224	2.4263	2.4115	3.5198	2.6324	2.1135	1.4049
BHAR (1)		0.80%	0.83%	0.34%	0.52%	1.12%	0.98%	0.60%	0.57%	1.01%	0.93%	0.60%	0.53%	1.17%	0.57%	0.10%	0.24%
		2.4868	2.1707	0.7326	1.6710	3.2636	2.5045	1.5008	1.8713	3.0122	2.4744	2.0675	1.7405	2.8964	1.5470	0.2893	0.6988
AUSTRI	A																
CAR (0)		0.88%	0.70%	0.66%	0.69%	0.97%	0.91%	0.92%	0.85%	1.22%	1.20%	1.11%	0.92%	1.23%	1.16%	0.97%	0.81%
		3.5428	3.2979	3.1141	3.5057	3.3959	3.1500	3.2131	3.1695	3.3864	3.3030	3.1316	2.8316	3.1014	2.9862	2.6701	2.4165
CAR (1)		0.72%	0.56%	0.57%	0.60%	0.89%	0.85%	0.84%	0.74%	1.19%	1.11%	1.01%	0.80%	1.20%	1.03%	0.87%	0.70%
		3.0430	2.6987	2.7499	3.1288	3.1413	2.8559	2.9259	2.7887	3.2363	3.0133	2.9016	2.5226	3.0884	2.7325	2.4718	2.1594
BHAR (0)		0.75%	0.57%	0.61%	0.58%	1.02%	0.83%	0.76%	1.11%	1.35%	1.21%	1.19%	0.95%	1.24%	1.07%	0.82%	0.61%
		2.4559	1.9278	1.5706	1.7346	3.5316	2.7329	2.3315	3.9014	3.6858	3.0855	3.3749	2.9290	3.0831	2.7354	2.1885	1.8395
BHAR (1)		0.81%	0.47%	0.66%	0.47%	1.05%	0.86%	0.91%	1.03%	1.09%	1.03%	1.10%	0.82%	1.17%	1.07%	0.65%	0.52%
		3.1782	1.6149	1.7496	1.4876	3.5142	2.8425	2.7583	3.8824	2.9116	2.5642	3.3318	2.5462	3.0263	2.8069	1.7240	1.5476
BELGIU	М								1								
CAR (0)		0.60%	0.57%	0.56%	0.59%	0.78%	0.81%	0.79%	0.71%	1.04%	1.01%	0.89%	0.74%	1.12%	0.99%	0.83%	0.69%
		3.5703	3.6262	4.0212	4.5034	3.6964	3.9890	4.1601	4.0358	4.5795	4.5036	4.2355	3.7455	4.7248	4.2566	3.7533	3.2812
CAR (1)		0.63%	0.53%	0.54%	0.53%	0.85%	0.85%	0.80%	0.68%	1.13%	0.99%	0.86%	0.67%	1.11%	0.93%	0.74%	0.61%
		3.9462	3.6535	3.9949	4.3014	4.0409	4.2957	4.2968	3.9422	5.0409	4.4760	4.1677	3.4720	4.7287	4.0797	3.4416	2.9558
BHAR (0)		0.40%	0.36%	0.24%	0.32%	0.77%	0.79%	0.66%	0.88%	1.08%	1.01%	0.97%	0.86%	1.11%	0.98%	0.91%	0.56%
DIVID (1)		2.0831	1.6773	0.9729	1.2399	3.3453	3.5470	2.9116	4.7236	4.6335	4.0075	4.6707	3.9809	4.3805	4.0849	4.0089	2.5169
BHAR (1)		0.63%	0.58%	0.54%	0.45%	0.82%	0.83%	0.66%	0.84%	1.08%	0.88%	0.95%	0.58%	1.05%	0.96%	0.84%	0.52%
CANAD		3.3711	2.6171	2.1394	1.9718	3.6658	3.9932	3.0088	4.8772	4.9900	3.5330	4.7542	2.7155	4.5001	4.2629	3.6877	2.3064
CAR	4	1.010/	0.660/	0.670/	0.650/	0.95%	0.000/	0.070/	0.690/	1.100/	1.020/	0.040/	0.520/	1.200/	0.010/	0.500/	0.240/
CAR (0)		1.01% 3.9715	0.66% 2.9194	0.67% 3.2561	0.65% 3.8398	3.0147	0.88% 2.9861	0.87% 3.5064	0.68% 3.1800	1.19% 3.4230	1.03% 3.3563	0.84% 3.0929	0.53% 2.2237	1.29% 3.7452	0.91% 2.9960	0.58% 2.1504	0.34% 1.4114
CAR (1)		0.77%	0.61%	0.71%	0.57%	0.99%	0.96%	0.82%	0.55%	1.18%	0.94%	0.70%	0.34%	0.97%	0.68%	0.39%	0.16%
CAR (1)		3.2202	2.6598	3.6539	3.6339	3.0694	3.3180	3.5748	2.7495	3.5567	3.2579	2.7463	1.5409	3.1169	2.4261	1.5315	0.7026
BHAR (0)			0.47%	0.71%	0.47%	0.84%	0.73%	0.53%	0.68%	1.08%	0.62%	0.88%	0.30%	1.27%	0.91%	0.81%	0.7020
DIIAK (U)		1.01% 3.2704	1.4389	2.2137	1.5892	2.3672	2.1773	1.5479	2.0893	2.9379	1.5287	3.3200	0.8498	3.4946	2.9606	2.5932	1.0327
рцар (1)		0.86%	0.42%	2.2137 0.78%	0.51%	2.30/2 0.79%	2.17/3 0.87%	0.54%	2.0893 0.70%	2.9379 1.02%	0.69%	0.65%	0.8498 0.56%		2.9000 0.80%	2.5932 0.68%	
BHAR (1)		3.3361	0.42% 1.4544	2.7131	1.8980	2.3460	2.6334	1.7263	2.7562	2.9099	2.0146	2.4592	1.9332	1.01% 3.1551	2.8809	2.3212	0.23% 0.8277
		3.3301	1.4344	2./131	1.0900	2.3400	4.0334	1./203	2./302	2.9099	2.0140	2.4392	1.9332	3.1331	2.0009	2.3212	0.04//

IVOL	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	K																
CAR (0)		0.88%	0.88%	0.78%	0.76%	1.27%	1.12%	1.06%	0.91%	1.33%	1.24%	1.05%	0.87%	1.37%	1.14%	0.94%	0.76%
		5.6590	5.8678	5.2885	5.8460	6.8195	5.9327	6.0028	5.4661	6.2437	5.8059	5.0372	4.4014	6.0962	4.9590	4.2141	3.6253
CAR (1)		0.87%	0.87%	0.79%	0.72%	1.24%	1.07%	0.99%	0.82%	1.31%	1.14%	0.95%	0.75%	1.24%	1.00%	0.82%	0.63%
		5.4462	5.7538	5.3824	5.5833	6.4820	5.5679	5.6130	4.8975	5.9050	5.2670	4.5358	3.7996	5.5042	4.3146	3.7242	3.0619
BHAR (0)		0.90%	0.91%	0.67%	0.72%	1.28%	0.94%	1.08%	1.13%	1.26%	1.17%	1.13%	0.90%	1.37%	1.16%	0.90%	0.73%
		5.0490	4.5060	3.3366	3.2577	5.9415	3.9510	4.7172	5.3121	5.6144	4.7542	4.8056	4.0853	5.3474	4.8428	3.7527	2.9851
BHAR (1)		0.88%	0.89%	0.78%	0.75%	1.19%	0.96%	0.95%	0.95%	1.24%	1.11%	1.06%	0.70%	1.30%	0.96%	0.83%	0.51%
		5.2638	4.3802	3.6495	3.2952	6.0988	4.2549	4.3282	5.1135	5.3430	4.7059	4.8816	3.0589	5.4745	3.9228	3.4269	2.1365
FINLANI)																
CAR (0)		0.55%	0.55%	0.55%	0.48%	0.80%	0.74%	0.68%	0.54%	0.88%	0.77%	0.61%	0.45%	0.81%	0.63%	0.52%	0.37%
		2.5043	3.0175	3.4423	3.2593	3.2738	3.3286	3.2506	2.6265	3.2875	2.9449	2.3235	1.7697	2.6640	2.1191	1.7475	1.3184
CAR (1)		0.63%	0.58%	0.56%	0.44%	0.83%	0.72%	0.64%	0.45%	0.90%	0.70%	0.51%	0.35%	0.75%	0.52%	0.41%	0.30%
		2.9561	3.3997	3.6653	2.9953	3.5413	3.3584	2.9624	2.1442	3.3251	2.5924	1.8882	1.3767	2.4242	1.7083	1.3765	1.0791
BHAR (0)		0.33%	0.40%	0.43%	0.03%	0.82%	0.83%	0.73%	0.88%	0.90%	0.50%	0.56%	0.45%	0.79%	0.90%	0.56%	0.69%
		1.0070	1.3726	1.8131	0.0735	2.9732	3.3880	2.9124	3.3210	3.3145	1.5620	1.8795	1.4516	2.5237	2.8848	1.7572	2.2256
BHAR (1)		0.88%	0.42%	0.59%	0.05%	1.02%	0.87%	0.68%	0.77%	0.92%	0.45%	0.39%	0.43%	0.76%	0.76%	0.30%	0.58%
		4.0646	1.7108	2.7661	0.1623	4.1123	3.6850	2.6734	3.0448	3.3022	1.3738	1.2800	1.4078	2.4122	2.4376	0.9341	1.9691
FRANCE	E .												1				
CAR (0)		-0.08%	0.16%	0.21%	0.36%	0.42%	0.37%	0.48%	0.47%	0.57%	0.64%	0.57%	0.37%	0.80%	0.55%	0.30%	0.25%
		-0.3442	0.7962	1.1488	2.3468	1.6004	1.4081	2.1197	2.3422	1.9742	2.4012	2.3035	1.6300	2.7679	1.8263	0.9939	0.9758
CAR (1)		0.25%	0.32%	0.26%	0.34%	0.54%	0.45%	0.53%	0.42%	0.73%	0.68%	0.51%	0.28%	0.75%	0.44%	0.21%	0.16%
		1.0580	1.5456	1.4047	2.0667	2.1022	1.8866	2.3858	2.0232	2.6831	2.6154	2.0852	1.2313	2.5612	1.4383	0.7028	0.6273
BHAR (0)		0.21%	-0.28%	0.49%	-0.39%	0.43%	0.15%	0.22%	0.17%	0.50%	0.75%	0.68%	0.90%	0.88%	0.45%	0.67%	0.17%
		0.7145	-0.7794	1.4584	-0.9883	1.6562	0.4148	0.7077	0.3716	1.8461	2.3914	1.9616	2.5851	2.6540	1.0690	2.3293	0.3526
BHAR (1)		0.14%	-0.27%	0.41%	-0.21%	0.36%	0.28%	0.40%	0.45%	0.62%	0.72%	0.43%	0.49%	0.64%	0.00%	0.49%	-0.04%
		0.5071	-0.6845	1.0009	-0.5153	1.2283	0.8600	1.2172	1.1667	2.2376	2.0770	1.2634	1.3652	1.9401	-0.0063	1.6235	-0.0702
GERMAN	Y																
CAR (0)		0.89%	0.62%	0.68%	0.63%	1.05%	0.99%	0.96%	0.83%	1.20%	1.13%	0.98%	0.76%	1.30%	1.10%	0.87%	0.71%
		3.9427	3.1073	3.5703	3.5917	3.9859	3.9515	3.9617	3.6071	4.1690	3.9348	3.3625	2.8718	4.1556	3.5182	2.9086	2.5273
CAR (1)		0.92%	0.63%	0.74%	0.63%	1.10%	1.03%	0.94%	0.77%	1.23%	1.09%	0.89%	0.68%	1.22%	0.99%	0.76%	0.62%
		4.2389	3.0909	3.8239	3.4615	4.4365	4.1207	3.8609	3.3998	4.2440	3.6849	3.0730	2.5666	3.8394	3.1794	2.5349	2.2398
BHAR (0)		0.74%	0.23%	0.40%	-0.47%	1.04%	1.05%	1.00%	1.11%	1.19%	1.12%	0.96%	0.75%	1.24%	1.03%	0.91%	0.61%
		2.7323	0.8069	1.5379	-1.2237	3.5251	3.5134	2.9165	4.1745	3.6975	3.4490	3.3060	2.2704	3.9695	3.3806	2.9311	2.1514
BHAR (1)		1.02%	0.55%	0.79%	0.63%	1.01%	1.04%	0.97%	0.92%	1.17%	0.98%	0.74%	0.49%	1.13%	0.96%	0.67%	0.58%
		3.9635	2.0809	3.5012	2.4688	3.7232	3.3812	2.8698	3.3156	3.8722	2.9544	2.5427	1.4690	3.6441	3.3157	2.2147	2.0386

IVOL	J =		3	3			6	i			9)			1	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE	2																
CAR (0)		0.42%	0.45%	0.35%	0.25%	0.59%	0.49%	0.33%	0.10%	0.55%	0.38%	0.11%	-0.06%	0.39%	0.09%	-0.10%	-0.20%
		1.1863	1.4929	1.3170	0.9972	1.4894	1.3408	0.9857	0.3235	1.3848	0.9947	0.3008	-0.1741	0.9168	0.2203	-0.2454	-0.5196
CAR (1)		0.43%	0.46%	0.36%	0.21%	0.56%	0.46%	0.24%	0.02%	0.64%	0.31%	0.04%	-0.13%	0.26%	-0.02%	-0.15%	-0.24%
		1.2249	1.5692	1.3756	0.8380	1.4325	1.3072	0.7438	0.0493	1.6146	0.8143	0.1132	-0.3777	0.6157	-0.0470	-0.3716	-0.6074
BHAR (0)		0.21%	0.78%	0.37%	0.50%	0.57%	0.63%	0.34%	0.37%	0.64%	0.46%	0.06%	0.09%	0.47%	-0.13%	-0.11%	-0.69%
		0.4649	2.0460	0.8981	1.3014	1.3753	1.4359	0.8256	0.7957	1.5466	1.1868	0.1292	0.2412	1.0594	-0.2666	-0.2598	-1.4551
BHAR (1)		0.56%	0.79%	0.25%	0.64%	0.56%	0.51%	0.30%	0.21%	0.78%	0.47%	0.32%	-0.06%	0.33%	-0.21%	-0.24%	-0.58%
		1.3386	1.8335	0.6203	1.5386	1.3966	1.2662	0.7045	0.4905	1.8687	1.1605	0.7826	-0.1495	0.7626	-0.4452	-0.6399	-1.2832
HONGKON	NG																
CAR (0)		0.38%	0.45%	0.34%	0.14%	0.64%	0.42%	0.16%	-0.05%	0.52%	0.25%	-0.02%	-0.22%	0.26%	0.00%	-0.24%	-0.39%
		1.2106	1.9281	1.6661	0.6833	1.8433	1.3053	0.5307	-0.1644	1.3618	0.6925	-0.0639	-0.7295	0.6454	-0.0036	-0.7033	-1.2749
CAR (1)		0.36%	0.46%	0.26%	0.04%	0.68%	0.42%	0.10%	-0.11%	0.40%	0.09%	-0.18%	-0.36%	0.11%	-0.15%	-0.38%	-0.49%
		1.2640	2.1470	1.2240	0.2325	2.0613	1.2705	0.3134	-0.3858	1.0340	0.2449	-0.5265	-1.1984	0.2811	-0.4112	-1.1469	-1.6656
BHAR (0)		0.30%	0.21%	-0.08%	0.20%	0.50%	0.42%	-0.02%	0.18%	0.58%	0.25%	0.16%	-0.24%	0.22%	0.25%	-0.14%	-0.21%
		0.8616	0.5264	-0.2329	0.5959	1.2126	1.1988	-0.0452	0.6423	1.3866	0.5497	0.4384	-0.6091	0.4807	0.6560	-0.3614	-0.6509
BHAR (1)		0.20%	0.03%	-0.13%	0.07%	0.43%	0.35%	-0.20%	0.01%	0.21%	0.05%	-0.10%	-0.44%	-0.05%	0.10%	-0.31%	-0.30%
		0.5719	0.0963	-0.4071	0.2296	1.1304	1.0653	-0.5216	0.0534	0.5260	0.1165	-0.2927	-1.2129	-0.1128	0.2880	-0.8244	-0.9587
IRELANI)																
CAR (0)		0.55%	0.44%	0.47%	0.56%	0.81%	0.65%	0.78%	0.69%	0.95%	0.88%	0.76%	0.59%	0.96%	0.81%	0.64%	0.52%
		2.0944	1.5689	2.0422	2.9707	2.3948	1.9813	2.7644	2.6316	2.6410	2.5562	2.3418	1.9656	2.5173	2.1528	1.8035	1.5599
CAR (1)		0.45%	0.38%	0.43%	0.43%	0.74%	0.67%	0.73%	0.56%	0.97%	0.84%	0.67%	0.51%	0.91%	0.73%	0.55%	0.42%
		1.4678	1.3214	1.9318	2.2416	2.1738	2.0773	2.5636	2.1172	2.6892	2.4136	2.0864	1.6805	2.3504	1.9434	1.5452	1.2689
BHAR (0)		0.30%	-0.23%	-0.23%	0.47%	0.69%	0.55%	0.36%	0.99%	0.83%	0.50%	1.04%	0.68%	1.04%	1.28%	0.77%	0.41%
		0.8578	-0.5391	-0.5531	1.1668	1.7859	1.5212	0.8355	2.8678	2.1656	1.1370	2.9595	1.8412	2.5012	3.2475	1.7763	0.9661
BHAR (1)		0.04%	-0.10%	-0.10%	0.57%	0.59%	0.36%	0.18%	0.71%	0.64%	0.66%	0.74%	0.35%	0.88%	1.09%	0.52%	0.27%
		0.1063	-0.2888	-0.2552	1.5025	1.6722	0.9642	0.4630	2.0747	1.7076	1.7136	2.0175	0.9403	2.2206	2.7117	1.1627	0.6037
ISRAEL																	
CAR (0)		0.05%	-0.07%	-0.15%	-0.20%	0.19%	0.12%	-0.03%	-0.15%	0.30%	0.21%	0.04%	-0.11%	0.25%	0.19%	0.08%	-0.03%
		0.2335	-0.3725	-0.8248	-1.2171	0.8386	0.5215	-0.1199	-0.7455	1.1650	0.6869	0.1358	-0.4480	0.8304	0.6440	0.2944	-0.1353
CAR (1)		0.19%	0.00%	-0.13%	-0.24%	0.25%	0.10%	-0.08%	-0.21%	0.36%	0.11%	-0.04%	-0.19%	0.22%	0.14%	0.00%	-0.09%
		1.0275	-0.0142	-0.7341	-1.4774	0.9890	0.4146	-0.3868	-1.0585	1.3905	0.3898	-0.1370	-0.8235	0.7302	0.5014	-0.0087	-0.3623
BHAR (0)		-0.20%	-0.28%	-0.14%	-0.84%	0.06%	0.19%	-0.20%	0.35%	0.37%	0.14%	0.37%	0.14%	0.28%	0.27%	-0.07%	-0.09%
		-0.7227	-0.9395	-0.4836	-2.3484	0.2047	0.6999	-0.6675	1.5292	1.2968	0.4413	1.1705	0.4844	0.8855	0.9478	-0.2554	-0.3151
BHAR (1)		0.28%	-0.21%	-0.31%	-0.38%	0.33%	0.28%	0.01%	0.30%	0.30%	-0.04%	0.15%	-0.06%	0.32%	0.23%	-0.10%	-0.20%
-		1.2537	-0.8379	-0.9287	-1.4338	1.2166	0.9715	0.0448	1.2103	1.0560	-0.1236	0.4890	-0.2140	0.9995	0.8173	-0.3223	-0.6793

IVOL	J =		3	 			6	<u> </u>			9)			13	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.61%	0.57%	0.62%	0.59%	0.73%	0.76%	0.76%	0.67%	0.90%	0.84%	0.76%	0.61%	0.83%	0.78%	0.67%	0.52%
		2.9784	3.2160	4.1704	4.3030	2.9653	3.6008	4.0288	3.7618	3.7948	3.8105	3.6029	3.0624	3.3642	3.2923	2.9809	2.4327
CAR (1)		0.58%	0.57%	0.59%	0.53%	0.75%	0.77%	0.71%	0.59%	0.91%	0.81%	0.68%	0.52%	0.83%	0.73%	0.58%	0.47%
		3.0813	3.3859	4.1552	4.0428	3.3272	3.9172	3.8860	3.4468	3.9853	3.7135	3.2491	2.6286	3.4459	3.1491	2.6438	2.2242
BHAR (0)		0.59%	0.54%	0.65%	0.60%	0.66%	0.62%	0.71%	0.61%	0.81%	0.74%	0.90%	0.48%	0.79%	0.69%	0.81%	0.48%
		2.4341	2.0892	2.7488	2.6672	2.3735	2.4211	2.9456	2.7396	3.1911	3.0060	3.7068	1.9547	3.1745	2.8265	3.4234	1.9534
BHAR (1)		0.56%	0.53%	0.76%	0.65%	0.69%	0.66%	0.73%	0.52%	0.84%	0.71%	0.77%	0.24%	0.81%	0.70%	0.69%	0.51%
		2.6501	2.2585	3.3073	2.9442	2.7167	2.6430	3.0820	2.4297	3.4487	2.9194	3.3334	0.9267	3.2038	2.8889	2.7941	2.0961
JAPAN																	
CAR (0)		-0.06%	-0.18%	-0.13%	-0.02%	-0.32%	-0.26%	-0.10%	-0.11%	-0.27%	-0.14%	-0.14%	-0.19%	-0.10%	-0.20%	-0.23%	-0.27%
		-0.3359	-0.9944	-0.8028	-0.1616	-1.3230	-1.1683	-0.5111	-0.6282	-1.0389	-0.5490	-0.5936	-0.9320	-0.3858	-0.7849	-0.9957	-1.2806
CAR (1)		-0.01%	-0.14%	-0.04%	-0.02%	-0.21%	-0.12%	-0.03%	-0.12%	-0.04%	-0.03%	-0.10%	-0.19%	-0.05%	-0.20%	-0.24%	-0.28%
		-0.0815	-0.8333	-0.2680	-0.1275	-0.9039	-0.5496	-0.1417	-0.6884	-0.1534	-0.1360	-0.4365	-0.9973	-0.1960	-0.8060	-1.0729	-1.3653
BHAR (0)		-0.17%	0.10%	-0.11%	0.14%	-0.24%	-0.24%	-0.17%	0.13%	-0.19%	-0.08%	0.05%	-0.03%	-0.12%	-0.19%	-0.24%	-0.26%
		-0.7551	0.4393	-0.4572	0.6495	-0.8810	-0.8879	-0.6659	0.5941	-0.6912	-0.3090	0.2361	-0.1505	-0.4351	-0.7227	-0.9666	-1.0843
BHAR (1)		-0.09%	0.08%	-0.14%	0.17%	-0.27%	-0.43%	-0.12%	0.01%	-0.14%	0.02%	-0.03%	-0.11%	-0.13%	-0.36%	-0.38%	-0.33%
		-0.4552	0.3649	-0.6006	0.8448	-1.0602	-1.6319	-0.5597	0.0560	-0.5314	0.0610	-0.1413	-0.5391	-0.5144	-1.4013	-1.5754	-1.3555
NETHERLAN	NDS				1				1								
CAR (0)		0.69%	0.55%	0.58%	0.58%	0.86%	0.79%	0.82%	0.73%	1.02%	1.00%	0.89%	0.78%	1.23%	1.06%	0.94%	0.82%
		3.4135	3.3720	3.8649	3.8899	3.9593	3.8909	4.0356	3.7568	4.1144	4.0243	3.5792	3.3186	4.4595	3.8480	3.4313	3.0892
CAR (1)		0.57%	0.55%	0.59%	0.51%	0.82%	0.82%	0.79%	0.66%	1.05%	0.95%	0.83%	0.70%	1.09%	0.96%	0.85%	0.76%
		3.0255	3.3885	3.8939	3.5256	3.7813	3.9060	3.7922	3.4146	4.1460	3.7007	3.2870	2.9510	3.9281	3.4557	3.1021	2.8638
BHAR (0)		0.69%	0.45%	0.46%	0.26%	0.80%	0.71%	0.65%	0.95%	0.98%	0.83%	1.00%	0.76%	1.23%	1.15%	1.00%	0.92%
		2.9614	1.8685	2.0223	0.9898	3.2193	3.1433	2.2761	4.7696	3.8415	2.8852	4.0239	2.9253	4.1153	3.9439	3.3389	2.9974
BHAR (1)		0.57%	0.31%	0.48%	0.22%	0.69%	0.70%	0.62%	0.77%	0.97%	0.77%	0.91%	0.58%	1.07%	1.08%	0.93%	0.88%
		2.3208	1.2941	1.9453	0.8989	2.7799	3.1061	2.2873	3.7646	3.6700	2.7559	3.5767	2.1507	3.6289	3.5652	3.3291	2.9114
NEWZEALA	ND	4.400/	4.250/	0.050/	0.000/	4.440/	4.4=0/	0.000/	0.000/	1.220/	1.120/	0.000/	0.640/	1.220/	4.040/	0.680/	0.200/
CAR (0)		1.49%	1.27%	0.95%	0.88%	1.41%	1.17%	0.98%	0.82%	1.32%	1.13%	0.89%	0.64%	1.33%	1.04%	0.67%	0.38%
GLP (II)		2.8102	3.8355	3.9400	4.6265	6.3594	5.5705	5.4475	5.1616	5.8415	5.5161	4.7171	3.5432	5.7889	4.7282	2.8772	1.4729
CAR (1)		1.43%	1.13%	0.90%	0.79%	1.32%	1.07%	0.88%	0.68%	1.23%	0.99%	0.77%	0.50%	1.20%	0.85%	0.52%	0.29%
		2.8876	3.7858	4.2097	4.6536	6.0070	5.3982	4.9991	4.3155	5.6237	5.0125	4.2060	2.6343	5.4352	3.9765	2.2392	1.1698
BHAR (0)		1.68%	0.94%	1.30%	0.39%	1.45%	1.37%	0.85%	0.76%	1.33%	0.97%	1.01%	0.69%	1.41%	1.15%	0.48%	0.55%
DILAD (1)		2.9398	4.0795	2.1421	1.7167	5.7404	5.5019	3.3242	3.7813	5.5788	4.0375	5.0771	3.4319	5.8380	4.9049	1.3398	2.3012
BHAR (1)		1.51%	0.89%	0.99%	0.43%	1.46%	1.17%	0.82%	0.57%	1.27%	1.01%	0.97%	0.60%	1.34%	0.92%	0.24%	0.55%
		3.6546	3.0246	2.1834	1.4764	5.9380	4.7573	3.5090	2.5731	5.3591	4.2561	4.9275	2.8859	5.5692	3.7798	0.5120	2.2988

IVOL	J =		3				6				9				12	2	
_	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWAY	Z																
CAR (0)		0.52%	0.44%	0.47%	0.42%	0.71%	0.63%	0.63%	0.44%	0.93%	0.86%	0.68%	0.45%	0.94%	0.62%	0.44%	0.23%
		2.1032	2.1728	2.3894	2.1938	2.9737	2.5164	2.5184	1.8379	3.0494	2.7798	2.2361	1.5528	2.7219	1.8396	1.3312	0.7067
CAR (1)		0.40%	0.44%	0.47%	0.33%	0.71%	0.68%	0.58%	0.34%	0.97%	0.80%	0.57%	0.32%	0.85%	0.53%	0.31%	0.11%
		1.7443	2.1600	2.3386	1.7553	2.7387	2.5453	2.1856	1.3921	2.9813	2.4813	1.8403	1.0671	2.4068	1.5782	0.9450	0.3500
BHAR (0)		0.65%	0.65%	0.52%	0.77%	0.68%	0.59%	0.58%	0.92%	0.97%	0.68%	0.88%	0.47%	0.93%	0.65%	0.49%	0.28%
		1.9311	1.6487	1.5901	2.4780	2.5075	1.8106	1.9297	3.8659	2.7774	1.7871	2.7549	1.2931	2.5157	1.7867	1.4584	0.7449
BHAR (1)		0.44%	0.44%	0.40%	0.55%	0.73%	0.62%	0.46%	0.62%	0.94%	0.63%	0.79%	0.40%	0.89%	0.66%	0.53%	0.25%
		1.5752	1.5979	1.5365	1.8516	2.6850	1.8814	1.5586	2.4918	2.8056	1.8134	2.5880	1.1757	2.4690	1.7915	1.6462	0.6943
PORTUGA	L																
CAR (0)		0.30%	0.52%	0.62%	0.47%	0.99%	0.94%	0.72%	0.60%	0.96%	0.73%	0.53%	0.36%	0.88%	0.62%	0.37%	0.19%
		0.8024	1.5134	1.9754	1.6656	2.5188	2.7294	2.1579	1.9347	2.7048	1.9870	1.5221	1.0992	2.2201	1.5747	0.9562	0.5089
CAR (1)		0.19%	0.55%	0.48%	0.38%	0.97%	0.80%	0.61%	0.47%	0.66%	0.58%	0.35%	0.16%	0.87%	0.47%	0.21%	0.08%
		0.5004	1.5732	1.4282	1.3385	2.5273	2.1648	1.7871	1.5145	1.7706	1.4753	0.9949	0.4777	2.2946	1.1914	0.5518	0.2169
BHAR (0)		0.25%	0.73%	0.63%	0.76%	1.14%	1.19%	0.84%	0.70%	0.98%	1.00%	1.25%	0.32%	0.86%	0.60%	0.37%	0.13%
		0.4504	1.4975	1.2063	1.4186	2.5940	2.8986	1.4462	1.5079	2.4694	2.1773	3.0049	0.5843	2.1193	1.4813	0.8161	0.3254
BHAR (1)		0.00%	1.00%	0.82%	0.62%	1.01%	1.55%	1.04%	0.43%	0.67%	0.60%	0.79%	-0.09%	0.71%	0.41%	0.35%	0.02%
		-0.0077	2.0227	1.3134	1.1321	2.1335	3.1107	1.6555	0.8975	1.5225	1.4184	1.9537	-0.1621	1.8511	0.9462	0.6952	0.0480
SINGAPOR	RE				-				-				1				
CAR (0)		0.61%	0.62%	0.49%	0.29%	0.66%	0.61%	0.40%	0.21%	0.54%	0.41%	0.17%	0.03%	0.42%	0.27%	0.10%	-0.03%
		1.7920	2.6344	2.2870	1.3548	1.9811	1.9946	1.3528	0.7589	1.5370	1.2082	0.5351	0.0958	1.1393	0.7929	0.3071	-0.1027
CAR (1)		0.52%	0.55%	0.39%	0.21%	0.68%	0.56%	0.30%	0.12%	0.55%	0.31%	0.08%	-0.04%	0.38%	0.19%	0.01%	-0.07%
		1.5232	2.4722	1.7121	0.9904	2.1702	1.8272	1.0375	0.4483	1.5870	0.9624	0.2734	-0.1519	1.0845	0.5930	0.0331	-0.2455
BHAR (0)		0.54%	0.33%	0.42%	0.42%	0.59%	0.55%	0.19%	0.31%	0.64%	0.43%	0.26%	-0.02%	0.46%	0.42%	0.18%	-0.03%
		1.4701	0.9181	1.4885	1.8340	1.5186	1.5207	0.5221	0.9543	1.6764	1.1574	0.8202	-0.0651	1.1826	1.2447	0.5572	-0.1075
BHAR (1)		0.49%	0.15%	0.36%	0.27%	0.72%	0.72%	0.04%	0.50%	0.70%	0.29%	0.35%	0.08%	0.38%	0.56%	-0.03%	0.17%
		1.4243	0.5450	1.3468	1.2556	2.1969	2.4433	0.1044	2.0509	2.0551	0.8732	1.2247	0.2152	1.0739	1.6541	-0.1067	0.4976
SPAIN													1				
CAR (0)		0.59%	0.51%	0.61%	0.56%	0.80%	0.78%	0.76%	0.61%	0.95%	0.85%	0.76%	0.63%	0.99%	0.86%	0.76%	0.66%
		2.7727	2.6916	3.4925	3.2665	3.4880	3.3510	3.2343	2.7678	3.4850	2.9794	2.7111	2.4357	3.2281	2.8231	2.5413	2.3172
CAR (1)		0.51%	0.45%	0.55%	0.47%	0.74%	0.76%	0.69%	0.52%	0.92%	0.81%	0.69%	0.56%	0.98%	0.82%	0.69%	0.61%
		2.5634	2.5713	3.1493	3.0210	3.1831	3.1463	2.8976	2.4254	3.2148	2.7788	2.4852	2.1733	3.2912	2.7633	2.3910	2.2223
BHAR (0)		0.36%	0.40%	0.63%	0.56%	0.60%	0.61%	0.73%	0.54%	0.84%	0.88%	0.80%	0.57%	0.86%	0.83%	0.98%	0.55%
		1.3336	1.4307	2.2704	1.8650	2.2085	2.1045	2.0250	2.1448	2.8276	2.6739	2.8177	1.9483	2.5603	2.3276	3.0350	1.6024
BHAR (1)		0.32%	0.31%	0.49%	0.26%	0.53%	0.72%	0.49%	0.39%	0.81%	0.69%	0.64%	0.31%	0.90%	0.83%	0.90%	0.50%
		1.2937	1.0611	1.7803	0.8265	2.0222	2.8394	1.5972	1.5912	2.6950	2.0391	2.2184	1.0512	2.9305	2.6732	2.8274	1.6732

IVOL	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN																	
CAR (0)		0.95%	0.72%	0.65%	0.69%	0.98%	0.78%	0.79%	0.62%	1.07%	0.92%	0.73%	0.53%	1.17%	0.75%	0.52%	0.42%
		3.2145	2.3415	2.5993	3.1891	2.5941	2.1038	2.4775	2.0289	2.8589	2.3625	2.0140	1.5565	2.9835	1.7740	1.3105	1.1765
CAR (1)		0.82%	0.64%	0.66%	0.61%	0.94%	0.79%	0.71%	0.50%	1.00%	0.84%	0.61%	0.42%	0.92%	0.57%	0.39%	0.32%
		2.7734	2.1874	2.8415	2.8168	2.6603	2.2831	2.3103	1.6707	2.5049	2.1779	1.7038	1.2671	2.2362	1.3325	1.0157	0.9278
BHAR (0)		1.16%	0.62%	0.95%	0.22%	0.96%	0.84%	0.66%	0.67%	1.17%	0.63%	0.84%	0.25%	1.12%	0.96%	0.70%	0.48%
		3.4134	1.3954	3.0907	0.5800	2.0385	2.0630	1.3681	2.0391	2.9928	1.2327	2.1114	0.5811	2.7531	2.6286	1.8145	1.5201
BHAR (1)		0.99%	0.45%	0.63%	0.57%	1.04%	0.84%	0.67%	0.46%	1.04%	0.71%	0.75%	0.15%	1.01%	0.81%	0.60%	0.41%
		3.2904	1.1021	2.4497	1.4066	3.0293	2.7179	1.4414	1.4253	2.7546	1.4923	1.9238	0.3283	2.5756	2.2673	1.6297	1.3157
SWITZERLA	ND																
CAR (0)		0.69%	0.56%	0.50%	0.53%	0.83%	0.70%	0.70%	0.63%	0.92%	0.87%	0.75%	0.58%	1.02%	0.85%	0.67%	0.51%
		3.4518	3.0309	2.7983	3.4117	3.4470	2.8087	3.0130	2.8992	3.1456	3.0435	2.7358	2.2773	3.3134	2.8550	2.3699	1.8941
CAR (1)		0.56%	0.48%	0.47%	0.46%	0.74%	0.67%	0.64%	0.53%	0.89%	0.81%	0.66%	0.46%	0.96%	0.74%	0.56%	0.41%
		2.9482	2.5100	2.7215	2.9708	2.9453	2.5805	2.7595	2.4534	2.9972	2.8078	2.4277	1.8331	3.1792	2.5419	2.0207	1.5504
BHAR (0)		0.55%	0.50%	0.47%	0.46%	0.81%	0.72%	0.60%	0.93%	0.94%	0.74%	0.82%	0.69%	1.07%	0.92%	0.68%	0.46%
		2.4208	1.7475	1.7878	1.5079	3.2855	2.6531	2.2672	4.0629	3.1207	2.4217	2.8051	2.2944	3.4948	3.0719	2.2510	1.5430
BHAR (1)		0.48%	0.32%	0.53%	0.43%	0.63%	0.57%	0.49%	0.80%	0.72%	0.60%	0.65%	0.43%	0.86%	0.76%	0.54%	0.42%
		2.1577	1.0322	1.9864	1.4016	2.4233	2.1010	1.9121	3.5771	2.3379	1.8828	2.2702	1.3182	2.8203	2.5779	1.8082	1.4493
UK																	
CAR (0)		0.90%	0.90%	0.76%	0.79%	1.30%	1.07%	1.02%	0.88%	1.34%	1.22%	1.01%	$\boldsymbol{0.81\%}$	1.38%	1.08%	0.86%	0.70%
		5.1334	5.5681	5.0053	5.8343	5.6742	4.8850	5.0881	4.8261	5.4065	4.9265	4.3082	3.8267	5.2118	4.0314	3.5677	3.1815
CAR (1)		0.81%	0.79%	0.76%	0.75%	1.16%	0.98%	0.94%	0.75%	1.25%	1.15%	0.88%	0.68%	1.21%	0.93%	0.71%	0.58%
		4.5109	4.7996	5.2618	5.7375	5.0895	4.5826	4.7404	4.1684	5.0306	4.7508	3.8727	3.2934	4.5427	3.4979	3.0307	2.6604
BHAR (0)		0.70%	0.78%	0.92%	0.58%	1.17%	0.90%	0.84%	1.13%	1.30%	1.05%	1.06%	0.86%	1.38%	1.12%	0.92%	0.78%
		3.3393	3.3383	3.7551	2.4061	4.6338	2.9546	3.2773	7.0184	4.8418	3.7205	4.7269	3.6110	5.2708	3.6246	3.4877	3.1205
BHAR (1)		0.86%	0.53%	1.03%	0.52%	1.03%	0.85%	0.83%	0.98%	1.27%	0.97%	1.01%	0.66%	1.07%	0.95%	0.68%	0.56%
		3.9294	2.2464	3.7006	2.2598	3.8900	3.0577	3.5722	6.7179	4.9621	3.4477	4.3711	2.7966	3.3681	3.3145	2.7008	2.4231
US																	
CAR (0)		-0.24%	-0.07%	0.09%	0.07%	-0.07%	0.19%	0.23%	0.15%	0.24%	0.29%	0.24%	0.12%	0.23%	0.22%	0.16%	0.07%
		-1.2329	-0.3935	0.6355	0.4954	-0.3085	0.8830	1.1580	0.7888	0.9482	1.1821	0.9859	0.5449	0.7938	0.8204	0.6031	0.3007
CAR (1)		-0.22%	0.06%	0.15%	0.07%	0.16%	0.34%	0.26%	0.13%	0.34%	0.31%	0.20%	0.09%	0.21%	0.20%	0.11%	0.04%
		-1.1775	0.3904	1.0426	0.5085	0.6951	1.6133	1.2758	0.7205	1.3251	1.2329	0.8257	0.4184	0.7536	0.7586	0.4189	0.1921
BHAR (0)		-0.30%	-0.03%	-0.05%	0.08%	0.00%	0.36%	-0.14%	0.58%	0.29%	0.17%	0.44%	0.17%	0.26%	0.38%	0.25%	0.18%
		-1.3205	-0.1655	-0.2002	0.3633	-0.0095	1.4464	-0.4438	3.1022	1.0237	0.5745	1.9357	0.6422	0.8725	1.3556	0.8965	0.6056
BHAR (1)		-0.25%	-0.10%	-0.11%	0.07%	0.10%	0.38%	-0.14%	0.40%	0.25%	0.06%	0.24%	0.00%	0.07%	0.21%	0.10%	0.04%
		-1.1824	-0.4543	-0.4152	0.2983	0.3913	1.6720	-0.4497	2.0962	0.9235	0.2031	0.9595	-0.0007	0.2409	0.7515	0.3495	0.1436

Appendix 8. Time-series momentum strategy – winner (loser) contains stocks above (below) 0%

Panel A. The time-series momentum strategy using equal-weighted return

EW	J =		3				6			ising cqu	9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAI	LIA																
CAR (0)		0.31%	0.34%	0.29%	0.27%	0.46%	0.40%	0.35%	0.24%	0.50%	0.40%	0.28%	0.15%	0.49%	0.34%	0.19%	0.08%
		2.2223	2.8968	3.0583	3.2426	2.8946	2.9784	3.0171	2.3434	3.0928	2.8340	2.2379	1.3104	3.1364	2.4277	1.5390	0.6569
CAR (1)		0.45%	0.38%	0.32%	0.24%	0.52%	0.44%	0.34%	0.20%	0.52%	0.38%	0.22%	0.08%	0.42%	0.25%	0.12%	-0.01%
		3.3044	3.5554	3.5876	3.0321	3.4777	3.5099	3.0467	2.0198	3.4771	2.8944	1.8838	0.7122	2.7656	1.9020	0.9460	-0.0792
BHAR (0)		0.34%	0.40%	0.11%	0.16%	0.48%	0.37%	0.23%	0.13%	0.50%	0.37%	0.31%	0.16%	0.49%	0.35%	0.21%	0.12%
		2.3198	2.8486	0.8188	1.1612	2.8506	2.5660	1.4295	0.9662	3.1058	2.3790	2.2348	1.2782	3.0091	2.3560	1.3236	0.8431
BHAR (1)		0.52%	0.35%	0.06%	0.10%	0.51%	0.42%	0.20%	0.01%	0.48%	0.32%	0.24%	0.12%	0.38%	0.21%	0.06%	0.00%
		3.5322	2.5455	0.4237	0.7908	3.0732	3.0524	1.2957	0.0729	3.0416	2.0682	1.7976	0.9660	2.3599	1.4302	0.3788	0.0127
AUSTRI	A																
CAR (0)		0.59%	0.50%	0.48%	0.48%	0.66%	0.70%	0.65%	0.58%	0.82%	0.78%	0.66%	0.54%	0.87%	0.71%	0.59%	0.48%
		3.7614	3.7333	4.1223	4.6713	3.8373	4.3642	4.5450	4.4744	4.1478	4.1577	3.8886	3.5616	4.3141	3.7183	3.4494	3.1132
CAR (1)		0.63%	0.51%	0.50%	0.45%	0.74%	0.73%	0.64%	0.53%	0.93%	0.75%	0.61%	0.48%	0.87%	0.67%	0.53%	0.43%
		3.8930	3.8356	4.3237	4.4477	4.1225	4.5126	4.5028	4.1315	4.7329	4.0804	3.7005	3.2296	4.3438	3.6402	3.2096	2.8463
BHAR (0)		0.51%	0.46%	0.40%	0.35%	0.60%	0.49%	0.56%	0.67%	0.85%	0.87%	0.66%	0.65%	0.91%	0.76%	0.54%	0.41%
		2.4697	2.1632	1.8762	1.8553	3.1401	2.4685	3.0845	4.1770	4.0233	4.0603	3.3945	3.2481	4.3139	3.5927	2.4461	2.0295
BHAR (1)		0.72%	0.49%	0.42%	0.32%	0.73%	0.54%	0.63%	0.68%	0.96%	0.79%	0.61%	0.57%	0.88%	0.73%	0.36%	0.36%
_		3.5945	2.2958	1.9644	1.6502	3.7889	2.7258	3.6197	4.2494	4.5508	3.6771	3.1040	2.8841	4.1430	3.5083	1.6503	1.7301
BELGIU	M				1				-				1				
CAR (0)		0.39%	0.44%	0.44%	0.45%	0.63%	0.65%	0.63%	0.58%	0.76%	0.80%	0.70%	0.59%	0.88%	0.78%	0.66%	0.56%
		3.3462	4.3451	4.9549	5.5477	4.5538	5.1394	5.4947	5.3820	4.9646	5.7510	5.4169	4.8359	5.4955	5.3220	4.7446	4.2397
CAR (1)		0.54%	0.48%	0.48%	0.44%	0.68%	0.69%	0.63%	0.55%	0.90%	0.79%	0.67%	0.55%	0.89%	0.74%	0.61%	0.51%
		4.7058	4.8239	5.5060	5.5217	4.9690	5.5142	5.5895	5.1427	5.9411	5.8051	5.3155	4.5934	5.7233	5.1371	4.5229	3.9957
BHAR (0)		0.33%	0.33%	0.30%	0.28%	0.63%	0.61%	0.55%	0.59%	0.82%	0.91%	0.77%	0.76%	0.92%	0.75%	0.62%	0.45%
		2.3580	2.2379	2.2860	1.9433	4.2642	4.2957	3.7595	4.4578	5.1739	5.6021	5.5770	4.8901	5.4604	4.6549	3.9571	2.7442
BHAR (1)		0.42%	0.32%	0.33%	0.29%	0.64%	0.63%	0.49%	0.55%	0.89%	0.77%	0.67%	0.56%	0.84%	0.71%	0.57%	0.44%
		3.0897	2.2333	2.5575	1.9536	4.3616	4.5241	3.3446	4.1789	5.7341	4.8273	4.7531	3.6689	5.1151	4.3983	3.6040	2.6476
CANAD	A								1								
CAR (0)		0.48%	0.40%	0.39%	0.40%	0.63%	0.54%	0.55%	0.42%	0.76%	0.68%	0.51%	0.34%	0.83%	0.56%	0.36%	0.19%
		3.0766	3.1302	3.4728	4.1752	3.6153	3.4381	4.0306	3.4218	4.0926	4.1050	3.3919	2.4338	4.4558	3.3818	2.3087	1.2980
CAR (1)		0.53%	0.44%	0.44%	0.36%	0.66%	0.59%	0.53%	0.35%	0.80%	0.63%	0.44%	0.24%	0.73%	0.45%	0.26%	0.07%
		3.6365	3.5555	4.1096	3.9811	3.8170	3.8807	4.0408	2.9566	4.4485	4.0112	2.9755	1.7883	4.1069	2.7582	1.6847	0.5299
BHAR (0)		0.56%	0.31%	0.44%	0.35%	0.51%	0.45%	0.48%	0.37%	0.71%	0.55%	0.43%	0.28%	0.77%	0.42%	0.35%	0.08%
		3.2055	1.8114	2.5703	2.0273	2.7315	2.5711	2.4686	2.1714	3.5960	2.8076	2.4266	1.5158	4.1164	2.4130	1.9925	0.5331
BHAR (1)		0.61%	0.33%	0.50%	0.31%	0.58%	0.62%	0.46%	0.29%	0.73%	0.53%	0.35%	0.22%	0.65%	0.34%	0.24%	-0.03%
		3.4915	2.0524	2.9916	1.8217	3.0389	3.4726	2.3534	1.6925	3.6982	2.8173	1.9793	1.1566	3.5901	1.9765	1.4122	-0.2055

EW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMA	RK																
CAR (0)		0.82%	0.78%	0.68%	0.65%	0.97%	0.90%	0.84%	0.76%	1.04%	1.00%	0.88%	0.76%	1.14%	1.02%	0.85%	0.72%
		7.0908	7.4515	7.3131	7.4081	6.7632	6.7991	6.7368	6.3789	6.5796	6.6778	6.1714	5.6320	7.0691	6.5829	5.6638	4.9816
CAR (1)		0.86%	0.74%	0.68%	0.62%	0.96%	0.86%	0.81%	0.69%	1.06%	0.98%	0.84%	0.69%	1.09%	0.95%	0.79%	0.64%
		7.4289	7.3171	7.4607	6.9871	6.6784	6.4610	6.4844	5.8231	6.7431	6.4951	5.8208	5.1709	6.9224	6.1505	5.2474	4.4074
BHAR (0)		0.92%	0.82%	0.60%	0.70%	0.88%	0.83%	0.71%	0.85%	0.97%	0.92%	0.89%	0.75%	1.04%	1.10%	0.90%	0.77%
		7.2056	5.7754	4.2473	5.3275	5.8795	5.3753	4.3982	5.8868	5.8242	5.2159	5.4900	4.4788	6.0556	6.4696	5.2389	4.1719
BHAR (1)		0.97%	0.76%	0.65%	0.70%	0.94%	0.86%	0.73%	0.83%	1.08%	1.02%	0.91%	0.74%	1.08%	1.10%	0.90%	0.69%
		7.2310	5.4705	4.6080	5.3056	6.0604	5.4873	4.5742	5.7948	6.6975	5.7487	5.5915	4.5116	6.1937	6.2524	5.1783	3.6964
FINLAN	D																
CAR (0)		0.80%	0.64%	0.55%	0.52%	0.81%	0.64%	0.58%	0.53%	0.50%	0.44%	0.45%	0.41%	0.58%	0.47%	0.46%	0.43%
		4.5734	4.2258	3.8689	4.0061	3.7901	3.1034	3.0040	2.9680	1.6960	1.6961	1.9087	1.9695	1.8868	1.7613	1.8938	1.9254
CAR (1)		0.81%	0.63%	0.53%	0.50%	0.82%	0.62%	0.57%	0.47%	0.52%	0.42%	0.43%	0.38%	0.54%	0.43%	0.42%	0.37%
		4.5232	4.0786	3.7548	3.8096	3.9104	2.8976	2.9704	2.7312	1.8378	1.6406	1.8625	1.8737	1.7886	1.6472	1.7845	1.6826
BHAR (0)		0.79%	0.50%	0.31%	0.54%	0.80%	0.60%	0.26%	0.55%	0.35%	0.00%	0.19%	0.14%	0.57%	0.64%	0.38%	0.62%
		3.6341	2.2367	1.4743	2.0576	2.9983	1.7895	0.6949	1.4627	1.0141	-0.0059	0.6020	0.4431	1.6792	2.3218	1.4528	2.4644
BHAR (1)		0.85%	0.51%	0.35%	0.54%	0.82%	0.46%	0.16%	0.39%	0.32%	-0.03%	0.13%	0.11%	0.38%	0.59%	0.36%	0.55%
		3.7850	2.2386	1.6155	2.0352	3.0986	1.2803	0.4393	1.0242	0.8853	-0.0797	0.4077	0.3453	1.0549	2.0628	1.3715	2.2369
FRANC	E																
CAR (0)		0.09%	0.30%	0.31%	0.34%	0.44%	0.49%	0.51%	0.47%	0.46%	0.57%	0.52%	0.43%	0.57%	0.58%	0.50%	0.40%
		0.6625	2.8142	3.4028	4.4769	3.0015	3.7958	4.6136	4.6029	2.9633	4.1057	4.0256	3.6153	3.6369	3.9533	3.6278	3.1016
CAR (1)		0.47%	0.44%	0.42%	0.39%	0.68%	0.62%	0.57%	0.48%	0.72%	0.64%	0.54%	0.42%	0.71%	0.61%	0.49%	0.39%
		3.8480	4.3259	4.9725	5.1676	4.8083	4.9821	5.3322	4.7712	4.8238	4.7988	4.3264	3.5667	4.7885	4.3157	3.6927	3.0567
BHAR (0)		0.05%	0.10%	0.38%	0.04%	0.46%	0.50%	0.34%	0.39%	0.45%	0.49%	0.52%	0.47%	0.53%	0.57%	0.52%	0.35%
		0.3324	0.6853	3.1369	0.3012	2.9710	3.5811	2.3087	3.1252	2.7600	3.1079	3.6523	3.3178	3.3556	3.7208	3.4815	2.4424
BHAR (1)		0.35%	0.21%	0.47%	0.12%	0.67%	0.60%	0.40%	0.41%	0.67%	0.54%	0.53%	0.36%	0.68%	0.58%	0.48%	0.34%
		2.3985	1.5555	3.9176	0.9599	4.4615	4.2667	2.7516	3.3202	4.1953	3.4905	3.7658	2.5346	4.3659	3.9188	3.2117	2.3579
GERMA	NY																
CAR (0)		0.57%	0.53%	0.50%	0.49%	0.76%	0.69%	0.68%	0.59%	0.85%	0.81%	0.71%	0.60%	0.95%	0.79%	0.66%	0.55%
		3.5804	4.0748	4.3272	5.0022	4.3111	4.3642	4.9701	4.6869	4.5897	4.8573	4.6091	4.3571	5.1841	4.6589	4.2375	3.8268
CAR (1)		0.68%	0.56%	0.53%	0.48%	0.78%	0.69%	0.64%	0.53%	0.89%	0.78%	0.67%	0.55%	0.92%	0.73%	0.60%	0.49%
		4.6298	4.5081	4.8811	5.1265	4.6098	4.6021	4.8843	4.4626	5.0371	4.8841	4.5742	4.1110	5.2451	4.5070	4.0289	3.5175
BHAR (0)		0.55%	0.47%	0.52%	0.31%	0.78%	0.75%	0.61%	0.61%	0.88%	0.81%	0.70%	0.62%	0.92%	0.81%	0.63%	0.42%
		3.1180	2.7919	3.4637	1.7771	4.2230	4.3906	3.3203	4.0153	4.5505	4.4214	4.2366	3.6605	4.9357	4.6894	3.9285	2.7288
BHAR (1)		0.65%	0.39%	0.52%	0.27%	0.78%	0.75%	0.57%	0.53%	0.88%	0.73%	0.59%	0.52%	0.92%	0.75%	0.54%	0.39%
		3.8620	2.4878	3.5978	1.5408	4.3252	4.4230	3.1852	3.5213	4.8272	4.1753	3.7196	3.1756	5.0932	4.4894	3.4803	2.6016

EW	J =		3				6	i			9	1			10	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREEC	E																
CAR (0)		0.49%	0.34%	0.20%	0.11%	0.53%	0.38%	0.22%	0.03%	0.25%	0.14%	-0.06%	-0.18%	0.53%	0.22%	-0.01%	-0.19%
		1.6096	1.4746	1.0382	0.6238	1.6660	1.3080	0.8665	0.1443	0.7551	0.4794	-0.2179	-0.7262	1.4284	0.6529	-0.0466	-0.6709
CAR (1)		0.47%	0.24%	0.16%	0.02%	0.47%	0.31%	0.12%	-0.05%	0.34%	0.10%	-0.10%	-0.24%	0.50%	0.09%	-0.16%	-0.28%
		1.7057	1.0742	0.8411	0.1442	1.4917	1.1101	0.4716	-0.2101	0.9901	0.3488	-0.3615	-0.9360	1.4580	0.2770	-0.5384	-0.9519
BHAR (0)		0.62%	0.37%	0.30%	0.07%	0.45%	0.33%	0.10%	-0.12%	0.50%	0.27%	-0.09%	0.03%	0.76%	0.16%	0.56%	-0.53%
		1.7230	1.1252	0.8641	0.2155	1.1386	0.7980	0.2527	-0.2833	1.2387	0.8159	-0.2596	0.0941	1.7923	0.4001	1.3643	-1.4629
BHAR (1)		0.68%	0.32%	0.28%	0.06%	0.42%	0.21%	-0.11%	-0.18%	0.74%	0.29%	0.07%	-0.07%	0.86%	0.09%	0.34%	-0.39%
		1.9270	0.9526	0.7987	0.1929	1.0741	0.5024	-0.2641	-0.4210	1.8657	0.8724	0.1901	-0.2015	2.0735	0.2186	0.8261	-1.0857
HONGKO	NG																
CAR (0)		0.33%	0.35%	0.25%	0.18%	0.58%	0.39%	0.24%	0.13%	0.44%	0.28%	0.13%	0.04%	0.34%	0.18%	0.06%	-0.01%
		1.8424	2.9030	2.2503	1.7338	3.2128	2.3810	1.5846	0.9480	2.2691	1.5058	0.7628	0.2429	1.6253	0.9332	0.3306	-0.0719
CAR (1)		0.29%	0.33%	0.21%	0.11%	0.51%	0.32%	0.15%	0.06%	0.33%	0.17%	0.03%	-0.03%	0.25%	0.10%	-0.01%	-0.07%
		1.8784	2.8458	1.8795	1.0933	2.9796	1.9933	1.0003	0.4252	1.6797	0.9382	0.1981	-0.1655	1.2032	0.4992	-0.0796	-0.4005
BHAR (0)		0.16%	0.12%	0.01%	0.16%	0.59%	0.34%	0.13%	0.26%	0.41%	0.32%	0.18%	0.06%	0.28%	0.26%	-0.01%	0.06%
		0.7261	0.6167	0.0665	0.9651	2.9702	1.6520	0.6646	1.5317	1.8250	1.4079	0.9566	0.2969	1.2883	1.2797	-0.0250	0.2772
BHAR (1)		0.03%	0.07%	0.04%	0.07%	0.41%	0.32%	0.03%	0.13%	0.36%	0.15%	0.15%	0.09%	0.10%	0.23%	-0.11%	-0.05%
		0.1264	0.3991	0.2040	0.3754	2.0254	1.6195	0.1663	0.7241	1.6421	0.6711	0.7641	0.4523	0.4197	1.1067	-0.4787	-0.2035
IRELAN	D																
CAR (0)		0.41%	0.46%	0.41%	0.39%	0.57%	0.46%	0.41%	0.41%	0.51%	0.52%	0.39%	0.29%	0.90%	0.54%	0.33%	0.26%
		1.6980	2.1165	2.1312	2.3664	1.8954	1.5952	1.6339	1.7981	1.5999	1.7167	1.3656	1.1055	2.5784	1.6458	1.0428	0.8507
CAR (1)		0.76%	0.53%	0.46%	0.41%	0.65%	0.50%	0.42%	0.39%	0.61%	0.49%	0.34%	0.25%	0.70%	0.41%	0.27%	0.12%
		3.2888	2.3694	2.4303	2.4595	1.9374	1.6987	1.6787	1.7035	1.9067	1.5962	1.1876	0.9187	2.0606	1.2383	0.8280	0.3938
BHAR (0)		0.64%	-0.01%	-0.15%	0.55%	0.51%	0.39%	-0.13%	0.80%	0.33%	0.11%	0.49%	0.34%	1.02%	0.74%	0.43%	0.37%
		2.1846	-0.0386	-0.4773	1.4009	1.3832	1.0208	-0.3387	2.3798	0.8962	0.2815	1.2898	0.9632	2.7411	1.8210	0.9871	0.9730
BHAR (1)		0.61%	0.18%	-0.18%	0.72%	0.35%	0.27%	0.07%	0.45%	0.24%	0.53%	0.32%	0.21%	0.72%	0.52%	0.15%	0.23%
		2.0622	0.4879	-0.5867	1.8292	0.9256	0.7063	0.1999	1.3560	0.6514	1.3776	0.8288	0.5889	2.1001	1.3036	0.3579	0.6170
ISRAEI																	
CAR (0)		-0.10%	0.01%	0.01%	-0.01%	0.03%	0.07%	0.02%	-0.04%	0.01%	0.04%	-0.01%	-0.06%	-0.05%	-0.01%	-0.03%	-0.08%
		-0.7093	0.1332	0.1538	-0.0816	0.2178	0.5241	0.2050	-0.3918	0.0821	0.2560	-0.1073	-0.4615	-0.2761	-0.0814	-0.2414	-0.5923
CAR (1)		0.05%	0.12%	0.08%	0.00%	0.20%	0.14%	0.05%	-0.03%	0.13%	0.08%	0.00%	-0.06%	-0.02%	0.02%	-0.03%	-0.08%
		0.3365	1.1055	0.8424	0.0057	1.3937	1.1114	0.4293	-0.3085	0.8619	0.5746	0.0087	-0.5214	-0.1040	0.1428	-0.2077	-0.6584
BHAR (0)		-0.13%	-0.08%	-0.20%	-0.15%	0.15%	0.18%	-0.01%	0.18%	-0.03%	0.05%	0.06%	0.19%	0.04%	-0.02%	-0.01%	-0.07%
		-0.8444	-0.5368	-1.3149	-1.0115	0.8371	1.0913	-0.0720	1.1410	-0.1943	0.2925	0.3623	1.1951	0.2048	-0.1386	-0.0358	-0.4081
BHAR (1)		-0.09%	-0.03%	-0.15%	-0.14%	0.23%	0.21%	0.01%	0.19%	0.07%	0.09%	0.03%	0.21%	0.07%	0.05%	0.03%	-0.10%
		-0.5581	-0.2468	-0.9925	-1.0233	1.3907	1.3436	0.0787	1.2527	0.4021	0.5614	0.1929	1.2919	0.3803	0.2792	0.1803	-0.5743

EW	J =		3				6	i			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.54%	0.48%	0.53%	0.52%	0.77%	0.77%	0.76%	0.66%	0.89%	0.87%	0.73%	0.62%	0.99%	0.86%	0.71%	0.58%
		3.6313	3.8708	4.9612	5.4724	4.2290	4.7057	5.1530	4.8650	4.7754	5.0087	4.5546	4.1681	5.3903	4.7788	4.2427	3.7354
CAR (1)		0.52%	0.53%	0.54%	0.50%	0.76%	0.77%	0.71%	0.59%	0.91%	0.83%	0.67%	0.56%	0.95%	0.77%	0.61%	0.52%
		3.7790	4.5112	5.3338	5.4081	4.2467	4.7982	5.0207	4.4495	4.8820	4.7502	4.2243	3.8200	5.0897	4.2946	3.7032	3.3754
BHAR (0)		0.62%	0.54%	0.54%	0.55%	0.64%	0.61%	0.61%	0.65%	0.80%	0.76%	0.91%	0.56%	0.93%	0.75%	0.74%	0.41%
		3.7649	3.4169	3.5766	3.8254	3.1353	3.0101	3.4128	3.5780	3.9019	3.8585	5.2561	3.4043	4.6860	3.6878	3.8001	2.2176
BHAR (1)		0.62%	0.58%	0.59%	0.54%	0.69%	0.61%	0.60%	0.64%	0.91%	0.73%	0.80%	0.46%	0.92%	0.74%	0.72%	0.39%
		3.8695	3.7635	3.9672	3.9001	3.4255	2.9966	3.4459	3.5499	4.3254	3.7649	4.6941	2.8197	4.6727	3.6209	3.5389	2.1279
JAPAN																	
CAR (0)		0.09%	-0.03%	-0.03%	0.03%	-0.03%	-0.06%	0.02%	-0.01%	-0.05%	0.02%	-0.01%	-0.04%	0.07%	0.00%	-0.05%	-0.07%
		0.6169	-0.2315	-0.3080	0.3402	-0.1896	-0.4121	0.1464	-0.0683	-0.2753	0.1083	-0.0362	-0.3611	0.4119	-0.0212	-0.3372	-0.5720
CAR (1)		0.07%	-0.04%	0.01%	0.02%	-0.01%	0.01%	0.05%	-0.03%	0.08%	0.06%	0.00%	-0.06%	0.10%	-0.01%	-0.06%	-0.08%
		0.4989	-0.3354	0.1328	0.2004	-0.0961	0.0757	0.3934	-0.2416	0.4997	0.4199	0.0221	-0.4952	0.6157	-0.0999	-0.4263	-0.6835
BHAR (0)		0.03%	0.15%	0.09%	0.18%	-0.03%	-0.05%	-0.01%	0.18%	-0.03%	0.06%	0.11%	0.04%	0.06%	0.02%	-0.02%	-0.05%
		0.2091	1.0187	0.6135	1.2334	-0.1563	-0.3265	-0.0755	1.3734	-0.1926	0.3930	0.7602	0.3073	0.3454	0.1468	-0.1552	-0.3645
BHAR (1)		-0.01%	0.14%	0.02%	0.19%	-0.07%	-0.15%	0.04%	0.10%	0.01%	0.14%	0.08%	-0.01%	0.06%	-0.09%	-0.15%	-0.09%
		-0.0582	0.9752	0.1183	1.4042	-0.4195	-0.9261	0.2669	0.7996	0.0694	0.8643	0.5576	-0.1000	0.3396	-0.5738	-1.0222	-0.6562
NETHERLA	NDS																
CAR (0)		0.73%	0.65%	0.63%	0.61%	0.93%	0.88%	0.78%	0.67%	1.05%	0.93%	0.81%	0.70%	1.08%	0.92%	0.78%	0.68%
		5.0963	5.3173	6.0144	6.6284	5.4901	5.9251	5.8434	5.3974	5.7242	5.5425	5.1375	4.8224	5.5293	5.1004	4.5951	4.3072
CAR (1)		0.75%	0.67%	0.63%	0.57%	0.89%	0.84%	0.74%	0.62%	1.00%	0.85%	0.72%	0.61%	0.99%	0.83%	0.71%	0.64%
		5.5146	5.7048	6.3470	6.3710	5.2758	5.7719	5.5083	5.0071	5.3223	5.0017	4.5695	4.2679	5.1588	4.7001	4.2549	4.1388
BHAR (0)		0.88%	0.57%	0.61%	0.54%	0.78%	0.95%	0.60%	0.93%	1.06%	0.89%	0.91%	0.82%	1.00%	0.96%	0.58%	0.34%
		5.1414	3.3889	3.2842	3.3081	3.9220	5.2070	2.9666	5.7787	5.0036	4.2051	5.3062	4.9123	4.8969	4.3999	2.4214	1.2302
BHAR (1)		0.86%	0.62%	0.52%	0.49%	0.88%	0.89%	0.67%	0.86%	1.08%	0.72%	0.83%	0.69%	0.91%	0.86%	0.41%	0.42%
	17D	5.1883	3.8482	2.8960	3.0647	4.7181	4.6564	3.3170	5.1023	5.0305	3.1269	4.9181	4.1422	4.3943	3.9565	1.6448	1.3591
NEWZEALA	ND	0.700/	0.600/	0.550/	0.550/	1.000/	0.000/	0.770/	0.650/	0.000/	0.000/	0.=00/	0.620/	4.0=0/	0.0=0/	0.=<0/	0.600/
CAR (0)		0.70%	0.69%	0.57%	0.57%	1.02%	0.82%	0.75%	0.67%	0.88%	0.82%	0.70%	0.63%	1.07%	0.87%	0.76%	0.68%
CAP (1)		4.6034	5.3407	5.1116	5.7936	5.7081	4.9947	5.3665	5.4271	4.3415	4.6624	4.5615	4.5266	5.3088	4.6580	4.5884	4.3052
CAR (1)		0.73%	0.67%	0.57%	0.54%	0.98%	0.78%	0.72%	0.61%	0.85%	0.77%	0.67%	0.58%	1.03%	0.78%	0.71%	0.61%
DILAD (0)		4.7266	5.1894	5.2766	5.6029	5.3739	4.9733	5.3859	5.1136	4.3180	4.5978	4.4573	4.3002	5.0272	4.2904	4.3388	3.8618
BHAR (0)		0.74%	0.69%	0.44%	0.25%	0.95%	0.90%	0.78%	0.61%	0.92%	0.72%	0.82%	0.61%	1.16%	1.09%	0.73%	0.78%
DILAD (1)		4.1605	3.8938	2.6702	1.3034	4.6814	4.5461	3.8619	3.4917	4.1929	3.4528	4.4908	3.1869	5.1712	5.0388	3.9651	3.6834
BHAR (1)		0.85%	0.63%	0.42%	0.24%	1.02%	0.76%	0.78%	0.44%	0.90%	0.71%	0.76%	0.55%	1.11%	0.96%	0.63%	0.72%
		4.5633	3.5515	2.4224	1.2791	4.8072	3.9035	3.8921	2.5804	4.1860	3.4654	4.2860	2.9371	4.9502	4.4871	3.3843	3.4873

EW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWA	Y.																
CAR (0)		0.18%	0.30%	0.36%	0.34%	0.30%	0.35%	0.44%	0.34%	0.55%	0.49%	0.44%	0.32%	0.53%	0.39%	0.35%	0.18%
		1.0019	2.1930	2.8615	3.0242	1.4690	1.8779	2.6938	2.3308	2.2557	2.3541	2.3467	1.8263	2.0734	1.7643	1.6986	0.9168
CAR (1)		0.21%	0.35%	0.42%	0.32%	0.36%	0.43%	0.45%	0.32%	0.58%	0.45%	0.41%	0.22%	0.52%	0.34%	0.27%	0.10%
		1.2146	2.4928	3.4378	2.8604	1.7721	2.3734	2.8185	2.2080	2.5146	2.2591	2.1966	1.3002	2.1747	1.5793	1.3184	0.5411
BHAR (0)		0.24%	0.48%	0.34%	0.68%	0.20%	0.09%	0.29%	0.55%	0.55%	0.39%	0.61%	0.34%	0.63%	0.25%	0.12%	-0.01%
		1.0106	2.1254	1.4435	3.2951	0.9197	0.3879	1.2850	2.5262	2.1118	1.4962	2.2561	1.2439	2.3553	1.0049	0.5088	-0.0567
BHAR (1)		0.37%	0.46%	0.44%	0.64%	0.35%	0.12%	0.27%	0.45%	0.58%	0.39%	0.41%	0.28%	0.60%	0.11%	0.24%	0.04%
		1.6070	2.1239	1.9019	3.0594	1.4946	0.4785	1.2359	2.0638	2.2135	1.5175	1.5507	1.0655	2.2039	0.4527	0.9875	0.1427
PORTUG	AL																
CAR (0)		-0.05%	0.17%	0.26%	0.26%	0.01%	0.20%	0.28%	0.26%	-0.01%	0.18%	0.24%	0.19%	0.02%	0.19%	0.20%	0.18%
		-0.2297	0.9178	1.6193	1.7268	0.0579	0.8720	1.4025	1.4514	-0.0506	0.7390	1.0652	0.9475	0.0761	0.7597	0.8506	0.8461
CAR (1)		0.23%	0.36%	0.35%	0.33%	0.37%	0.43%	0.40%	0.34%	0.29%	0.36%	0.32%	0.24%	0.34%	0.33%	0.28%	0.25%
		1.0283	1.9646	2.1245	2.2110	1.5046	1.9235	2.0155	1.9146	1.0848	1.4701	1.4490	1.1630	1.2558	1.3361	1.2321	1.1666
BHAR (0)		-0.17%	0.11%	0.06%	0.20%	0.07%	0.33%	0.14%	0.28%	0.07%	0.44%	0.52%	0.73%	0.01%	0.16%	0.25%	0.02%
		-0.6179	0.4146	0.2505	0.7226	0.2330	1.1815	0.5012	1.0551	0.2508	1.5291	1.9211	2.8354	0.0489	0.5624	0.8887	0.0847
BHAR (1)		0.06%	0.28%	0.13%	0.31%	0.33%	0.44%	0.31%	0.29%	0.29%	0.45%	0.50%	0.56%	0.37%	0.30%	0.33%	0.06%
		0.2376	1.1114	0.5035	1.1565	1.2394	1.6005	1.1791	1.1705	1.0641	1.6840	1.8925	2.2644	1.3010	1.0507	1.1495	0.2257
SINGAPO	RE																
CAR (0)		0.31%	0.50%	0.40%	0.32%	0.70%	0.57%	0.40%	0.34%	0.50%	0.42%	0.31%	0.23%	0.43%	0.41%	0.26%	0.17%
		1.5425	3.5234	3.0978	2.6260	3.5903	3.2739	2.3723	2.1311	2.1513	1.8729	1.5326	1.2063	1.5362	1.6712	1.1649	0.8056
CAR (1)		0.47%	0.56%	0.41%	0.30%	0.82%	0.56%	0.39%	0.29%	0.50%	0.38%	0.28%	0.19%	0.41%	0.37%	0.20%	0.14%
		2.5215	4.0981	3.1082	2.5527	4.7812	3.1486	2.3301	1.9021	2.0471	1.6709	1.3688	0.9988	1.5159	1.5762	0.9176	0.6810
BHAR (0)		0.29%	0.44%	0.43%	0.36%	0.65%	0.49%	0.40%	0.46%	0.55%	0.43%	0.45%	0.17%	0.57%	0.48%	0.48%	0.29%
		1.2080	2.0747	2.3313	2.4337	2.6193	1.9464	1.7071	2.2216	2.1006	1.6933	2.1592	0.7001	1.9889	1.9751	1.9760	1.2041
BHAR (1)		0.46%	0.32%	0.42%	0.35%	0.79%	0.54%	0.36%	0.43%	0.49%	0.36%	0.48%	0.15%	0.43%	0.45%	0.29%	0.28%
		2.1292	1.5870	2.3950	2.3403	3.9914	2.3136	1.7182	2.3023	1.8633	1.4699	2.2899	0.6497	1.5279	1.8737	1.2138	1.1973
SPAIN																	
CAR (0)		0.37%	0.31%	0.35%	0.37%	0.43%	0.44%	0.48%	0.40%	0.72%	0.64%	0.55%	0.45%	0.76%	0.62%	0.51%	0.41%
		2.3569	2.4273	3.0857	3.6289	2.4633	2.6668	3.1945	2.9114	3.6409	3.3634	3.2527	2.8465	3.6921	3.2025	2.8269	2.3988
CAR (1)		0.34%	0.34%	0.37%	0.34%	0.42%	0.46%	0.47%	0.36%	0.67%	0.55%	0.46%	0.38%	0.71%	0.55%	0.45%	0.38%
		2.3746	2.9009	3.3602	3.4680	2.4839	2.8026	3.1316	2.6335	3.3700	2.9545	2.7936	2.4767	3.4895	2.8455	2.4777	2.2212
BHAR (0)		0.26%	0.12%	0.36%	0.44%	0.35%	0.42%	0.47%	0.24%	0.65%	0.60%	0.56%	0.29%	0.75%	0.58%	0.37%	0.35%
		1.4613	0.6700	2.2091	2.4578	1.7369	1.9970	2.4162	1.1372	3.1292	2.6658	2.7361	1.3185	3.5112	2.4551	1.5382	1.6757
BHAR (1)		0.33%	0.09%	0.34%	0.40%	0.40%	0.50%	0.44%	0.12%	0.60%	0.46%	0.34%	0.21%	0.63%	0.49%	0.29%	0.27%
		1.9070	0.4820	2.0622	2.2792	2.1368	2.4536	2.3234	0.5970	2.8636	2.0847	1.6825	0.9823	3.0601	2.0941	1.2529	1.3253

EW	J =		3				6				9				1:	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	1																
CAR (0)		0.62%	0.64%	0.52%	0.51%	0.78%	0.67%	0.61%	0.54%	0.80%	0.80%	0.67%	0.54%	0.93%	0.83%	0.64%	0.50%
		3.0651	3.6243	3.2243	3.7255	3.2775	3.0778	3.2602	3.2274	3.0172	3.4269	3.2024	2.8290	3.6045	3.4081	2.8882	2.4161
CAR (1)		0.73%	0.66%	0.53%	0.50%	0.83%	0.70%	0.62%	0.52%	0.84%	0.78%	0.62%	0.50%	0.98%	0.76%	0.56%	0.43%
		3.7860	3.8276	3.5591	3.7779	3.5196	3.3346	3.4432	3.1674	3.3743	3.5015	3.0752	2.6830	3.8874	3.2338	2.6001	2.1155
BHAR (0)		0.75%	0.59%	0.62%	0.29%	0.81%	0.63%	0.51%	0.38%	0.77%	0.60%	0.63%	0.13%	0.93%	0.84%	0.83%	0.42%
		3.2335	2.9780	2.8837	1.3330	3.1754	2.4027	1.8905	1.5303	2.6896	2.1523	2.4031	0.4933	3.5116	3.2605	3.4440	1.6881
BHAR (1)		0.74%	0.57%	0.65%	0.32%	0.78%	0.61%	0.46%	0.31%	0.67%	0.55%	0.50%	-0.01%	0.99%	0.87%	0.77%	0.46%
		3.2515	2.7736	3.1031	1.5152	2.8739	2.3495	1.7358	1.3149	2.3773	2.0970	1.9880	-0.0331	3.8540	3.6223	3.2603	1.8972
SWITZERL	AND																
CAR (0)		0.59%	0.53%	0.46%	0.45%	0.79%	0.65%	0.62%	0.50%	0.66%	0.67%	0.55%	0.43%	0.78%	0.61%	0.50%	0.37%
		4.8313	5.0261	4.9119	5.4566	5.3407	4.9168	5.1722	4.5800	4.3399	4.7980	4.2467	3.5712	4.9882	4.2469	3.6957	2.8788
CAR (1)		0.60%	0.53%	0.46%	0.41%	0.75%	0.64%	0.57%	0.43%	0.68%	0.63%	0.49%	0.35%	0.74%	0.55%	0.43%	0.29%
		5.2053	5.1558	5.0379	5.0346	5.2712	4.9602	4.8689	4.0208	4.5301	4.6137	3.8476	2.9483	4.9175	3.9376	3.2152	2.3028
BHAR (0)		0.56%	0.57%	0.56%	0.49%	0.77%	0.75%	0.49%	0.75%	0.64%	0.61%	0.59%	0.58%	0.82%	0.76%	0.60%	0.44%
		4.0309	3.8547	4.0931	3.3619	4.9226	5.0254	3.4547	5.4510	3.9750	3.7531	3.8682	3.5736	5.0889	4.8611	3.7090	2.7339
BHAR (1)		0.57%	0.53%	0.61%	0.41%	0.70%	0.70%	0.42%	0.67%	0.60%	0.53%	0.50%	0.44%	0.73%	0.69%	0.45%	0.40%
		4.3310	3.8083	4.7330	2.8539	4.6842	4.7152	3.0309	4.8339	3.8043	3.3165	3.2661	2.6629	4.6328	4.4226	2.8711	2.4915
UK	-								T				1				
CAR (0)		0.75%	0.76%	0.64%	0.64%	1.05%	0.89%	0.81%	0.73%	1.01%	0.94%	0.81%	0.70%	1.09%	0.92%	0.76%	0.63%
		6.5249	7.8459	7.7567	8.8318	7.9796	7.6642	8.0539	7.9310	7.5614	7.6579	7.1373	6.7180	7.9654	7.1871	6.4072	5.7350
CAR (1)		0.77%	0.71%	0.63%	0.59%	0.98%	0.82%	0.76%	0.65%	0.95%	0.86%	0.73%	0.61%	0.99%	0.82%	0.66%	0.55%
		6.8898	7.7300	8.0758	8.4656	7.8545	7.5121	7.7654	7.2919	7.3418	7.2117	6.6170	5.9981	7.4866	6.5132	5.6960	5.0590
BHAR (0)		0.67%	0.71%	0.74%	0.56%	1.05%	0.87%	0.76%	0.80%	1.05%	0.93%	0.83%	0.72%	1.01%	0.91%	0.72%	0.60%
		5.0422	5.7657	6.1416	4.4576	7.6496	6.8766	5.7460	7.5643	7.5989	6.7433	6.7208	5.9164	7.2025	7.0698	5.3558	5.0693
BHAR (1)		0.76%	0.64%	0.69%	0.52%	0.97%	0.82%	0.75%	0.66%	0.99%	0.84%	0.68%	0.61%	0.95%	0.78%	0.56%	0.49%
		5.9748	5.4723	5.8538	4.2036	7.5625	6.7369	6.0213	6.4086	7.4410	6.3441	5.7878	5.2502	7.2951	6.3018	4.2861	4.3134
US																	
CAR (0)		-0.04%	0.04%	0.05%	0.04%	0.13%	0.15%	0.12%	0.03%	0.23%	0.18%	0.07%	-0.04%	0.20%	0.08%	-0.04%	-0.14%
		-0.2780	0.2936	0.4317	0.3609	0.6890	0.9117	0.8662	0.2265	1.1670	1.0668	0.4441	-0.2816	1.0540	0.4860	-0.2512	-0.9921
CAR (1)		0.02%	0.08%	0.08%	0.01%	0.18%	0.19%	0.11%	-0.01%	0.27%	0.16%	0.02%	-0.09%	0.15%	0.02%	-0.11%	-0.20%
		0.1195	0.6289	0.7590	0.1572	1.0615	1.2284	0.8092	-0.1119	1.5208	1.0063	0.1558	-0.7212	0.8814	0.1485	-0.7411	-1.4563
BHAR (0)		-0.11%	0.14%	0.04%	0.05%	0.08%	0.10%	-0.05%	0.12%	0.24%	0.20%	0.18%	-0.03%	0.19%	0.09%	-0.01%	-0.18%
		-0.6728	0.9476	0.3121	0.3140	0.4017	0.5832	-0.2942	0.9285	1.1954	1.0827	1.2051	-0.1629	0.9600	0.5047	-0.0367	-1.0536
BHAR (1)		0.02%	0.08%	0.03%	-0.03%	0.17%	0.13%	-0.07%	-0.02%	0.27%	0.11%	0.01%	-0.14%	0.10%	-0.04%	-0.13%	-0.27%
		0.1531	0.5966	0.2286	-0.1852	0.9180	0.7694	-0.4040	-0.1579	1.4334	0.6530	0.0407	-0.9341	0.5533	-0.2394	-0.7816	-1.7483

Panel B. The time-series momentum strategy using market-weighted return

MW	J =		3				6			sing mar	9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAI	LIA																
CAR (0)		0.09%	0.21%	0.16%	0.20%	0.00%	0.10%	0.16%	0.15%	-0.02%	0.23%	0.12%	0.13%	0.27%	0.16%	0.21%	0.17%
		0.3186	1.2775	1.2434	1.7371	0.0107	0.4493	0.9294	1.0967	-0.0633	1.1752	0.6737	0.9036	0.9727	0.6979	1.1425	0.9753
CAR (1)		-0.02%	0.16%	0.16%	0.16%	-0.09%	0.17%	0.17%	0.15%	0.14%	0.24%	0.12%	0.14%	0.27%	0.15%	0.17%	0.13%
		-0.0690	1.0326	1.2924	1.4202	-0.3250	0.7860	0.9731	1.1079	0.5763	1.2418	0.7413	0.9674	0.9604	0.6707	0.9673	0.7561
BHAR (0)		0.13%	0.26%	-0.36%	-0.07%	-0.06%	-0.02%	0.07%	-0.06%	-0.17%	0.37%	-0.02%	0.41%	0.18%	0.37%	0.05%	0.45%
		0.3860	0.7614	-1.1337	-0.2238	-0.1800	-0.0747	0.2039	-0.1990	-0.5050	1.0839	-0.0721	1.2851	0.4966	1.0924	0.1434	1.3455
BHAR (1)		0.20%	0.29%	-0.29%	0.17%	-0.05%	0.09%	-0.05%	-0.07%	0.38%	0.43%	0.23%	0.48%	0.34%	0.32%	0.03%	0.39%
		0.5455	0.8331	-0.9186	0.5184	-0.1567	0.2775	-0.1475	-0.2303	1.1724	1.2739	0.7294	1.5023	0.9744	0.9627	0.1010	1.1948
AUSTRI	A																
CAR (0)		0.15%	0.20%	0.18%	0.11%	0.48%	0.41%	0.28%	0.19%	0.41%	0.29%	0.23%	0.10%	0.32%	0.16%	0.09%	0.05%
		0.6341	1.0606	1.0647	0.7333	1.7742	1.6454	1.3078	1.0026	1.3334	1.0079	0.9042	0.4481	1.0947	0.5915	0.4009	0.2417
CAR (1)		0.13%	0.16%	0.15%	0.04%	0.42%	0.31%	0.19%	0.09%	0.37%	0.27%	0.17%	0.04%	0.21%	0.12%	0.05%	0.02%
		0.5251	0.7878	0.8860	0.2828	1.4695	1.2645	0.8853	0.4935	1.1772	0.9584	0.7024	0.1878	0.7130	0.4820	0.2110	0.1038
BHAR (0)		0.05%	0.41%	-0.09%	0.06%	0.58%	0.13%	0.13%	0.09%	0.26%	0.69%	0.32%	0.33%	0.29%	0.04%	0.31%	-0.22%
		0.1552	1.3133	-0.2872	0.2005	1.8440	0.4073	0.4250	0.2831	0.7433	2.1929	0.9998	1.1092	0.8488	0.1231	0.9417	-0.6279
BHAR (1)		0.07%	0.15%	-0.18%	0.00%	0.40%	0.01%	0.15%	0.10%	0.28%	0.52%	0.29%	0.18%	0.29%	-0.01%	0.12%	-0.16%
		0.2363	0.4684	-0.5862	-0.0030	1.2196	0.0409	0.4856	0.3336	0.7929	1.6510	0.9073	0.6022	0.8521	-0.0380	0.3668	-0.4424
BELGIU	M				1				1				1				
CAR (0)		0.06%	0.18%	0.23%	0.29%	0.51%	0.48%	0.44%	0.41%	0.53%	0.61%	0.54%	0.37%	0.70%	0.56%	0.46%	0.39%
		0.2379	0.8354	1.1133	1.5834	1.8767	1.8529	1.7841	1.7205	1.7227	2.1884	2.0415	1.4400	2.1544	1.9018	1.6640	1.4152
CAR (1)		0.33%	0.25%	0.31%	0.31%	0.43%	0.49%	0.45%	0.34%	0.63%	0.63%	0.49%	0.34%	0.59%	0.52%	0.39%	0.33%
DVV 1 D (0)		1.3305	1.1579	1.5260	1.7405	1.5856	1.8679	1.8324	1.4015	2.0045	2.2490	1.8249	1.3120	1.8188	1.7689	1.3851	1.1873
BHAR (0)		-0.15%	0.23%	-0.67%	-0.02%	0.37%	0.32%	0.40%	0.20%	0.52%	0.82%	0.63%	0.36%	0.72%	0.63%	0.64%	0.35%
DILAD (1)		-0.4197	0.6399	-1.9101	-0.0589	1.1694	0.9100	1.1320	0.6055	1.4960	2.3021	1.8320	1.1381	2.0117	1.7671	1.8176	1.0515
BHAR (1)		0.04%	0.16%	-0.46%	0.12%	0.40%	0.62%	0.36%	0.06%	0.71%	0.73%	0.84%	0.32%	0.55%	0.74%	0.55%	0.42%
CANAD	<u> </u>	0.1180	0.4413	-1.2549	0.2777	1.2946	1.7084	1.0009	0.1730	1.9876	2.0374	2.3931	1.0148	1.5398	2.0023	1.5787	1.2684
	A	0.47%	0.45%	0.45%	0.48%	0.52%	0.51%	0.56%	0.48%	0.68%	0.69%	0.62%	0.52%	0.70%	0.60%	0.52%	0.48%
CAR (0)		2.0482	2.3939	2.6916	3.2532	1.9398	2.1527	2.6585	2.4141	2.3532	2.7645	2.6120	2.2897	2.5369	2.2568	2.0521	1.9464
CAR (1)		0.47%	0.43%	0.52%	0.42%	0.39%	0.50%	0.53%	0.40%	0.73%	0.69%	0.61%	0.46%	0.63%	0.50%	0.48%	0.42%
CAR (I)		2.0928	2.4116	3.1354	2.8366	1.4675	2.1853	2.5776	2.0794	2.5831	2.7758	2.5530	2.0370	2.3185	1.9095	1.9036	1.6757
BHAR (0)		0.58%	0.47%	0.39%	0.41%	0.53%	0.54%	0.93%	0.45%	0.76%	0.60%	0.79%	0.25%	0.74%	0.51%	0.60%	0.47%
DIAK (0)		2.1607	1.7699	1.2961	1.2703	1.7427	1.8635	2.8226	1.6363	2.4399	2.1095	2.8692	0.25 %	2.4924	1.6991	1.8234	1.6576
BHAR (1)		0.68%	0.42%	0.47%	0.32%	0.43%	0.52%	0.79%	0.19%	0.71%	0.53%	0.72%	0.9793	0.50%	0.30%	0.46%	0.32%
DITAK (1)		2.5617	1.6361	1.6395	1.0203	1.4644	1.8364	2.4253	0.1976	2.1700	1.7920	2.5721	1.0288	1.6733	1.0470	1.4699	1.1808
		2.3017	1.0301	1.0393	1.0203	1.4044	1.0304	4.4433	0.0773	2.1700	1./940	4.3/41	1.0200	1.0/33	1.04/0	1.4079	1.1000

MW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMA	RK																
CAR (0)		0.63%	0.71%	0.60%	0.59%	0.87%	0.73%	0.68%	0.64%	0.66%	0.65%	0.57%	0.54%	0.72%	0.59%	0.46%	0.45%
		2.8386	3.8000	3.6313	3.9625	3.2062	3.1570	3.2348	3.2605	2.3245	2.4997	2.3523	2.4389	2.5374	2.1921	1.8335	1.9114
CAR (1)		0.75%	0.66%	0.61%	0.54%	0.82%	0.73%	0.68%	0.60%	0.69%	0.64%	0.57%	0.52%	0.71%	0.57%	0.46%	0.42%
		3.2823	3.6008	3.7274	3.6203	3.1106	3.1815	3.2661	3.0800	2.4917	2.4649	2.3910	2.3355	2.4857	2.1670	1.8594	1.7500
BHAR (0)		0.54%	0.93%	0.53%	0.82%	0.64%	0.16%	0.43%	0.26%	0.37%	0.40%	0.74%	0.34%	0.32%	0.60%	0.60%	0.53%
		2.0546	3.1752	1.8617	2.8624	2.0708	0.5578	1.3941	0.8955	1.1200	1.1206	2.2980	1.0820	0.9756	1.9968	1.7564	1.5750
BHAR (1)		0.92%	0.90%	0.70%	0.98%	0.92%	0.46%	0.47%	0.32%	0.69%	0.81%	0.80%	0.49%	0.59%	0.59%	0.77%	0.56%
		3.2414	3.0826	2.5098	3.3592	2.9815	1.5963	1.5206	1.1282	2.1401	2.4988	2.4475	1.5812	1.7207	1.8786	2.2432	1.6396
FINLAN	D																
CAR (0)		0.95%	1.03%	0.97%	0.95%	1.11%	1.09%	1.06%	0.85%	1.22%	1.02%	0.96%	0.95%	0.80%	0.93%	1.07%	0.98%
		2.4359	3.2428	3.3299	3.5456	2.2798	2.4064	2.6524	2.3515	2.2648	2.1145	2.1860	2.3828	1.4615	1.9400	2.4100	2.3471
CAR (1)		1.01%	1.06%	0.99%	0.88%	1.08%	1.10%	1.00%	0.84%	0.97%	0.92%	0.92%	0.88%	0.85%	1.02%	0.99%	0.97%
		2.7783	3.3242	3.4249	3.3128	2.1513	2.4549	2.5323	2.3371	1.8091	1.9256	2.1118	2.1835	1.5988	2.1150	2.2130	2.2969
BHAR (0)		1.24%	1.34%	1.12%	0.63%	1.18%	1.53%	1.23%	0.86%	0.87%	0.82%	0.37%	1.16%	0.50%	1.34%	1.20%	1.78%
		2.4562	2.5216	2.1639	1.1055	2.0808	2.4375	1.8832	1.3606	1.3663	1.2963	0.6165	1.9468	0.8355	2.2460	2.1776	3.2684
BHAR (1)		1.76%	1.71%	1.34%	0.75%	1.40%	1.10%	0.94%	0.49%	0.79%	0.94%	0.43%	1.04%	0.40%	1.12%	0.88%	1.80%
-		3.4991	3.2609	2.6325	1.3314	2.5038	1.7261	1.4621	0.7898	1.2264	1.4970	0.7038	1.7134	0.6308	1.8715	1.6150	3.3462
FRANC	E																
CAR (0)		-0.23%	0.01%	0.08%	0.19%	0.04%	0.16%	0.29%	0.29%	0.19%	0.31%	0.34%	0.24%	0.15%	0.19%	0.18%	0.10%
		-1.1667	0.0465	0.5776	1.6403	0.1913	0.8677	1.8723	2.0339	0.8636	1.6570	1.9389	1.4431	0.6735	0.9535	0.9393	0.5579
CAR (1)		-0.04%	0.13%	0.19%	0.20%	0.30%	0.32%	0.36%	0.29%	0.35%	0.35%	0.33%	0.21%	0.21%	0.22%	0.16%	0.10%
		-0.2430	0.8865	1.4567	1.7203	1.4449	1.8114	2.3483	2.0522	1.6589	1.8958	1.8986	1.2423	1.0284	1.0809	0.8367	0.5792
BHAR (0)		-0.23%	-0.01%	0.12%	0.11%	0.03%	0.15%	0.19%	0.55%	0.18%	0.33%	0.30%	0.29%	0.08%	0.33%	0.19%	0.31%
		-0.9979	-0.0450	0.4878	0.4425	0.1028	0.6097	0.8237	2.4539	0.7308	1.3788	1.3736	1.3025	0.3221	1.3678	0.6809	1.2712
BHAR (1)		-0.09%	0.04%	0.18%	0.19%	0.28%	0.27%	0.20%	0.48%	0.40%	0.39%	0.33%	0.30%	0.17%	0.30%	0.18%	0.14%
		-0.3855	0.2133	0.7793	0.7787	1.1540	1.0762	0.9067	2.1156	1.6590	1.6865	1.4831	1.3748	0.6699	1.2727	0.6619	0.5822
GERMA	NY								-				1				
CAR (0)		0.20%	0.23%	0.26%	0.21%	0.59%	0.58%	0.51%	0.36%	0.85%	0.64%	0.43%	0.27%	0.54%	0.39%	0.26%	0.17%
		0.8973	1.2498	1.6676	1.4691	2.2354	2.4911	2.4176	1.7813	3.0419	2.4131	1.6890	1.0912	1.8999	1.4242	0.9687	0.6557
CAR (1)		0.33%	0.31%	0.31%	0.19%	0.66%	0.58%	0.44%	0.32%	0.79%	0.51%	0.32%	0.18%	0.46%	0.31%	0.19%	0.10%
		1.5250	1.8319	2.0849	1.3781	2.5247	2.5637	2.0880	1.5909	2.8378	1.9157	1.2621	0.7218	1.6425	1.1069	0.7070	0.3671
BHAR (0)		0.29%	0.30%	0.30%	-0.07%	0.51%	0.79%	0.30%	0.49%	0.97%	0.65%	0.51%	0.60%	0.56%	0.42%	0.11%	0.02%
		1.0804	1.1821	1.1072	-0.2792	1.7139	2.6657	0.9798	1.8480	3.2736	2.1171	1.7266	2.2179	1.8909	1.3857	0.3720	0.0772
BHAR (1)		0.46%	0.20%	0.31%	0.01%	0.68%	0.93%	0.11%	0.55%	0.84%	0.43%	0.42%	0.32%	0.40%	0.45%	0.15%	0.02%
		1.7224	0.7717	1.1936	0.0511	2.2685	3.2823	0.3514	2.1002	2.8011	1.3149	1.3907	1.1120	1.3290	1.4694	0.5127	0.0551

MW	J =		3				6	j			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECI	Ē																
CAR (0)		0.47%	0.23%	0.10%	0.26%	0.13%	0.01%	0.03%	0.00%	-0.40%	-0.34%	-0.39%	-0.35%	-0.08%	-0.18%	-0.18%	-0.20%
		1.1677	0.6430	0.3255	1.0061	0.2680	0.0244	0.0725	0.0113	-0.7379	-0.7584	-0.9500	-0.8914	-0.1385	-0.3998	-0.4229	-0.4686
CAR (1)		0.26%	0.04%	0.11%	0.19%	0.08%	-0.09%	-0.01%	-0.03%	-0.30%	-0.39%	-0.39%	-0.36%	-0.18%	-0.17%	-0.21%	-0.20%
		0.6125	0.1165	0.3696	0.7602	0.1555	-0.2017	-0.0219	-0.0921	-0.5964	-0.8894	-0.9587	-0.9092	-0.3534	-0.3888	-0.5013	-0.4637
BHAR (0)		0.71%	0.21%	-0.30%	0.42%	0.35%	0.21%	0.10%	-0.31%	-0.10%	-0.66%	-0.58%	-0.71%	0.33%	-0.07%	0.28%	-0.59%
		1.3054	0.3500	-0.5104	0.6789	0.6230	0.3792	0.1634	-0.6360	-0.1448	-0.9672	-0.8727	-1.2251	0.5493	-0.1537	0.4914	-1.1400
BHAR (1)		-0.09%	0.01%	-0.38%	0.79%	-0.14%	-0.19%	-0.23%	-0.46%	-0.03%	-0.31%	-0.19%	-0.92%	0.44%	-0.11%	0.29%	-0.30%
		-0.1654	0.0151	-0.6637	1.2394	-0.2127	-0.2948	-0.3365	-0.8149	-0.0400	-0.4747	-0.2800	-1.5711	0.7516	-0.2193	0.5015	-0.5490
HONGKO	NG																
CAR (0)		0.16%	0.37%	0.32%	0.32%	0.67%	0.55%	0.54%	0.48%	0.41%	0.43%	0.37%	0.34%	0.47%	0.48%	0.39%	0.41%
		0.6150	1.9794	1.9263	2.1039	2.4110	2.4063	2.5795	2.4548	1.4506	1.6840	1.5073	1.5228	1.5486	1.7440	1.5244	1.7269
CAR (1)		0.28%	0.43%	0.36%	0.32%	0.62%	0.53%	0.50%	0.44%	0.32%	0.41%	0.29%	0.31%	0.54%	0.50%	0.40%	0.42%
		1.1716	2.4518	2.1836	2.2673	2.3801	2.3217	2.4206	2.3626	1.1648	1.6049	1.2085	1.4191	1.8410	1.8287	1.6046	1.7754
BHAR (0)		-0.13%	0.14%	0.16%	0.28%	0.79%	0.42%	0.49%	0.38%	0.45%	0.57%	0.68%	0.57%	0.45%	0.57%	0.37%	0.27%
		-0.3952	0.4425	0.5234	1.1072	2.6088	1.3061	1.4794	1.3018	1.3421	1.8424	2.1600	1.9527	1.4291	1.6670	1.0930	0.8043
BHAR (1)		-0.11%	0.10%	0.11%	0.23%	0.50%	0.14%	0.30%	0.30%	0.30%	0.43%	0.69%	0.67%	0.46%	0.70%	0.34%	0.27%
-		-0.3597	0.3390	0.3985	0.8759	1.4877	0.4280	0.8645	1.0181	0.9145	1.3245	2.2065	2.2422	1.4292	2.1004	1.0114	0.7914
IRELAN	0																
CAR (0)		0.19%	0.56%	0.37%	0.38%	0.58%	0.62%	0.48%	0.38%	0.52%	0.53%	0.19%	0.00%	1.11%	0.51%	0.20%	0.05%
		0.4606	1.6349	1.1692	1.3465	1.1916	1.3851	1.2567	1.0678	1.0016	1.1790	0.4573	0.0007	2.1101	1.0843	0.4374	0.1278
CAR (1)		0.65%	0.54%	0.36%	0.34%	0.64%	0.59%	0.47%	0.36%	0.62%	0.30%	0.07%	-0.10%	0.50%	0.21%	0.03%	-0.15%
		1.8007	1.5878	1.1988	1.2417	1.2792	1.3563	1.2438	1.0325	1.2621	0.6690	0.1663	-0.2614	0.9841	0.4500	0.0593	-0.3726
BHAR (0)		0.13%	-0.28%	-0.82%	0.12%	0.20%	0.71%	0.18%	0.78%	0.51%	0.75%	0.77%	0.77%	1.65%	0.80%	0.35%	0.95%
		0.2509	-0.4745	-1.5354	0.1750	0.3472	1.4343	0.3651	1.5133	0.8009	1.1441	1.3728	1.4453	2.9408	1.3456	0.6649	1.7935
BHAR (1)		0.14%	-0.07%	-0.99%	0.11%	0.02%	0.39%	0.41%	0.46%	0.31%	0.63%	0.49%	0.65%	0.62%	0.58%	-0.11%	0.82%
		0.2795	-0.1123	-1.8511	0.1673	0.0307	0.7830	0.8174	0.9435	0.5163	0.9711	0.8846	1.2040	1.1805	1.0530	-0.2083	1.5742
ISRAEL																	
CAR (0)		0.01%	0.09%	0.18%	0.09%	0.39%	0.31%	0.13%	0.03%	0.19%	-0.05%	-0.26%	-0.28%	-0.03%	-0.16%	-0.16%	-0.19%
		0.0421	0.4069	0.9625	0.4927	1.2436	1.1161	0.5522	0.1191	0.5778	-0.1679	-0.9246	-1.1162	-0.0915	-0.5348	-0.5567	-0.7304
CAR (1)		-0.11%	0.16%	0.24%	0.04%	0.50%	0.24%	0.11%	-0.02%	0.05%	-0.18%	-0.32%	-0.31%	-0.15%	-0.19%	-0.18%	-0.22%
		-0.3391	0.6823	1.2706	0.2120	1.4667	0.8746	0.4553	-0.0883	0.1410	-0.5745	-1.1455	-1.2264	-0.4339	-0.5941	-0.6347	-0.8300
BHAR (0)		-0.34%	-0.25%	0.50%	0.01%	0.23%	0.22%	-0.21%	0.17%	-0.18%	0.08%	-0.28%	0.14%	-0.14%	-0.26%	0.02%	-0.28%
		-0.9108	-0.6935	1.4622	0.0269	0.5727	0.6283	-0.6231	0.4995	-0.4709	0.2258	-0.7382	0.3776	-0.3506	-0.6422	0.0401	-0.6811
BHAR (1)		-0.18%	-0.05%	0.48%	0.13%	0.48%	0.36%	-0.09%	0.21%	0.07%	0.20%	-0.32%	0.27%	0.08%	-0.21%	-0.01%	-0.07%
		-0.4857	-0.1493	1.4255	0.4350	1.2512	1.0419	-0.2683	0.6254	0.1788	0.5663	-0.8676	0.8009	0.1971	-0.4999	-0.0155	-0.1688

MW	J =		3				6	i			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.31%	0.51%	0.42%	0.51%	0.48%	0.70%	0.78%	0.82%	0.85%	0.94%	0.87%	0.88%	0.96%	1.12%	1.05%	1.04%
		1.1295	2.2575	2.2613	2.9609	1.4846	2.5324	3.1668	3.5180	2.4768	2.9921	2.9814	3.2081	2.8229	3.4820	3.3796	3.5034
CAR (1)		0.60%	0.63%	0.56%	0.55%	0.67%	0.84%	0.82%	0.84%	0.86%	0.90%	0.87%	0.90%	1.13%	1.17%	1.06%	1.06%
		2.1980	2.8617	3.0786	3.1986	2.0899	3.0032	3.3740	3.5984	2.5209	2.8803	3.0481	3.3007	3.3335	3.6078	3.4377	3.6034
BHAR (0)		0.52%	0.48%	1.13%	0.56%	0.41%	0.56%	0.79%	1.30%	0.63%	0.75%	0.63%	0.35%	0.86%	1.03%	1.08%	0.70%
		1.4971	1.3634	3.5000	1.6330	1.0361	1.4516	2.0844	3.3432	1.5629	1.9988	1.8127	0.9936	2.2079	2.7667	2.9122	2.1083
BHAR (1)		0.80%	0.54%	1.33%	0.64%	0.60%	0.47%	0.62%	1.36%	0.71%	0.80%	0.68%	0.43%	1.02%	1.01%	1.13%	0.65%
		2.4152	1.5349	4.3142	1.9082	1.5560	1.2135	1.6768	3.5606	1.7781	2.2181	1.9200	1.2518	2.7718	2.7722	3.0373	1.9563
JAPAN																	
CAR (0)		0.00%	-0.04%	0.03%	0.04%	-0.02%	0.00%	0.03%	-0.01%	0.06%	0.04%	0.01%	-0.04%	0.03%	-0.05%	-0.06%	-0.07%
		-0.0133	-0.2133	0.2030	0.2792	-0.0767	0.0035	0.1976	-0.0799	0.2418	0.1971	0.0524	-0.2285	0.1214	-0.2606	-0.2968	-0.3866
CAR (1)		-0.06%	0.00%	0.06%	0.01%	0.01%	0.07%	0.06%	-0.03%	0.13%	0.07%	0.00%	-0.05%	0.02%	-0.06%	-0.07%	-0.06%
		-0.3347	0.0236	0.4282	0.1161	0.0341	0.3547	0.3720	-0.1990	0.5795	0.3722	0.0007	-0.3021	0.0972	-0.2895	-0.4004	-0.3390
BHAR (0)		0.00%	0.20%	-0.03%	0.16%	0.13%	0.00%	-0.08%	0.10%	0.16%	0.13%	0.19%	0.10%	0.03%	0.06%	-0.13%	-0.07%
		0.0052	0.9536	-0.1539	0.8285	0.5494	0.0160	-0.3917	0.4906	0.6436	0.5707	0.9148	0.5257	0.1379	0.2411	-0.5855	-0.3579
BHAR (1)		-0.07%	0.08%	-0.23%	0.15%	-0.03%	-0.08%	-0.04%	0.00%	0.06%	0.15%	0.06%	0.00%	-0.11%	-0.22%	-0.31%	-0.27%
		-0.3296	0.3867	-1.2169	0.8091	-0.1363	-0.3809	-0.2116	-0.0105	0.2471	0.6689	0.2866	-0.0064	-0.4696	-1.0156	-1.5049	-1.3741
NETHERLA	NDS																
CAR (0)		0.06%	0.04%	0.15%	0.25%	0.05%	0.18%	0.25%	0.23%	0.32%	0.18%	0.20%	0.14%	0.09%	0.23%	0.13%	0.12%
		0.2608	0.1844	0.9025	1.8263	0.1980	0.7955	1.2875	1.3836	1.1258	0.6967	0.8724	0.7131	0.2847	0.8386	0.5447	0.5163
CAR (1)		0.06%	0.03%	0.19%	0.20%	0.08%	0.20%	0.29%	0.23%	0.29%	0.12%	0.17%	0.10%	0.08%	0.16%	0.11%	0.10%
		0.2546	0.1436	1.2186	1.5310	0.2890	0.9162	1.5809	1.3734	1.0016	0.4856	0.7450	0.5317	0.2573	0.6135	0.4674	0.4585
BHAR (0)		0.07%	-0.17%	-0.24%	-0.01%	-0.30%	-0.18%	0.04%	0.47%	0.24%	0.14%	0.10%	0.28%	-0.06%	0.26%	-0.25%	-0.13%
		0.2382	-0.5667	-0.7721	-0.0257	-0.9446	-0.6032	0.1152	1.5041	0.7814	0.4226	0.3366	0.8481	-0.1748	0.7543	-0.6759	-0.2978
BHAR (1)		0.00%	-0.19%	-0.29%	0.25%	-0.18%	-0.17%	0.20%	0.51%	0.27%	0.12%	0.25%	0.35%	0.01%	0.19%	-0.43%	-0.17%
		-0.0049	-0.6465	-1.0058	0.7573	-0.5946	-0.5356	0.6115	1.5825	0.8413	0.3493	0.7866	1.0540	0.0191	0.5365	-1.1498	-0.3796
NEWZEALA	.ND																
CAR (0)		0.56%	0.39%	0.41%	0.47%	0.34%	0.17%	0.36%	0.38%	0.26%	0.47%	0.53%	0.50%	0.82%	0.64%	0.55%	0.51%
		2.1778	2.1288	2.6771	3.3086	1.3312	0.8141	2.0432	2.3212	0.9273	2.0448	2.5266	2.5817	2.6964	2.3570	2.2786	2.1932
CAR (1)		0.20%	0.29%	0.33%	0.39%	-0.08%	0.12%	0.33%	0.30%	0.19%	0.51%	0.51%	0.42%	0.57%	0.44%	0.46%	0.42%
		0.8291	1.6278	2.2911	2.7960	-0.3142	0.6063	1.9002	1.8815	0.7410	2.2706	2.4843	2.2329	1.8693	1.6481	1.9622	1.8170
BHAR (0)		0.54%	0.34%	0.43%	-0.18%	0.38%	0.31%	0.42%	0.02%	0.61%	0.30%	0.47%	0.30%	0.89%	0.96%	0.79%	0.54%
		1.8196	1.1224	1.5590	-0.6430	1.2834	1.0615	1.5107	0.0894	1.8934	0.9018	1.5854	1.1159	2.6223	3.0461	2.5223	1.7795
BHAR (1)		0.19%	0.18%	0.25%	-0.13%	-0.14%	0.05%	0.38%	-0.28%	0.35%	0.26%	0.43%	0.11%	0.76%	0.65%	0.60%	0.49%
		0.6399	0.6051	0.9111	-0.4585	-0.4655	0.1690	1.3556	-1.0794	1.1012	0.7627	1.4452	0.4015	2.1768	1.9721	1.8488	1.5261

MW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWA	Y																
CAR (0)		-0.34%	0.05%	0.16%	0.26%	0.03%	0.27%	0.34%	0.32%	0.29%	0.38%	0.52%	0.41%	0.49%	0.51%	0.53%	0.38%
		-1.3947	0.2997	0.9988	1.8686	0.1109	1.0354	1.4912	1.6504	0.9721	1.5585	2.3663	2.0183	1.5951	1.8902	2.1851	1.6841
CAR (1)		-0.26%	0.11%	0.27%	0.27%	0.14%	0.31%	0.38%	0.30%	0.34%	0.44%	0.54%	0.35%	0.59%	0.56%	0.48%	0.33%
		-1.0974	0.5868	1.6675	1.9337	0.4960	1.2654	1.7653	1.6198	1.2317	1.8727	2.5263	1.7725	2.0002	2.1188	2.0102	1.4754
BHAR (0)		-0.44%	0.29%	0.41%	0.41%	0.13%	0.23%	0.40%	0.59%	0.41%	0.48%	0.43%	0.60%	0.51%	0.19%	0.32%	-0.14%
		-1.2823	0.9027	1.1936	1.3149	0.3870	0.6922	1.1831	1.8389	1.3624	1.6176	1.5511	1.8884	1.5146	0.5534	1.0590	-0.4070
BHAR (1)		-0.30%	0.28%	0.58%	0.35%	0.33%	0.17%	0.52%	0.42%	0.46%	0.57%	0.39%	0.60%	0.74%	0.18%	0.38%	0.02%
		-0.9519	0.9424	1.7210	1.1632	0.9661	0.5079	1.6241	1.2987	1.4886	1.9265	1.3975	1.9292	2.1865	0.5594	1.3093	0.0637
PORTUGA	AL																
CAR (0)		0.50%	0.28%	0.38%	0.37%	0.00%	0.14%	0.33%	0.29%	-0.10%	0.20%	0.30%	0.15%	0.15%	0.28%	0.31%	0.28%
		1.3360	0.9958	1.6513	1.7430	0.0124	0.4543	1.1963	1.0984	-0.2370	0.5600	0.9316	0.4745	0.3307	0.6879	0.8109	0.7520
CAR (1)		0.47%	0.30%	0.45%	0.40%	0.02%	0.29%	0.38%	0.30%	0.23%	0.42%	0.31%	0.17%	0.33%	0.37%	0.37%	0.34%
		1.3260	1.1214	1.9100	1.8999	0.0522	0.9077	1.3308	1.1116	0.5328	1.2146	0.9533	0.5150	0.6884	0.9103	0.9657	0.8806
BHAR (0)		0.61%	-0.13%	0.30%	1.00%	-0.16%	0.14%	0.25%	0.56%	0.21%	0.31%	0.46%	0.17%	0.46%	0.46%	0.22%	0.21%
		1.2546	-0.2453	0.7379	1.8041	-0.3468	0.2911	0.6268	1.1268	0.4883	0.7226	0.9838	0.3703	0.9665	0.9298	0.5197	0.4160
BHAR (1)		1.10%	0.08%	0.44%	1.09%	-0.05%	0.46%	0.51%	0.50%	0.29%	0.23%	0.25%	0.14%	0.46%	0.61%	0.36%	0.38%
-		2.4324	0.1582	1.1208	1.9536	-0.1072	0.9499	1.2623	1.0119	0.6887	0.5611	0.5195	0.3034	0.9473	1.2216	0.8411	0.7583
SINGAPO	RE																
CAR (0)		-0.11%	0.15%	0.03%	0.07%	0.30%	0.07%	0.04%	0.05%	0.08%	0.00%	0.08%	0.03%	0.21%	0.17%	0.08%	0.07%
		-0.4254	0.9643	0.2113	0.5150	1.2917	0.3319	0.1689	0.2304	0.2902	0.0129	0.2786	0.1428	0.6538	0.5451	0.2899	0.2863
CAR (1)		0.04%	0.18%	0.10%	0.11%	0.31%	0.04%	0.07%	0.03%	-0.03%	-0.01%	0.06%	-0.01%	0.07%	0.12%	0.01%	0.06%
		0.2077	1.1537	0.6533	0.8374	1.3112	0.1846	0.2921	0.1323	-0.1180	-0.0285	0.2250	-0.0274	0.1992	0.3809	0.0394	0.2335
BHAR (0)		0.09%	0.12%	0.39%	0.05%	0.39%	-0.19%	0.28%	0.07%	0.26%	0.15%	0.14%	0.15%	0.25%	0.12%	0.29%	0.35%
		0.2922	0.3773	1.6799	0.1371	1.4338	-0.5932	0.9153	0.2485	0.8334	0.4900	0.4072	0.4987	0.7095	0.3289	0.8431	1.0752
BHAR (1)		0.08%	-0.38%	0.38%	0.06%	0.27%	-0.19%	0.11%	0.29%	-0.01%	0.10%	0.25%	0.00%	-0.05%	-0.01%	0.03%	0.25%
		0.2539	-1.1739	1.5774	0.1610	1.0032	-0.5995	0.3668	1.0224	-0.0259	0.2949	0.7331	-0.0110	-0.1233	-0.0394	0.0877	0.8035
SPAIN																	
CAR (0)		-0.03%	0.09%	0.22%	0.27%	0.26%	0.22%	0.35%	0.31%	0.26%	0.44%	0.45%	0.41%	0.22%	0.37%	0.37%	0.29%
		-0.1175	0.4504	1.3051	1.8573	0.9712	0.9130	1.7063	1.7304	0.8424	1.6035	1.8447	1.8192	0.7227	1.2708	1.3501	1.0912
CAR (1)		-0.04%	0.11%	0.28%	0.25%	0.15%	0.27%	0.36%	0.28%	0.40%	0.46%	0.44%	0.40%	0.38%	0.43%	0.39%	0.31%
		-0.1554	0.5854	1.6834	1.7370	0.5509	1.1178	1.8517	1.5615	1.2641	1.6879	1.8205	1.7269	1.3019	1.4909	1.4227	1.1758
BHAR (0)		-0.26%	-0.49%	-0.04%	-0.22%	$\boldsymbol{0.18\%}$	0.08%	0.05%	0.48%	0.22%	0.74%	0.72%	0.62%	0.24%	0.57%	0.44%	0.42%
		-0.8197	-1.6197	-0.1285	-0.6612	0.5686	0.2435	0.1618	1.5327	0.6184	2.2925	2.3822	2.0855	0.7347	1.4515	1.2079	1.1822
BHAR (1)		0.03%	-0.47%	0.07%	-0.22%	0.05%	0.19%	0.13%	0.30%	0.52%	0.66%	0.82%	0.55%	0.45%	0.67%	0.46%	0.36%
		0.0895	-1.6143	0.2354	-0.6687	0.1560	0.5513	0.4299	0.9479	1.4874	2.0061	2.5964	1.7642	1.4470	1.7675	1.2659	1.0441

MW	J =		3				6	<u> </u>			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	V																
CAR (0)		0.18%	0.11%	0.07%	0.09%	0.11%	-0.03%	0.04%	0.07%	0.10%	0.07%	0.05%	-0.01%	0.10%	0.18%	0.11%	0.09%
		0.6692	0.5021	0.3445	0.5603	0.3485	-0.0979	0.1527	0.2891	0.3048	0.2418	0.1720	-0.0517	0.2577	0.5373	0.3551	0.2952
CAR (1)		0.08%	0.06%	0.08%	0.07%	0.03%	0.05%	0.08%	0.07%	0.16%	0.12%	0.09%	-0.03%	0.21%	0.16%	0.05%	0.10%
		0.2920	0.2746	0.4574	0.4108	0.0923	0.1885	0.3578	0.2948	0.4803	0.4132	0.3384	-0.1304	0.5823	0.4637	0.1709	0.3486
BHAR (0)		0.33%	0.24%	-0.13%	-0.06%	0.39%	0.38%	0.59%	0.19%	0.33%	0.10%	-0.05%	-0.28%	0.01%	0.32%	0.11%	0.39%
		0.9410	0.7426	-0.3731	-0.1682	1.1733	1.0611	1.6714	0.5307	0.9043	0.2440	-0.1275	-0.7652	0.0294	0.8849	0.2944	1.0573
BHAR (1)		0.36%	0.05%	-0.10%	-0.15%	0.41%	0.36%	0.74%	0.19%	0.17%	0.10%	-0.08%	-0.33%	-0.04%	0.16%	0.19%	0.44%
		1.0332	0.1468	-0.3053	-0.4203	1.1420	0.9979	2.1249	0.5285	0.4401	0.2689	-0.2179	-0.9094	-0.1139	0.4594	0.4984	1.2218
SWITZERL	AND																
CAR (0)		-0.06%	0.17%	0.19%	0.24%	0.18%	0.33%	0.39%	0.30%	0.25%	0.39%	0.32%	0.25%	0.47%	0.38%	0.28%	0.18%
		-0.3232	1.1022	1.3754	2.0455	0.8468	1.7264	2.2402	1.8946	1.1550	1.9194	1.7392	1.4145	2.0493	1.8497	1.4288	0.9761
CAR (1)		0.08%	0.25%	0.28%	0.23%	0.31%	0.41%	0.43%	0.27%	0.40%	0.40%	0.33%	0.19%	0.37%	0.32%	0.22%	0.11%
		0.4168	1.6051	2.0828	1.9998	1.4840	2.1152	2.5667	1.6937	1.8132	2.0236	1.7881	1.1105	1.6449	1.5446	1.1386	0.5975
BHAR (0)		-0.05%	0.23%	0.10%	0.38%	0.20%	0.35%	0.24%	0.51%	0.06%	0.08%	0.30%	0.34%	0.43%	0.61%	0.32%	0.40%
		-0.2037	0.9452	0.4466	1.4202	0.8223	1.4123	0.9749	1.9739	0.2646	0.3249	1.1564	1.4799	1.7200	2.4352	1.2934	1.6192
BHAR (1)		0.12%	0.39%	0.20%	0.42%	0.35%	0.40%	0.28%	0.49%	0.29%	0.33%	0.23%	0.30%	0.27%	0.32%	0.26%	0.16%
		0.5069	1.6299	0.9081	1.6245	1.4545	1.6079	1.1690	1.8990	1.1770	1.3883	0.9357	1.3153	1.1030	1.3193	1.1236	0.6416
UK		1															
CAR (0)		-0.14%	0.02%	0.10%	0.24%	0.03%	0.17%	0.27%	0.29%	0.11%	0.28%	0.29%	0.21%	0.45%	0.35%	0.24%	0.16%
		-0.8434	0.1689	0.7712	2.0839	0.1714	0.9965	1.6757	2.0027	0.5016	1.4286	1.5425	1.2408	2.0285	1.6673	1.2378	0.8881
CAR (1)		-0.08%	0.07%	0.18%	0.23%	0.10%	0.25%	0.33%	0.27%	0.24%	0.33%	0.26%	0.16%	0.38%	0.30%	0.16%	0.11%
		-0.4597	0.4905	1.4008	2.0906	0.5329	1.4227	2.0843	1.8723	1.0962	1.6769	1.4465	0.9286	1.7282	1.4566	0.8273	0.6253
BHAR (0)		-0.38%	-0.16%	0.09%	0.02%	0.11%	0.14%	0.22%	0.31%	0.17%	0.19%	0.10%	0.32%	0.51%	0.35%	0.15%	0.16%
		-1.7654	-0.8208	0.4088	0.1117	0.4849	0.6771	1.0117	1.5898	0.7392	0.8265	0.4979	1.5072	2.0608	1.4558	0.6581	0.6832
BHAR (1)		-0.08%	-0.09%	0.16%	0.26%	0.09%	0.20%	0.32%	0.13%	0.22%	0.16%	-0.06%	0.20%	0.45%	0.13%	-0.04%	0.06%
		-0.3741	-0.4566	0.7517	1.2437	0.4431	0.9509	1.5110	0.6749	0.9699	0.7070	-0.2953	0.9608	1.8800	0.5578	-0.1655	0.2539
US			0.010/		0.400/		0.1501	0.4=0/	0.4.60.	0.400/	0.000		0.4=0/	0.220/	0.440/	0.4504	0.400/
CAR (0)		-0.24%	-0.01%	0.08%	0.10%	0.00%	0.13%	0.17%	0.16%	0.19%	0.26%	0.23%	0.17%	0.23%	0.21%	0.15%	0.10%
		-1.5037	-0.0503	0.6721	0.9649	0.0106	0.7282	1.1074	1.1232	0.8984	1.3439	1.3298	1.0712	1.0596	1.0566	0.8380	0.6005
CAR (1)		-0.11%	0.08%	0.14%	0.12%	0.12%	0.21%	0.21%	0.15%	0.32%	0.30%	0.23%	0.15%	0.23%	0.20%	0.15%	0.07%
DYY 1 D (0)		-0.6921	0.6152	1.2100	1.2114	0.6245	1.2138	1.4108	1.0881	1.5284	1.6083	1.3727	0.9895	1.1606	1.0456	0.8142	0.4106
BHAR (0)		-0.31%	0.09%	-0.12%	0.07%	-0.01%	-0.01%	-0.01%	0.28%	0.24%	0.39%	0.27%	0.22%	0.22%	0.14%	0.13%	0.11%
D*** (1)		-1.5830	0.5094	-0.6924	0.3662	-0.0302	-0.0425	-0.0626	1.7035	1.0647	1.9327	1.4167	1.2043	0.9695	0.6521	0.6474	0.5509
BHAR (1)		-0.15%	-0.02%	-0.05%	0.08%	0.04%	0.13%	0.00%	0.18%	0.36%	0.36%	0.19%	0.08%	0.10%	0.01%	0.02%	-0.04%
		-0.7351	-0.1338	-0.2765	0.4120	0.1820	0.6536	0.0212	1.1318	1.5639	1.6732	0.9790	0.4041	0.4504	0.0600	0.0978	-0.1918

Panel C. The time-series momentum strategy using inversed volatility-weighted return

IVOL	J =		3				6			iverseu	9				13	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL	JA																
CAR (0)		0.33%	0.36%	0.26%	0.28%	0.74%	0.48%	0.30%	0.15%	0.65%	0.40%	0.11%	0.00%	0.56%	0.28%	0.05%	-0.08%
		1.4787	1.5707	1.2141	1.3745	3.4092	2.1067	1.3203	0.7076	2.6669	1.5030	0.4050	-0.0162	2.2702	1.0344	0.1948	-0.2902
CAR (1)		0.42%	0.55%	0.51%	0.45%	0.66%	0.49%	0.28%	0.10%	0.60%	0.36%	0.06%	-0.04%	0.46%	0.19%	-0.02%	-0.15%
		1.8905	2.4908	2.4295	2.2708	3.0475	2.1784	1.2838	0.4578	2.4980	1.3585	0.2291	-0.1920	1.9298	0.7081	-0.0634	-0.6092
BHAR (0)		0.42%	0.57%	0.03%	0.55%	0.73%	0.19%	0.46%	0.09%	0.70%	0.24%	-0.03%	0.12%	0.50%	0.26%	-0.10%	-0.39%
		1.4804	1.8430	0.0791	2.1907	2.7072	0.6306	1.4413	0.3409	2.3140	0.7221	-0.0760	0.4477	1.5589	0.7374	-0.2706	-1.1561
BHAR (1)		0.66%	0.89%	1.16%	1.31%	0.64%	0.44%	0.49%	0.17%	0.53%	0.57%	-0.20%	0.15%	0.51%	0.05%	0.23%	-0.34%
		2.4092	2.4780	3.1546	3.5123	2.6023	1.4540	1.5155	0.5580	2.0613	1.9677	-0.5250	0.5915	2.1620	0.1891	0.9678	-1.1564
AUSTRI	A																
CAR (0)		0.41%	0.41%	0.37%	0.35%	0.53%	0.54%	0.54%	0.51%	0.62%	0.66%	0.59%	0.48%	0.68%	0.66%	0.52%	0.49%
		3.5843	3.6375	3.1317	3.1182	4.3867	4.0602	3.8017	3.5986	4.2321	3.8623	3.4222	3.1677	4.4128	3.9223	3.4041	3.1901
CAR (1)		0.39%	0.38%	0.33%	0.33%	0.58%	0.54%	0.52%	0.46%	0.65%	0.60%	0.51%	0.43%	0.63%	0.58%	0.48%	0.45%
		3.4835	3.3373	2.8182	2.8253	4.6212	3.9398	3.7562	3.4244	4.3303	3.5373	3.2070	2.9091	4.2122	3.7829	3.0577	2.8753
BHAR (0)		0.38%	0.38%	0.49%	0.33%	0.54%	0.50%	0.47%	0.57%	0.79%	0.78%	0.68%	0.58%	0.83%	0.61%	0.49%	0.38%
		2.8173	2.1721	2.5165	1.8824	4.1051	3.2302	3.0308	3.5570	4.5039	3.5424	3.5315	2.9216	4.6329	2.9758	2.4474	1.9293
BHAR (1)		0.47%	0.40%	0.47%	0.32%	0.59%	0.56%	0.71%	0.74%	0.61%	0.65%	0.56%	0.44%	0.61%	0.53%	0.33%	0.33%
		3.3805	2.2186	1.7634	1.7784	4.2748	3.2104	4.1646	3.5807	3.9287	2.8689	3.1269	1.6490	4.0169	2.9810	1.2488	1.2820
BELGIU	<u>M</u>		0.000/				0.7.01			0.6004	0.5501	0.500/		. ==./		0.7.01	
CAR (0)		0.31%	0.30%	0.30%	0.37%	0.53%	0.56%	0.53%	0.49%	0.69%	0.66%	0.58%	0.49%	0.77%	0.65%	0.56%	0.48%
~.~		3.0699	3.0233	3.4890	4.9847	4.9923	5.4614	5.6690	5.8066	5.7036	5.7390	5.4739	4.9349	5.8702	5.3097	4.6908	4.2558
CAR (1)		0.35%	0.29%	0.30%	0.32%	0.56%	0.57%	0.52%	0.45%	0.77%	0.64%	0.54%	0.43%	0.79%	0.63%	0.51%	0.43%
D111 D (0)		3.3581	3.1980	3.8167	4.5049	5.4742	5.6834	5.5952	5.2587	6.5144	5.6184	5.1271	4.4695	6.0138	5.1077	4.4677	3.9240
BHAR (0)		0.14%	0.08%	0.14%	0.19%	0.50%	0.45%	0.58%	0.53%	0.78%	0.81%	0.69%	0.66%	0.86%	0.60%	0.61%	0.38%
D*** D (1)		1.1877	0.5800	0.8231	1.0326	4.3719	3.5368	4.4270	4.2432	5.6047	5.6057	5.6851	4.8830	5.8958	3.9941	4.4388	2.6684
BHAR (1)		0.33%	0.46%	0.56%	0.36%	0.57%	0.54%	0.56%	0.54%	0.83%	0.72%	0.63%	0.47%	0.80%	0.65%	0.57%	0.32%
CANAD		2.3145	2.6610	3.3353	2.3211	5.0563	4.2119	4.6759	3.9747	6.5896	4.8138	5.2539	3.2167	5.5407	4.3869	4.1966	2.0791
CAR (0)	A	0.06%	-0.08%	-0.09%	-0.11%	0.21%	0.09%	0.02%	-0.08%	0.33%	0.11%	-0.01%	0.150/	0.24%	0.03%	-0.13%	-0.19%
CAR (0)		0.3093	-0.4535	-0.5264	-0.11% -0.6443	1.0403	0.4653	0.1003	-0.4292	1.5868	0.11%	-0.01% -0.0550	-0.15% -0.6931	1.0265	0.03%	-0.13% -0.5833	-0.19% -0.8932
CAR (1)		0.00%	-0.4333	-0.3204	-0.0443	0.15%	0.4033	-0.01%	-0.4292	0.30%	0.06%	-0.05%	-0.18%	0.13%	-0.03%	-0.3633 - 0.15%	-0.8932
CAR (I)		0.0255	-0.12 /6	-0.5442	-0.17 / 6 -0.9711	0.7886	0.5234	-0.01 /6	-0.12 /6 -0.6451	1.4547	0.2871	-0.2593	-0.16 /6 -0.8915	0.5611	-0.1563	-0.7229	-1.2249
BHAR (0)		-0.0233	-0.07%	-0.3442	-0.9711	0.75%	0.3234	0.02%	0.05%	0.28%	0.2371	0.02%	-0.8913	0.02%	0.03%	0.00%	-0.22%
DIIAK (0)		-0.3562	-0.3352	-0.4284	-0.03 % -0.1686	0.7529	0.3335	0.0276	0.2600	1.3162	0.1176	0.0276	-0.12 76 -0.5848	0.0486	0.0376	-0.0080	-1.0856
BHAR (1)		0.09%	-0.3332 - 0.17%	-0.4284	-0.1080 - 0.17%	0.7529	0.3333	-0.06%	-0.08%	0.28%	0.4794	-0.02%	-0.3848	0.0480	-0.03%	-0.02%	-0.28%
DIIAK (1)		0.4711	-0.1776 -0.8611	-0.3787	-0.1776	0.7101	0.7380	-0.3008	-0.3803	1.2825	0.0376	-0.0276	-0.16 % -0.8638	0.7725	-0.1284	-0.02 % -0.0864	-1.4333
		0.4/11	-0.0011	-0.3/0/	-0.0093	0.7101	0.7300	-0.5000	-0.5005	1.2023	0.4493	-0.0900	-0.0036	0.7723	-0.1204	-0.0004	-1.4333

IVOL	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAI	RK																
CAR (0)		0.69%	0.70%	0.62%	0.60%	0.92%	0.81%	0.77%	0.70%	0.95%	0.92%	0.81%	0.71%	1.03%	0.96%	0.80%	0.70%
		7.0522	7.6194	7.4266	7.7340	8.2095	7.1764	6.9134	6.5577	6.9903	6.6735	6.1813	5.7108	7.1508	6.7193	5.6528	5.0435
CAR (1)		0.68%	0.66%	0.64%	0.59%	0.87%	0.78%	0.75%	0.65%	0.97%	0.88%	0.77%	0.64%	0.96%	0.87%	0.74%	0.61%
		7.4985	7.6158	7.9684	7.4136	7.6961	6.7721	6.6860	6.1233	7.2114	6.3900	5.8412	5.1428	6.6424	6.0247	5.1450	4.4098
BHAR (0)		0.77%	0.74%	0.65%	0.73%	0.87%	0.80%	0.73%	0.85%	0.83%	0.79%	0.73%	0.70%	0.93%	0.99%	0.82%	0.68%
		6.0836	5.6506	4.7278	5.5520	6.6497	5.2477	4.8699	5.5799	5.6093	4.6715	4.8376	4.4308	5.9831	6.1028	4.8731	3.7570
BHAR (1)		0.74%	0.80%	0.73%	$\boldsymbol{0.80\%}$	0.89%	0.88%	0.70%	0.84%	0.98%	0.85%	0.79%	0.68%	0.99%	0.96%	0.81%	0.60%
		5.2705	5.8842	4.7562	5.9560	6.7690	5.6872	4.9049	5.5840	6.7844	5.3445	5.2593	4.4955	6.1270	5.7146	4.7159	3.2765
FINLAN	D																
CAR (0)		0.81%	0.63%	0.52%	0.50%	0.74%	0.58%	0.53%	0.49%	0.52%	0.45%	0.47%	0.43%	0.56%	0.47%	0.50%	0.46%
		5.3910	4.5970	4.3471	4.5909	3.8691	3.2400	3.2200	3.2381	1.9988	1.9628	2.3102	2.3805	1.8633	1.8916	2.2848	2.2959
CAR (1)		0.78%	0.59%	0.52%	0.50%	0.70%	0.57%	0.54%	0.44%	0.52%	0.42%	0.45%	0.40%	0.49%	0.44%	0.46%	0.41%
		5.0569	4.3677	4.3681	4.4097	3.9178	3.1530	3.2632	2.9367	2.0822	1.8634	2.2506	2.2376	1.6959	1.8494	2.1605	2.0751
BHAR (0)		0.90%	0.68%	0.26%	0.59%	0.71%	0.51%	0.31%	0.40%	0.40%	0.06%	0.27%	0.11%	0.63%	0.70%	0.48%	0.69%
		4.2277	2.8962	1.3436	2.1676	2.8275	1.5344	0.8378	1.0543	1.2428	0.1669	0.8837	0.3525	1.9433	2.6647	1.8983	2.8278
BHAR (1)		0.84%	0.58%	0.36%	0.49%	0.81%	0.37%	0.21%	0.26%	0.33%	0.00%	0.20%	0.08%	0.40%	0.66%	0.40%	0.59%
		4.6396	3.0650	1.8796	1.9952	3.3915	1.0372	0.5824	0.6945	0.9956	0.0084	0.6853	0.2583	1.1586	2.4357	1.5548	2.4249
FRANC	E																
CAR (0)		0.12%	0.21%	0.12%	0.16%	0.35%	0.34%	0.29%	0.23%	0.31%	0.51%	0.32%	0.22%	0.54%	0.50%	0.32%	0.24%
		0.6394	0.8717	0.4509	0.5864	2.2629	1.4453	1.1146	0.8777	1.7621	2.1456	1.2629	0.9762	3.2925	2.2545	1.6680	1.3774
CAR (1)		0.29%	0.22%	0.07%	0.05%	0.46%	0.33%	0.31%	0.20%	0.52%	0.58%	0.33%	0.23%	0.63%	0.45%	0.27%	0.21%
		1.7110	0.8560	0.2619	0.1839	2.8133	1.4420	1.2315	0.7603	2.9774	2.4625	1.3334	1.0373	3.9638	2.1850	1.5099	1.2516
BHAR (0)		0.09%	-0.25%	0.02%	-0.51%	0.07%	0.49%	0.03%	-0.03%	0.22%	0.18%	0.69%	0.19%	0.32%	0.74%	0.12%	0.58%
		0.4355	-0.5952	0.0464	-0.9901	0.3958	1.4145	0.1142	-0.0700	1.5000	0.6934	1.8165	0.5375	2.0264	2.3192	0.3553	1.5927
BHAR (1)		0.29%	0.01%	0.28%	-0.42%	0.57%	0.88%	0.37%	0.31%	0.70%	0.49%	0.69%	0.26%	0.98%	0.82%	0.09%	0.57%
		1.1542	0.0143	0.6462	-0.7460	2.2019	2.4493	1.1644	0.8183	2.7087	1.3328	1.7024	0.6499	3.6121	2.2690	0.2761	1.4999
GERMAN	NY																
CAR (0)		0.49%	0.50%	0.46%	0.59%	0.68%	0.76%	0.83%	0.76%	0.79%	0.88%	0.84%	0.73%	0.93%	0.85%	0.73%	0.60%
		4.2206	3.3247	3.1831	4.0021	5.4130	5.1024	5.3461	4.7709	5.8442	5.5168	5.0178	4.6266	6.4691	5.1655	4.5507	4.2694
CAR (1)		0.50%	0.52%	0.59%	0.63%	0.72%	0.78%	0.82%	0.72%	0.82%	0.86%	0.77%	0.67%	0.90%	0.75%	0.65%	0.52%
		4.1170	3.4830	3.8718	4.0825	5.8882	5.4433	5.3153	4.6484	6.2854	5.4809	4.8069	4.2836	6.3997	4.6989	4.0089	3.7055
BHAR (0)		0.49%	0.27%	0.46%	0.09%	0.59%	0.69%	0.65%	0.87%	0.73%	0.91%	0.92%	0.82%	0.78%	0.77%	0.93%	0.40%
		3.0728	1.1834	2.0654	0.2687	3.6206	4.1351	3.7380	3.9231	4.7724	4.2214	4.0384	3.8823	5.0646	4.4694	4.0379	3.0110
BHAR (1)		0.48%	0.58%	0.85%	1.36%	0.51%	0.68%	0.58%	0.91%	0.78%	0.91%	$\boldsymbol{0.81\%}$	0.70%	0.83%	0.82%	0.79%	0.40%
		3.4840	3.2224	3.9215	3.2851	3.9199	3.1065	3.8843	3.5353	5.8058	4.5068	3.3760	3.3363	5.7625	4.7189	3.4250	3.0488

IVOL	J =		3				6	i			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREEC	E																
CAR (0)		0.56%	0.37%	0.28%	0.22%	0.61%	0.40%	0.27%	0.09%	0.35%	0.23%	0.02%	-0.13%	0.75%	0.37%	0.10%	-0.09%
		1.9086	1.6419	1.4608	1.3202	2.0871	1.4970	1.1520	0.4332	1.1593	0.8303	0.0886	-0.5324	2.1532	1.1744	0.3355	-0.3339
CAR (1)		0.33%	0.26%	0.15%	0.08%	0.54%	0.34%	0.19%	0.01%	0.40%	0.19%	-0.03%	-0.19%	0.67%	0.23%	-0.08%	-0.19%
		1.2158	1.1764	0.8487	0.5048	1.8702	1.3152	0.7835	0.0540	1.2596	0.6854	-0.1032	-0.7655	2.1085	0.7455	-0.2768	-0.6782
BHAR (0)		0.64%	0.36%	0.19%	0.07%	0.50%	0.22%	0.09%	0.04%	0.54%	0.28%	-0.09%	0.16%	1.01%	0.25%	0.63%	-0.43%
		1.8463	1.0786	0.4909	0.2018	1.3048	0.5106	0.2104	0.0984	1.4499	0.8640	-0.2488	0.4878	2.5413	0.6472	1.5797	-1.2400
BHAR (1)		0.58%	0.44%	0.16%	0.14%	0.41%	0.24%	-0.03%	-0.18%	0.77%	0.34%	0.12%	0.08%	1.02%	0.20%	0.43%	-0.25%
		1.6909	1.2898	0.3960	0.4359	1.0795	0.6035	-0.0826	-0.4313	2.0729	1.0952	0.3648	0.2373	2.6413	0.5387	1.0810	-0.7246
HONGKO	NG																
CAR (0)		0.81%	0.71%	0.57%	0.50%	1.05%	0.75%	0.57%	0.46%	0.89%	0.66%	0.51%	0.43%	0.78%	0.58%	0.47%	0.36%
		4.0519	3.8819	3.1869	2.8423	4.8825	3.3128	2.7488	2.3261	3.7296	2.8493	2.2730	1.9902	3.2495	2.4070	1.9541	1.5832
CAR (1)		0.74%	0.73%	0.54%	0.44%	0.98%	0.70%	0.50%	0.39%	0.77%	0.56%	0.42%	0.36%	0.69%	0.52%	0.39%	0.28%
		3.9493	4.2066	2.9953	2.5549	4.6445	3.2772	2.4795	2.0372	3.2982	2.2890	1.8065	1.6832	2.8901	2.1271	1.6572	1.2485
BHAR (0)		0.63%	0.46%	0.22%	0.67%	1.04%	0.81%	0.59%	0.67%	0.96%	0.76%	0.60%	0.48%	0.73%	0.58%	0.41%	0.36%
		2.6969	1.9361	0.9112	3.2355	4.5875	2.9191	2.4923	3.0930	3.5893	2.6633	2.1871	1.7612	2.8850	2.3828	1.4783	1.3058
BHAR (1)		0.56%	0.44%	0.35%	0.56%	0.99%	0.80%	0.51%	0.52%	0.86%	0.52%	0.50%	0.39%	0.56%	0.63%	0.26%	0.32%
-		2.4964	1.9352	1.5298	2.6871	3.5968	2.8632	2.1518	2.3098	3.2741	1.8237	1.8805	1.4598	2.0526	2.4478	0.9535	1.1732
IRELAN	D																
CAR (0)		0.48%	0.41%	0.38%	0.38%	0.72%	0.53%	0.44%	0.41%	0.41%	0.44%	0.30%	0.22%	0.73%	0.40%	0.23%	0.14%
		2.2327	1.9699	2.0657	2.2958	3.0331	2.1990	2.0003	1.9915	1.5277	1.6409	1.1597	0.9451	2.2740	1.3410	0.8015	0.5075
CAR (1)		0.46%	0.33%	0.29%	0.30%	0.69%	0.52%	0.40%	0.38%	0.49%	0.36%	0.23%	0.18%	0.45%	0.26%	0.14%	0.01%
		2.1615	1.5286	1.6323	1.8532	2.5959	2.0434	1.7824	1.8306	1.7936	1.3285	0.8902	0.7395	1.4206	0.8638	0.4828	0.0545
BHAR (0)		0.52%	0.31%	-0.09%	0.85%	0.71%	0.65%	0.24%	0.66%	0.25%	0.35%	0.23%	0.42%	0.85%	0.53%	0.41%	0.22%
		2.0725	0.9586	-0.3054	2.3481	2.4838	2.1256	0.7586	2.2361	0.7457	0.9659	0.6386	1.3189	2.2985	1.3331	1.0174	0.5992
BHAR (1)		0.33%	0.47%	-0.20%	0.72%	0.56%	0.61%	0.21%	0.38%	0.17%	0.57%	0.08%	0.15%	0.41%	0.30%	-0.02%	0.04%
		1.1635	1.4212	-0.6586	1.9195	1.9126	1.9628	0.6486	1.2634	0.5362	1.6306	0.2097	0.4565	1.2326	0.7883	-0.0468	0.1005
ISRAEI		1			-				1								
CAR (0)		0.06%	-0.04%	-0.07%	-0.10%	0.04%	0.13%	0.02%	-0.04%	0.21%	0.17%	0.09%	0.02%	0.14%	0.19%	0.12%	0.06%
		0.4427	-0.3090	-0.5566	-0.7991	0.2733	0.8831	0.1580	-0.3094	1.2918	0.9442	0.5499	0.1258	0.8133	1.0955	0.7052	0.3701
CAR (1)		0.12%	0.07%	-0.02%	-0.11%	0.15%	0.14%	0.01%	-0.07%	0.23%	0.17%	0.06%	-0.01%	0.19%	0.19%	0.15%	0.04%
		0.8105	0.5055	-0.1558	-0.8144	0.9761	0.9914	0.0479	-0.5082	1.4893	0.9623	0.3691	-0.0828	1.0787	1.1562	0.9137	0.2910
BHAR (0)		0.09%	-0.17%	-0.19%	-0.41%	-0.07%	0.13%	-0.23%	0.15%	0.08%	0.03%	0.26%	0.43%	0.01%	0.18%	0.09%	0.10%
		0.4572	-0.7765	-0.6705	-1.7821	-0.3043	0.5962	-1.1047	0.7692	0.4871	0.1087	1.1357	1.8800	0.0655	0.8743	0.4280	0.4983
BHAR (1)		-0.02%	-0.25%	-0.47%	-0.33%	0.26%	0.33%	0.16%	0.26%	0.08%	-0.03%	0.32%	0.34%	0.34%	0.40%	0.23%	0.11%
		-0.1058	-1.2755	-1.9015	-1.3858	1.4552	1.4789	0.9344	1.2348	0.3876	-0.1257	1.2989	1.5465	1.6867	1.7311	1.0272	0.4209

IVOL	J =		3				6				9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.53%	0.41%	0.43%	0.41%	0.66%	0.66%	0.65%	0.55%	0.80%	0.77%	0.64%	0.53%	0.89%	0.76%	0.63%	0.50%
		3.6360	3.0396	3.6327	3.4849	3.7970	4.0998	4.2817	3.8828	4.6162	4.5841	4.0697	3.6118	5.0142	4.3268	3.8356	3.3093
CAR (1)		0.44%	0.40%	0.42%	0.37%	0.62%	0.65%	0.61%	0.49%	0.82%	0.73%	0.58%	0.47%	0.86%	0.69%	0.55%	0.45%
		3.1407	3.0043	3.5772	3.1986	3.7042	4.1325	4.2034	3.5557	4.6669	4.2609	3.7276	3.2971	4.7930	3.9561	3.4371	3.0387
BHAR (0)		0.55%	0.52%	0.38%	0.57%	0.54%	0.57%	0.34%	0.62%	0.69%	0.73%	0.84%	0.42%	0.84%	0.63%	0.67%	0.24%
		3.2600	2.8717	2.3029	4.2425	2.6720	2.9558	1.6033	3.4607	3.5669	3.9375	5.0830	2.4564	4.4121	3.2306	3.4832	1.3651
BHAR (1)		0.44%	0.51%	0.45%	0.56%	0.56%	0.51%	0.47%	0.51%	0.77%	0.73%	0.73%	0.40%	0.82%	0.60%	0.68%	0.25%
		2.7700	2.8050	2.4051	3.8632	2.7928	2.6532	2.6377	2.9395	3.9642	4.0064	4.5006	2.5242	4.4318	3.1462	3.2014	1.4584
JAPAN																	
CAR (0)		0.12%	0.02%	-0.01%	0.04%	0.04%	-0.03%	0.03%	0.00%	-0.01%	0.02%	-0.01%	-0.05%	0.08%	-0.01%	-0.05%	-0.07%
		0.9711	0.1896	-0.1263	0.5224	0.2460	-0.2155	0.2621	-0.0228	-0.1014	0.1716	-0.0910	-0.3989	0.5276	-0.0451	-0.3847	-0.6066
CAR (1)		0.10%	0.00%	0.03%	0.02%	0.03%	0.03%	0.05%	-0.02%	0.09%	0.06%	-0.01%	-0.06%	0.09%	-0.02%	-0.06%	-0.08%
		0.8289	-0.0114	0.3556	0.3039	0.2519	0.2423	0.4623	-0.2328	0.6470	0.4209	-0.0453	-0.5610	0.6557	-0.1593	-0.5006	-0.7359
BHAR (0)		0.04%	0.17%	0.06%	0.15%	0.01%	-0.03%	0.00%	0.15%	0.00%	0.08%	0.11%	0.05%	0.07%	0.01%	-0.02%	-0.02%
		0.3052	1.2838	0.4514	1.1657	0.0637	-0.2263	-0.0131	1.2146	-0.0261	0.5191	0.8650	0.4043	0.4954	0.0837	-0.1719	-0.1568
BHAR (1)		0.03%	0.16%	0.03%	0.16%	-0.02%	-0.11%	0.05%	0.09%	0.04%	0.12%	0.07%	0.00%	0.07%	-0.12%	-0.15%	-0.06%
		0.2299	1.2662	0.2712	1.2548	-0.1592	-0.7774	0.3753	0.7218	0.2986	0.8557	0.5290	-0.0321	0.4509	-0.8020	-1.1170	-0.4735
NETHERLA	NDS																
CAR (0)		0.57%	0.51%	0.47%	0.46%	0.85%	0.78%	0.68%	0.58%	0.89%	0.78%	0.69%	0.58%	0.93%	0.83%	0.67%	0.58%
		5.0782	4.8555	5.0858	5.4290	6.2296	6.4310	5.8541	5.2852	5.9175	5.2936	4.9040	4.5102	5.4818	5.0482	4.3075	4.0274
CAR (1)		0.55%	0.52%	0.44%	0.40%	0.80%	0.72%	0.62%	0.52%	0.84%	0.69%	0.59%	0.50%	0.87%	0.74%	0.59%	0.55%
		5.0908	5.1339	4.9556	4.9088	5.7871	5.8497	5.2912	4.7019	5.4217	4.6720	4.3133	3.9933	5.1717	4.6258	3.9476	3.9382
BHAR (0)		0.73%	0.57%	0.37%	0.54%	0.87%	0.91%	0.46%	0.77%	0.92%	0.72%	0.78%	0.68%	0.84%	0.89%	0.52%	0.30%
		5.1320	3.8931	2.2188	3.4157	5.3050	5.8606	2.6288	5.2565	5.1434	3.8597	4.8594	3.8039	4.7604	4.4089	2.1719	1.0479
BHAR (1)		0.72%	0.48%	0.27%	0.47%	0.82%	0.80%	0.49%	0.65%	0.94%	0.53%	0.74%	0.61%	0.84%	0.80%	0.33%	0.34%
		4.7654	3.1854	1.4316	2.5654	5.3301	4.5612	2.8531	4.4173	5.0729	2.7174	4.7283	3.5682	4.5576	3.9176	1.3013	1.1006
NEWZEALA	ND																
CAR (0)		1.24%	1.00%	0.73%	0.68%	1.00%	0.76%	0.72%	0.71%	0.84%	0.76%	0.70%	0.70%	1.03%	0.81%	0.76%	0.74%
		3.9442	4.8175	4.5395	4.9715	6.6644	5.4188	5.6625	5.6870	4.9444	4.9496	5.0257	5.0647	5.8823	5.0118	5.1756	5.1178
CAR (1)		1.23%	0.88%	0.67%	0.63%	0.88%	0.68%	0.67%	0.63%	0.75%	0.68%	0.64%	0.63%	0.93%	0.69%	0.68%	0.65%
		3.9779	4.3801	4.3756	4.9017	5.6946	4.9776	5.3947	5.1753	4.5287	4.6459	4.6852	4.7428	5.2900	4.3990	4.7350	4.5393
BHAR (0)		1.31%	0.71%	0.92%	0.31%	0.94%	0.85%	0.71%	0.75%	0.88%	0.59%	0.69%	0.71%	1.14%	1.04%	0.80%	0.70%
		3.3951	4.2152	2.2614	1.7323	5.5737	4.5592	3.9329	3.4766	4.7340	3.2188	4.4459	3.3661	5.6975	5.5569	4.3150	3.6725
BHAR (1)		1.23%	0.57%	0.65%	0.33%	1.02%	0.73%	0.69%	0.77%	0.81%	0.62%	0.75%	0.65%	1.01%	0.88%	0.77%	0.68%
		3.7964	3.8264	1.8990	1.8430	5.5020	3.7375	3.9697	3.1622	4.3583	3.3486	4.2427	3.1108	5.1576	4.7848	4.1179	3.6228

IVOL	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWA	Y																
CAR (0)		0.19%	0.31%	0.35%	0.33%	0.46%	0.34%	0.36%	0.31%	0.60%	0.48%	0.40%	0.31%	0.53%	0.36%	0.33%	0.19%
		1.1899	2.4774	3.0865	3.2824	2.7801	1.9367	2.3203	2.2376	3.0499	2.5765	2.3759	1.9983	2.4571	1.7839	1.8379	1.1052
CAR (1)		0.18%	0.36%	0.40%	0.30%	0.44%	0.37%	0.38%	0.28%	0.59%	0.41%	0.37%	0.21%	0.55%	0.30%	0.28%	0.12%
		1.2361	2.8746	3.5566	2.9536	2.6941	2.2464	2.5960	2.1105	3.0797	2.3629	2.2949	1.4254	2.8135	1.6452	1.6581	0.7684
BHAR (0)		0.20%	0.52%	0.56%	0.61%	0.57%	0.29%	0.34%	0.60%	0.68%	0.28%	0.44%	0.26%	0.72%	0.27%	0.09%	-0.09%
		0.8804	2.0023	2.1235	3.0892	2.5365	1.2881	1.5997	2.8767	2.8565	0.9982	1.8412	0.9156	2.9825	1.3197	0.3392	-0.4527
BHAR (1)		0.38%	0.41%	0.35%	0.51%	0.38%	0.14%	0.26%	0.37%	0.53%	0.23%	0.37%	0.18%	0.65%	0.27%	0.26%	0.03%
		2.0363	2.2539	1.6081	2.7759	1.9980	0.6276	1.2735	1.7998	2.5551	1.0785	1.6682	0.8243	3.0411	1.3019	1.2283	0.1580
PORTUGA	A L																
CAR (0)		0.26%	0.20%	0.24%	0.18%	0.35%	0.16%	0.15%	0.14%	0.29%	-0.03%	-0.06%	-0.03%	0.24%	-0.01%	-0.04%	0.08%
		0.8478	0.6083	0.7275	0.5476	1.1900	0.4902	0.4460	0.4223	0.9431	-0.0772	-0.1809	-0.0833	0.7790	-0.0200	-0.1180	0.2230
CAR (1)		0.36%	0.33%	0.23%	0.18%	0.37%	0.18%	0.17%	0.17%	0.31%	0.01%	0.00%	0.03%	0.32%	-0.01%	0.04%	0.14%
		1.2082	1.0100	0.6837	0.5441	1.3032	0.5558	0.5013	0.5146	0.9509	0.0348	0.0033	0.0793	1.0259	-0.0200	0.1057	0.4287
BHAR (0)		0.50%	0.05%	0.24%	0.66%	0.49%	0.25%	0.37%	0.22%	0.30%	0.18%	0.20%	0.08%	0.42%	0.04%	0.05%	-0.26%
		1.0368	0.0922	0.4349	1.3855	1.4381	0.7489	0.6713	0.5610	0.9654	0.4332	0.4878	0.1982	1.3256	0.0900	0.1254	-0.5437
BHAR (1)		0.33%	0.35%	0.26%	0.25%	0.17%	0.25%	0.23%	-0.11%	0.61%	0.43%	0.28%	0.08%	0.12%	-0.20%	0.24%	-0.08%
		0.7830	0.7562	0.4836	0.5440	0.4845	0.6766	0.4700	-0.2757	1.4212	0.9259	0.5500	0.1958	0.3145	-0.4455	0.5335	-0.1592
SINGAPO	RE																
CAR (0)		0.41%	0.58%	0.50%	0.36%	0.75%	0.65%	0.46%	0.38%	0.57%	0.52%	0.41%	0.34%	0.45%	0.44%	0.36%	0.29%
		2.1674	3.7557	3.7241	2.8396	4.0628	3.5344	2.6166	2.3598	2.6640	2.3929	2.0359	1.8720	1.7166	1.8512	1.6705	1.4597
CAR (1)		0.45%	0.58%	0.50%	0.37%	0.78%	0.61%	0.44%	0.34%	0.58%	0.50%	0.37%	0.31%	0.44%	0.40%	0.31%	0.26%
		2.5722	4.1359	4.1485	3.2945	4.3850	3.3511	2.6443	2.2563	2.6189	2.3175	1.8916	1.7337	1.7122	1.7265	1.4519	1.3671
BHAR (0)		0.40%	0.55%	0.32%	0.56%	0.66%	0.53%	0.21%	0.48%	0.58%	0.55%	0.64%	0.36%	0.62%	0.63%	0.55%	0.36%
		1.7803	2.3150	1.5747	2.4632	2.6225	2.0362	0.7885	1.7806	2.3827	2.2338	2.8886	1.5742	2.2933	2.5930	2.2291	1.4964
BHAR (1)		0.43%	0.39%	0.50%	0.47%	0.73%	0.65%	0.26%	0.60%	0.57%	0.47%	0.53%	0.35%	0.44%	0.61%	0.37%	0.39%
		2.0526	1.9709	3.1697	3.5716	3.3654	2.9601	1.0655	3.3131	2.2942	1.9403	2.3326	1.5245	1.6429	2.5188	1.5260	1.6124
SPAIN																	
CAR (0)		0.51%	0.34%	0.48%	0.56%	0.50%	0.67%	0.72%	0.62%	0.90%	0.94%	0.84%	0.74%	0.99%	0.93%	0.87%	0.76%
		3.6063	2.4455	3.7384	4.1635	3.3264	4.2880	4.5548	4.1623	5.4503	5.1861	5.1655	4.8765	5.6672	5.4687	5.2979	4.7134
CAR (1)		0.44%	0.42%	0.53%	0.53%	0.44%	0.67%	0.68%	0.56%	0.86%	0.83%	0.74%	0.67%	0.89%	0.87%	0.79%	0.68%
		3.3184	3.2433	3.9468	4.0400	3.0534	4.1045	4.2814	3.8479	5.1842	4.7849	4.6792	4.5067	5.1440	5.1202	4.7524	4.3728
BHAR (0)		0.66%	0.24%	0.43%	0.15%	0.41%	0.61%	0.87%	0.50%	0.89%	0.87%	0.68%	0.64%	1.04%	1.03%	0.72%	0.88%
		3.4049	1.1170	1.8251	0.6376	2.2417	3.4334	3.5719	2.2340	4.3774	3.6941	3.4996	2.7789	4.8464	4.2751	3.6315	3.7545
BHAR (1)		0.27%	0.34%	0.71%	0.44%	0.37%	0.68%	0.42%	0.36%	0.81%	0.81%	0.46%	0.64%	0.83%	0.83%	0.71%	0.71%
		1.3916	1.6139	3.0045	1.9522	2.3565	4.5587	2.3825	1.6485	4.5202	3.3391	2.3104	2.6931	4.2924	4.0527	3.0272	3.5576

IVOL	J =		3				6				9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	V																
CAR (0)		0.56%	0.45%	0.38%	0.39%	0.70%	0.53%	0.48%	0.41%	0.73%	0.66%	0.53%	0.42%	0.85%	0.66%	0.51%	0.44%
		2.9467	2.0566	1.7245	1.7509	3.0997	2.1321	1.9441	1.6722	2.9927	2.5837	2.0828	1.6558	3.3706	2.4614	1.9410	1.9791
CAR (1)		0.55%	0.44%	0.42%	0.41%	0.63%	0.51%	0.45%	0.35%	0.75%	0.63%	0.47%	0.39%	0.84%	0.57%	0.45%	0.38%
		3.1318	2.0636	1.9377	1.8491	2.8943	2.1232	1.8867	1.4623	3.1544	2.4993	1.8791	1.7057	3.3867	2.2224	1.9411	1.8644
BHAR (0)		0.59%	0.47%	0.47%	0.19%	0.62%	0.50%	0.39%	0.42%	0.57%	0.45%	0.56%	0.11%	0.75%	0.73%	0.61%	0.30%
		2.2016	1.7214	1.5693	0.7072	2.0317	1.5305	1.1904	1.4163	1.8146	1.4358	1.6606	0.3221	2.3352	2.2381	2.0031	0.8341
BHAR (1)		0.80%	0.44%	0.62%	0.45%	0.69%	0.57%	0.37%	0.28%	0.75%	0.45%	0.48%	0.03%	0.94%	0.85%	0.51%	0.39%
		3.7642	1.4574	2.0825	1.5005	2.9132	2.3577	1.1353	0.9461	3.0477	1.4430	2.0108	0.0981	3.9133	3.6719	1.7188	1.8107
SWITZERL	AND																
CAR (0)		0.41%	0.36%	0.32%	0.34%	0.60%	0.50%	0.49%	0.41%	0.50%	0.52%	0.45%	0.35%	0.65%	0.51%	0.42%	0.33%
		4.3618	4.0537	4.0193	4.7712	5.1564	4.3760	4.6301	4.3590	3.7142	4.1771	3.9183	3.2360	4.7628	4.0298	3.4277	2.8661
CAR (1)		0.34%	0.33%	0.31%	0.30%	0.54%	0.48%	0.45%	0.34%	0.52%	0.51%	0.39%	0.27%	0.61%	0.45%	0.36%	0.27%
		3.7955	3.8958	4.1421	4.2160	4.6926	4.3348	4.3645	3.6019	3.9058	4.1163	3.4659	2.5410	4.6348	3.6242	3.0371	2.3703
BHAR (0)		0.42%	0.37%	0.50%	0.39%	0.60%	0.59%	0.48%	0.64%	0.50%	0.39%	0.44%	0.53%	0.69%	0.60%	0.44%	0.35%
		3.7982	2.9407	3.9358	3.0534	4.8086	4.5369	3.7656	4.8930	3.4267	2.3409	3.0453	3.4568	4.9351	4.4138	3.1739	2.4900
BHAR (1)		0.40%	0.33%	0.57%	0.36%	0.49%	0.39%	0.36%	0.55%	0.31%	0.26%	0.32%	0.38%	0.56%	0.51%	0.32%	0.30%
-		3.6893	2.6203	4.3881	2.7328	3.7715	2.5440	2.8307	4.2831	1.8502	1.5906	2.2443	2.5705	4.1790	3.7160	2.3039	2.1082
UK																	
CAR (0)		0.61%	0.57%	0.50%	0.53%	0.79%	0.65%	0.65%	0.62%	0.92%	0.87%	0.78%	0.67%	1.06%	0.90%	0.74%	0.65%
		5.5865	4.9689	4.3910	4.7772	6.5363	5.3776	5.2609	4.9153	7.3289	6.5150	5.5101	5.2693	8.1768	5.8687	5.1767	4.8884
CAR (1)		0.59%	0.51%	0.51%	0.51%	0.73%	0.62%	0.63%	0.58%	0.88%	0.82%	0.72%	0.60%	0.99%	0.80%	0.64%	0.57%
		5.8701	4.7271	4.7416	4.6239	6.3932	5.2008	5.1987	4.6033	6.9680	6.1983	5.2174	4.7865	7.6888	5.2905	4.5799	4.3521
BHAR (0)		0.64%	0.56%	0.71%	0.51%	0.83%	0.54%	0.65%	0.68%	0.96%	0.86%	0.77%	0.68%	0.96%	0.90%	0.73%	0.60%
		4.4467	4.3710	4.3439	3.4678	5.7206	3.0522	3.7728	3.6135	6.5200	5.2749	3.8170	4.0295	8.0689	4.0525	6.1154	3.4572
BHAR (1)		0.64%	0.34%	0.68%	0.44%	0.61%	0.65%	0.66%	0.58%	0.95%	0.97%	0.82%	0.59%	1.02%	0.75%	0.52%	0.52%
		4.2325	2.0043	4.2268	3.1282	3.6433	3.5735	3.8846	4.9541	5.4525	3.9253	4.0458	3.4900	4.7852	3.4266	3.7511	3.0749
US		ı			1								1				
CAR (0)		0.26%	0.41%	0.36%	0.36%	0.59%	0.53%	0.51%	0.36%	0.57%	0.51%	0.39%	0.23%	0.56%	0.34%	0.18%	0.00%
		1.0182	1.7912	1.7784	1.9045	1.8997	1.9031	1.9725	1.5242	1.8157	1.7499	1.4469	0.9366	1.8630	1.2471	0.7313	0.0176
CAR (1)		0.45%	0.40%	0.37%	0.35%	0.63%	0.51%	0.44%	0.29%	0.60%	0.44%	0.30%	0.13%	0.42%	0.23%	0.06%	-0.08%
		1.7320	1.8074	1.8554	1.9099	1.8918	1.7950	1.7325	1.2544	1.9964	1.5925	1.1852	0.5582	1.4957	0.8959	0.2408	-0.3913
BHAR (0)		-0.09%	0.61%	0.01%	0.18%	0.47%	0.64%	0.48%	0.41%	0.55%	0.60%	0.06%	0.41%	0.75%	0.52%	-0.01%	0.09%
		-0.2879	1.9738	0.0437	0.6200	1.2021	1.6368	1.1895	1.4283	1.6220	1.8408	0.1884	1.2439	2.2786	1.5484	-0.0416	0.2448
BHAR (1)		-0.01%	0.60%	-0.14%	0.15%	0.72%	0.70%	0.19%	0.26%	0.50%	0.44%	-0.05%	0.19%	0.35%	0.27%	-0.22%	-0.18%
		-0.0280	1.9120	-0.4909	0.5919	2.1423	2.1367	0.6077	0.9246	1.5270	1.3908	-0.1719	0.6192	1.1121	0.8748	-0.7173	-0.5781

Appendix 9. Time-series momentum strategy – winner (loser) contains stocks above (below) contemporaneous market-weighted index

					1. THE U	ine seri	es mome	ontain st	rategy a	sing equ	au weig	inca rett	4111				
EW	J =		3	3			6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAI	LIA																
CAR (0)		0.32%	0.27%	0.23%	0.20%	0.40%	0.33%	0.29%	0.17%	0.46%	0.35%	0.23%	0.09%	0.47%	0.29%	0.15%	0.05%
		2.1734	2.2521	2.3749	2.4354	2.4551	2.3137	2.4276	1.7115	2.7306	2.3956	1.8353	0.8396	2.9409	2.0472	1.1963	0.4579
CAR (1)		0.40%	0.32%	0.25%	0.17%	0.44%	0.36%	0.26%	0.11%	0.43%	0.30%	0.15%	0.02%	0.37%	0.19%	0.06%	-0.01%
		2.8074	2.8403	2.7438	2.1757	2.8288	2.7041	2.3081	1.1707	2.8057	2.1771	1.2052	0.1803	2.4115	1.3922	0.4935	-0.1292
BHAR (0)		0.38%	0.33%	0.04%	0.01%	0.36%	0.22%	0.05%	0.16%	0.45%	0.30%	0.26%	0.24%	0.43%	0.27%	0.25%	0.10%
		2.2630	2.1358	0.2637	0.0513	2.0923	1.3980	0.2706	1.2241	2.4658	1.6614	1.8191	1.7842	2.5010	1.8092	1.8000	0.6875
BHAR (1)		0.49%	0.26%	-0.02%	-0.08%	0.46%	0.31%	0.03%	0.10%	0.43%	0.19%	0.19%	0.19%	0.29%	0.14%	0.12%	0.02%
		2.9983	1.7231	-0.1175	-0.5686	2.6370	1.9868	0.1960	0.7521	2.4581	1.0729	1.3633	1.3856	1.7522	1.0038	0.8485	0.1565
AUSTRI	A																
CAR (0)		0.57%	0.41%	0.40%	0.39%	0.58%	0.54%	0.54%	0.47%	0.78%	0.69%	0.64%	0.53%	0.74%	0.62%	0.54%	0.43%
		3.3044	2.7941	3.1702	3.7140	2.8895	3.0375	3.4735	3.3987	3.8698	3.7019	3.6913	3.3745	3.5675	3.1782	3.0439	2.6486
CAR (1)		0.57%	0.38%	0.41%	0.36%	0.62%	0.54%	0.52%	0.42%	0.84%	0.68%	0.60%	0.45%	0.72%	0.58%	0.49%	0.36%
		3.1965	2.5775	3.3202	3.4573	3.1875	3.1029	3.3925	3.1090	4.2310	3.6767	3.5431	2.9352	3.5130	3.0865	2.8287	2.2908
BHAR (0)		0.68%	0.30%	0.45%	0.15%	0.49%	0.25%	0.54%	0.59%	0.82%	0.66%	0.72%	0.52%	0.78%	0.60%	0.47%	0.20%
		3.0607	1.3640	2.0845	0.7675	2.2958	1.1355	2.6288	3.5972	3.7840	2.9904	3.7595	2.7573	3.5296	2.7854	2.1254	0.9863
BHAR (1)		0.71%	0.24%	0.42%	0.10%	0.59%	0.23%	0.59%	0.57%	0.90%	0.63%	0.68%	0.47%	0.79%	0.57%	0.32%	0.13%
		3.2102	1.0561	1.9147	0.5308	2.7486	1.0496	3.0614	3.4313	4.2260	2.8243	3.5571	2.4935	3.6125	2.6828	1.4449	0.6572
BELGIU	M								•								
CAR (0)		0.47%	0.47%	0.45%	0.44%	0.66%	0.65%	0.63%	0.55%	0.78%	0.80%	0.69%	0.57%	0.89%	0.81%	0.68%	0.55%
		3.2781	4.0623	4.2741	4.6503	4.2319	4.6692	5.0273	4.7178	4.7186	5.3059	4.9532	4.4044	5.2717	5.1637	4.5471	3.9064
CAR (1)		0.61%	0.50%	0.49%	0.43%	0.69%	0.68%	0.61%	0.51%	0.89%	0.78%	0.68%	0.52%	0.88%	0.76%	0.61%	0.48%
		4.6044	4.4208	4.6072	4.6401	4.4768	4.9392	4.9348	4.4237	5.5539	5.2921	4.9621	4.0551	5.3334	4.9158	4.1439	3.4703
BHAR (0)		0.60%	0.40%	0.40%	0.30%	0.68%	0.66%	0.49%	0.72%	0.75%	0.64%	0.70%	0.63%	0.89%	0.80%	0.70%	0.38%
		3.9962	2.6992	2.4446	2.0214	3.8970	3.7780	3.2252	5.0075	4.1761	3.7852	4.8833	3.9220	5.0630	4.7656	4.1278	2.1229
BHAR (1)		0.61%	0.33%	0.41%	0.27%	0.65%	0.60%	0.47%	0.63%	0.80%	0.59%	0.70%	0.40%	0.82%	0.75%	0.59%	0.37%
` '		4.2283	2.2189	2.6271	1.8659	3.6691	3.5468	3.2065	4.4872	4.7205	3.6069	4.8868	2.5298	4.8847	4.5516	3.4847	2.0916
CANAD	A																
CAR (0)		0.57%	0.37%	0.40%	0.39%	0.63%	0.54%	0.55%	0.40%	0.72%	0.62%	0.46%	0.27%	0.81%	0.53%	0.32%	0.15%
. ,		3.1026	2.6915	3.4857	3.9854	3.3004	3.3478	4.0042	3.2681	3.6467	3.5818	2.9497	1.8805	4.1242	2.9675	1.9429	0.9495
CAR (1)		0.48%	0.36%	0.42%	0.33%	0.59%	0.56%	0.52%	0.31%	0.72%	0.57%	0.37%	0.16%	0.68%	0.39%	0.20%	0.03%
` /		2.8396	2.8464	3.9589	3.5782	3.3670	3.6882	3.9345	2.5897	3.8195	3.4038	2.4198	1.1489	3.6700	2.2874	1.2371	0.1854
BHAR (0)		0.64%	0.16%	0.38%	0.29%	0.50%	0.42%	0.33%	0.41%	0.64%	0.48%	0.44%	0.23%	0.74%	0.46%	0.38%	0.17%
(-)		3.1900	0.8549	2.0339	1.4661	2.5477	2.4234	1.6487	2.4738	3.0249	2.3363	2.4443	1.2591	3.6585	2.5575	1.9628	0.9983
BHAR (1)		0.49%	0.11%	0.39%	0.23%	0.52%	0.54%	0.35%	0.30%	0.61%	0.41%	0.28%	0.16%	0.59%	0.35%	0.25%	0.09%
(1)		2.5060	0.6109	2.0646	1.2124	2.7793	3.1994	1.8213	1.8270	2.8979	2.0190	1.5759	0.8867	2.9885	1.9727	1.3161	0.5536

EW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMA	RK																
CAR (0)		0.65%	0.62%	0.57%	0.53%	0.91%	0.83%	0.75%	0.62%	0.94%	0.85%	0.67%	0.54%	0.94%	0.77%	0.61%	0.47%
		5.6591	6.3631	6.5212	6.5327	6.5862	6.7544	6.5469	5.6185	6.6183	6.2900	5.0527	4.2166	6.1349	5.2650	4.2687	3.3976
CAR (1)		0.64%	0.59%	0.55%	0.46%	0.89%	0.79%	0.68%	0.53%	0.92%	0.78%	0.60%	0.46%	0.87%	0.67%	0.52%	0.39%
		5.7566	6.1353	6.3845	5.7717	6.5693	6.3912	5.8804	4.7519	6.5858	5.5888	4.3962	3.5623	5.6287	4.5780	3.6060	2.8151
BHAR (0)		0.63%	0.46%	0.32%	0.42%	0.92%	0.77%	0.69%	0.81%	0.85%	0.71%	0.79%	0.52%	0.94%	0.79%	0.55%	0.35%
		4.8750	3.2481	2.6026	3.0186	6.0216	5.1026	4.4597	6.0768	5.6118	4.4644	5.0713	2.9849	5.7843	4.8277	3.5008	2.0736
BHAR (1)		0.54%	0.41%	0.38%	0.38%	0.85%	0.71%	0.59%	0.72%	0.85%	0.60%	0.72%	0.34%	0.89%	0.65%	0.50%	0.21%
		4.3222	3.0064	3.0602	2.6867	5.9645	4.7090	3.8457	5.3300	5.6701	3.7340	4.6884	1.9357	5.3010	3.9542	3.1563	1.2950
FINLAN	D																
CAR (0)		0.40%	0.44%	0.42%	0.37%	0.64%	0.68%	0.62%	0.48%	0.86%	0.79%	0.62%	0.44%	0.82%	0.63%	0.43%	0.33%
		1.8682	2.5895	2.7480	2.6766	2.5818	3.0068	2.9516	2.3619	2.9982	2.8930	2.3350	1.7316	2.5989	2.0322	1.4410	1.1711
CAR (1)		0.49%	0.45%	0.43%	0.32%	0.63%	0.65%	0.58%	0.41%	0.88%	0.72%	0.52%	0.35%	0.63%	0.47%	0.31%	0.25%
		2.3879	2.6888	2.8141	2.2898	2.6122	2.9521	2.7789	1.9960	3.0703	2.6736	1.9452	1.3541	2.0108	1.5346	1.0305	0.8723
BHAR (0)		0.36%	0.36%	0.47%	0.30%	0.51%	0.86%	0.66%	0.89%	0.79%	0.57%	0.58%	0.29%	0.78%	0.89%	0.51%	0.44%
		1.3772	1.3201	1.8371	0.9819	1.8469	3.2153	2.4684	3.4344	2.5305	1.7294	1.8000	0.9747	2.3302	2.6208	1.5141	1.3646
BHAR (1)		0.73%	0.39%	0.57%	0.23%	0.71%	0.91%	0.66%	0.76%	0.82%	0.44%	0.40%	0.15%	0.67%	0.71%	0.28%	0.31%
		2.8063	1.4350	2.2689	0.7559	2.6893	3.4652	2.5259	2.9338	2.5643	1.3358	1.2616	0.5101	2.0298	2.1467	0.8641	0.9721
FRANC	E																
CAR (0)		0.06%	0.22%	0.26%	0.29%	0.35%	0.38%	0.43%	0.38%	0.40%	0.48%	0.42%	0.33%	0.48%	0.44%	0.35%	0.27%
		0.3257	1.5848	2.2389	2.9908	1.7877	2.3349	3.1412	3.0656	2.0246	2.7837	2.6651	2.3272	2.3805	2.4300	2.1104	1.6996
CAR (1)		0.34%	0.34%	0.35%	0.32%	0.50%	0.49%	0.47%	0.37%	0.57%	0.53%	0.43%	0.31%	0.54%	0.44%	0.32%	0.23%
		1.9593	2.5806	3.2731	3.4983	2.7153	3.1953	3.5644	3.1170	3.0362	3.1985	2.8348	2.2163	2.8128	2.5171	1.9853	1.5353
BHAR (0)		0.00%	0.03%	0.34%	-0.02%	0.32%	0.46%	0.22%	0.32%	0.36%	0.38%	0.42%	0.32%	0.46%	0.49%	0.47%	0.28%
		0.0051	0.1647	2.0155	-0.0983	1.5639	2.6179	1.2219	2.2858	1.8328	1.9463	2.3623	1.9383	2.2632	2.5629	2.5326	1.6115
BHAR (1)		0.30%	0.07%	0.39%	0.06%	0.42%	0.54%	0.27%	0.31%	0.49%	0.36%	0.41%	0.17%	0.46%	0.46%	0.33%	0.26%
		1.5412	0.4111	2.4028	0.3542	2.0931	3.1363	1.5474	2.2520	2.5127	1.8807	2.3347	1.0597	2.3299	2.4952	1.7698	1.5393
GERMA	NY								-				1				
CAR (0)		0.54%	0.46%	0.41%	0.38%	0.63%	0.55%	0.53%	0.42%	0.73%	0.67%	0.54%	0.39%	0.79%	0.59%	0.42%	0.30%
		2.7934	3.0218	3.1882	3.5260	3.1336	3.1975	3.5325	3.1387	3.5157	3.6829	3.1429	2.5316	3.9339	3.1458	2.3903	1.9001
CAR (1)		0.59%	0.46%	0.41%	0.35%	0.64%	0.55%	0.49%	0.36%	0.77%	0.64%	0.47%	0.32%	0.75%	0.50%	0.34%	0.24%
		3.4041	3.2989	3.4573	3.4647	3.4326	3.3539	3.3737	2.7731	3.9511	3.6088	2.8704	2.1909	3.8473	2.7530	1.9966	1.5604
BHAR (0)		0.53%	0.31%	0.35%	0.12%	0.59%	0.64%	0.48%	0.49%	0.74%	0.64%	0.54%	0.40%	0.79%	0.57%	0.44%	0.15%
		2.5335	1.7261	2.2079	0.6132	2.8117	3.2690	2.1643	2.9901	3.4140	3.0450	2.7915	2.0560	3.8442	2.9346	2.3003	0.8712
BHAR (1)		0.62%	0.21%	0.34%	0.09%	0.59%	0.63%	0.45%	0.38%	0.77%	0.53%	0.40%	0.26%	0.75%	0.47%	0.28%	0.15%
		3.0264	1.1999	2.1998	0.4365	2.8629	3.2987	2.0966	2.3041	3.6764	2.6093	2.0826	1.3784	3.6776	2.4824	1.4875	0.9156

EW	J =		3				6	<u> </u>			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREEC	E																
CAR (0)		0.35%	0.31%	0.25%	0.15%	0.41%	0.30%	0.20%	0.02%	0.30%	0.17%	-0.01%	-0.11%	0.09%	-0.07%	-0.20%	-0.22%
		1.3265	1.4276	1.3507	0.9357	1.4169	1.1644	0.8615	0.1091	1.0083	0.5935	-0.0257	-0.4585	0.2992	-0.2268	-0.7539	-0.8948
CAR (1)		0.36%	0.29%	0.23%	0.10%	0.27%	0.24%	0.11%	-0.06%	0.31%	0.11%	-0.06%	-0.15%	0.04%	-0.13%	-0.24%	-0.26%
		1.4993	1.4308	1.2716	0.6298	0.9504	0.9593	0.4626	-0.2759	1.0433	0.3826	-0.2526	-0.6706	0.1401	-0.4596	-0.9090	-1.0754
BHAR (0)		0.36%	0.47%	0.19%	0.28%	0.40%	0.35%	0.24%	0.20%	0.46%	0.42%	0.00%	0.04%	0.12%	-0.11%	-0.30%	-0.38%
		1.2419	1.7299	0.7645	1.1452	1.3070	1.0955	0.8685	0.6813	1.4337	1.4274	-0.0092	0.1228	0.3567	-0.3115	-0.9650	-1.1852
BHAR (1)		0.51%	0.46%	0.20%	0.32%	0.25%	0.23%	0.14%	0.10%	0.51%	0.42%	0.15%	-0.10%	0.11%	-0.16%	-0.39%	-0.30%
		1.7776	1.7144	0.7869	1.3067	0.8113	0.7429	0.5129	0.3366	1.5840	1.4222	0.4814	-0.3196	0.3347	-0.4993	-1.3249	-0.9872
HONGKO	NG																
CAR (0)		0.11%	0.17%	0.13%	0.02%	0.34%	0.26%	0.12%	-0.03%	0.25%	0.13%	-0.05%	-0.20%	0.05%	-0.08%	-0.23%	-0.30%
		0.5292	1.2252	1.1529	0.2070	1.7375	1.5748	0.7651	-0.2331	1.2418	0.7116	-0.2675	-1.2594	0.2298	-0.3988	-1.3084	-1.8736
CAR (1)		0.03%	0.16%	0.07%	-0.04%	0.30%	0.20%	0.02%	-0.11%	0.16%	0.03%	-0.17%	-0.26%	-0.07%	-0.18%	-0.32%	-0.35%
		0.1856	1.2887	0.6626	-0.4462	1.6158	1.2257	0.1304	-0.8068	0.8232	0.1487	-0.9710	-1.7268	-0.3826	-0.9614	-1.8538	-2.2729
BHAR (0)		0.09%	-0.02%	0.06%	0.07%	0.29%	0.28%	-0.01%	0.17%	0.18%	0.14%	0.02%	-0.23%	0.08%	0.02%	-0.15%	-0.17%
		0.3970	-0.1197	0.2805	0.4023	1.3193	1.4113	-0.0278	1.0634	0.8493	0.6341	0.0963	-1.1639	0.3816	0.1227	-0.7247	-0.9432
BHAR (1)		-0.13%	-0.06%	-0.02%	-0.03%	0.13%	0.16%	-0.14%	0.09%	0.03%	-0.02%	-0.11%	-0.25%	-0.15%	-0.11%	-0.26%	-0.24%
		-0.6079	-0.2964	-0.1165	-0.1796	0.6420	0.8623	-0.6502	0.5264	0.1335	-0.1152	-0.6031	-1.2652	-0.7406	-0.6038	-1.2761	-1.3736
IRELAN	D																
CAR (0)		0.29%	0.27%	0.24%	0.28%	0.46%	0.34%	0.41%	0.38%	0.52%	0.40%	0.35%	0.27%	0.51%	0.38%	0.30%	0.21%
		1.3809	1.6066	1.5448	2.1026	1.8750	1.5522	2.0861	2.1154	2.0107	1.6654	1.5321	1.3126	2.0390	1.5384	1.3041	0.9568
CAR (1)		0.53%	0.37%	0.31%	0.29%	0.54%	0.41%	0.43%	0.34%	0.51%	0.42%	0.32%	0.22%	0.52%	0.36%	0.26%	0.15%
		2.6964	2.1659	2.0273	2.1698	2.2009	1.8572	2.1912	1.9156	1.9422	1.7503	1.4279	1.0432	2.0489	1.4479	1.1083	0.7009
BHAR (0)		0.41%	-0.08%	-0.18%	0.37%	0.27%	0.43%	0.00%	0.76%	0.46%	-0.03%	0.49%	0.29%	0.46%	0.68%	0.36%	0.33%
		1.5759	-0.3043	-0.7171	1.3190	0.9399	1.5566	0.0126	2.9641	1.6188	-0.1068	1.8096	1.0823	1.6698	2.5283	1.3541	1.1926
BHAR (1)		0.62%	0.01%	-0.20%	0.65%	0.30%	0.32%	0.06%	0.53%	0.24%	0.06%	0.30%	0.06%	0.32%	0.54%	0.28%	0.28%
		2.3987	0.0353	-0.7865	2.3724	1.0291	1.1270	0.2313	2.0664	0.8371	0.2184	1.0796	0.2067	1.1423	2.0022	1.0686	1.0129
ISRAEI									1								
CAR (0)		-0.14%	0.02%	0.01%	-0.04%	0.00%	0.01%	-0.03%	-0.09%	-0.06%	-0.05%	-0.09%	-0.13%	-0.09%	-0.14%	-0.17%	-0.22%
		-0.8571	0.1543	0.0542	-0.4112	-0.0051	0.1021	-0.2597	-0.7853	-0.3367	-0.3656	-0.6441	-1.1127	-0.5296	-0.8674	-1.2302	-1.7304
CAR (1)		0.04%	0.12%	0.06%	-0.02%	0.14%	0.07%	-0.02%	-0.08%	0.04%	-0.03%	-0.08%	-0.15%	-0.07%	-0.13%	-0.19%	-0.23%
		0.2797	1.0577	0.5986	-0.2534	0.9125	0.5494	-0.1634	-0.7726	0.2548	-0.1911	-0.5834	-1.3490	-0.4337	-0.8754	-1.3860	-1.9516
BHAR (0)		-0.10%	-0.10%	-0.04%	-0.19%	0.10%	0.15%	-0.05%	0.16%	-0.04%	-0.10%	0.11%	0.05%	-0.07%	0.00%	-0.06%	-0.25%
		-0.5456	-0.6840	-0.2675	-1.3465	0.5659	0.9486	-0.3204	1.1449	-0.1958	-0.6016	0.7360	0.3236	-0.3832	-0.0229	-0.3394	-1.5141
BHAR (1)		-0.02%	0.01%	-0.03%	-0.17%	0.17%	0.11%	-0.03%	0.13%	0.05%	-0.02%	0.11%	0.04%	-0.08%	-0.05%	-0.07%	-0.23%
		-0.1224	0.0855	-0.1901	-1.2559	1.0037	0.7068	-0.2267	0.9660	0.2731	-0.0981	0.7284	0.2905	-0.4605	-0.3154	-0.4294	-1.5057

EW	J =		3				6	i			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.42%	0.40%	0.43%	0.41%	0.62%	0.62%	0.61%	0.52%	0.76%	0.71%	0.62%	0.50%	0.84%	0.68%	0.55%	0.43%
		2.5945	3.0811	3.9794	4.2059	3.3049	3.9207	4.3760	3.9936	4.0969	4.3140	4.0536	3.4832	4.3938	3.8493	3.3798	2.7596
CAR (1)		0.47%	0.45%	0.45%	0.39%	0.63%	0.61%	0.57%	0.47%	0.71%	0.67%	0.56%	0.43%	0.75%	0.60%	0.47%	0.36%
		3.2128	3.7104	4.3944	4.1796	3.6373	4.1413	4.2473	3.7469	4.1201	4.2085	3.7121	3.0591	4.1099	3.5319	2.9287	2.3979
BHAR (0)		0.33%	0.33%	0.46%	0.39%	0.60%	0.56%	0.55%	0.45%	0.77%	0.58%	0.64%	0.40%	0.82%	0.71%	0.59%	0.40%
		1.8285	1.8534	3.1085	2.4092	3.1160	3.1686	2.9962	2.6720	3.9533	3.1352	3.7894	2.2992	4.1667	3.8814	3.2058	2.3113
BHAR (1)		0.47%	0.37%	0.54%	0.41%	0.60%	0.54%	0.54%	0.42%	0.71%	0.55%	0.53%	0.25%	0.74%	0.63%	0.50%	0.35%
		2.7242	2.1602	3.6986	2.6376	3.2047	3.0826	2.9577	2.5011	3.8004	3.2037	3.2728	1.4578	3.8839	3.4370	2.7754	2.0373
JAPAN																	
CAR (0)		-0.07%	-0.15%	-0.11%	-0.04%	-0.29%	-0.23%	-0.12%	-0.13%	-0.22%	-0.14%	-0.15%	-0.19%	-0.10%	-0.18%	-0.22%	-0.25%
		-0.4113	-1.1046	-0.9488	-0.4014	-1.5559	-1.4566	-0.8472	-0.9980	-1.1369	-0.8026	-0.9566	-1.3430	-0.5085	-1.0306	-1.3665	-1.7158
CAR (1)		-0.06%	-0.13%	-0.06%	-0.05%	-0.23%	-0.15%	-0.08%	-0.14%	-0.09%	-0.09%	-0.13%	-0.20%	-0.08%	-0.20%	-0.23%	-0.26%
		-0.4283	-1.0082	-0.5460	-0.4654	-1.3154	-0.9964	-0.5617	-1.1403	-0.4740	-0.5198	-0.8945	-1.4755	-0.4572	-1.1779	-1.5333	-1.8938
BHAR (0)		-0.12%	0.05%	-0.09%	0.04%	-0.23%	-0.26%	-0.24%	0.04%	-0.14%	-0.11%	0.00%	-0.10%	-0.08%	-0.16%	-0.20%	-0.27%
		-0.6525	0.3338	-0.5358	0.2805	-1.2100	-1.4177	-1.2632	0.3162	-0.7285	-0.5863	0.0146	-0.6658	-0.4264	-0.8519	-1.1662	-1.6444
BHAR (1)		-0.13%	0.02%	-0.14%	0.04%	-0.29%	-0.42%	-0.21%	-0.05%	-0.18%	-0.07%	-0.07%	-0.18%	-0.15%	-0.32%	-0.36%	-0.34%
-		-0.7492	0.0965	-0.8811	0.2993	-1.5392	-2.3297	-1.2076	-0.3651	-0.9457	-0.4216	-0.4709	-1.2553	-0.8193	-1.7588	-2.1693	-2.1712
NETHERLA	NDS																
CAR (0)		0.57%	0.50%	0.47%	0.47%	0.69%	0.59%	0.60%	0.52%	0.77%	0.73%	0.63%	0.52%	0.83%	0.68%	0.57%	0.48%
		3.4962	3.9340	4.3892	4.8959	3.8421	3.7766	4.3771	4.0944	4.1833	4.3547	3.9991	3.5912	4.4609	3.8180	3.4145	3.0794
CAR (1)		0.47%	0.48%	0.47%	0.42%	0.66%	0.61%	0.58%	0.46%	0.76%	0.70%	0.57%	0.46%	0.72%	0.60%	0.49%	0.43%
		3.1575	3.9255	4.5407	4.5313	3.8288	4.0095	4.2861	3.7267	4.2946	4.1939	3.6777	3.1543	3.9559	3.4353	3.0205	2.7576
BHAR (0)		0.62%	0.40%	0.45%	0.18%	0.59%	0.51%	0.49%	0.51%	0.80%	0.58%	0.72%	0.53%	0.78%	0.75%	0.60%	0.42%
		3.2357	2.2424	2.7400	1.0562	3.0600	2.8655	2.6904	3.4775	4.1690	3.0722	3.9314	3.0757	4.0159	4.0031	3.2584	2.2513
BHAR (1)		0.52%	0.29%	0.42%	0.13%	0.58%	0.50%	0.47%	0.41%	0.73%	0.61%	0.61%	0.37%	0.70%	0.63%	0.50%	0.41%
		2.8596	1.7121	2.6820	0.8137	3.1431	2.9016	2.6615	2.7949	3.8187	3.2606	3.3598	2.0963	3.7144	3.4011	2.8442	2.2262
NEWZEALA	ND																
CAR (0)		0.64%	0.65%	0.52%	0.53%	1.05%	0.85%	0.74%	0.63%	0.98%	0.86%	0.70%	0.57%	0.97%	0.79%	0.63%	0.48%
		4.7084	5.6323	5.0947	6.1177	6.6223	6.1854	6.3955	6.0367	5.9435	6.1642	5.6125	5.0159	6.1161	5.5189	4.8174	3.8782
CAR (1)		0.68%	0.61%	0.52%	0.50%	0.98%	0.80%	0.68%	0.55%	0.93%	0.77%	0.61%	0.49%	0.92%	0.69%	0.54%	0.39%
		4.8708	5.2895	5.3027	5.9027	6.3548	6.0117	6.0690	5.3389	5.7612	5.8079	5.1273	4.4108	5.8969	4.8783	4.2117	3.2060
BHAR (0)		0.80%	0.67%	0.46%	0.22%	0.95%	0.95%	0.67%	0.66%	0.95%	0.82%	0.76%	0.65%	1.00%	0.87%	0.69%	0.37%
		4.6739	4.0705	2.6894	1.3335	5.5320	5.8331	3.8920	4.4470	5.4186	4.6517	4.9767	4.1808	5.8189	5.1445	4.3442	2.3047
BHAR (1)		0.87%	0.64%	0.36%	0.24%	1.01%	0.87%	0.70%	0.55%	0.88%	0.76%	0.68%	0.58%	0.95%	0.67%	0.55%	0.35%
		4.8841	4.0766	2.0890	1.4296	5.7200	5.2715	4.1925	3.6574	5.0857	4.4464	4.4858	3.7617	5.7699	4.0043	3.5354	2.1990

EW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWA	Y.																
CAR (0)		0.36%	0.35%	0.35%	0.33%	0.35%	0.43%	0.48%	0.34%	0.57%	0.54%	0.46%	0.29%	0.61%	0.46%	0.34%	0.18%
		2.0025	2.6501	3.0214	3.1424	1.9331	2.6355	3.1140	2.3688	2.8879	2.8641	2.5412	1.7746	2.9273	2.3068	1.8097	1.0530
CAR (1)		0.29%	0.35%	0.37%	0.28%	0.46%	0.52%	0.47%	0.29%	0.61%	0.52%	0.40%	0.21%	0.55%	0.39%	0.25%	0.10%
		1.7947	2.7300	3.2159	2.6918	2.5070	3.1108	3.0127	2.0041	3.0708	2.7062	2.2362	1.2599	2.5778	1.9370	1.3397	0.5630
BHAR (0)		0.47%	0.38%	0.25%	0.49%	0.28%	0.14%	0.14%	0.47%	0.55%	0.54%	0.63%	0.42%	0.57%	0.37%	0.44%	0.27%
		2.1658	1.8909	1.4216	2.6532	1.3579	0.6921	0.6621	2.4467	2.6142	2.3811	2.8048	1.8017	2.5399	1.7134	2.1038	1.2292
BHAR (1)		0.47%	0.41%	0.39%	0.44%	0.46%	0.33%	0.18%	0.34%	0.65%	0.54%	0.54%	0.34%	0.60%	0.38%	0.41%	0.22%
		2.4589	2.2376	2.3206	2.3748	2.2050	1.5060	0.8096	1.7199	3.0280	2.4461	2.4849	1.4916	2.6517	1.7302	1.9991	0.9858
PORTUG	AL																
CAR (0)		0.19%	0.31%	0.31%	0.31%	0.23%	0.37%	0.34%	0.29%	0.31%	0.40%	0.36%	0.29%	0.27%	0.34%	0.28%	0.19%
		0.8721	1.6323	1.9910	2.2123	0.9183	1.6060	1.6997	1.6051	1.2383	1.7236	1.6983	1.4621	1.0575	1.4116	1.2196	0.8891
CAR (1)		0.31%	0.38%	0.35%	0.34%	0.53%	0.49%	0.40%	0.33%	0.48%	0.50%	0.39%	0.29%	0.47%	0.41%	0.27%	0.20%
		1.3807	2.0422	2.2420	2.3927	2.0601	2.1823	2.0599	1.8610	1.8457	2.1545	1.8525	1.4611	1.8011	1.6841	1.2097	0.9389
BHAR (0)		0.09%	0.42%	0.21%	0.27%	0.21%	0.50%	0.22%	0.17%	0.35%	0.45%	0.62%	0.46%	0.31%	0.31%	0.29%	0.13%
		0.3171	1.5960	0.8092	1.1334	0.7144	1.7267	0.7803	0.6847	1.2803	1.6373	2.2531	1.8747	1.1215	1.1250	1.0335	0.4942
BHAR (1)		0.20%	0.50%	0.27%	0.31%	0.45%	0.51%	0.33%	0.25%	0.35%	0.47%	0.43%	0.40%	0.42%	0.31%	0.27%	0.05%
		0.7410	2.0169	1.0638	1.3276	1.6022	1.8256	1.2494	1.0274	1.3004	1.7673	1.5975	1.6526	1.5334	1.1526	0.9530	0.1976
SINGAPO	RE																
CAR (0)		0.30%	0.36%	0.25%	0.16%	0.43%	0.34%	0.20%	0.10%	0.32%	0.21%	0.08%	-0.04%	0.20%	0.13%	-0.02%	-0.09%
		1.5765	2.4194	1.9170	1.2528	2.1338	1.8954	1.1539	0.6062	1.4401	1.0220	0.4245	-0.2181	0.8553	0.6133	-0.1048	-0.4848
CAR (1)		0.34%	0.38%	0.22%	0.12%	0.48%	0.32%	0.15%	0.05%	0.29%	0.15%	0.00%	-0.10%	0.20%	0.07%	-0.08%	-0.13%
		1.7341	2.7319	1.6362	0.9789	2.5348	1.7736	0.8769	0.3218	1.2661	0.7127	0.0109	-0.5606	0.8417	0.3465	-0.4059	-0.6887
BHAR (0)		0.28%	0.06%	0.30%	0.20%	0.47%	0.42%	0.09%	0.32%	0.33%	0.18%	0.20%	-0.14%	0.23%	0.29%	0.01%	-0.01%
		1.1621	0.3000	1.5921	1.3241	1.9748	2.0046	0.3814	1.8947	1.3411	0.7923	1.1166	-0.6363	0.8692	1.2843	0.0667	-0.0647
BHAR (1)		0.28%	0.01%	0.31%	0.11%	0.50%	0.45%	0.05%	0.31%	0.27%	0.05%	0.21%	-0.19%	0.13%	0.20%	-0.18%	-0.03%
		1.2199	0.0713	1.6479	0.7380	2.3542	2.2833	0.2215	1.9071	1.1235	0.2165	1.1928	-0.8667	0.5383	0.9282	-0.8333	-0.1439
SPAIN																	
CAR (0)		0.23%	0.22%	0.29%	0.27%	0.34%	0.37%	0.41%	0.31%	0.39%	0.44%	0.39%	0.30%	0.45%	0.45%	0.39%	0.30%
		1.3196	1.5740	2.4232	2.6489	1.7984	2.2934	2.7510	2.4085	1.9940	2.4909	2.3739	2.0261	2.3744	2.5072	2.3190	1.9027
CAR (1)		0.20%	0.23%	0.29%	0.23%	0.31%	0.41%	0.37%	0.28%	0.46%	0.44%	0.35%	0.26%	0.42%	0.42%	0.34%	0.26%
		1.1754	1.7903	2.5037	2.3659	1.7668	2.5468	2.5508	2.1822	2.4178	2.5183	2.2220	1.7808	2.2603	2.4229	2.1106	1.6891
BHAR (0)		0.06%	0.12%	0.34%	0.19%	0.29%	0.44%	0.38%	0.31%	0.41%	0.53%	0.45%	0.20%	0.39%	0.39%	0.42%	0.18%
		0.2724	0.6347	2.0519	1.1156	1.3850	2.3366	1.7880	1.7106	2.0404	2.6058	2.3853	1.1064	1.9477	2.1337	2.3268	1.0389
BHAR (1)		0.11%	-0.02%	0.30%	0.15%	0.21%	0.40%	0.33%	0.20%	0.43%	0.43%	0.29%	0.06%	0.34%	0.38%	0.37%	0.11%
		0.5444	-0.1018	1.8349	0.8871	1.0707	2.1085	1.5655	1.1377	2.1261	2.1429	1.5944	0.3553	1.7479	2.1187	2.1798	0.6919

EW	J =		3				6	i			9				10	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	V																
CAR (0)		0.71%	0.65%	0.51%	0.47%	0.83%	0.69%	0.61%	0.46%	0.80%	0.68%	0.50%	0.34%	0.91%	0.63%	0.43%	0.29%
		3.2309	3.4049	3.1478	3.6392	3.2795	3.1525	3.3811	2.8678	3.2493	3.1987	2.5543	1.8844	3.7718	2.8271	2.0050	1.4303
CAR (1)		0.76%	0.63%	0.50%	0.43%	0.83%	0.67%	0.56%	0.38%	0.81%	0.62%	0.41%	0.26%	0.76%	0.50%	0.31%	0.20%
		3.5115	3.4289	3.3774	3.4175	3.3758	3.2719	3.2921	2.4132	3.4650	2.9862	2.1416	1.4671	3.2880	2.2604	1.4520	0.9917
BHAR (0)		0.75%	0.61%	0.55%	0.22%	0.94%	0.75%	0.47%	0.42%	0.84%	0.53%	0.61%	0.13%	0.90%	0.79%	0.55%	0.37%
		3.1108	2.9172	2.4725	0.9554	3.5646	2.9830	1.7634	1.8252	3.1858	2.0539	2.4673	0.5546	3.5667	3.2355	2.2409	1.7536
BHAR (1)		0.71%	0.61%	0.54%	0.24%	0.87%	0.69%	0.48%	0.32%	0.82%	0.58%	0.56%	0.04%	0.76%	0.68%	0.40%	0.29%
		2.9030	2.9106	2.5202	1.0675	3.3212	2.7672	1.8813	1.4349	3.2797	2.3706	2.3130	0.1865	3.2063	2.8934	1.6304	1.3545
SWITZERL	AND																
CAR (0)		0.55%	0.44%	0.38%	0.39%	0.59%	0.52%	0.50%	0.44%	0.61%	0.62%	0.54%	0.42%	0.75%	0.63%	0.50%	0.37%
		3.9443	3.7694	3.8143	4.5262	3.6879	3.5694	3.8629	3.7515	3.7147	4.0628	3.7499	3.1859	4.4430	3.9326	3.3065	2.6056
CAR (1)		0.48%	0.40%	0.37%	0.35%	0.54%	0.49%	0.47%	0.38%	0.62%	0.60%	0.50%	0.36%	0.71%	0.55%	0.43%	0.30%
		3.5242	3.4927	3.7923	4.0559	3.4218	3.4338	3.6644	3.3196	3.7852	3.9935	3.5143	2.7260	4.2523	3.5227	2.8615	2.1030
BHAR (0)		0.47%	0.41%	0.34%	0.42%	0.58%	0.52%	0.31%	0.54%	0.64%	0.65%	0.61%	0.45%	0.78%	0.66%	0.56%	0.38%
		2.8898	2.3769	2.3369	2.6658	3.4323	3.1649	2.1116	4.0766	3.7139	3.7122	3.8769	2.6440	4.4636	3.9242	3.3675	2.3366
BHAR (1)		0.44%	0.31%	0.36%	0.39%	0.47%	0.47%	0.23%	0.50%	0.60%	0.56%	0.52%	0.29%	0.69%	0.58%	0.45%	0.33%
		2.7843	1.8374	2.4925	2.4740	2.7267	2.8907	1.5829	3.6580	3.5215	3.1715	3.2719	1.6748	4.0224	3.4722	2.7697	2.0525
UK																	
CAR (0)		0.63%	0.61%	0.51%	0.52%	0.92%	0.75%	0.70%	0.62%	0.93%	0.84%	0.71%	0.59%	1.03%	0.82%	0.64%	0.51%
		5.0892	6.1049	6.1610	7.0775	6.7999	6.3246	6.6993	6.5117	6.7655	6.5520	5.9635	5.4277	7.1362	6.0546	5.0920	4.3476
CAR (1)		0.61%	0.57%	0.50%	0.47%	0.84%	0.70%	0.64%	0.54%	0.85%	0.74%	0.62%	0.49%	0.89%	0.69%	0.53%	0.42%
		5.0677	5.9965	6.2630	6.6652	6.5185	6.1330	6.2704	5.8389	6.2952	5.9452	5.3413	4.6401	6.3931	5.2326	4.2874	3.6371
BHAR (0)		0.55%	0.49%	0.59%	0.41%	0.87%	0.76%	0.57%	0.74%	0.95%	0.75%	0.75%	0.55%	1.00%	0.88%	0.60%	0.54%
		3.8663	3.6422	4.3234	3.0198	6.0579	5.6653	3.9803	7.5611	6.5073	5.0745	6.0781	4.2586	6.5567	6.3541	4.0144	4.0790
BHAR (1)		0.60%	0.43%	0.56%	0.36%	0.80%	0.70%	0.56%	0.61%	0.87%	0.68%	0.60%	0.44%	0.85%	0.72%	0.43%	0.42%
		4.4263	3.3838	4.2196	2.7268	5.9315	5.3763	4.1503	6.2356	6.2943	4.8115	4.8805	3.5169	5.9413	5.3806	2.8909	3.2855
US																	
CAR (0)		-0.01%	0.04%	0.09%	0.06%	0.14%	0.18%	0.16%	0.06%	0.28%	0.22%	0.12%	0.01%	0.24%	0.11%	0.01%	-0.08%
		-0.0748	0.2778	0.7214	0.5782	0.6766	1.0277	1.0583	0.4585	1.3438	1.1934	0.6924	0.0406	1.1565	0.5896	0.0530	-0.4862
CAR (1)		-0.03%	0.07%	0.10%	0.02%	0.17%	0.21%	0.13%	0.01%	0.29%	0.18%	0.06%	-0.05%	0.14%	0.04%	-0.07%	-0.14%
		-0.2123	0.5159	0.9190	0.2196	0.9067	1.3065	0.9323	0.1102	1.4751	1.0147	0.3635	-0.3524	0.6823	0.2081	-0.3729	-0.8466
BHAR (0)		-0.07%	0.07%	0.12%	0.06%	0.10%	0.22%	-0.10%	0.26%	0.28%	0.17%	0.23%	0.00%	0.24%	0.20%	0.04%	-0.09%
		-0.3654	0.4088	0.6923	0.3436	0.4837	1.1579	-0.4675	1.7929	1.2985	0.8143	1.2793	0.0269	1.1109	0.9856	0.1778	-0.4590
BHAR (1)		-0.03%	-0.02%	0.08%	-0.02%	0.11%	0.21%	-0.13%	0.09%	0.24%	0.02%	0.02%	-0.15%	0.03%	0.03%	-0.13%	-0.19%
		-0.1379	-0.1009	0.4878	-0.1438	0.5475	1.1875	-0.6696	0.6528	1.1721	0.1165	0.0935	-0.8513	0.1386	0.1677	-0.6555	-1.0797

Panel B. The time-series momentum strategy using market-weighted return

MW	J =		3			me-serie	6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAI	JA																
CAR (0)		0.11%	0.14%	0.11%	0.15%	0.08%	0.17%	0.25%	0.22%	0.42%	0.35%	0.27%	0.23%	0.43%	0.26%	0.22%	0.22%
		0.3691	0.7195	0.6623	0.9669	0.2399	0.6292	0.9572	0.8705	1.3405	1.2340	1.0313	0.8731	1.3585	0.8725	0.7600	0.7619
CAR (1)		-0.05%	0.09%	0.07%	0.11%	0.13%	0.26%	0.27%	0.21%	0.32%	0.30%	0.22%	0.17%	0.27%	0.21%	0.19%	0.17%
		-0.1942	0.4987	0.4474	0.6924	0.4014	0.9457	1.0366	0.7948	1.0153	1.0809	0.8185	0.6434	0.8677	0.7041	0.6730	0.6169
BHAR (0)		0.15%	0.28%	-0.39%	0.12%	-0.01%	0.04%	-0.02%	-0.05%	0.39%	0.49%	0.52%	0.45%	0.32%	-0.04%	-0.41%	0.37%
		0.4251	0.7922	-1.1205	0.3468	-0.0174	0.1335	-0.0698	-0.1513	1.0808	1.4480	1.5868	1.4106	0.9956	-0.1090	-1.3014	1.1801
BHAR (1)		0.16%	0.27%	-0.36%	0.15%	0.12%	0.19%	0.12%	0.04%	0.34%	0.45%	0.41%	0.45%	0.10%	-0.10%	-0.33%	0.24%
		0.4458	0.7776	-1.0539	0.4510	0.3465	0.5941	0.3665	0.1306	0.9609	1.3358	1.2804	1.3724	0.2902	-0.3237	-1.0553	0.7849
AUSTRI	A																
CAR (0)		0.10%	0.09%	0.06%	0.03%	0.20%	0.12%	0.02%	-0.03%	0.21%	0.08%	0.00%	-0.10%	-0.03%	-0.17%	-0.26%	-0.24%
		0.4072	0.4453	0.3696	0.2153	0.7168	0.4953	0.1140	-0.1670	0.7550	0.3177	0.0207	-0.4985	-0.0954	-0.6371	-1.0720	-1.1024
CAR (1)		0.02%	0.02%	0.06%	-0.01%	0.24%	0.08%	0.00%	-0.08%	0.20%	0.08%	-0.04%	-0.16%	-0.18%	-0.23%	-0.28%	-0.28%
		0.0990	0.1054	0.3824	-0.0858	0.9048	0.3318	-0.0138	-0.4472	0.7070	0.3473	-0.1675	-0.7901	-0.6171	-0.8677	-1.1810	-1.3206
BHAR (0)		0.02%	0.28%	0.34%	-0.25%	0.00%	-0.35%	-0.02%	-0.33%	0.12%	-0.03%	-0.05%	0.02%	-0.13%	-0.44%	-0.50%	-0.53%
		0.0624	0.8449	1.1192	-0.7461	-0.0049	-1.1196	-0.0634	-1.1190	0.3761	-0.1073	-0.1599	0.0576	-0.4069	-1.3562	-1.6265	-1.6706
BHAR (1)		0.00%	0.13%	0.25%	-0.28%	0.05%	-0.35%	0.21%	-0.27%	0.24%	-0.01%	-0.09%	-0.13%	-0.13%	-0.43%	-0.68%	-0.49%
		0.0043	0.4077	0.8450	-0.8661	0.1624	-1.1125	0.6946	-0.9261	0.7695	-0.0442	-0.3038	-0.4569	-0.3969	-1.3278	-2.2931	-1.5524
BELGIU	M																
CAR (0)		0.06%	0.14%	0.16%	0.09%	0.24%	0.26%	0.15%	0.13%	0.26%	0.21%	0.15%	0.08%	0.29%	0.27%	0.19%	0.10%
		0.1929	0.6079	0.7233	0.5194	0.7510	0.9286	0.6390	0.6681	0.7790	0.7480	0.5853	0.3272	0.8726	0.9656	0.7029	0.3967
CAR (1)		0.21%	0.19%	0.18%	0.10%	0.16%	0.23%	0.13%	0.10%	0.24%	0.15%	0.15%	0.04%	0.22%	0.24%	0.13%	0.04%
		0.8291	0.8416	0.9116	0.6235	0.5617	0.8706	0.6209	0.5263	0.7436	0.5538	0.5808	0.1713	0.7439	0.8710	0.4661	0.1631
BHAR (0)		0.21%	0.30%	-0.02%	0.09%	0.16%	-0.03%	0.13%	-0.19%	-0.24%	-0.02%	0.17%	-0.02%	0.18%	-0.01%	-0.14%	0.05%
		0.6261	0.8900	-0.0729	0.2918	0.4395	-0.0807	0.3761	-0.6017	-0.7019	-0.0686	0.5012	-0.0534	0.4905	-0.0214	-0.4022	0.1399
BHAR (1)		0.25%	0.06%	0.11%	0.09%	0.28%	0.13%	0.13%	-0.37%	0.13%	0.05%	0.25%	0.10%	0.37%	-0.13%	-0.18%	0.01%
		0.7838	0.1746	0.3433	0.2817	0.7479	0.3804	0.3732	-1.1660	0.3737	0.1324	0.7228	0.3036	1.0548	-0.3784	-0.5366	0.0227
CANAD	A	0.240/	0.000/	0.220/	0.220/	0.260/	0.200/	0.460/	0.210/	0.600/	0.520/	0.450/	0.200/	0.760/	0.440/	0.220/	0.210/
CAR (0)		0.34%	0.22%	0.33%	0.32%	0.36%	0.38%	0.46%	0.31%	0.62%	0.53%	0.45%	0.29%	0.56%	0.41%	0.32%	0.21%
CAR (1)		1.3118	1.1007	1.9664	2.1834	1.2716	1.5433	2.0723	1.4915	2.0394	1.9460	1.7469	1.1950	1.8902	1.4545	1.1691	0.7788
CAR (1)		0.25%	0.20%	0.36%	0.26%	0.32%	0.42%	0.44%	0.22%	0.62%	0.50%	0.39%	0.21%	0.46%	0.35%	0.26%	0.12%
DILAD (0)		0.9821	1.0846	2.1843	1.7518	1.1463	1.7089	1.9444	1.0203	2.0823	1.8472	1.4989	0.8299	1.6010	1.2040	0.9105	0.4478
BHAR (0)		0.28%	-0.04%	0.11%	0.21%	0.33%	0.34%	0.66%	0.19%	0.56%	0.16%	0.46%	-0.24%	0.54%	0.49%	0.04%	0.39%
DILAD (1)		0.8707	-0.1399	0.3236	0.6587	1.1412	1.1527	2.2959	0.5762	1.7328	0.4788	1.4412	-0.6903	1.7356	1.6750	0.1267	1.4602
BHAR (1)		0.27%	-0.12%	0.12%	0.13%	0.35%	0.33%	0.63%	-0.05%	0.52%	0.15%	0.28%	-0.17%	0.28%	0.29%	-0.11%	0.34%
		0.8250	-0.3904	0.3529	0.4228	1.2220	1.1261	2.1303	-0.1377	1.5971	0.4506	0.8340	-0.5096	0.9450	1.0198	-0.3337	1.2915

MW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	RK																
CAR (0)		0.50%	0.49%	0.40%	0.40%	0.63%	0.55%	0.43%	0.37%	0.66%	0.54%	0.43%	0.37%	0.66%	0.50%	0.38%	0.27%
		2.3121	2.6919	2.5367	2.8895	2.5253	2.4428	2.1160	1.9721	2.6700	2.3358	2.0127	1.8239	2.5490	2.0718	1.6331	1.2228
CAR (1)		0.46%	0.42%	0.41%	0.34%	0.67%	0.49%	0.39%	0.33%	0.58%	0.45%	0.38%	0.33%	0.52%	0.39%	0.29%	0.22%
		2.1702	2.3141	2.6263	2.4946	2.7239	2.2131	1.9810	1.7949	2.4282	2.0138	1.7908	1.6153	2.0453	1.6141	1.2477	1.0103
BHAR (0)		0.21%	0.40%	0.15%	0.50%	0.41%	0.56%	0.17%	0.57%	0.43%	0.15%	0.61%	-0.09%	0.61%	0.63%	0.42%	-0.01%
		0.8642	1.5529	0.5683	1.7938	1.4428	1.9833	0.6022	2.1144	1.5683	0.5197	2.2126	-0.3291	2.1909	2.3226	1.5230	-0.0232
BHAR (1)		0.37%	0.34%	0.24%	0.55%	0.59%	0.65%	0.18%	0.47%	0.46%	0.09%	0.56%	-0.09%	0.47%	0.41%	0.40%	-0.12%
		1.4658	1.3491	0.9226	2.0286	2.0597	2.2604	0.6682	1.7727	1.6470	0.3372	2.0647	-0.3362	1.7104	1.4956	1.4363	-0.4507
FINLAN	D																
CAR (0)		0.32%	0.58%	0.67%	0.55%	0.88%	1.11%	1.14%	1.10%	1.53%	1.38%	1.32%	1.30%	1.49%	1.41%	1.31%	1.22%
		0.7674	1.9097	2.3932	2.1092	1.7765	2.5090	2.7773	2.8647	2.9436	2.8418	2.8140	2.9683	2.8133	2.7394	2.6822	2.6168
CAR (1)		0.40%	0.65%	0.69%	0.52%	0.96%	1.13%	1.15%	1.09%	1.40%	1.25%	1.25%	1.18%	1.43%	1.32%	1.21%	1.17%
		1.0553	2.1605	2.4376	1.9812	1.9546	2.5550	2.7767	2.8091	2.7316	2.5366	2.6947	2.7166	2.6971	2.5709	2.4845	2.5060
BHAR (0)		0.43%	0.77%	1.49%	0.52%	0.83%	1.82%	1.28%	1.93%	1.45%	1.54%	0.94%	1.30%	1.25%	1.31%	1.52%	1.36%
		0.8452	1.4118	2.7856	0.9351	1.5280	3.3842	2.3842	3.6145	2.6981	2.7648	1.6910	2.3259	2.2801	2.3441	2.8034	2.5337
BHAR (1)		1.07%	0.97%	1.43%	0.55%	1.12%	1.62%	1.01%	1.66%	1.34%	1.27%	0.97%	1.07%	1.19%	1.07%	1.31%	1.37%
		2.0277	1.7866	2.6611	1.0117	2.0237	2.9750	1.8479	3.1046	2.4228	2.2930	1.7573	1.8949	2.1252	1.9331	2.4136	2.5876
FRANCI	E																
CAR (0)		-0.25%	-0.06%	0.04%	0.13%	-0.05%	0.01%	0.15%	0.15%	-0.02%	0.11%	0.13%	0.11%	0.06%	0.08%	0.08%	0.03%
		-1.1340	-0.3636	0.2717	1.0564	-0.2290	0.0392	0.8651	0.9220	-0.0664	0.5115	0.6467	0.5599	0.2341	0.3208	0.3461	0.1628
CAR (1)		-0.15%	0.03%	0.12%	0.13%	0.07%	0.16%	0.20%	0.14%	0.13%	0.17%	0.16%	0.07%	0.09%	0.09%	0.06%	0.02%
		-0.7249	0.1968	0.8534	1.0905	0.3184	0.8195	1.1370	0.8849	0.5650	0.8049	0.7860	0.3917	0.3649	0.3824	0.2755	0.1114
BHAR (0)		-0.32%	-0.25%	0.01%	-0.01%	-0.12%	-0.04%	-0.01%	-0.01%	-0.01%	0.02%	0.17%	-0.01%	0.03%	0.14%	0.08%	0.12%
		-1.2415	-1.0722	0.0386	-0.0211	-0.4949	-0.1882	-0.0378	-0.0234	-0.0352	0.0939	0.6619	-0.0507	0.1076	0.5595	0.3101	0.5506
BHAR (1)		-0.18%	-0.31%	0.04%	0.04%	-0.18%	0.07%	0.03%	0.02%	0.07%	0.02%	0.17%	-0.08%	-0.05%	0.13%	-0.05%	0.04%
		-0.6901	-1.3355	0.1821	0.1703	-0.7434	0.3054	0.1567	0.1109	0.2672	0.0613	0.6507	-0.3330	-0.1959	0.4945	-0.1813	0.1732
GERMAN	NY																
CAR (0)		0.22%	0.19%	0.25%	0.24%	0.28%	0.33%	0.36%	0.25%	0.37%	0.40%	0.29%	0.17%	0.42%	0.25%	0.14%	0.06%
		0.8926	0.9707	1.5139	1.6561	1.0183	1.4285	1.7280	1.2404	1.3171	1.5608	1.2124	0.7365	1.3699	0.8805	0.5060	0.2328
CAR (1)		0.21%	0.22%	0.28%	0.19%	0.31%	0.38%	0.35%	0.20%	0.47%	0.40%	0.26%	0.14%	0.38%	0.20%	0.08%	0.01%
		0.8849	1.2214	1.7858	1.3726	1.1767	1.7265	1.6751	1.0270	1.6981	1.5546	1.0753	0.5899	1.2726	0.7081	0.3092	0.0492
BHAR (0)		0.09%	0.03%	0.26%	0.16%	0.16%	0.51%	0.23%	0.53%	0.39%	0.40%	0.16%	0.33%	0.45%	0.16%	0.19%	-0.09%
		0.3331	0.1121	1.0556	0.5740	0.5806	1.8399	0.8288	2.3344	1.3149	1.4103	0.5712	1.2426	1.4132	0.5075	0.6996	-0.3549
BHAR (1)		0.13%	0.13%	0.23%	0.23%	0.25%	0.54%	0.20%	0.46%	0.44%	0.36%	0.07%	0.12%	0.36%	0.11%	0.19%	-0.05%
		0.5494	0.5809	0.9634	0.8781	0.9026	2.0190	0.7304	2.0064	1.4505	1.2340	0.2527	0.4523	1.1388	0.3458	0.6920	-0.1866

MW	J =		3				6	i			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECE	E																
CAR (0)		0.18%	0.21%	0.18%	0.16%	0.34%	0.30%	0.28%	0.26%	0.15%	0.11%	0.15%	0.20%	0.16%	0.20%	0.25%	0.26%
		0.5201	0.6989	0.6806	0.6562	0.8696	0.8111	0.8271	0.8615	0.3358	0.2577	0.3972	0.5903	0.3522	0.4870	0.6421	0.7082
CAR (1)		0.34%	0.31%	0.23%	0.21%	0.37%	0.33%	0.26%	0.31%	0.15%	0.10%	0.20%	0.27%	0.14%	0.26%	0.27%	0.30%
		0.9223	1.0412	0.8447	0.8448	0.9051	0.8586	0.7721	1.0407	0.3224	0.2476	0.5342	0.8076	0.3132	0.6427	0.7135	0.8358
BHAR (0)		0.53%	0.26%	0.11%	0.17%	0.61%	0.48%	0.16%	0.06%	0.28%	-0.05%	0.25%	0.16%	0.37%	0.16%	0.13%	-0.13%
		1.1034	0.5480	0.2307	0.3742	1.2292	0.9589	0.3348	0.1409	0.5631	-0.0983	0.5578	0.4063	0.7030	0.3537	0.3083	-0.3171
BHAR (1)		0.30%	0.34%	-0.10%	0.44%	0.33%	0.04%	0.02%	-0.05%	0.13%	-0.04%	0.47%	-0.01%	0.19%	0.23%	0.16%	-0.07%
		0.6044	0.7572	-0.2146	0.9658	0.6620	0.0739	0.0478	-0.1366	0.2694	-0.0881	1.1827	-0.0337	0.3676	0.5195	0.3988	-0.1789
HONGKON	NG																
CAR (0)		0.31%	0.24%	0.20%	0.15%	0.36%	0.28%	0.19%	0.13%	0.43%	0.24%	0.16%	0.10%	0.32%	0.25%	0.16%	0.10%
		1.2028	1.2198	1.1624	0.9431	1.2871	1.1638	0.8812	0.6318	1.4976	0.8913	0.6348	0.4528	1.0622	0.8926	0.6401	0.4355
CAR (1)		0.19%	0.24%	0.16%	0.10%	0.29%	0.25%	0.15%	0.09%	0.30%	0.18%	0.10%	0.07%	0.27%	0.24%	0.12%	0.08%
		0.7495	1.2679	0.9549	0.6208	1.0625	1.0345	0.6571	0.4267	1.0197	0.6523	0.4069	0.3283	0.9088	0.8658	0.5053	0.3382
BHAR (0)		0.22%	0.25%	-0.14%	0.13%	0.31%	0.15%	-0.01%	-0.11%	0.47%	0.25%	0.33%	0.01%	0.48%	0.44%	0.33%	0.30%
		0.7092	0.8290	-0.4372	0.5369	1.0472	0.5169	-0.0462	-0.4170	1.4617	0.7942	1.0994	0.0391	1.5420	1.4061	1.0173	0.9635
BHAR (1)		-0.06%	0.19%	-0.36%	0.00%	-0.04%	-0.18%	-0.34%	-0.19%	0.07%	-0.02%	0.11%	0.17%	0.16%	0.33%	0.31%	0.24%
		-0.2072	0.6516	-1.1562	-0.0190	-0.1275	-0.6385	-1.0869	-0.7373	0.2282	-0.0770	0.3847	0.5804	0.5127	1.0909	0.9947	0.7897
IRELANI	D																
CAR (0)		0.76%	0.79%	0.49%	0.45%	1.09%	0.84%	0.68%	0.53%	0.96%	0.69%	0.49%	0.41%	0.94%	0.65%	0.38%	0.24%
		2.1318	2.5318	1.6393	1.6498	2.5508	2.0706	1.7481	1.4149	2.0724	1.5331	1.1475	1.0026	1.9905	1.4052	0.8562	0.5545
CAR (1)		0.97%	0.75%	0.50%	0.40%	0.99%	0.71%	0.58%	0.43%	0.69%	0.57%	0.39%	0.34%	0.83%	0.48%	0.25%	0.08%
		2.8168	2.4273	1.7003	1.4757	2.2908	1.7342	1.4824	1.1561	1.4919	1.2866	0.9185	0.8384	1.7652	1.0576	0.5757	0.1881
BHAR (0)		0.47%	0.34%	-0.55%	0.47%	0.64%	0.81%	0.41%	0.69%	0.92%	0.46%	0.99%	0.76%	0.85%	0.52%	0.02%	0.50%
		0.9953	0.6683	-1.1402	0.9012	1.3469	1.7678	0.8040	1.2902	1.8552	0.9090	1.9391	1.4432	1.7401	1.0247	0.0347	0.9406
BHAR (1)		0.84%	0.71%	-0.38%	0.58%	0.63%	0.72%	0.55%	0.41%	0.49%	0.28%	0.73%	0.40%	0.43%	0.43%	-0.23%	0.46%
		1.8095	1.3840	-0.8066	1.1294	1.3197	1.5176	1.1114	0.7924	0.9727	0.5432	1.4559	0.7583	0.8930	0.8751	-0.4659	0.8805
ISRAEL	,																
CAR (0)		0.60%	0.52%	0.59%	0.49%	0.56%	0.58%	0.53%	0.51%	1.10%	0.85%	0.90%	0.90%	0.88%	0.83%	0.91%	0.88%
		1.5978	2.0420	2.8563	2.4391	1.5159	1.9964	1.9897	1.9632	2.6967	2.2309	2.6102	2.6908	2.1104	2.1845	2.4436	2.4152
CAR (1)		0.53%	0.57%	0.57%	0.44%	0.45%	0.56%	0.43%	0.49%	0.99%	0.78%	0.87%	0.84%	0.74%	0.88%	0.94%	0.83%
		1.5290	2.3514	2.7489	2.0841	1.1538	1.9193	1.5904	1.8532	2.4399	2.1613	2.5285	2.4973	1.7269	2.2577	2.4572	2.2253
BHAR (0)		0.16%	0.16%	0.81%	0.92%	0.18%	0.48%	0.36%	0.82%	0.76%	0.54%	1.33%	0.96%	0.32%	0.78%	0.90%	0.81%
		0.3395	0.3622	1.8965	2.3202	0.3874	1.0862	0.7762	2.0197	1.6333	1.1481	3.0164	2.0679	0.6627	1.6596	2.0386	1.6416
BHAR (1)		0.46%	0.75%	0.80%	0.95%	0.40%	0.44%	0.50%	0.69%	0.75%	0.86%	1.16%	0.87%	0.57%	0.76%	0.89%	0.80%
		1.0751	1.8758	1.9072	2.4060	0.9645	1.0072	1.2051	1.6635	1.8365	2.1380	2.6252	2.2384	1.2298	1.5835	1.9813	1.6028

MW	J =		3				6	i			9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.10%	0.22%	0.16%	0.18%	0.39%	0.38%	0.38%	0.40%	0.46%	0.53%	0.53%	0.50%	0.51%	0.53%	0.51%	0.45%
		0.3862	1.0036	0.8464	1.0500	1.1988	1.3447	1.5147	1.6539	1.3673	1.7643	1.8250	1.7988	1.4609	1.6205	1.5986	1.5011
CAR (1)		0.19%	0.20%	0.18%	0.17%	0.37%	0.33%	0.41%	0.41%	0.47%	0.53%	0.55%	0.48%	0.51%	0.49%	0.50%	0.41%
		0.7531	0.9219	1.0242	0.9967	1.1806	1.2315	1.6531	1.6786	1.4469	1.7713	1.8832	1.7118	1.4994	1.5107	1.5933	1.4044
BHAR (0)		0.64%	0.27%	0.32%	0.34%	0.53%	0.33%	0.43%	0.38%	0.40%	0.23%	0.44%	0.29%	0.58%	0.65%	0.64%	0.62%
		1.7597	0.7460	0.8691	0.8892	1.4344	0.8978	1.2150	1.0678	1.0706	0.6534	1.2629	0.8846	1.5930	1.9031	1.6914	1.8877
BHAR (1)		0.35%	0.12%	0.52%	0.47%	0.26%	0.26%	0.41%	0.45%	0.38%	0.51%	0.43%	0.35%	0.64%	0.56%	0.76%	0.48%
		1.0169	0.3333	1.5042	1.2443	0.7427	0.7668	1.2131	1.3273	1.0948	1.5246	1.2438	1.0853	1.8103	1.7175	2.0434	1.4800
JAPAN																	
CAR (0)		-0.14%	-0.17%	-0.06%	-0.04%	-0.22%	-0.10%	-0.04%	-0.08%	-0.08%	-0.09%	-0.11%	-0.14%	-0.12%	-0.21%	-0.21%	-0.21%
		-0.7103	-0.9671	-0.3978	-0.2932	-0.8827	-0.4373	-0.2246	-0.4737	-0.3293	-0.3842	-0.5370	-0.8190	-0.5088	-0.9583	-1.0612	-1.1969
CAR (1)		-0.16%	-0.12%	-0.02%	-0.04%	-0.12%	-0.01%	0.00%	-0.08%	0.01%	-0.05%	-0.10%	-0.14%	-0.15%	-0.22%	-0.21%	-0.21%
		-0.8107	-0.6712	-0.1229	-0.3135	-0.5074	-0.0390	-0.0136	-0.4776	0.0252	-0.2328	-0.5589	-0.8229	-0.6499	-1.0401	-1.1206	-1.2109
BHAR (0)		-0.09%	0.02%	-0.11%	-0.09%	-0.09%	-0.21%	-0.17%	0.00%	-0.01%	-0.02%	0.06%	-0.03%	-0.09%	-0.24%	-0.32%	-0.27%
		-0.3422	0.0785	-0.4584	-0.4126	-0.3677	-0.8567	-0.7560	-0.0100	-0.0583	-0.0741	0.2697	-0.1562	-0.3579	-0.9948	-1.3912	-1.1945
BHAR (1)		-0.13%	-0.17%	-0.35%	-0.11%	-0.18%	-0.24%	-0.14%	0.00%	-0.15%	-0.05%	-0.08%	-0.09%	-0.30%	-0.51%	-0.51%	-0.53%
		-0.5506	-0.7643	-1.6168	-0.5885	-0.7268	-1.0543	-0.6441	0.0013	-0.6160	-0.2074	-0.3637	-0.4501	-1.2426	-2.2577	-2.3397	-2.4881
NETHERLA	NDS																
CAR (0)		0.01%	-0.11%	-0.09%	0.03%	-0.11%	-0.18%	-0.04%	-0.07%	-0.08%	-0.14%	-0.12%	-0.16%	-0.03%	-0.18%	-0.16%	-0.19%
		0.0286	-0.5595	-0.5384	0.2312	-0.3646	-0.7369	-0.1903	-0.3713	-0.2786	-0.5457	-0.5142	-0.7612	-0.0916	-0.6956	-0.6763	-0.8590
CAR (1)		-0.11%	-0.18%	-0.05%	-0.03%	-0.16%	-0.15%	-0.06%	-0.13%	-0.16%	-0.18%	-0.15%	-0.24%	-0.17%	-0.22%	-0.21%	-0.24%
		-0.4420	-0.9447	-0.3370	-0.2306	-0.5810	-0.6382	-0.2668	-0.7010	-0.5829	-0.7285	-0.6583	-1.1433	-0.6243	-0.8644	-0.8854	-1.1207
BHAR (0)		-0.01%	-0.39%	-0.34%	-0.28%	-0.25%	-0.37%	-0.32%	-0.03%	-0.04%	-0.19%	-0.13%	-0.15%	0.07%	-0.06%	-0.17%	-0.08%
		-0.0491	-1.3715	-1.2385	-0.8192	-0.8286	-1.2603	-1.0677	-0.0979	-0.1288	-0.5803	-0.4132	-0.5034	0.2373	-0.2160	-0.5945	-0.2747
BHAR (1)		-0.14%	-0.55%	-0.31%	-0.29%	-0.37%	-0.32%	-0.24%	-0.10%	-0.19%	-0.15%	-0.13%	-0.22%	-0.10%	-0.21%	-0.19%	-0.10%
		-0.5242	-1.9453	-1.1228	-0.8579	-1.2302	-1.1214	-0.8509	-0.3499	-0.6143	-0.4986	-0.4254	-0.7521	-0.3536	-0.7283	-0.6742	-0.3675
NEWZEALA	ND	1												1			
CAR (0)		0.55%	0.24%	0.21%	0.26%	0.64%	0.31%	0.24%	0.22%	0.48%	0.34%	0.24%	0.18%	0.72%	0.47%	0.34%	0.21%
		1.6405	1.1762	1.3200	1.8758	1.9566	1.3141	1.2718	1.2769	1.7404	1.4770	1.1630	0.8949	2.8463	1.9522	1.4959	0.9573
CAR (1)		0.19%	0.09%	0.15%	0.18%	0.34%	0.17%	0.14%	0.12%	0.26%	0.20%	0.15%	0.06%	0.54%	0.30%	0.22%	0.11%
		0.7002	0.5258	1.0136	1.4228	1.2209	0.8099	0.8148	0.6991	1.0709	0.9055	0.7173	0.3209	2.1319	1.2870	0.9648	0.5322
BHAR (0)		0.87%	0.10%	0.68%	-0.40%	0.87%	0.61%	0.09%	0.26%	0.64%	0.33%	0.29%	0.23%	0.86%	0.56%	0.36%	0.11%
		1.9367	0.3284	1.5196	-1.4311	2.5403	1.8745	0.3099	0.7956	2.2703	1.1609	1.1612	0.9067	3.1311	1.9503	1.2958	0.4229
BHAR (1)		0.38%	-0.15%	0.30%	-0.41%	0.45%	0.39%	-0.14%	-0.03%	0.19%	0.03%	0.20%	0.14%	0.64%	0.33%	0.02%	0.10%
		0.9507	-0.5100	0.7667	-1.5020	1.4011	1.2916	-0.5020	-0.0971	0.7007	0.1122	0.7825	0.5230	2.3603	1.1498	0.0684	0.3903

MW	J =		3				6	i			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWA	Y																
CAR (0)		-0.05%	0.06%	0.14%	0.12%	-0.04%	0.10%	0.10%	0.02%	0.19%	0.22%	0.09%	-0.05%	0.31%	0.12%	-0.02%	-0.13%
		-0.2288	0.4045	1.0656	1.0102	-0.1588	0.4467	0.5582	0.1529	0.7331	0.9579	0.4315	-0.2607	1.1681	0.4888	-0.0912	-0.6626
CAR (1)		-0.09%	0.15%	0.15%	0.12%	0.11%	0.19%	0.13%	0.00%	0.31%	0.20%	0.03%	-0.10%	0.27%	0.02%	-0.11%	-0.20%
		-0.4506	0.9493	1.1521	0.9804	0.4247	0.8671	0.7296	0.0264	1.1600	0.8616	0.1651	-0.5052	1.0156	0.0825	-0.5223	-0.9614
BHAR (0)		-0.03%	0.16%	0.05%	0.46%	-0.05%	-0.04%	-0.07%	0.21%	0.18%	0.11%	0.23%	-0.03%	0.36%	0.07%	-0.09%	-0.15%
		-0.0952	0.6132	0.1890	1.6826	-0.1836	-0.1513	-0.2381	0.8365	0.6152	0.3741	0.8731	-0.1156	1.2964	0.2847	-0.3011	-0.5623
BHAR (1)		0.04%	0.29%	0.11%	0.46%	0.24%	0.14%	0.01%	0.00%	0.24%	0.08%	0.29%	-0.20%	0.34%	0.05%	-0.29%	-0.20%
		0.1771	1.1657	0.4448	1.7117	0.8500	0.5031	0.0259	0.0158	0.8287	0.2655	1.0766	-0.6810	1.2490	0.2126	-1.0243	-0.7363
PORTUGA	A L																
CAR (0)		0.46%	0.23%	0.22%	0.20%	0.23%	0.17%	0.18%	0.11%	-0.04%	0.01%	0.08%	0.05%	-0.03%	0.13%	0.11%	0.08%
		1.1385	0.7022	0.8534	1.0206	0.5456	0.5102	0.6499	0.4385	-0.1080	0.0220	0.2565	0.1573	-0.0725	0.3683	0.3249	0.2337
CAR (1)		0.36%	0.19%	0.24%	0.18%	0.15%	0.22%	0.18%	0.06%	-0.18%	0.05%	0.09%	0.03%	0.11%	0.19%	0.13%	0.13%
		0.9625	0.6223	1.0618	0.9055	0.3889	0.6671	0.6385	0.2481	-0.4393	0.1437	0.2594	0.0862	0.2795	0.5312	0.3875	0.3798
BHAR (0)		0.10%	-0.42%	0.12%	0.39%	0.00%	0.00%	0.05%	0.20%	-0.08%	0.07%	0.18%	-0.17%	0.06%	0.43%	0.42%	0.34%
		0.2167	-0.9665	0.3089	0.8758	-0.0052	0.0095	0.1217	0.4509	-0.1866	0.1643	0.4307	-0.3735	0.1487	0.9434	1.0036	0.7646
BHAR (1)		0.72%	-0.09%	0.29%	0.52%	0.30%	0.42%	0.19%	0.27%	-0.27%	-0.04%	0.01%	-0.02%	0.23%	0.43%	0.59%	0.36%
		1.6907	-0.2108	0.7388	1.1917	0.6702	0.9118	0.4295	0.6215	-0.6310	-0.0972	0.0346	-0.0545	0.5506	1.0293	1.4253	0.8179
SINGAPO	RE																
CAR (0)		-0.04%	-0.05%	-0.12%	-0.11%	0.05%	-0.07%	-0.14%	-0.17%	-0.13%	-0.22%	-0.25%	-0.28%	-0.12%	-0.16%	-0.25%	-0.28%
		-0.1448	-0.2687	-0.7277	-0.7318	0.2095	-0.3251	-0.6169	-0.8232	-0.4358	-0.7607	-0.9056	-1.1607	-0.3757	-0.5567	-0.8729	-1.0956
CAR (1)		-0.24%	-0.09%	-0.14%	-0.16%	-0.03%	-0.10%	-0.13%	-0.21%	-0.18%	-0.20%	-0.28%	-0.29%	-0.14%	-0.18%	-0.29%	-0.27%
		-0.9377	-0.5042	-0.8576	-1.0590	-0.1314	-0.4193	-0.5617	-1.0322	-0.5689	-0.7001	-1.0413	-1.2631	-0.4452	-0.6034	-1.0147	-1.1058
BHAR (0)		-0.13%	-0.10%	0.06%	-0.26%	-0.12%	0.02%	-0.43%	0.16%	-0.07%	-0.04%	-0.15%	-0.47%	0.09%	-0.03%	-0.06%	0.01%
		-0.4212	-0.3250	0.2207	-0.8007	-0.3927	0.0817	-1.3537	0.5951	-0.2007	-0.1228	-0.4772	-1.4675	0.2734	-0.0739	-0.1752	0.0317
BHAR (1)		-0.54%	-0.49%	0.04%	-0.32%	-0.18%	0.09%	-0.40%	0.32%	-0.23%	-0.12%	-0.03%	-0.54%	-0.13%	-0.09%	-0.32%	-0.06%
		-1.7092	-1.4959	0.1340	-0.9617	-0.5928	0.3625	-1.2352	1.1826	-0.6880	-0.3619	-0.0979	-1.6465	-0.4130	-0.2613	-0.9878	-0.1796
SPAIN																	
CAR (0)		-0.19%	-0.21%	-0.03%	0.08%	-0.23%	-0.18%	0.03%	0.05%	-0.05%	0.07%	0.20%	0.19%	0.12%	0.18%	0.20%	0.18%
		-0.7415	-0.9879	-0.1811	0.5680	-0.8241	-0.7155	0.1540	0.3138	-0.1861	0.2587	0.8893	0.9471	0.4397	0.6937	0.8513	0.8003
CAR (1)		-0.34%	-0.22%	0.00%	0.06%	-0.39%	-0.10%	0.07%	0.07%	0.04%	0.17%	0.25%	0.21%	0.14%	0.23%	0.22%	0.19%
		-1.3444	-1.0377	0.0134	0.4629	-1.3834	-0.3843	0.3377	0.4031	0.1457	0.6743	1.1937	1.0553	0.4838	0.8889	0.9371	0.8534
BHAR (0)		-0.34%	-0.61%	-0.21%	-0.28%	-0.41%	-0.47%	-0.09%	0.41%	-0.14%	-0.05%	0.35%	0.44%	0.11%	0.38%	0.36%	0.25%
		-1.1440	-1.9955	-0.7096	-0.9623	-1.2783	-1.5276	-0.2933	1.3966	-0.4345	-0.1491	1.2908	1.6378	0.3601	1.2727	1.2332	0.8682
BHAR (1)		-0.37%	-0.61%	-0.17%	-0.12%	-0.46%	-0.37%	-0.07%	0.46%	-0.03%	0.04%	0.39%	0.37%	0.09%	0.32%	0.33%	0.15%
		-1.2350	-2.0394	-0.6016	-0.4142	-1.4674	-1.1533	-0.2282	1.5358	-0.0953	0.1206	1.3944	1.3701	0.2845	1.0575	1.1396	0.5034

MW	J =		3				6	i			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	Ī																
CAR (0)		0.52%	0.34%	0.19%	0.16%	0.64%	0.41%	0.21%	0.13%	0.38%	0.18%	0.06%	-0.02%	0.43%	0.19%	0.07%	-0.02%
		1.8558	1.4859	0.8608	0.8645	1.9453	1.3619	0.7939	0.5219	1.1066	0.5760	0.1981	-0.0695	1.2584	0.5650	0.1968	-0.0489
CAR (1)		0.37%	0.26%	0.14%	0.11%	0.56%	0.33%	0.17%	0.06%	0.16%	0.04%	-0.02%	-0.08%	0.28%	0.12%	-0.03%	-0.09%
		1.3809	1.1620	0.6986	0.5921	1.6785	1.1493	0.6554	0.2200	0.4844	0.1297	-0.0606	-0.2898	0.7986	0.3526	-0.0902	-0.2780
BHAR (0)		0.56%	0.37%	0.24%	-0.48%	0.88%	0.37%	-0.01%	-0.33%	0.27%	-0.38%	-0.12%	-0.66%	0.39%	0.01%	0.12%	0.03%
		1.6421	1.1769	0.6701	-1.3077	2.5198	1.0070	-0.0186	-0.9379	0.7761	-1.0741	-0.3262	-1.8084	1.1115	0.0326	0.2964	0.0928
BHAR (1)		0.45%	0.24%	0.11%	-0.47%	0.83%	0.34%	0.19%	-0.31%	0.13%	-0.34%	-0.31%	-0.57%	0.20%	-0.06%	0.05%	0.06%
		1.3432	0.7476	0.3257	-1.3480	2.2493	0.9383	0.5484	-0.8924	0.3561	-0.9257	-0.8059	-1.4647	0.5407	-0.1468	0.1158	0.1815
SWITZERLA	ND																
CAR (0)		-0.22%	-0.02%	0.06%	0.13%	-0.02%	0.12%	0.21%	0.22%	0.12%	0.21%	0.24%	0.21%	0.27%	0.26%	0.22%	0.17%
		-1.1465	-0.1332	0.4776	1.0781	-0.1170	0.6184	1.1816	1.3486	0.5271	0.9243	1.1379	1.0705	1.0996	1.1181	1.0038	0.8223
CAR (1)		-0.13%	0.04%	0.15%	0.11%	0.11%	0.25%	0.26%	0.22%	0.24%	0.26%	0.27%	0.18%	0.27%	0.26%	0.20%	0.13%
		-0.6867	0.2663	1.1259	0.9785	0.5378	1.2553	1.4936	1.3755	1.0172	1.1468	1.2860	0.9242	1.1189	1.1558	0.9175	0.6316
BHAR (0)		-0.16%	-0.11%	-0.37%	0.10%	-0.04%	0.06%	0.03%	0.25%	0.09%	-0.01%	0.16%	-0.04%	0.28%	0.24%	0.10%	0.02%
		-0.6593	-0.4760	-1.5407	0.4424	-0.1852	0.2635	0.1242	1.1033	0.3554	-0.0557	0.6429	-0.1678	1.1014	0.9159	0.3907	0.0901
BHAR (1)		-0.18%	-0.04%	-0.24%	0.06%	0.10%	0.32%	0.08%	0.25%	0.20%	0.03%	0.07%	-0.13%	0.18%	0.26%	0.04%	0.03%
		-0.7925	-0.1818	-1.0031	0.2798	0.4373	1.3091	0.3553	1.1056	0.7895	0.1059	0.2888	-0.5199	0.7391	1.0487	0.1509	0.1181
UK																	
CAR (0)		-0.10%	0.01%	0.06%	0.15%	-0.04%	0.06%	0.17%	0.20%	0.02%	0.18%	0.20%	0.13%	0.26%	0.25%	0.17%	0.12%
		-0.5625	0.0493	0.4582	1.4613	-0.2061	0.3006	1.0379	1.3157	0.0781	0.9117	1.0941	0.8079	1.1636	1.1989	0.9012	0.6994
CAR (1)		-0.07%	0.04%	0.12%	0.16%	-0.01%	0.13%	0.21%	0.16%	0.13%	0.22%	0.20%	0.10%	0.24%	0.21%	0.13%	0.07%
		-0.3809	0.3092	0.9776	1.5255	-0.0413	0.7150	1.3180	1.1369	0.6048	1.1176	1.1383	0.6403	1.1246	1.0733	0.7195	0.4164
BHAR (0)		-0.26%	-0.14%	0.12%	-0.06%	-0.12%	0.10%	0.01%	0.41%	-0.02%	0.13%	0.18%	0.28%	0.22%	0.29%	0.10%	0.15%
		-1.2152	-0.7085	0.6311	-0.3130	-0.5320	0.4689	0.0447	2.2835	-0.0794	0.5278	0.9123	1.3874	0.9133	1.4265	0.5006	0.7074
BHAR (1)		-0.01%	-0.18%	0.13%	0.08%	-0.12%	0.20%	0.13%	0.27%	0.11%	0.10%	0.09%	0.14%	0.14%	0.18%	-0.01%	0.02%
		-0.0236	-0.9732	0.6538	0.4053	-0.5289	0.9293	0.5809	1.5100	0.4636	0.4286	0.4570	0.6740	0.6271	0.8607	-0.0345	0.0809
US																	
CAR (0)		-0.18%	-0.04%	0.08%	0.09%	-0.05%	0.09%	0.17%	0.12%	0.15%	0.22%	0.20%	0.11%	0.24%	0.20%	0.15%	0.10%
		-1.0034	-0.2607	0.5780	0.7356	-0.2586	0.4913	0.9877	0.7543	0.6866	1.0626	1.0195	0.6289	1.0404	0.9210	0.7380	0.4882
CAR (1)		-0.11%	0.05%	0.14%	0.10%	0.03%	0.18%	0.19%	0.11%	0.29%	0.26%	0.20%	0.11%	0.22%	0.20%	0.13%	0.08%
		-0.6213	0.3350	1.0664	0.8478	0.1329	0.9889	1.1122	0.6872	1.3191	1.2972	1.0370	0.6155	1.0161	0.9044	0.6515	0.3814
BHAR (0)		-0.28%	0.07%	-0.08%	0.17%	-0.07%	0.02%	-0.09%	0.27%	0.12%	0.13%	0.31%	0.03%	0.25%	0.23%	0.09%	0.11%
		-1.3262	0.3559	-0.3942	0.7993	-0.3116	0.0910	-0.4024	1.4494	0.5052	0.5603	1.4562	0.1185	1.0228	1.0249	0.3586	0.4878
BHAR (1)		-0.09%	-0.03%	-0.02%	0.13%	-0.07%	0.08%	-0.10%	0.18%	0.24%	0.08%	0.19%	-0.11%	0.09%	0.13%	-0.05%	-0.03%
		-0.4338	-0.1680	-0.1240	0.6054	-0.2958	0.3616	-0.4438	0.9864	1.0029	0.3392	0.8660	-0.4705	0.3827	0.6005	-0.2229	-0.1375

Panel C. The time-series momentum strategy using inversed volatility-weighted return

IVOL	J =		3		time-se	1100	6			1,01500	9				12	<u> </u>	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL	JA																
CAR (0)		0.68%	0.50%	0.40%	0.37%	0.81%	0.62%	0.56%	0.38%	0.79%	0.68%	0.56%	0.41%	0.92%	0.73%	0.57%	0.37%
		3.1743	3.0286	2.5617	2.5911	3.8365	3.0559	2.8799	2.0889	3.4169	3.1235	2.5274	2.0143	3.7851	2.8643	2.3075	1.6242
CAR (1)		0.47%	0.50%	0.51%	0.41%	0.76%	0.58%	0.48%	0.26%	0.74%	0.65%	0.53%	0.34%	0.73%	0.56%	0.38%	0.26%
		2.3838	2.8521	3.0254	2.6058	3.7238	2.8242	2.4275	1.4424	3.2184	2.7417	2.2368	1.5899	2.9792	2.2617	1.5563	1.1477
BHAR (0)		0.65%	0.78%	0.21%	-0.09%	0.49%	0.54%	0.15%	0.37%	0.80%	0.46%	1.05%	1.04%	1.05%	0.76%	0.87%	0.62%
		2.0165	2.2811	0.5073	-0.3142	1.7183	1.6029	0.3890	1.3825	2.7859	1.3877	2.8531	2.9675	3.3604	2.2503	2.4787	1.5852
BHAR (1)		0.70%	0.32%	0.21%	-0.27%	0.45%	0.42%	0.43%	0.14%	0.60%	0.41%	0.84%	0.94%	0.65%	0.38%	0.03%	0.36%
		2.2201	0.8656	0.5662	-0.6392	1.5923	1.2401	1.3742	0.4352	2.1219	1.2397	2.1793	2.3702	2.3511	1.2441	0.0935	1.0723
AUSTRI	A																
CAR (0)		0.85%	0.60%	0.53%	0.53%	0.87%	0.72%	0.74%	0.69%	1.14%	0.97%	0.91%	0.76%	1.03%	0.84%	0.76%	0.66%
		4.3280	3.3252	3.4533	3.9555	3.5368	3.3402	3.7538	3.7576	4.5972	3.9491	3.7604	3.4050	4.1632	3.2877	3.1134	3.0428
CAR (1)		0.70%	0.45%	0.48%	0.48%	0.82%	0.65%	0.70%	0.61%	1.06%	0.88%	0.82%	0.63%	0.92%	0.76%	0.68%	0.57%
		3.4297	2.6142	3.2438	3.6625	3.5169	3.1098	3.5844	3.3912	4.4112	3.5681	3.4268	2.9106	3.7501	3.0406	2.8484	2.7016
BHAR (0)		0.85%	0.50%	0.51%	0.42%	0.72%	0.39%	0.73%	0.89%	1.11%	0.90%	1.00%	0.61%	1.05%	0.86%	0.78%	0.46%
		3.4536	1.7895	1.7790	1.4415	2.7827	1.4231	2.8970	3.9239	4.2529	2.9889	3.8791	2.5213	4.1266	3.2457	2.8381	1.8443
BHAR (1)		0.67%	0.34%	0.48%	0.24%	0.72%	0.39%	0.81%	0.87%	0.94%	0.80%	0.89%	0.55%	0.97%	0.83%	0.58%	0.37%
		2.6647	1.2481	1.5354	0.8821	2.8969	1.4477	3.3153	4.0697	3.7090	2.6745	3.5344	1.9670	3.7987	3.1622	1.8304	1.2585
BELGIU	M								-								
CAR (0)		0.43%	0.38%	0.37%	0.39%	0.60%	0.60%	0.57%	0.49%	0.74%	0.74%	0.63%	0.52%	0.82%	0.74%	0.62%	0.51%
		2.9163	2.9451	3.2169	3.9428	3.9975	4.3263	4.5445	4.3216	4.6351	4.9539	4.6793	4.1177	4.9724	4.9059	4.2881	3.7173
CAR (1)		0.39%	0.31%	0.31%	0.33%	0.62%	0.61%	0.56%	0.46%	0.81%	0.69%	0.61%	0.47%	0.79%	0.70%	0.56%	0.44%
		2.8942	2.7871	3.0207	3.7577	4.1814	4.5333	4.5552	4.1665	5.1353	4.8064	4.6751	3.7833	5.0760	4.7009	3.9360	3.3325
BHAR (0)		0.42%	0.25%	0.14%	0.26%	0.58%	0.54%	0.34%	0.60%	0.73%	0.58%	0.67%	0.55%	0.81%	0.70%	0.68%	0.36%
		2.8496	1.4582	0.5626	1.5613	3.4480	3.1157	2.2825	4.1431	4.0886	3.5247	4.8932	3.5883	4.7191	4.1893	4.0808	2.0486
BHAR (1)		0.38%	0.40%	0.25%	0.33%	0.57%	0.52%	0.39%	0.57%	0.69%	0.52%	0.66%	0.33%	0.75%	0.69%	0.62%	0.36%
		2.2789	2.2265	1.2664	2.0177	3.3443	3.0319	2.7783	3.9419	4.1406	3.2084	4.9222	2.0255	4.5748	4.2381	3.8029	1.9220
CANADA	A	0.680/	0.500/	0.540/	0.460/	0.000/	0 < 40/	0.610/	0.540/	0.040/	0 (50)	0.550/	0.450/	0.050/	0.600/	0.550/	0.450/
CAR (0)		0.67%	0.50%	0.51%	0.46%	0.80%	0.64%	0.61%	0.51%	0.81%	0.65%	0.57%	0.45%	0.87%	0.69%	0.57%	0.47%
CAR (1)		3.3260	2.9366	3.4329	3.3386	3.4959	3.2241	3.4173	3.0537	3.7066	3.3100	3.0394	2.5274	3.9610	3.3144	2.8647	2.4316
CAR (1)		0.45%	0.45%	0.49%	0.38%	0.70%	0.62%	0.57%	0.46%	0.73%	0.58%	0.53%	0.40%	0.75%	0.62%	0.51%	0.42%
DILAD (0)		2.2981	2.6451	3.3844	2.7983	3.2915	3.2731	3.2889	2.7816	3.5112	3.0174	2.8487	2.2442	3.5309	3.0632	2.6072	2.1828
BHAR (0)		0.65%	0.41%	0.47%	0.66%	0.82%	0.77%	0.00%	0.90%	0.64%	0.38%	0.43%	0.22%	0.69%	0.76%	0.67%	0.60%
DILAD (1)		2.8138	1.4290	2.0177	2.2224	2.7490	2.6946	-0.0132	3.1566	2.7764	1.4678	2.0286	0.8214	2.9579	3.6080	3.0845	2.8108
BHAR (1)		0.40%	0.21%	0.48%	0.40%	0.43%	0.52%	-0.01%	0.68%	0.49%	0.43%	0.51%	0.39%	0.59%	0.83%	0.81%	0.56%
		1.6972	0.9753	2.0571	1.7326	1.9054	2.4033	-0.0442	3.4590	2.1008	1.8604	1.5557	1.8588	2.7016	2.5125	2.1382	2.7098

IVOL	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAI	RK																
CAR (0)		0.65%	0.61%	0.56%	0.51%	0.93%	0.82%	0.73%	0.59%	0.90%	0.80%	0.62%	0.48%	0.89%	0.69%	0.52%	0.38%
		6.2412	6.4185	6.4857	6.5912	7.3374	6.7222	6.4876	5.5492	6.7001	5.9730	4.7745	3.8768	6.1859	5.0264	3.9106	2.9341
CAR (1)		0.52%	0.52%	0.51%	0.43%	0.84%	0.75%	0.63%	0.48%	0.85%	0.69%	0.52%	0.38%	0.77%	0.57%	0.40%	0.28%
		5.2656	5.5299	5.9850	5.6466	6.6506	6.0273	5.5809	4.5325	6.2792	5.0564	3.9432	3.0945	5.4741	4.1579	3.0091	2.1832
BHAR (0)		0.61%	0.40%	0.32%	0.30%	0.92%	0.71%	0.71%	0.80%	0.84%	0.76%	0.82%	0.55%	0.86%	0.72%	0.51%	0.27%
		4.7913	2.9528	2.4948	2.1926	6.2834	4.5102	4.6195	5.6270	5.7317	4.8524	5.1681	3.1954	5.2738	4.5860	3.2148	1.6305
BHAR (1)		0.39%	0.33%	0.25%	0.30%	0.77%	0.69%	0.54%	0.71%	0.85%	0.57%	0.71%	0.33%	0.80%	0.60%	0.41%	0.14%
		2.8852	2.5222	1.8005	2.0765	5.8319	4.5156	3.6995	5.3785	5.6672	3.5487	4.4996	1.8926	5.1662	3.8272	2.6239	0.8475
FINLAN	D																
CAR (0)		0.41%	0.44%	0.41%	0.37%	0.67%	0.66%	0.58%	0.47%	0.80%	0.75%	0.61%	0.45%	0.80%	0.61%	0.45%	0.35%
		1.8882	2.4504	2.5933	2.5966	2.8794	3.0215	2.8341	2.3569	2.8556	2.8393	2.3830	1.8238	2.6044	2.0474	1.5494	1.2710
CAR (1)		0.42%	0.40%	0.38%	0.29%	0.59%	0.59%	0.53%	0.38%	0.77%	0.69%	0.52%	0.36%	0.63%	0.49%	0.34%	0.29%
		2.0096	2.2588	2.4699	2.0982	2.6198	2.8026	2.6097	1.9465	2.7930	2.6183	2.0317	1.4687	2.0519	1.6277	1.1729	1.0585
BHAR (0)		0.22%	0.33%	0.43%	0.18%	0.51%	0.76%	0.65%	0.83%	0.72%	0.52%	0.59%	0.38%	0.81%	0.92%	0.50%	0.60%
		0.7167	0.9930	1.6670	0.5055	1.9119	2.8923	2.5066	3.2366	2.3224	1.5629	1.8292	1.2783	2.4282	2.7991	1.4958	1.9156
BHAR (1)		0.70%	0.33%	0.50%	0.08%	0.71%	0.81%	0.64%	0.72%	0.73%	0.36%	0.37%	0.26%	0.68%	0.76%	0.28%	0.46%
		2.7319	1.2221	2.0214	0.2727	2.8720	3.1665	2.5418	2.9302	2.3552	1.1176	1.1791	0.8750	2.0615	2.3807	0.8591	1.5122
FRANC	E				-				1								
CAR (0)		0.19%	0.12%	0.18%	0.27%	0.45%	0.31%	0.36%	0.31%	0.52%	0.44%	0.33%	0.25%	0.65%	0.38%	0.29%	0.21%
		0.8525	0.5819	0.9090	1.3824	1.9873	1.1366	1.2719	1.1636	2.1141	1.5085	1.1502	1.0287	2.6781	1.4292	1.2022	0.9844
CAR (1)		0.22%	0.09%	0.16%	0.23%	0.49%	0.30%	0.32%	0.26%	0.61%	0.44%	0.21%	0.13%	0.56%	0.23%	0.18%	0.14%
		1.0350	0.4281	0.7723	1.1850	2.2732	1.1040	1.1083	1.0629	2.5928	1.5172	0.7841	0.5383	2.3990	0.9322	0.7998	0.6697
BHAR (0)		0.50%	-0.69%	0.71%	-0.26%	0.42%	-0.26%	0.66%	0.31%	0.58%	0.89%	0.11%	0.86%	0.85%	0.28%	0.73%	0.11%
		1.5973	-1.6972	1.6690	-0.5255	1.6944	-0.6282	2.1296	0.6990	2.5579	2.9261	0.2708	2.3342	3.4998	0.7500	1.9693	0.2618
BHAR (1)		0.00%	-0.87%	0.30%	-0.31%	0.16%	-0.15%	-0.20%	0.62%	0.34%	0.36%	-0.31%	0.02%	0.31%	-0.10%	0.55%	-0.12%
		-0.0024	-2.0943	0.7342	-0.6050	0.5185	-0.3682	-0.5034	1.4555	1.1195	0.8768	-0.7030	0.0438	0.9731	-0.2405	1.4531	-0.2904
GERMAN	NY	0.5101				0 (10)		0.450/		. ===./	0.4504	0.500/		0.000/	0 (0 0 1	0.000/	
CAR (0)		0.61%	0.32%	0.35%	0.21%	0.64%	0.55%	0.45%	0.34%	0.72%	0.65%	0.50%	0.31%	0.83%	0.62%	0.38%	0.27%
		3.5970	2.1388	3.0302	1.9229	3.8478	3.6798	3.0278	2.2835	3.6280	3.1553	2.3754	1.6374	4.2387	2.8802	1.8692	1.5221
CAR (1)		0.57%	0.35%	0.40%	0.24%	0.58%	0.54%	0.43%	0.32%	0.75%	0.59%	0.42%	0.24%	0.75%	0.50%	0.27%	0.21%
		3.8059	2.6252	3.5041	2.2578	3.5729	3.3616	2.6850	2.0383	3.9739	2.9591	2.0579	1.2699	3.8934	2.3932	1.3859	1.1835
BHAR (0)		0.24%	-0.07%	-0.08%	-0.60%	0.38%	0.55%	0.35%	0.30%	0.78%	0.60%	0.56%	0.34%	0.83%	0.71%	0.45%	0.22%
		1.1029	-0.2704	-0.3635	-1.8393	1.8553	2.9092	1.5426	1.3012	3.8322	2.3824	2.2572	1.3182	4.2414	3.4538	1.7448	1.2586
BHAR (1)		0.64%	0.21%	0.29%	-0.16%	0.44%	0.61%	0.42%	0.14%	0.73%	0.43%	0.32%	0.16%	0.74%	0.66%	0.26%	0.22%
		3.4120	0.9153	1.3167	-0.5103	2.4009	2.5614	2.0600	0.5445	3.7569	1.7107	1.2464	0.6152	3.8188	3.2551	1.0349	1.2569

IVOL	J =		3				6				9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECI	E																
CAR (0)		0.55%	0.40%	0.31%	0.21%	0.63%	0.40%	0.27%	0.04%	0.50%	0.29%	0.05%	-0.09%	0.26%	0.05%	-0.11%	-0.14%
		2.0080	1.7598	1.5022	1.1402	2.1640	1.4950	1.0849	0.2025	1.6442	1.0062	0.1767	-0.3755	0.8401	0.1763	-0.3991	-0.5659
CAR (1)		0.43%	0.40%	0.29%	0.17%	0.45%	0.32%	0.15%	-0.06%	0.48%	0.20%	-0.02%	-0.13%	0.16%	-0.04%	-0.14%	-0.16%
		1.6987	1.8604	1.4694	0.9413	1.6211	1.2080	0.6050	-0.2512	1.6028	0.7222	-0.0774	-0.5559	0.5266	-0.1288	-0.5352	-0.6650
BHAR (0)		0.48%	0.66%	0.21%	0.42%	0.58%	0.31%	0.17%	0.27%	0.62%	0.47%	0.04%	0.13%	0.29%	-0.06%	-0.17%	-0.36%
		1.5416	2.3930	0.6850	1.6988	1.8975	0.8813	0.5077	0.9334	1.9515	1.5317	0.1388	0.4132	0.8907	-0.1798	-0.5639	-1.1451
BHAR (1)		0.59%	0.62%	0.17%	0.52%	0.44%	0.30%	0.20%	0.13%	0.63%	0.46%	0.22%	-0.02%	0.26%	-0.14%	-0.32%	-0.28%
		1.9867	2.2264	0.5551	2.0364	1.4402	0.9098	0.7079	0.4442	1.9451	1.5011	0.6934	-0.0685	0.7820	-0.4229	-1.0836	-0.8985
HONGKO	NG																
CAR (0)		0.25%	0.26%	0.20%	0.05%	0.61%	0.36%	0.18%	0.01%	0.49%	0.20%	0.03%	-0.11%	0.24%	0.01%	-0.10%	-0.19%
		1.1104	1.5284	1.4179	0.3470	2.4525	1.6248	0.8798	0.0584	1.9300	0.8177	0.1568	-0.5550	0.9271	0.0478	-0.4443	-0.9321
CAR (1)		0.10%	0.21%	0.10%	-0.05%	0.46%	0.28%	0.07%	-0.07%	0.32%	0.06%	-0.10%	-0.19%	0.08%	-0.09%	-0.20%	-0.26%
		0.5006	1.4352	0.7601	-0.4021	1.9762	1.2701	0.3655	-0.4001	1.2699	0.2667	-0.4374	-0.9763	0.3084	-0.3963	-0.8867	-1.3121
BHAR (0)		0.23%	0.26%	0.18%	0.24%	0.74%	0.48%	0.31%	0.72%	0.53%	0.18%	0.19%	-0.15%	0.32%	0.24%	0.07%	0.04%
		0.7940	0.9776	0.6655	0.9815	2.4569	1.5541	0.9554	2.4285	1.7748	0.6447	0.7601	-0.6090	1.0941	0.8254	0.2660	0.1683
BHAR (1)		0.04%	0.08%	0.06%	0.08%	0.43%	0.23%	-0.02%	0.16%	0.14%	0.00%	0.00%	-0.27%	0.01%	0.05%	-0.05%	0.00%
		0.1725	0.2868	0.2314	0.3464	1.5028	0.8870	-0.0793	0.6972	0.4959	0.0180	-0.0190	-1.1053	0.0369	0.1977	-0.1829	0.0200
IRELAN	D																
CAR (0)		0.44%	0.30%	0.35%	0.40%	0.74%	0.65%	0.73%	0.60%	0.86%	0.67%	0.59%	0.49%	0.80%	0.60%	0.54%	0.39%
		2.0935	1.7066	2.1833	2.7679	3.3206	3.2912	3.9933	3.5577	3.6127	3.0363	2.8371	2.6313	3.3158	2.5466	2.4799	2.0096
CAR (1)		0.32%	0.20%	0.30%	0.30%	0.74%	0.66%	0.67%	0.50%	0.67%	0.62%	0.52%	0.41%	0.75%	0.53%	0.48%	0.33%
		1.5957	1.1096	1.9030	2.0936	3.4463	3.2751	3.6120	2.9285	2.7390	2.7077	2.5066	2.1871	3.0788	2.2942	2.2335	1.7474
BHAR (0)		0.36%	0.00%	0.09%	0.39%	0.57%	0.77%	0.51%	0.77%	0.77%	0.36%	0.39%	0.33%	0.78%	0.94%	0.77%	0.72%
		1.3701	0.0149	0.3686	1.5209	2.2111	3.3466	1.8469	3.2358	2.9919	1.3170	1.4502	1.2566	3.0013	3.5871	3.0777	2.6928
BHAR (1)		0.11%	-0.28%	0.21%	0.23%	0.49%	0.66%	0.40%	0.43%	0.38%	0.27%	0.23%	0.19%	0.66%	0.86%	0.84%	0.71%
		0.3722	-0.9268	0.7944	0.7098	1.9573	2.7994	1.5493	1.7238	1.3339	0.9904	0.8219	0.7109	2.4228	3.2914	2.8913	2.6800
ISRAEL																	
CAR (0)		0.09%	0.08%	0.03%	0.00%	0.14%	0.15%	-0.02%	-0.07%	0.25%	0.22%	0.13%	0.06%	0.17%	0.11%	0.07%	0.02%
		0.5233	0.5957	0.2472	-0.0221	0.8399	1.0625	-0.1168	-0.5918	1.4642	1.3493	0.8468	0.4528	0.9335	0.6406	0.4149	0.1138
CAR (1)		0.16%	0.16%	0.05%	-0.01%	0.26%	0.21%	0.07%	-0.02%	0.23%	0.14%	0.09%	0.01%	0.17%	0.12%	0.06%	0.02%
		1.0210	1.1995	0.3519	-0.1162	1.5667	1.4054	0.5119	-0.1387	1.4135	0.8632	0.6584	0.0650	0.9693	0.7256	0.4055	0.1065
BHAR (0)		-0.07%	0.00%	-0.10%	-0.44%	0.05%	0.19%	0.04%	-0.01%	0.34%	0.12%	0.20%	0.10%	0.13%	0.34%	-0.04%	-0.09%
		-0.2460	-0.0071	-0.3248	-1.6263	0.2440	0.8375	0.1709	-0.0463	1.8499	0.5682	1.1290	0.5272	0.6380	1.8629	-0.1966	-0.5164
BHAR (1)		0.07%	-0.11%	-0.10%	-0.25%	0.35%	0.43%	0.29%	0.24%	0.31%	0.05%	0.29%	0.02%	0.22%	0.30%	0.08%	-0.08%
		0.2883	-0.4747	-0.3521	-1.1295	1.8911	1.7450	1.3179	1.1000	1.5159	0.2566	1.6351	0.1229	1.1848	1.5970	0.3954	-0.4356

IVOL	J =		3				6	j			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.41%	0.35%	0.42%	0.40%	0.56%	0.58%	0.58%	0.51%	0.70%	0.63%	0.54%	0.42%	0.71%	0.57%	0.45%	0.35%
		2.4440	2.5958	3.8117	3.9634	2.9710	3.7310	4.2582	3.9462	3.9341	3.9031	3.6444	3.0017	3.8380	3.2966	2.8807	2.3237
CAR (1)		0.37%	0.35%	0.37%	0.33%	0.54%	0.55%	0.51%	0.44%	0.64%	0.57%	0.46%	0.33%	0.62%	0.49%	0.38%	0.28%
		2.3226	2.7249	3.6083	3.4474	3.1181	3.8373	3.9276	3.5817	3.8519	3.6777	3.1510	2.4191	3.4546	2.9475	2.4522	1.9223
BHAR (0)		0.28%	0.38%	0.40%	0.37%	0.59%	0.51%	0.66%	0.47%	0.72%	0.58%	0.57%	0.44%	0.70%	0.53%	0.51%	0.30%
		1.4194	1.8277	2.4166	2.1613	2.9805	2.8431	3.0165	2.6552	3.7835	3.0352	3.1848	2.3575	3.6355	3.0461	2.8284	1.7990
BHAR (1)		0.30%	0.33%	0.50%	0.40%	0.57%	0.51%	0.47%	0.44%	0.62%	0.47%	0.46%	0.17%	0.62%	0.50%	0.41%	0.26%
		1.5579	1.6711	2.9765	2.5354	2.9478	2.8293	2.4531	2.5392	3.4531	2.7374	2.6586	0.9898	3.2373	2.7542	2.2525	1.5278
JAPAN																	
CAR (0)		-0.01%	-0.11%	-0.09%	-0.03%	-0.24%	-0.21%	-0.11%	-0.12%	-0.16%	-0.11%	-0.13%	-0.17%	-0.06%	-0.16%	-0.20%	-0.23%
		-0.0452	-0.8523	-0.8351	-0.3141	-1.3441	-1.3569	-0.8052	-0.9997	-0.8940	-0.6684	-0.8895	-1.2674	-0.3437	-0.9637	-1.2902	-1.6501
CAR (1)		-0.04%	-0.12%	-0.06%	-0.05%	-0.20%	-0.14%	-0.07%	-0.13%	-0.05%	-0.07%	-0.13%	-0.18%	-0.07%	-0.19%	-0.22%	-0.24%
		-0.2985	-0.9696	-0.5646	-0.4876	-1.1947	-0.9325	-0.5506	-1.1508	-0.2914	-0.4462	-0.8740	-1.4353	-0.3881	-1.1575	-1.4901	-1.8433
BHAR (0)		-0.08%	0.06%	-0.10%	0.03%	-0.21%	-0.24%	-0.23%	0.01%	-0.10%	-0.07%	0.01%	-0.08%	-0.04%	-0.13%	-0.17%	-0.21%
		-0.5063	0.4047	-0.6244	0.1832	-1.1186	-1.3599	-1.2802	0.1093	-0.5500	-0.4142	0.0967	-0.5337	-0.2457	-0.7534	-1.0229	-1.3546
BHAR (1)		-0.10%	0.03%	-0.17%	0.02%	-0.25%	-0.39%	-0.21%	-0.07%	-0.13%	-0.07%	-0.08%	-0.15%	-0.13%	-0.30%	-0.33%	-0.30%
		-0.6326	0.2106	-1.0506	0.1522	-1.4189	-2.2767	-1.2571	-0.5717	-0.7488	-0.3897	-0.5391	-1.0782	-0.7179	-1.7346	-2.0878	-1.9503
NETHERLA	NDS																
CAR (0)		0.50%	0.39%	0.38%	0.40%	0.57%	0.49%	0.52%	0.45%	0.63%	0.60%	0.53%	0.45%	0.75%	0.62%	0.55%	0.46%
		3.4963	3.5330	4.0581	4.6432	3.6428	3.4921	4.0618	3.7766	3.7413	3.9387	3.6180	3.3101	4.4577	3.8110	3.4676	3.0668
CAR (1)		0.35%	0.35%	0.34%	0.32%	0.51%	0.50%	0.50%	0.40%	0.63%	0.59%	0.49%	0.40%	0.65%	0.56%	0.48%	0.41%
		2.7307	3.3465	3.7726	3.9001	3.3932	3.6440	3.9427	3.4184	3.9150	3.8447	3.3775	2.9602	3.9073	3.4492	3.0945	2.7848
BHAR (0)		0.55%	0.35%	0.28%	0.17%	0.47%	0.36%	0.30%	0.46%	0.63%	0.51%	0.59%	0.52%	0.73%	0.68%	0.55%	0.43%
		3.1039	2.0597	1.8934	1.0979	2.7376	2.2717	1.8071	3.6028	3.5909	2.8347	3.4948	3.1524	4.1772	3.9267	3.1803	2.2722
BHAR (1)		0.48%	0.15%	0.27%	0.11%	0.45%	0.46%	0.30%	0.36%	0.59%	0.49%	0.52%	0.40%	0.64%	0.58%	0.46%	0.43%
		2.8923	0.9256	1.8023	0.6670	2.7196	2.8895	1.8763	2.9059	3.3540	2.7501	3.0969	2.4036	3.7650	3.2936	2.7968	2.3024
NEWZEALA	ND																
CAR (0)		1.15%	0.86%	0.64%	0.57%	1.12%	0.83%	0.65%	0.44%	0.93%	0.75%	0.55%	0.31%	0.92%	0.70%	0.46%	0.23%
		3.5223	3.9946	4.0181	4.8156	6.4732	6.0979	5.4578	3.5157	6.3297	5.7702	4.3346	2.1870	6.5890	5.3087	3.5694	1.7070
CAR (1)		1.03%	0.77%	0.59%	0.53%	0.95%	0.72%	0.55%	0.32%	0.80%	0.65%	0.44%	0.20%	0.80%	0.57%	0.35%	0.13%
		3.3388	3.8951	3.9832	4.7247	6.0846	5.6638	4.6952	2.4997	5.5026	5.1754	3.4734	1.3989	5.7237	4.4194	2.6570	0.9526
BHAR (0)		1.31%	0.50%	0.70%	0.13%	1.00%	0.92%	0.59%	0.35%	0.87%	0.72%	0.60%	0.15%	0.88%	0.72%	0.40%	0.16%
		3.3823	3.1756	1.6853	0.7644	6.2418	5.7287	3.6205	1.4918	5.5989	4.5630	4.3971	0.6508	5.7349	4.6921	2.0390	1.0986
BHAR (1)		1.03%	0.50%	0.41%	0.26%	1.08%	0.85%	0.58%	0.21%	0.74%	0.60%	0.42%	0.06%	0.85%	0.56%	0.20%	0.17%
		3.1544	3.4573	1.1484	1.5344	5.2595	3.9719	3.7749	0.7051	4.9909	3.6151	2.3508	0.2577	5.5604	3.6331	0.9049	1.2241

IVOL	J =		3				6	i			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWA	Y																
CAR (0)		0.29%	0.28%	0.30%	0.28%	0.30%	0.36%	0.41%	0.28%	0.58%	0.51%	0.42%	0.27%	0.64%	0.45%	0.33%	0.18%
		1.6989	2.2455	2.6165	2.7499	1.7898	2.2804	2.7747	2.0479	3.1619	2.8890	2.4824	1.7297	3.3616	2.4303	1.9089	1.0755
CAR (1)		0.18%	0.23%	0.29%	0.22%	0.38%	0.46%	0.41%	0.23%	0.58%	0.47%	0.37%	0.19%	0.56%	0.36%	0.24%	0.10%
		1.1951	1.8018	2.5030	2.1663	2.2215	2.8442	2.7514	1.7032	3.1528	2.6191	2.1960	1.2039	2.8086	1.9523	1.3925	0.5871
BHAR (0)		0.39%	0.33%	0.34%	0.43%	0.23%	0.10%	0.08%	0.44%	0.59%	0.48%	0.53%	0.32%	0.62%	0.31%	0.38%	0.21%
		1.7487	1.2565	1.5579	2.4577	1.2241	0.5000	0.4062	2.4238	2.9542	2.1539	2.4287	1.4223	2.9243	1.4897	1.8366	0.9995
BHAR (1)		0.22%	0.20%	0.18%	0.30%	0.31%	0.29%	0.12%	0.31%	0.58%	0.43%	0.50%	0.21%	0.59%	0.38%	0.35%	0.20%
		1.2517	1.1945	1.1521	1.8083	1.6304	1.4141	0.5675	1.6724	2.9588	2.1023	2.4033	0.9767	2.7944	1.8012	1.8007	0.9618
PORTUG	AL																
CAR (0)		0.40%	0.51%	0.41%	0.26%	0.97%	0.85%	0.68%	0.49%	0.83%	0.69%	0.52%	0.29%	0.48%	0.42%	0.22%	-0.02%
		1.2532	1.7726	1.5946	1.0289	2.8908	2.6542	2.2439	1.8954	2.5791	2.1459	1.7127	0.9806	1.4917	1.2506	0.6432	-0.0612
CAR (1)		0.10%	0.55%	0.41%	0.24%	0.95%	0.80%	0.62%	0.44%	0.69%	0.50%	0.37%	0.16%	0.42%	0.33%	0.10%	-0.14%
		0.3012	1.9034	1.5077	0.9592	2.9413	2.3861	2.0038	1.6240	2.0460	1.5456	1.2091	0.5418	1.3073	0.9534	0.2957	-0.4422
BHAR (0)		0.27%	0.71%	0.62%	0.31%	1.11%	1.18%	0.69%	0.42%	0.48%	0.57%	0.42%	0.14%	0.63%	0.58%	0.37%	-0.07%
		0.5266	1.2972	0.9846	0.6305	2.9947	2.8690	1.0492	0.9579	1.5115	1.3188	0.9486	0.2928	1.8731	1.5872	0.9033	-0.1453
BHAR (1)		-0.10%	0.79%	1.19%	0.18%	0.90%	1.38%	0.64%	0.31%	0.81%	0.52%	0.28%	-0.11%	0.67%	0.51%	0.21%	-0.39%
		-0.2300	1.4861	2.1016	0.3565	1.8710	2.7962	1.0301	0.7158	1.6224	1.0766	0.5021	-0.2192	1.7519	1.2440	0.4570	-0.7743
SINGAPO	RE																
CAR (0)		0.37%	0.36%	0.23%	0.11%	0.40%	0.29%	0.13%	0.04%	0.36%	0.20%	0.05%	-0.04%	0.28%	0.15%	0.01%	-0.06%
		1.7593	2.1938	1.5757	0.7716	1.9891	1.6004	0.7601	0.2275	1.6503	0.9698	0.2787	-0.2275	1.2011	0.6930	0.0352	-0.3022
CAR (1)		0.26%	0.25%	0.14%	0.02%	0.34%	0.19%	0.06%	-0.02%	0.29%	0.12%	-0.02%	-0.10%	0.23%	0.06%	-0.05%	-0.08%
		1.3410	1.6860	0.9732	0.1408	1.8132	1.0971	0.3817	-0.1341	1.2814	0.5790	-0.0981	-0.5484	1.0126	0.2793	-0.2754	-0.4704
BHAR (0)		0.23%	0.05%	0.12%	0.37%	0.38%	0.37%	-0.07%	0.20%	0.33%	0.15%	0.12%	-0.07%	0.26%	0.25%	0.00%	-0.03%
		0.8624	0.1759	0.5101	1.5409	1.5061	1.6268	-0.2924	0.8956	1.3176	0.6458	0.6410	-0.3321	1.0423	1.0911	-0.0007	-0.1330
BHAR (1)		0.16%	-0.07%	-0.04%	0.00%	0.39%	0.46%	-0.13%	0.40%	0.31%	0.02%	0.15%	-0.06%	0.18%	0.27%	-0.17%	0.08%
		0.6849	-0.3265	-0.1482	0.0161	1.8118	2.3662	-0.5569	2.4507	1.2877	0.0797	0.7849	-0.2723	0.7745	1.2027	-0.8179	0.3421
SPAIN																	
CAR (0)		0.34%	0.23%	0.40%	0.33%	0.46%	0.46%	0.44%	0.29%	0.60%	0.60%	0.52%	0.41%	0.68%	0.63%	0.54%	0.43%
		1.8133	1.4141	2.9901	2.6874	2.4095	2.4305	2.3555	1.8068	2.9715	2.9620	2.7774	2.4604	3.3277	3.2707	2.9685	2.5581
CAR (1)		0.25%	0.26%	0.39%	0.30%	0.41%	0.49%	0.40%	0.26%	0.69%	0.62%	0.48%	0.37%	0.66%	0.58%	0.48%	0.39%
		1.5016	1.8699	2.9631	2.6024	2.2382	2.6297	2.2621	1.7200	3.5284	3.1303	2.6805	2.3160	3.3345	3.0851	2.7548	2.3973
BHAR (0)		0.13%	0.15%	0.41%	0.24%	0.31%	0.46%	0.57%	0.31%	0.53%	0.72%	0.64%	0.40%	0.57%	0.51%	0.62%	0.30%
		0.5364	0.5635	1.5195	0.9352	1.2882	1.9986	2.0034	1.2946	2.2317	2.8613	3.2118	1.7406	2.3782	2.1459	3.2097	1.3436
BHAR (1)		0.08%	-0.08%	0.37%	-0.08%	0.28%	0.52%	0.31%	0.18%	0.70%	0.58%	0.57%	0.15%	0.56%	0.54%	0.60%	0.32%
		0.3699	-0.3406	1.4744	-0.3475	1.3595	2.6044	1.4363	0.7794	3.3289	2.3358	2.9166	0.6478	2.7587	2.7620	3.1355	1.7049

IVOL	J =		3				6				9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	1																
CAR (0)		0.76%	0.47%	0.49%	0.59%	0.81%	0.58%	0.60%	0.41%	0.87%	0.62%	0.39%	0.26%	0.95%	0.50%	0.31%	0.28%
		3.3147	2.4227	2.9959	4.2971	3.2874	2.7621	3.3996	2.3756	3.5015	2.7257	1.7361	1.1599	3.9059	2.1104	1.3016	1.3147
CAR (1)		0.50%	0.40%	0.50%	0.50%	0.57%	0.50%	0.49%	0.30%	0.71%	0.47%	0.26%	0.18%	0.61%	0.30%	0.20%	0.18%
		2.4593	1.9162	3.2542	3.5284	2.3964	2.1717	2.7413	1.6056	2.9376	1.9227	1.0777	0.7752	2.5007	1.1752	0.8339	0.8592
BHAR (0)		0.90%	0.22%	0.72%	0.29%	1.03%	0.77%	0.36%	0.53%	1.00%	0.34%	0.69%	0.04%	1.08%	0.93%	0.43%	0.42%
		2.8742	0.7676	1.9789	1.0956	3.2586	2.4686	1.0794	1.9134	3.1966	1.0727	2.1264	0.1202	3.6566	3.0510	1.3673	1.3856
BHAR (1)		0.54%	0.37%	0.86%	0.53%	0.65%	0.57%	0.36%	0.40%	0.77%	0.37%	0.53%	-0.02%	0.71%	0.63%	0.26%	0.21%
		2.1772	1.2368	2.7998	1.8352	2.5239	2.3348	1.0953	1.4466	3.1515	1.2111	2.1314	-0.0502	2.9264	2.6394	0.8240	1.0653
SWITZERL	AND																
CAR (0)		0.46%	0.33%	0.30%	0.31%	0.55%	0.47%	0.44%	0.41%	0.57%	0.57%	0.51%	0.41%	0.76%	0.62%	0.50%	0.39%
		3.2176	2.7554	2.7828	3.2932	3.4667	3.1352	3.2620	3.3489	3.3134	3.4200	3.3582	2.9058	4.3181	3.7032	3.1006	2.5521
CAR (1)		0.32%	0.27%	0.28%	0.26%	0.47%	0.43%	0.40%	0.36%	0.55%	0.53%	0.46%	0.34%	0.69%	0.54%	0.43%	0.32%
		2.4025	2.2719	2.6814	2.9368	2.9122	2.8697	2.9785	2.9156	3.2369	3.2325	3.0724	2.4101	3.9858	3.2514	2.7153	2.0931
BHAR (0)		0.37%	0.36%	0.29%	0.38%	0.50%	0.44%	0.24%	0.52%	0.57%	0.51%	0.52%	0.46%	0.79%	0.64%	0.58%	0.36%
		2.0603	1.8511	1.8433	2.1787	2.9879	2.6432	1.5652	3.5763	3.1578	2.5681	3.0571	2.4951	4.3690	3.6330	3.4363	2.0060
BHAR (1)		0.31%	0.20%	0.34%	0.30%	0.38%	0.33%	0.12%	0.46%	0.42%	0.39%	0.39%	0.26%	0.66%	0.55%	0.51%	0.32%
		1.8572	1.0839	2.1896	1.6844	2.2338	1.7733	0.7853	3.0969	2.1617	1.9418	2.3098	1.3966	3.7320	3.1572	3.0647	1.8352
UK																	
CAR (0)		0.54%	0.61%	0.51%	0.52%	0.88%	0.76%	0.65%	0.57%	0.93%	0.84%	0.66%	0.56%	0.97%	0.78%	0.62%	0.52%
		4.6939	5.9485	5.8130	6.9008	7.3585	6.5617	6.1916	5.6427	7.1472	6.3899	4.6817	4.0572	7.0422	4.9263	4.4629	4.1137
CAR (1)		0.46%	0.53%	0.50%	0.52%	0.80%	0.68%	0.61%	0.50%	0.86%	0.79%	0.60%	0.48%	0.84%	0.64%	0.52%	0.44%
		4.1104	5.7360	5.8246	6.8183	7.3712	6.3871	6.0006	5.2019	6.6673	6.1883	4.2982	3.5265	6.2549	4.2763	3.7982	3.4903
BHAR (0)		0.33%	0.57%	0.56%	0.64%	0.78%	0.82%	0.38%	0.75%	0.99%	0.69%	0.63%	0.56%	0.96%	0.85%	0.64%	0.58%
		2.2400	3.7991	2.8620	4.0354	5.8727	5.3678	2.2068	5.2626	7.1301	4.3476	3.4448	3.2731	7.3863	3.6798	4.6137	3.3610
BHAR (1)		0.55%	0.33%	0.59%	0.51%	0.83%	0.66%	0.34%	0.75%	0.91%	0.57%	0.55%	0.42%	0.74%	0.77%	0.58%	0.47%
		3.0304	2.1526	3.0491	3.3971	5.5897	4.0359	2.0718	6.3180	5.2995	2.3660	2.9957	2.4189	3.2683	3.3438	3.7649	2.8124
US																	
CAR (0)		0.20%	0.41%	0.34%	0.35%	0.51%	0.39%	0.37%	0.28%	0.35%	0.33%	0.24%	0.12%	0.38%	0.17%	0.11%	-0.03%
		0.6786	1.5739	1.5159	1.7216	1.4737	1.2362	1.2900	1.0710	1.0765	1.0737	0.8693	0.4629	1.1157	0.5743	0.3673	-0.1285
CAR (1)		0.36%	0.33%	0.35%	0.31%	0.39%	0.31%	0.29%	0.19%	0.44%	0.26%	0.17%	0.02%	0.21%	0.09%	0.00%	-0.12%
		1.2723	1.3665	1.6463	1.6193	1.1218	0.9875	1.0392	0.7421	1.4019	0.8957	0.6515	0.0976	0.6660	0.3043	-0.0097	-0.4487
BHAR (0)		-0.34%	0.58%	0.17%	0.19%	0.53%	0.52%	0.04%	0.32%	0.09%	0.25%	0.05%	-0.15%	0.43%	0.29%	0.21%	0.04%
		-0.7908	1.7403	0.5825	0.6426	1.3478	1.2859	0.1124	1.2113	0.2768	0.7056	0.1465	-0.3921	1.1843	0.7872	0.4977	0.1076
BHAR (1)		-0.29%	0.50%	0.12%	0.18%	0.52%	0.52%	-0.15%	0.09%	0.06%	0.02%	-0.09%	-0.39%	0.02%	0.13%	-0.06%	-0.11%
		-0.9331	1.4561	0.4206	0.6924	1.4395	1.5205	-0.4860	0.3465	0.1921	0.0532	-0.2661	-1.0404	0.0445	0.3692	-0.1555	-0.2899

Appendix 10. Cross-sectional momentum strategy - winner (loser) contains top (bottom) 50%

D 1 4 701			1 11.1.
Panel A. The fime	-series momentur	n strategy using equa	al-weighted return
i differ i i i i i i i i i i i i i i i i i i i	SCITCS IIIOIIICIITUI	n shates y using equi	ii woiziitoa iotaiii

				Panel A	A. The t	ıme-seri	es mome	entum st	rategy u	ısing equ	ıal-weig	hted reti	ırn				
EW	J =		3				6				9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAI	LIA																
CAR (0)		0.31%	0.32%	0.26%	0.23%	0.45%	0.37%	0.30%	0.18%	0.45%	0.35%	0.22%	0.08%	0.46%	0.29%	0.13%	0.01%
		1.9673	2.5589	2.5227	2.6406	2.6019	2.5329	2.4367	1.7003	2.5534	2.2919	1.6313	0.6830	2.7123	1.9211	0.9959	0.0599
CAR (1)		0.41%	0.36%	0.28%	0.19%	0.49%	0.38%	0.27%	0.12%	0.46%	0.31%	0.16%	0.00%	0.37%	0.21%	0.04%	-0.07%
		2.8366	3.1522	2.9907	2.3349	3.0430	2.8456	2.3114	1.2172	2.8376	2.1551	1.2469	0.0314	2.3455	1.4484	0.3211	-0.5923
BHAR (0)		0.35%	0.38%	0.10%	0.09%	0.46%	0.32%	0.04%	0.16%	0.46%	0.33%	0.18%	0.15%	0.44%	0.27%	0.15%	0.06%
		2.0924	2.5683	0.6568	0.6183	2.5645	2.0949	0.2260	1.2281	2.4593	1.8516	1.2890	1.1488	2.5258	1.7586	1.0208	0.3869
BHAR (1)		0.44%	0.31%	0.02%	-0.01%	0.53%	0.39%	0.04%	0.08%	0.46%	0.20%	0.12%	0.10%	0.34%	0.20%	0.00%	-0.02%
		2.7331	2.1741	0.1049	-0.0826	3.0099	2.5440	0.2650	0.6115	2.6570	1.2225	0.8872	0.7819	2.0253	1.3351	0.0031	-0.1098
AUSTRI	A				•				•								
CAR (0)		0.61%	0.45%	0.45%	0.47%	0.59%	0.61%	0.61%	0.56%	0.76%	0.74%	0.66%	0.56%	0.80%	0.69%	0.58%	0.46%
		3.6849	3.2286	3.7447	4.6286	3.1910	3.7015	4.2097	4.3036	3.9898	4.0559	3.9812	3.7077	4.0731	3.6388	3.3733	2.9625
CAR (1)		0.58%	0.44%	0.45%	0.44%	0.64%	0.63%	0.61%	0.52%	0.86%	0.73%	0.63%	0.49%	0.78%	0.64%	0.51%	0.40%
		3.4230	3.1984	3.8302	4.3898	3.5179	3.9267	4.2377	4.0719	4.4082	4.0298	3.8355	3.2777	3.9881	3.5133	3.0591	2.6168
BHAR (0)		0.62%	0.41%	0.45%	0.26%	0.56%	0.37%	0.51%	0.72%	0.75%	0.75%	0.77%	0.66%	0.85%	0.65%	0.53%	0.29%
		2.8543	2.0331	2.1359	1.4923	2.8226	1.8717	2.6852	4.5681	3.8717	3.7404	4.4000	3.8346	4.2081	3.2351	2.6179	1.5079
BHAR (1)		0.73%	0.36%	0.43%	0.23%	0.61%	0.39%	0.59%	0.73%	0.86%	0.73%	0.71%	0.58%	0.83%	0.62%	0.43%	0.20%
		3.3846	1.7955	2.0766	1.3000	3.1240	2.0213	3.2371	4.6627	4.3947	3.5312	4.0218	3.2964	4.1207	3.1354	2.1271	1.0253
BELGIU	M				•				•								
CAR (0)		0.40%	0.41%	0.41%	0.41%	0.58%	0.61%	0.61%	0.55%	0.72%	0.73%	0.66%	0.54%	0.76%	0.69%	0.58%	0.48%
		3.1569	3.8001	4.3684	5.0052	3.9948	4.6627	5.2834	5.1705	4.7741	5.1880	5.0751	4.4986	4.8994	4.7014	4.2296	3.7204
CAR (1)		0.50%	0.44%	0.44%	0.41%	0.64%	0.64%	0.60%	0.51%	0.82%	0.74%	0.64%	0.50%	0.80%	0.66%	0.54%	0.43%
		4.0328	4.1358	4.8554	5.0500	4.4723	5.1133	5.3938	4.9658	5.5329	5.3782	5.0724	4.2272	5.1832	4.6802	4.0553	3.4432
BHAR (0)		0.45%	0.37%	0.26%	0.25%	0.57%	0.55%	0.49%	0.58%	0.71%	0.64%	0.70%	0.59%	0.79%	0.68%	0.55%	0.36%
		3.2129	2.6745	1.8249	1.9253	3.7043	3.7421	3.5409	4.6886	4.4397	4.0714	5.3686	4.2302	4.9219	4.4598	3.5797	2.2960
BHAR (1)		0.45%	0.35%	0.27%	0.23%	0.58%	0.56%	0.49%	0.53%	0.76%	0.60%	0.66%	0.42%	0.75%	0.64%	0.55%	0.35%
		3.2699	2.5370	1.9673	1.7478	3.7730	3.8825	3.5931	4.4600	4.9412	3.9818	5.0148	3.0050	4.8702	4.2296	3.5722	2.2455
CANAD	A				•				•								
CAR (0)		0.48%	0.32%	0.36%	0.37%	0.57%	0.52%	0.55%	0.41%	0.72%	0.66%	0.50%	0.30%	0.82%	0.56%	0.33%	0.14%
		2.8449	2.4521	3.1208	3.8760	3.0551	3.2642	3.9889	3.3933	3.6713	3.8836	3.3063	2.1746	4.2769	3.2330	2.0640	0.9450
CAR (1)		0.43%	0.34%	0.41%	0.32%	0.58%	0.57%	0.54%	0.32%	0.75%	0.61%	0.42%	0.19%	0.70%	0.42%	0.21%	0.02%
		2.8032	2.6926	3.7829	3.5751	3.2669	3.7319	4.0484	2.7683	4.0955	3.8200	2.8649	1.4121	3.9046	2.5690	1.3357	0.1482
BHAR (0)		0.52%	0.14%	0.30%	0.34%	0.43%	0.35%	0.32%	0.45%	0.65%	0.61%	0.47%	0.37%	0.74%	0.44%	0.33%	0.10%
		2.7172	0.7496	1.7038	1.9119	2.1749	2.0457	1.7374	2.8164	3.1855	3.1290	2.8321	2.1559	3.8113	2.4709	1.7452	0.6212
BHAR (1)		0.46%	0.11%	0.37%	0.29%	0.53%	0.56%	0.36%	0.35%	0.67%	0.51%	0.35%	0.30%	0.65%	0.37%	0.24%	0.02%
` ′		2.5352	0.6386	2.1413	1.6683	2.8851	3.3062	1.9782	2.2206	3.3931	2.7139	2.0851	1.7426	3.4463	2.1646	1.3261	0.1421

EW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMA	RK																
CAR (0)		0.67%	0.66%	0.59%	0.57%	0.85%	0.77%	0.73%	0.63%	0.93%	0.89%	0.76%	0.65%	0.98%	0.84%	0.71%	0.59%
		6.1661	6.6577	6.6453	7.0775	6.4284	6.2889	6.4715	5.9644	6.7814	6.7687	6.0568	5.5373	6.8578	6.0615	5.2882	4.6492
CAR (1)		0.71%	0.64%	0.60%	0.53%	0.84%	0.77%	0.69%	0.56%	0.95%	0.84%	0.71%	0.59%	0.92%	0.77%	0.63%	0.51%
		6.5248	6.5506	6.7921	6.5393	6.4469	6.3000	6.1328	5.3251	6.8544	6.4072	5.6372	4.9850	6.4786	5.5723	4.7649	4.0898
BHAR (0)		0.73%	0.76%	0.42%	0.62%	0.79%	0.70%	0.69%	0.76%	0.87%	0.82%	0.78%	0.62%	1.01%	0.91%	0.74%	0.58%
		6.0372	5.8287	3.3975	5.1785	5.5952	4.7576	4.8989	6.4925	5.9939	5.3559	5.5792	4.1731	6.9032	6.0249	4.9330	3.8228
BHAR (1)		0.70%	0.68%	0.51%	0.60%	0.76%	0.67%	0.66%	0.69%	0.93%	0.78%	0.77%	0.51%	0.90%	0.79%	0.71%	0.40%
		5.7996	5.3821	3.9840	5.0141	5.6199	4.6328	4.8410	5.9157	6.3790	5.2137	5.4598	3.4188	6.2637	5.3020	4.8302	2.7296
FINLAN	ND .																
CAR (0)		0.43%	0.42%	0.43%	0.37%	0.52%	0.54%	0.50%	0.40%	0.69%	0.57%	0.43%	0.30%	0.62%	0.45%	0.32%	0.22%
		2.6464	3.1989	3.5838	3.4817	2.7538	3.2425	3.2818	2.8289	3.3206	3.0601	2.4556	1.8372	2.8575	2.2204	1.6958	1.2320
CAR (1)		0.47%	0.43%	0.42%	0.34%	0.58%	0.55%	0.49%	0.35%	0.72%	0.52%	0.36%	0.23%	0.52%	0.33%	0.23%	0.15%
		2.9267	3.3278	3.5241	3.2749	3.1798	3.4071	3.2457	2.5091	3.5754	2.8309	2.0694	1.4758	2.4312	1.6627	1.2164	0.8802
BHAR (0)		0.43%	0.32%	0.33%	0.17%	0.40%	0.68%	0.43%	0.66%	0.67%	0.34%	0.30%	0.23%	0.50%	0.58%	0.25%	0.35%
		2.1697	1.5861	1.8217	0.7966	1.9391	3.9288	2.1673	3.5308	3.0398	1.5184	1.5005	1.1187	2.2144	2.6743	1.1753	1.7404
BHAR (1)		0.65%	0.29%	0.35%	0.23%	0.59%	0.69%	0.44%	0.52%	0.62%	0.30%	0.20%	0.15%	0.46%	0.46%	0.05%	0.29%
		3.3626	1.4688	1.9264	1.0647	2.8983	3.8901	2.2128	2.8193	2.8634	1.3331	0.9998	0.7421	2.0330	2.1509	0.2387	1.5060
FRANC	E	1			1								1				
CAR (0)		0.03%	0.21%	0.24%	0.28%	0.31%	0.37%	0.42%	0.38%	0.34%	0.45%	0.41%	0.34%	0.43%	0.43%	0.36%	0.29%
		0.1684	1.7368	2.3685	3.3777	1.8861	2.5973	3.5671	3.5465	2.0364	3.0140	3.0259	2.6905	2.5980	2.8303	2.5227	2.1276
CAR (1)		0.33%	0.32%	0.34%	0.32%	0.49%	0.49%	0.47%	0.38%	0.53%	0.51%	0.43%	0.31%	0.53%	0.45%	0.34%	0.26%
		2.3130	2.8313	3.6342	3.9531	3.1171	3.6704	4.1528	3.6363	3.3443	3.5810	3.2755	2.5719	3.3110	3.0380	2.4597	2.0079
BHAR (0)		0.00%	0.07%	0.26%	0.03%	0.33%	0.40%	0.22%	0.34%	0.36%	0.40%	0.47%	0.37%	0.41%	0.44%	0.43%	0.27%
		-0.0149	0.4061	1.9563	0.2351	1.9281	2.6339	1.4454	2.7490	2.1030	2.3770	3.1710	2.5090	2.4884	2.9112	2.8546	1.8496
BHAR (1)		0.25%	0.07%	0.31%	0.10%	0.44%	0.48%	0.27%	0.34%	0.49%	0.39%	0.46%	0.22%	0.48%	0.43%	0.34%	0.27%
		1.5040	0.4883	2.3263	0.7074	2.6182	3.1572	1.8012	2.7800	2.8968	2.3926	3.2012	1.5163	2.9736	2.9402	2.2236	1.8659
GERMA	NY																
CAR (0)		0.56%	0.50%	0.47%	0.46%	0.65%	0.59%	0.59%	0.50%	0.75%	0.70%	0.60%	0.49%	0.77%	0.65%	0.53%	0.42%
		3.0823	3.2862	3.5238	4.0622	3.2314	3.2735	3.8015	3.6163	3.6119	3.8569	3.5962	3.2548	3.8809	3.5702	3.1488	2.7390
CAR (1)		0.64%	0.52%	0.48%	0.43%	0.68%	0.60%	0.56%	0.44%	0.79%	0.68%	0.56%	0.43%	0.77%	0.60%	0.47%	0.37%
		3.7532	3.5977	3.8682	4.0122	3.5145	3.5261	3.7660	3.3711	4.0178	3.8980	3.5252	2.9884	4.0908	3.4350	2.9449	2.4902
BHAR (0)		0.51%	0.42%	0.45%	0.22%	0.62%	0.58%	0.55%	0.52%	0.77%	0.68%	0.63%	0.44%	0.75%	0.65%	0.53%	0.23%
		2.5506	2.2297	2.8076	1.1711	3.0193	3.0155	2.6463	3.2275	3.5582	3.3343	3.4550	2.3558	3.7470	3.4373	2.9160	1.3646
BHAR (1)		0.59%	0.32%	0.45%	0.16%	0.63%	0.60%	0.54%	0.41%	0.79%	0.57%	0.52%	0.30%	0.74%	0.55%	0.38%	0.24%
		2.9991	1.7929	2.8880	0.8684	3.1158	3.1711	2.6644	2.5669	3.7521	2.9244	2.9253	1.6462	3.7897	3.0465	2.2399	1.4975

EW	J =		3				6	i			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECI	E																
CAR (0)		0.17%	0.20%	0.16%	0.10%	0.26%	0.23%	0.14%	0.02%	0.32%	0.21%	0.04%	-0.07%	0.23%	0.04%	-0.09%	-0.14%
		0.7075	0.9962	0.9102	0.6531	1.0110	0.9801	0.6591	0.0899	1.1754	0.8418	0.1536	-0.3397	0.8404	0.1459	-0.3446	-0.5988
CAR (1)		0.26%	0.21%	0.17%	$\boldsymbol{0.07\%}$	0.27%	0.25%	0.10%	-0.02%	0.40%	0.18%	-0.01%	-0.11%	0.15%	-0.04%	-0.12%	-0.19%
		1.1527	1.1026	1.0103	0.4541	1.0895	1.1002	0.5000	-0.0969	1.4878	0.7359	-0.0385	-0.5123	0.5510	-0.1380	-0.5097	-0.8574
BHAR (0)		0.09%	0.47%	0.31%	0.29%	0.27%	0.32%	0.01%	0.12%	0.38%	0.32%	0.04%	-0.01%	0.28%	0.05%	-0.11%	-0.30%
		0.3162	1.8023	1.2288	1.1750	0.9930	1.1551	0.0485	0.4559	1.3144	1.1705	0.1503	-0.0451	0.9629	0.1679	-0.4123	-1.1006
BHAR (1)		0.33%	0.45%	0.24%	0.26%	0.19%	0.20%	0.00%	0.09%	0.46%	0.33%	0.18%	-0.14%	0.24%	0.00%	-0.15%	-0.26%
		1.2611	1.7863	0.9671	1.0684	0.6841	0.7370	0.0071	0.3304	1.5628	1.1898	0.6724	-0.5298	0.8400	-0.0104	-0.5880	-0.9638
HONGKO	NG																
CAR (0)		0.09%	0.19%	0.13%	0.05%	0.29%	0.24%	0.10%	-0.03%	0.18%	0.11%	-0.04%	-0.17%	0.05%	-0.07%	-0.23%	-0.30%
		0.4239	1.3279	1.0916	0.4941	1.4179	1.4492	0.6615	-0.1857	0.8580	0.5668	-0.2173	-1.0801	0.2546	-0.3829	-1.2397	-1.7761
CAR (1)		0.11%	0.20%	0.11%	0.01%	0.25%	0.20%	0.02%	-0.09%	0.13%	0.02%	-0.13%	-0.25%	-0.05%	-0.19%	-0.31%	-0.35%
		0.6349	1.5815	0.9590	0.0719	1.3671	1.1982	0.1229	-0.6829	0.6430	0.1018	-0.7674	-1.5467	-0.2557	-0.9711	-1.7192	-2.1462
BHAR (0)		0.00%	-0.03%	-0.08%	0.11%	0.25%	0.28%	-0.03%	0.11%	0.13%	0.07%	0.03%	-0.29%	0.00%	0.06%	-0.26%	-0.27%
		0.0189	-0.1479	-0.3610	0.6163	1.0902	1.3844	-0.1181	0.6699	0.5991	0.3261	0.1652	-1.4013	0.0148	0.3120	-1.1459	-1.4257
BHAR (1)		-0.07%	-0.02%	-0.06%	0.03%	0.10%	0.14%	-0.16%	0.01%	0.02%	-0.08%	-0.08%	-0.33%	-0.18%	-0.07%	-0.32%	-0.33%
		-0.3063	-0.0898	-0.3125	0.1592	0.4566	0.7407	-0.7305	0.0770	0.0814	-0.3615	-0.3958	-1.6041	-0.8458	-0.3504	-1.4534	-1.7441
IRELAN	D																
CAR (0)		0.43%	0.38%	0.33%	0.37%	0.42%	0.34%	0.40%	0.38%	0.49%	0.48%	0.45%	0.37%	0.63%	0.50%	0.38%	0.25%
		2.0244	2.1859	2.1222	2.8166	1.7956	1.6020	2.0924	2.1724	1.9119	2.0339	2.0242	1.7753	2.4267	1.9751	1.5937	1.1050
CAR (1)		0.63%	0.43%	0.37%	0.35%	0.52%	0.40%	0.41%	0.36%	0.55%	0.49%	0.42%	0.32%	0.63%	0.46%	0.31%	0.18%
		3.1048	2.4936	2.4536	2.6402	2.2358	1.8794	2.1274	2.0029	2.2136	2.0737	1.8891	1.5623	2.4061	1.8456	1.3011	0.7999
BHAR (0)		0.43%	0.06%	-0.02%	0.39%	0.32%	0.52%	0.00%	0.83%	0.37%	0.03%	0.59%	0.44%	0.66%	0.75%	0.45%	0.34%
		1.6622	0.2104	-0.0613	1.5161	1.1489	1.9544	0.0027	3.3508	1.2898	0.1162	2.0801	1.5893	2.4371	2.7799	1.6530	1.2118
BHAR (1)		0.70%	0.16%	0.06%	0.61%	0.27%	0.36%	-0.04%	0.61%	0.40%	0.23%	0.45%	0.23%	0.59%	0.59%	0.34%	0.29%
		2.6762	0.5956	0.2175	2.4798	0.9768	1.3392	-0.1322	2.4602	1.4823	0.8218	1.5536	0.8325	2.1431	2.1495	1.2480	1.0404
ISRAEL														1			
CAR (0)		-0.11%	0.02%	0.02%	-0.01%	0.00%	0.03%	-0.01%	-0.07%	-0.01%	0.01%	-0.05%	-0.13%	-0.01%	-0.07%	-0.16%	-0.23%
		-0.7372	0.1861	0.1863	-0.1115	-0.0018	0.1807	-0.0702	-0.6173	-0.0402	0.0372	-0.4012	-1.0963	-0.0758	-0.4860	-1.1393	-1.7931
CAR (1)		0.03%	0.10%	0.06%	-0.01%	0.14%	0.08%	0.01%	-0.08%	0.11%	0.02%	-0.06%	-0.16%	-0.02%	-0.08%	-0.19%	-0.24%
		0.2438	0.9016	0.6269	-0.1207	0.9263	0.5663	0.0588	-0.7057	0.7264	0.1635	-0.4894	-1.3543	-0.0923	-0.5379	-1.3844	-1.9868
BHAR (0)		-0.17%	-0.20%	-0.17%	-0.21%	0.07%	0.11%	-0.08%	0.18%	0.03%	-0.04%	0.18%	0.00%	0.00%	-0.02%	-0.15%	-0.30%
		-0.9876	-1.3806	-1.0673	-1.4046	0.4124	0.7286	-0.4572	1.2164	0.1428	-0.2265	1.1979	0.0307	-0.0115	-0.1002	-0.9518	-1.9058
BHAR (1)		-0.06%	-0.08%	-0.12%	-0.22%	0.11%	0.04%	-0.07%	0.13%	0.07%	-0.02%	0.10%	-0.01%	-0.05%	-0.08%	-0.19%	-0.26%
		-0.3387	-0.5570	-0.7896	-1.5426	0.6652	0.2571	-0.4251	0.9318	0.4118	-0.0953	0.6824	-0.0651	-0.2881	-0.5358	-1.1941	-1.7324

EW	J =		3				6	i			9				10	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.38%	0.41%	0.44%	0.40%	0.58%	0.60%	0.59%	0.50%	0.65%	0.64%	0.58%	0.48%	0.69%	0.62%	0.54%	0.43%
		2.4253	3.1676	4.0485	4.1453	3.2707	3.9684	4.3341	3.9754	3.7581	4.0588	3.9187	3.5035	3.8686	3.7041	3.4924	2.9782
CAR (1)		0.45%	0.48%	0.45%	0.39%	0.65%	0.62%	0.56%	0.47%	0.68%	0.63%	0.54%	0.43%	0.68%	0.59%	0.47%	0.39%
		3.1550	4.0270	4.4982	4.2298	3.9479	4.3730	4.3243	3.8372	4.2248	4.1322	3.7667	3.1963	3.9559	3.6685	3.1795	2.7823
BHAR (0)		0.34%	0.28%	0.46%	0.36%	0.50%	0.55%	0.53%	0.50%	0.57%	0.51%	0.67%	0.37%	0.66%	0.64%	0.61%	0.42%
		1.9443	1.6460	3.1335	2.4817	2.6917	3.3591	3.1138	3.2472	3.2229	2.9781	4.2492	2.3137	3.6232	3.7461	3.6579	2.5789
BHAR (1)		0.45%	0.34%	0.51%	0.38%	0.59%	0.56%	0.59%	0.47%	0.64%	0.55%	0.62%	0.25%	0.69%	0.63%	0.55%	0.42%
		2.6680	2.1156	3.6303	2.6811	3.2757	3.4295	3.5727	3.1227	3.7330	3.3485	4.0005	1.5151	3.8896	3.7009	3.3847	2.6262
JAPAN																	
CAR (0)		-0.09%	-0.14%	-0.09%	-0.02%	-0.28%	-0.21%	-0.09%	-0.08%	-0.22%	-0.12%	-0.11%	-0.14%	-0.10%	-0.14%	-0.17%	-0.19%
		-0.6259	-1.1630	-0.8631	-0.1661	-1.7081	-1.4320	-0.6664	-0.7132	-1.3127	-0.7334	-0.7654	-1.0884	-0.5876	-0.8904	-1.1422	-1.4269
CAR (1)		-0.03%	-0.10%	-0.02%	-0.01%	-0.20%	-0.10%	-0.03%	-0.09%	-0.05%	-0.04%	-0.08%	-0.14%	-0.04%	-0.14%	-0.17%	-0.19%
		-0.2354	-0.8350	-0.2079	-0.0882	-1.2348	-0.7364	-0.2184	-0.7572	-0.3289	-0.2585	-0.5631	-1.1436	-0.2326	-0.8640	-1.1739	-1.4915
BHAR (0)		-0.16%	0.06%	-0.10%	0.09%	-0.22%	-0.20%	-0.13%	0.11%	-0.15%	-0.09%	0.02%	-0.03%	-0.12%	-0.12%	-0.18%	-0.18%
		-0.9551	0.3837	-0.6193	0.6359	-1.2934	-1.1479	-0.7515	0.8074	-0.9025	-0.5299	0.1421	-0.1889	-0.6744	-0.7177	-1.1119	-1.1831
BHAR (1)		-0.09%	0.07%	-0.10%	0.13%	-0.25%	-0.32%	-0.10%	0.04%	-0.11%	0.00%	-0.04%	-0.09%	-0.10%	-0.22%	-0.28%	-0.23%
		-0.6068	0.4507	-0.6499	0.9402	-1.4436	-1.9080	-0.6013	0.2771	-0.6611	-0.0064	-0.2591	-0.6024	-0.5675	-1.3518	-1.7953	-1.4991
NETHERLA	NDS																
CAR (0)		0.52%	0.44%	0.46%	0.47%	0.65%	0.58%	0.62%	0.55%	0.76%	0.74%	0.67%	0.56%	0.83%	0.69%	0.59%	0.53%
		3.4193	3.5745	4.3430	5.0999	3.9958	4.0565	4.8101	4.6995	4.3628	4.6199	4.4665	4.0961	4.6529	4.1162	3.7657	3.5947
CAR (1)		0.45%	0.45%	0.48%	0.43%	0.64%	0.62%	0.61%	0.52%	0.77%	0.71%	0.61%	0.51%	0.75%	0.64%	0.54%	0.48%
		3.2163	3.8477	4.7829	4.8699	4.0825	4.4344	4.8542	4.4516	4.5140	4.5094	4.1555	3.7795	4.2803	3.8590	3.4686	3.3031
BHAR (0)		0.52%	0.30%	0.34%	0.18%	0.63%	0.60%	0.57%	0.68%	0.77%	0.60%	0.70%	0.54%	0.76%	0.68%	0.62%	0.47%
		2.9639	1.7290	2.4022	1.1380	3.5497	3.7081	3.3088	5.2336	4.2840	3.3865	3.9940	3.2780	4.0990	3.8719	3.6252	2.6757
BHAR (1)		0.41%	0.27%	0.39%	0.19%	0.61%	0.61%	0.61%	0.61%	0.72%	0.61%	0.58%	0.41%	0.69%	0.64%	0.57%	0.44%
		2.4739	1.6815	2.7757	1.2191	3.5094	3.8074	3.5883	4.6468	3.9278	3.4729	3.2928	2.4437	3.8403	3.6893	3.5217	2.5696
NEWZEALA	ND																
CAR (0)		0.66%	0.68%	0.52%	0.52%	0.91%	0.77%	0.66%	0.58%	0.84%	0.77%	0.62%	0.50%	0.92%	0.75%	0.57%	0.43%
		4.9456	5.8807	5.0829	5.8178	6.1572	5.7834	5.6480	5.3920	5.3305	5.6564	4.8854	4.2513	5.8032	5.2336	4.3257	3.4528
CAR (1)		0.73%	0.64%	0.52%	0.49%	0.91%	0.73%	0.63%	0.51%	0.85%	0.72%	0.56%	0.43%	0.92%	0.67%	0.50%	0.36%
		5.3652	5.5610	5.1659	5.5968	6.1266	5.6822	5.4375	4.9018	5.5915	5.4188	4.5178	3.7284	5.9689	4.8529	3.8864	2.9290
BHAR (0)		0.74%	0.72%	0.44%	0.24%	0.87%	0.88%	0.61%	0.61%	0.90%	0.72%	0.73%	0.54%	0.95%	0.88%	0.65%	0.51%
		4.5236	4.4079	2.8634	1.5117	5.3365	5.6940	3.7718	4.2790	5.0591	3.9893	4.6261	3.3451	5.6739	5.5705	4.2423	3.1705
BHAR (1)		0.85%	0.72%	0.36%	0.25%	0.99%	0.81%	0.61%	0.51%	0.90%	0.72%	0.64%	0.48%	0.96%	0.73%	0.52%	0.45%
		4.9133	4.5332	2.3178	1.5341	5.7938	5.1411	3.8333	3.3982	5.1096	4.0550	4.0651	3.0382	5.7384	4.7008	3.4180	2.8419

EW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWA	Y																
CAR (0)		0.33%	0.35%	0.34%	0.31%	0.41%	0.44%	0.47%	0.34%	0.52%	0.51%	0.45%	0.28%	0.56%	0.42%	0.32%	0.17%
		1.8094	2.6093	2.7760	2.8959	2.2330	2.6624	3.0725	2.4485	2.5999	2.7493	2.5372	1.7344	2.6673	2.1385	1.7179	1.0059
CAR (1)		0.31%	0.35%	0.36%	0.27%	0.46%	0.50%	0.46%	0.29%	0.57%	0.51%	0.40%	0.20%	0.52%	0.37%	0.23%	0.10%
		1.9759	2.6860	3.0179	2.5924	2.5908	3.0098	2.9753	2.0512	2.8508	2.7383	2.2732	1.2500	2.4218	1.8951	1.2763	0.5713
BHAR (0)		0.44%	0.38%	0.32%	0.52%	0.31%	0.21%	0.27%	0.50%	0.54%	0.51%	0.60%	0.30%	0.54%	0.38%	0.30%	0.18%
		2.0631	1.9060	1.8907	2.9311	1.5529	1.0374	1.3132	2.8275	2.5693	2.3432	2.8036	1.3636	2.4466	1.7894	1.5227	0.8548
BHAR (1)		0.47%	0.39%	0.46%	0.48%	0.46%	0.33%	0.31%	0.40%	0.62%	0.54%	0.54%	0.25%	0.54%	0.38%	0.26%	0.18%
		2.5292	2.1471	2.8541	2.6391	2.2989	1.5982	1.4972	2.2229	3.0469	2.6516	2.5837	1.1565	2.4524	1.7878	1.3138	0.8256
PORTUG	AL																
CAR (0)		0.18%	0.30%	0.32%	0.28%	0.31%	0.39%	0.40%	0.36%	0.18%	0.30%	0.31%	0.24%	0.25%	0.35%	0.30%	0.24%
		0.8587	1.6329	1.9875	1.9921	1.2695	1.7339	2.0120	2.0324	0.7418	1.3139	1.4390	1.2364	1.0400	1.5206	1.3644	1.1747
CAR (1)		0.32%	0.35%	0.33%	0.32%	0.56%	0.52%	0.46%	0.39%	0.36%	0.41%	0.34%	0.27%	0.50%	0.44%	0.33%	0.26%
		1.5058	1.8886	2.0288	2.2593	2.2972	2.3727	2.4051	2.2159	1.4017	1.7752	1.6119	1.3803	2.0431	1.8873	1.4878	1.2846
BHAR (0)		0.11%	0.48%	0.19%	0.17%	0.30%	0.41%	0.21%	0.27%	0.16%	0.38%	0.54%	0.50%	0.24%	0.33%	0.37%	0.18%
		0.4286	2.0028	0.7866	0.7436	1.1456	1.5478	0.8516	1.1519	0.5985	1.4263	2.1837	2.0973	0.9209	1.2618	1.4075	0.7171
BHAR (1)		0.23%	0.48%	0.19%	0.21%	0.52%	0.50%	0.28%	0.32%	0.25%	0.45%	0.46%	0.46%	0.45%	0.34%	0.44%	0.14%
		0.8902	2.0670	0.8266	0.9218	1.9876	1.9750	1.1796	1.3850	0.9709	1.7400	1.8939	1.9359	1.6980	1.2951	1.6906	0.5564
SINGAPO	RE																
CAR (0)		0.27%	0.35%	0.27%	0.19%	0.42%	0.35%	0.24%	0.15%	0.32%	0.22%	0.11%	-0.01%	0.21%	0.14%	0.00%	-0.08%
		1.4082	2.3782	2.1031	1.5696	2.0890	1.9488	1.4719	0.9668	1.4752	1.1040	0.6169	-0.0439	0.9307	0.7111	0.0050	-0.4412
CAR (1)		0.33%	0.39%	0.26%	0.16%	0.44%	0.34%	0.20%	0.10%	0.30%	0.18%	0.05%	-0.06%	0.23%	0.10%	-0.06%	-0.11%
		1.6936	2.8347	1.9476	1.3364	2.3296	1.9418	1.1948	0.6667	1.4002	0.9426	0.2626	-0.3487	1.0873	0.4929	-0.3130	-0.6404
BHAR (0)		0.29%	0.18%	0.24%	0.24%	0.47%	0.39%	0.17%	0.32%	0.37%	0.24%	0.23%	-0.09%	0.27%	0.17%	0.07%	-0.13%
		1.2746	0.9116	1.2614	1.6012	1.9563	1.7360	0.7459	1.7428	1.5580	1.1038	1.2692	-0.4216	1.1132	0.7767	0.3343	-0.6449
BHAR (1)		0.29%	0.13%	0.24%	0.16%	0.43%	0.39%	0.10%	0.27%	0.37%	0.16%	0.24%	-0.13%	0.22%	0.15%	-0.09%	-0.11%
		1.3448	0.6987	1.2704	1.0849	2.0172	1.8506	0.4892	1.5469	1.6156	0.7896	1.2893	-0.6545	1.0030	0.7037	-0.4405	-0.5464
SPAIN																	
CAR (0)		0.36%	0.31%	0.34%	0.35%	0.40%	0.37%	0.41%	0.35%	0.54%	0.52%	0.43%	0.36%	0.54%	0.49%	0.45%	0.38%
		2.2548	2.4352	3.0145	3.3961	2.2674	2.4221	2.8775	2.7468	2.9613	3.0710	2.7544	2.4838	2.9674	2.9143	2.7952	2.5358
CAR (1)		0.36%	0.31%	0.36%	0.32%	0.39%	0.39%	0.39%	0.31%	0.55%	0.47%	0.39%	0.31%	0.49%	0.47%	0.41%	0.34%
		2.4791	2.5545	3.2560	3.2202	2.3351	2.5658	2.8321	2.5153	3.1518	2.8529	2.5156	2.2187	2.7754	2.7972	2.6274	2.3108
BHAR (0)		0.22%	0.19%	0.28%	0.29%	0.40%	0.37%	0.40%	0.37%	0.51%	0.54%	0.47%	0.23%	0.53%	0.53%	0.48%	0.27%
		1.1716	1.1094	1.8333	1.7771	2.0049	2.0161	2.0453	2.2609	2.6094	2.9263	2.6100	1.4136	2.7616	2.9530	2.7379	1.5433
BHAR (1)		0.32%	0.06%	0.24%	0.27%	0.27%	0.32%	0.33%	0.29%	0.47%	0.40%	0.34%	0.13%	0.44%	0.42%	0.44%	0.16%
		1.7724	0.3679	1.5670	1.7420	1.4367	1.7837	1.7187	1.8093	2.5473	2.2056	1.9488	0.8060	2.4007	2.4522	2.6430	0.9788

EW	J =		3				6				9				10	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	V																
CAR (0)		0.64%	0.60%	0.45%	0.43%	0.69%	0.59%	0.53%	0.43%	0.68%	0.61%	0.47%	0.35%	0.71%	0.53%	0.38%	0.27%
		3.0420	3.2431	2.8337	3.3815	2.8008	2.7206	2.9650	2.7095	2.7642	2.8787	2.3830	1.9010	3.0127	2.4262	1.8194	1.3836
CAR (1)		0.75%	0.58%	0.45%	0.39%	0.75%	0.59%	0.51%	0.37%	0.71%	0.57%	0.40%	0.28%	0.66%	0.45%	0.30%	0.22%
		3.6504	3.2637	3.1272	3.1830	3.1267	2.9183	3.0092	2.4153	3.0446	2.7686	2.0932	1.5827	2.9247	2.0932	1.4274	1.0954
BHAR (0)		0.70%	0.48%	0.53%	0.09%	0.70%	0.58%	0.48%	0.31%	0.72%	0.42%	0.53%	0.16%	0.79%	0.70%	0.54%	0.38%
		3.0148	2.3231	2.5770	0.4050	2.8657	2.4884	1.8124	1.3721	2.7851	1.7068	2.1252	0.6556	3.3106	3.0221	2.3252	1.8102
BHAR (1)		0.68%	0.49%	0.54%	0.14%	0.75%	0.52%	0.48%	0.21%	0.68%	0.49%	0.48%	0.04%	0.75%	0.63%	0.45%	0.32%
		2.9464	2.3482	2.7389	0.6493	3.0042	2.2077	1.8971	0.9476	2.7242	2.1064	1.9830	0.1762	3.2538	2.8260	1.9594	1.5825
SWITZERLA	AND																
CAR (0)		0.57%	0.46%	0.40%	0.40%	0.60%	0.52%	0.51%	0.43%	0.59%	0.59%	0.51%	0.40%	0.68%	0.56%	0.44%	0.33%
		4.2193	4.0193	3.9294	4.6243	3.7946	3.5690	3.9430	3.7179	3.5948	3.9032	3.6402	3.1002	4.1723	3.6010	3.0112	2.3364
CAR (1)		0.52%	0.43%	0.39%	0.36%	0.57%	0.52%	0.48%	0.38%	0.60%	0.57%	0.47%	0.33%	0.64%	0.49%	0.37%	0.26%
		3.8967	3.7212	3.9043	4.1686	3.6378	3.6145	3.7673	3.2922	3.7439	3.8495	3.4085	2.5826	3.9544	3.2195	2.5631	1.8509
BHAR (0)		0.49%	0.41%	0.39%	0.39%	0.58%	0.53%	0.35%	0.61%	0.61%	0.60%	0.55%	0.50%	0.71%	0.64%	0.51%	0.35%
		3.1580	2.5438	2.7353	2.7489	3.5075	3.3316	2.4357	4.6458	3.5894	3.4900	3.6617	3.0374	4.2525	3.8801	3.0701	2.1702
BHAR (1)		0.49%	0.33%	0.41%	0.36%	0.50%	0.49%	0.30%	0.57%	0.61%	0.55%	0.48%	0.34%	0.60%	0.56%	0.39%	0.31%
		3.2644	2.0629	2.8849	2.4922	3.0394	3.0657	2.1482	4.2470	3.6013	3.2290	3.1629	1.9872	3.6370	3.4102	2.3975	1.9463
UK																	
CAR (0)		0.64%	0.64%	0.53%	0.53%	0.92%	0.77%	0.70%	0.61%	0.92%	0.83%	0.69%	0.57%	0.99%	0.80%	0.63%	0.49%
		5.2228	6.2603	6.0367	6.8732	6.6268	6.1872	6.3706	6.1975	6.3119	6.1851	5.6731	5.1727	6.7532	5.8645	5.0296	4.2935
CAR (1)		0.63%	0.59%	0.51%	0.48%	0.86%	0.70%	0.63%	0.53%	0.84%	0.74%	0.60%	0.47%	0.87%	0.68%	0.52%	0.40%
		5.2168	6.0442	6.0188	6.4748	6.4487	5.9192	5.9784	5.5815	5.8892	5.6939	5.1176	4.4398	6.1100	5.2215	4.3088	3.6172
BHAR (0)		0.55%	0.49%	0.56%	0.34%	0.90%	0.76%	0.60%	0.75%	0.92%	0.75%	0.75%	0.57%	0.95%	0.86%	0.60%	0.51%
		3.9202	3.6102	4.2166	2.6498	6.1832	5.6245	4.1793	7.7154	5.9940	4.8860	5.9965	4.4326	6.1865	6.2240	4.2024	3.9076
BHAR (1)		0.62%	0.42%	0.52%	0.30%	0.84%	0.70%	0.57%	0.62%	0.85%	0.65%	0.60%	0.46%	0.84%	0.72%	0.43%	0.40%
		4.6105	3.2936	4.0485	2.3638	6.0679	5.3292	4.2474	6.4768	5.7884	4.4568	4.8825	3.6907	5.7975	5.4534	3.0854	3.1743
US					•				•								
CAR (0)		-0.10%	-0.01%	0.05%	0.03%	0.03%	0.11%	0.11%	0.02%	0.19%	0.16%	0.07%	-0.03%	0.14%	0.06%	-0.03%	-0.11%
		-0.6487	-0.0911	0.4874	0.3128	0.1511	0.7532	0.8567	0.2043	1.0463	1.0456	0.5466	-0.2139	0.8413	0.3964	-0.2089	-0.8576
CAR (1)		-0.08%	0.05%	0.08%	0.00%	0.11%	0.17%	0.10%	-0.01%	0.22%	0.14%	0.03%	-0.08%	0.08%	0.01%	-0.09%	-0.15%
		-0.5631	0.4162	0.8317	0.0510	0.6640	1.2326	0.8588	-0.0991	1.3491	0.9764	0.2212	-0.6466	0.5310	0.0791	-0.6607	-1.2327
BHAR (0)		-0.14%	0.00%	0.02%	0.04%	-0.01%	0.14%	-0.15%	0.24%	0.20%	0.11%	0.19%	0.01%	0.16%	0.14%	0.03%	-0.11%
		-0.8448	0.0190	0.1104	0.2677	-0.0807	0.8855	-0.8781	2.1850	1.0790	0.6788	1.4085	0.0540	0.8657	0.8844	0.1821	-0.6948
BHAR (1)		-0.07%	-0.06%	-0.01%	-0.02%	0.05%	0.16%	-0.15%	0.10%	0.20%	0.01%	0.02%	-0.13%	0.01%	0.00%	-0.12%	-0.21%
, ,		-0.4261	-0.4133	-0.0585	-0.1683	0.2812	1.0656	-0.9286	0.9348	1.1128	0.0859	0.1814	-0.9294	0.0603	0.0203	-0.8240	-1.4266

Panel B. The time-series momentum strategy using market-weighted return

MW	J =		3				6			sing mai	9				10	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAL	JA																
CAR (0)		0.01%	0.16%	0.14%	0.19%	-0.02%	0.18%	0.23%	0.16%	0.02%	0.22%	0.14%	0.10%	0.10%	0.11%	0.07%	0.00%
		0.0264	1.0425	1.1163	1.7218	-0.0827	0.9195	1.2864	0.9796	0.0584	0.9518	0.6714	0.5333	0.3590	0.4752	0.3010	-0.0195
CAR (1)		-0.10%	0.11%	0.12%	0.15%	0.08%	0.24%	0.26%	0.16%	0.10%	0.22%	0.13%	0.07%	0.14%	0.14%	0.05%	-0.01%
		-0.4165	0.6939	1.0682	1.3429	0.3352	1.2903	1.5900	0.9783	0.4113	0.9420	0.6599	0.3869	0.5337	0.5741	0.2137	-0.0509
BHAR (0)		0.09%	0.16%	-0.25%	-0.08%	-0.42%	0.21%	0.13%	0.00%	-0.39%	0.14%	0.00%	0.01%	-0.01%	0.17%	-0.36%	0.14%
		0.2800	0.4706	-0.8305	-0.2561	-1.2098	0.6253	0.3940	0.0098	-1.1770	0.4211	0.0003	0.0376	-0.0274	0.5137	-1.1269	0.4114
BHAR (1)		0.13%	0.20%	-0.30%	0.05%	0.07%	0.33%	0.04%	0.02%	0.22%	0.24%	0.18%	0.13%	0.24%	0.11%	-0.35%	0.08%
		0.3682	0.5976	-0.9866	0.1622	0.2158	1.0187	0.1187	0.0850	0.6848	0.7338	0.5588	0.4444	0.6990	0.3267	-1.1089	0.2533
AUSTRI	A																
CAR (0)		0.17%	0.12%	0.14%	0.08%	0.16%	0.12%	0.05%	0.04%	0.02%	0.10%	0.07%	-0.01%	0.19%	0.06%	-0.06%	-0.11%
		0.7123	0.6348	0.8079	0.6009	0.6252	0.5310	0.2661	0.2208	0.0800	0.4295	0.2998	-0.0681	0.6695	0.2223	-0.2472	-0.5231
CAR (1)		0.06%	0.07%	0.11%	0.03%	0.22%	0.11%	0.02%	0.01%	0.17%	0.15%	0.08%	-0.05%	0.14%	0.02%	-0.10%	-0.17%
		0.2553	0.3505	0.6769	0.1940	0.8467	0.5279	0.1193	0.0588	0.6187	0.6504	0.3928	-0.2728	0.5093	0.1009	-0.4297	-0.8098
BHAR (0)		0.24%	0.18%	0.20%	-0.08%	0.04%	-0.38%	-0.29%	-0.09%	-0.25%	0.18%	-0.09%	0.32%	-0.03%	-0.43%	-0.14%	-0.40%
		0.7935	0.5832	0.6784	-0.2809	0.1187	-1.2901	-0.9775	-0.3242	-0.8239	0.6000	-0.3027	1.2475	-0.1012	-1.4283	-0.4858	-1.2896
BHAR (1)		0.20%	-0.02%	0.14%	-0.09%	0.12%	-0.35%	-0.15%	-0.02%	-0.03%	0.27%	-0.09%	0.13%	0.01%	-0.42%	-0.22%	-0.38%
		0.6175	-0.0793	0.4912	-0.3158	0.4154	-1.1729	-0.5263	-0.0673	-0.1119	0.9573	-0.3244	0.4905	0.0181	-1.3789	-0.7340	-1.2481
BELGIU	M																
CAR (0)		0.04%	0.10%	0.11%	0.14%	0.38%	0.38%	0.36%	0.33%	0.21%	0.30%	0.28%	0.16%	0.12%	0.12%	0.03%	-0.02%
		0.1490	0.4885	0.5696	0.8323	1.3272	1.4838	1.5431	1.5600	0.7096	1.2028	1.2097	0.6981	0.3928	0.4622	0.1293	-0.0919
CAR (1)		0.13%	0.15%	0.16%	0.16%	0.34%	0.34%	0.37%	0.28%	0.26%	0.34%	0.28%	0.11%	0.23%	0.12%	0.03%	-0.04%
		0.4832	0.6965	0.8013	0.9712	1.2005	1.3382	1.6518	1.3296	0.9025	1.3626	1.2179	0.4977	0.8170	0.4560	0.1206	-0.1581
BHAR (0)		0.05%	0.36%	-0.37%	-0.07%	0.21%	0.21%	0.11%	0.24%	0.01%	0.01%	0.12%	-0.05%	0.15%	0.11%	-0.02%	-0.19%
		0.1466	1.0702	-1.2815	-0.2098	0.6122	0.6137	0.3321	0.8486	0.0155	0.0382	0.3579	-0.1668	0.4243	0.3592	-0.0502	-0.6017
BHAR (1)		-0.01%	0.15%	-0.27%	0.07%	0.17%	0.35%	-0.02%	0.08%	0.22%	0.03%	0.26%	-0.10%	0.44%	0.17%	0.08%	0.03%
GINIB		-0.0300	0.4562	-0.9456	0.2056	0.4865	1.0138	-0.0630	0.2699	0.6722	0.0805	0.7994	-0.3677	1.2375	0.5465	0.2682	0.1023
CANADA	A	0.240/	0.200/	0.250/	0.240/	0.260/	0.450/	0.510/	0.200/	0.620/	0.620/	0.520/	0.250/	0.650/	0.460/	0.250/	0.240/
CAR (0)		0.34%	0.28%	0.35%	0.34%	0.36%	0.45%	0.51%	0.38%	0.62%	0.62%	0.52%	0.35%	0.65%	0.46%	0.35%	0.24%
CAR (1)		1.4693	1.4919	2.1850	2.4039	1.3542	1.9830	2.5398	1.9998	2.2406	2.5425	2.2730	1.6232	2.3390	1.7296	1.3875	1.0244
CAR (1)		0.28%	0.27%	0.39%	0.27%	0.32%	0.50%	0.50%	0.31%	0.69%	0.61%	0.49%	0.30%	0.50%	0.37%	0.26%	0.16%
DHAD (0)		1.1724	1.5006 0.24%	2.4248	1.8678 0.28%	1.2104 0.33%	2.2208	2.4392 0.64%	1.5817 0.26%	2.5706 0.65%	2.5115 0.50%	2.1073 0.58%	1.3427 0.13%	1.8700 0.58%	1.4098 0.36%	1.0291 0.11%	0.6753
BHAR (0)		0.35%		0.08%			0.44%										0.09%
DILAD (1)		1.2672	0.9177	0.2755	0.9773	1.1293	1.5258	2.1296	0.9844	2.1345	1.8540	2.1748	0.5252	1.9528	1.2638	0.3655	0.3449
BHAR (1)		0.39%	0.18%	0.12%	0.19%	0.34%	0.52%	0.58%	0.08%	0.68%	0.46%	0.47%	0.16%	0.43%	0.16%	-0.01%	0.00%
		1.4023	0.7262	0.4596	0.6437	1.1381	1.8200	1.8995	0.3174	2.2060	1.6582	1.7290	0.6410	1.4728	0.6030	-0.0380	0.0021

MW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMA	RK																
CAR (0)		0.64%	0.65%	0.54%	0.52%	0.79%	0.69%	0.56%	0.47%	0.73%	0.74%	0.59%	0.54%	0.90%	0.69%	0.58%	0.48%
		3.0620	3.5206	3.1632	3.4267	3.2590	3.1303	2.7509	2.5326	2.7758	3.0035	2.4714	2.4157	3.3026	2.5671	2.2155	1.8973
CAR (1)		0.81%	0.61%	0.55%	0.49%	0.73%	0.64%	0.51%	0.41%	0.76%	0.67%	0.53%	0.50%	0.74%	0.57%	0.49%	0.40%
		3.7514	3.2868	3.2308	3.3071	3.0546	2.8492	2.5281	2.2246	2.8703	2.7052	2.2079	2.2537	2.5980	2.0834	1.8544	1.5891
BHAR (0)		0.39%	0.65%	0.20%	0.48%	0.52%	0.64%	0.66%	0.47%	0.54%	0.57%	0.50%	0.15%	0.71%	0.92%	0.65%	0.59%
		1.5721	2.4460	0.7634	1.7472	1.9078	2.2783	2.3263	1.7945	1.9417	1.9088	1.7076	0.5090	2.4277	3.0646	2.1299	1.9866
BHAR (1)		0.65%	0.56%	0.39%	0.63%	0.65%	0.80%	0.54%	0.41%	0.72%	0.63%	0.45%	0.11%	0.66%	0.72%	0.66%	0.44%
		2.5003	2.0774	1.4459	2.3165	2.3175	2.7523	1.9261	1.5615	2.4236	2.1633	1.5426	0.3890	2.1809	2.3162	2.2158	1.4596
FINLAN	D																
CAR (0)		0.46%	0.86%	0.92%	0.84%	1.06%	1.19%	1.16%	1.06%	1.40%	1.31%	1.16%	1.04%	1.26%	1.22%	1.09%	0.94%
		1.1586	2.8859	3.2704	3.1952	2.5115	3.0785	3.2039	3.1860	2.9860	3.0749	2.8175	2.7051	2.6723	2.7058	2.5136	2.3173
CAR (1)		0.69%	0.92%	0.91%	0.80%	1.12%	1.22%	1.18%	1.05%	1.25%	1.22%	1.06%	0.91%	1.22%	1.09%	0.96%	0.88%
		1.9322	3.0948	3.2758	3.0337	2.6323	3.0987	3.2196	3.1317	2.7726	2.8419	2.5921	2.3573	2.6126	2.3774	2.2090	2.1437
BHAR (0)		0.09%	0.65%	1.40%	0.54%	0.59%	1.45%	1.22%	1.59%	1.24%	1.36%	0.49%	1.12%	0.66%	1.23%	0.56%	1.39%
		0.2058	1.2728	3.0237	1.0206	1.2004	3.0134	2.5155	3.2628	2.4429	2.5940	0.9306	2.2093	1.2878	2.3286	1.0812	2.7413
BHAR (1)		0.84%	0.99%	1.31%	0.66%	1.06%	1.32%	1.19%	1.32%	1.17%	1.30%	0.49%	0.96%	0.79%	1.04%	0.32%	1.38%
		1.7687	1.9273	2.8462	1.2660	2.1523	2.6865	2.4520	2.7194	2.2529	2.4589	0.9277	1.8269	1.4889	1.9833	0.6152	2.7857
FRANC	E								1				1				
CAR (0)		-0.33%	-0.07%	0.03%	0.13%	-0.19%	0.01%	0.16%	0.16%	-0.05%	0.15%	0.21%	0.17%	0.09%	0.13%	0.11%	0.08%
		-1.7345	-0.4536	0.2106	1.1477	-0.8799	0.0562	1.0002	1.0611	-0.2298	0.7426	1.1436	0.9382	0.3781	0.5878	0.5617	0.4222
CAR (1)		-0.14%	0.06%	0.13%	0.14%	0.03%	0.20%	0.25%	0.17%	0.13%	0.25%	0.24%	0.15%	0.11%	0.15%	0.10%	0.06%
		-0.8067	0.3947	1.0609	1.2313	0.1497	1.0719	1.5414	1.0892	0.5775	1.2778	1.3295	0.8490	0.4656	0.7209	0.5051	0.3317
BHAR (0)		-0.41%	-0.12%	-0.16%	0.12%	-0.13%	-0.03%	0.04%	0.03%	0.00%	0.09%	0.36%	0.23%	0.15%	0.09%	0.20%	0.25%
		-1.8546	-0.5900	-0.7834	0.5037	-0.6145	-0.1335	0.1791	0.1688	0.0053	0.3641	1.6852	1.1053	0.6496	0.3864	0.8732	1.2102
BHAR (1)		-0.21%	-0.09%	-0.06%	0.19%	-0.05%	0.09%	0.15%	0.07%	0.08%	0.21%	0.34%	0.19%	0.16%	0.03%	0.13%	0.18%
		-0.9420	-0.4496	-0.3143	0.8599	-0.2289	0.4330	0.7643	0.3664	0.3182	0.9371	1.6169	0.9411	0.6603	0.1171	0.5798	0.9191
GERMA	NY								1								
CAR (0)		0.27%	0.25%	0.29%	0.26%	0.35%	0.35%	0.37%	0.29%	0.45%	0.40%	0.34%	0.26%	0.39%	0.32%	0.28%	0.20%
		1.2540	1.3627	1.8773	1.8869	1.3505	1.5218	1.8572	1.5462	1.6839	1.6380	1.4440	1.1795	1.3929	1.2140	1.1188	0.8262
CAR (1)		0.36%	0.30%	0.34%	0.23%	0.32%	0.37%	0.35%	0.26%	0.53%	0.40%	0.33%	0.23%	0.39%	0.31%	0.25%	0.15%
		1.6519	1.7423	2.2378	1.7051	1.2522	1.6884	1.7534	1.3974	2.0063	1.6508	1.4814	1.0624	1.4068	1.1969	1.0281	0.6383
BHAR (0)		0.28%	0.34%	0.34%	-0.05%	0.22%	0.46%	0.25%	0.28%	0.45%	0.34%	0.40%	0.43%	0.42%	0.38%	0.39%	0.14%
		1.1705	1.4801	1.5176	-0.2048	0.7927	1.6487	0.9559	1.1811	1.6363	1.3238	1.4792	1.7674	1.4825	1.3026	1.3960	0.5207
BHAR (1)		0.36%	0.33%	0.30%	-0.05%	0.31%	0.54%	0.26%	0.28%	0.48%	0.34%	0.37%	0.22%	0.39%	0.34%	0.42%	0.16%
		1.4698	1.4443	1.3803	-0.2443	1.0886	2.0302	0.9524	1.1804	1.6980	1.2419	1.3340	0.8749	1.3071	1.1654	1.5574	0.5955

MW	J =		3				6	i			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREEC	E																
CAR (0)		0.57%	0.51%	0.31%	0.34%	0.39%	0.25%	0.25%	0.36%	0.57%	0.58%	0.52%	0.49%	0.49%	0.46%	0.54%	0.52%
		1.1599	1.2838	0.9345	1.2475	0.7702	0.5667	0.6803	1.1305	1.0444	1.2250	1.2225	1.2698	0.8909	0.9339	1.1937	1.1915
CAR (1)		0.66%	0.44%	0.36%	0.33%	0.42%	0.27%	0.31%	0.38%	0.59%	0.52%	0.53%	0.47%	0.48%	0.49%	0.57%	0.51%
		1.3146	1.1308	1.1328	1.2491	0.8262	0.6222	0.8746	1.2304	1.1123	1.1400	1.2936	1.2278	0.8900	0.9965	1.2387	1.1380
BHAR (0)		1.21%	0.76%	0.68%	0.80%	1.02%	0.97%	0.81%	0.67%	0.92%	0.70%	0.39%	0.39%	0.56%	0.81%	-0.04%	0.35%
		2.1168	1.3236	1.5464	1.4786	1.8273	1.6598	1.3806	1.3627	1.5424	1.1902	0.7326	0.7163	0.9642	1.4635	-0.0737	0.6920
BHAR (1)		0.81%	0.61%	0.70%	1.18%	0.47%	0.55%	0.91%	0.83%	0.71%	0.86%	0.50%	0.12%	0.70%	0.98%	0.22%	0.47%
		1.3343	1.0349	1.5631	2.0661	0.7915	0.9194	1.5442	1.7151	1.1549	1.4141	0.9075	0.2153	1.1616	1.8280	0.3924	0.9472
HONGKO	NG																
CAR (0)		0.09%	0.21%	0.21%	0.20%	0.28%	0.27%	0.24%	0.16%	0.41%	0.32%	0.25%	0.11%	0.40%	0.20%	0.07%	0.02%
		0.3249	1.0717	1.2759	1.3546	0.9290	1.0783	1.0915	0.7567	1.3748	1.1889	0.9648	0.4506	1.2849	0.6794	0.2679	0.0817
CAR (1)		-0.01%	0.21%	0.20%	0.17%	0.25%	0.30%	0.20%	0.11%	0.37%	0.25%	0.16%	0.06%	0.25%	0.10%	0.01%	-0.03%
		-0.0343	1.1188	1.2634	1.1778	0.8943	1.1997	0.8901	0.5140	1.2960	0.9356	0.6124	0.2521	0.8088	0.3254	0.0363	-0.1278
BHAR (0)		-0.28%	0.05%	-0.26%	0.26%	0.27%	-0.04%	-0.03%	-0.19%	0.53%	0.30%	0.46%	-0.01%	0.44%	0.48%	0.14%	0.15%
		-0.8787	0.1680	-0.8224	1.0144	0.8489	-0.1167	-0.1023	-0.6791	1.6210	0.9397	1.4955	-0.0322	1.3399	1.4236	0.4042	0.4984
BHAR (1)		-0.39%	0.05%	-0.31%	0.16%	-0.10%	-0.28%	-0.37%	-0.27%	0.11%	-0.01%	0.27%	0.06%	0.06%	0.26%	0.14%	0.16%
		-1.2426	0.1663	-0.9877	0.6055	-0.3136	-0.9131	-1.1186	-0.9545	0.3261	-0.0194	0.8814	0.1985	0.1838	0.7891	0.4395	0.5398
IRELAN	D																
CAR (0)		0.97%	0.92%	0.65%	0.58%	1.14%	0.79%	0.61%	0.52%	0.95%	0.67%	0.47%	0.37%	1.00%	0.70%	0.49%	0.33%
		2.4609	2.6897	1.9923	2.0021	2.4943	1.8968	1.5916	1.4708	2.0064	1.4920	1.1189	0.9254	2.0713	1.4710	1.0729	0.7615
CAR (1)		1.18%	0.90%	0.63%	0.51%	0.97%	0.64%	0.50%	0.43%	0.74%	0.49%	0.35%	0.26%	0.91%	0.55%	0.37%	0.21%
		3.1021	2.6318	2.0079	1.8085	2.1995	1.5436	1.3192	1.2331	1.6035	1.1136	0.8510	0.6754	1.8544	1.1892	0.8306	0.4960
BHAR (0)		0.72%	0.39%	-0.37%	0.71%	1.05%	1.13%	-0.22%	0.83%	0.69%	0.50%	1.14%	0.90%	1.27%	0.88%	0.23%	0.87%
		1.5070	0.7825	-0.8860	1.4577	2.0341	2.1913	-0.5084	1.6869	1.2841	0.9590	2.1324	1.7790	2.4066	1.5853	0.4383	1.4418
BHAR (1)		1.14%	0.67%	-0.19%	0.82%	1.12%	1.04%	-0.22%	0.68%	0.51%	0.41%	1.07%	0.59%	0.79%	0.90%	-0.05%	0.82%
		2.4506	1.3455	-0.4694	1.7181	2.0772	1.9684	-0.5156	1.3969	0.9705	0.8132	2.0432	1.2016	1.4797	1.6151	-0.1024	1.3609
ISRAEI	_																
CAR (0)		0.64%	0.49%	0.47%	0.32%	0.64%	0.60%	0.40%	0.24%	0.61%	0.54%	0.39%	0.27%	0.69%	0.47%	0.34%	0.24%
		1.7852	1.8673	2.1285	1.5277	1.7393	1.9995	1.3733	0.8320	1.7504	1.6010	1.1376	0.7938	1.9253	1.3095	0.9576	0.6941
CAR (1)		0.48%	0.45%	0.42%	0.21%	0.60%	0.51%	0.31%	0.16%	0.87%	0.58%	0.37%	0.26%	0.52%	0.36%	0.26%	0.15%
		1.3271	1.6936	1.8196	0.9499	1.7477	1.6134	1.0008	0.5268	2.2726	1.5519	1.0036	0.7425	1.4659	0.9970	0.7163	0.4201
BHAR (0)		0.26%	0.14%	0.74%	0.82%	0.33%	0.70%	-0.17%	0.55%	0.15%	0.06%	0.28%	0.03%	0.80%	0.53%	0.49%	0.37%
		0.5829	0.3096	1.7328	2.1002	0.7498	1.8088	-0.3729	1.4322	0.3400	0.1311	0.7015	0.0662	1.7851	1.3931	1.2555	0.9450
BHAR (1)		0.53%	0.70%	0.76%	0.74%	0.87%	0.51%	0.18%	0.40%	0.84%	0.57%	0.38%	0.65%	0.72%	0.43%	0.36%	0.35%
		1.3029	1.8642	1.7625	1.8887	2.3225	1.3164	0.4628	1.0146	2.1867	1.4637	1.0186	1.6885	1.8792	1.0924	0.8968	0.8451

MW	J =		3				6	i			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.00%	0.31%	0.29%	0.33%	0.54%	0.65%	0.64%	0.66%	0.37%	0.54%	0.56%	0.60%	0.61%	0.65%	0.65%	0.66%
		0.0132	1.4858	1.5431	1.9772	1.7073	2.3352	2.5147	2.7247	1.1886	1.8557	2.0420	2.3019	1.8287	2.0464	2.1644	2.2822
CAR (1)		0.30%	0.37%	0.36%	0.34%	0.56%	0.68%	0.67%	0.68%	0.55%	0.59%	0.64%	0.64%	0.62%	0.65%	0.65%	0.64%
		1.1181	1.8763	2.0843	2.0895	1.8270	2.5008	2.6764	2.8432	1.7598	2.0814	2.3470	2.4419	1.8743	2.0610	2.1843	2.2660
BHAR (0)		0.40%	0.48%	0.91%	0.41%	0.65%	0.53%	0.69%	0.83%	0.36%	0.37%	0.52%	0.47%	0.66%	0.86%	0.74%	0.73%
		1.0932	1.3721	2.8227	1.2011	1.8138	1.5287	2.0111	2.4065	1.0144	1.0932	1.5748	1.4776	1.8326	2.3702	2.0694	2.0752
BHAR (1)		0.58%	0.53%	1.00%	0.59%	0.57%	0.49%	0.79%	0.93%	0.53%	0.65%	0.68%	0.50%	0.54%	0.82%	0.72%	0.63%
		1.6641	1.5398	3.2547	1.7224	1.6583	1.5032	2.3967	2.7455	1.5563	1.9301	2.0383	1.5836	1.5537	2.3453	2.0984	1.8142
JAPAN																	
CAR (0)		-0.19%	-0.18%	-0.05%	-0.03%	-0.29%	-0.15%	-0.05%	-0.08%	-0.09%	-0.08%	-0.11%	-0.15%	-0.12%	-0.19%	-0.19%	-0.21%
		-0.9406	-1.0174	-0.3577	-0.2137	-1.1938	-0.6985	-0.2807	-0.4872	-0.3517	-0.3430	-0.5174	-0.7963	-0.4934	-0.8178	-0.9367	-1.1012
CAR (1)		-0.14%	-0.10%	0.01%	-0.02%	-0.17%	-0.03%	0.00%	-0.07%	0.03%	-0.03%	-0.10%	-0.14%	-0.08%	-0.19%	-0.18%	-0.20%
		-0.7174	-0.5668	0.0632	-0.1438	-0.7118	-0.1275	0.0203	-0.4636	0.1091	-0.1468	-0.4968	-0.7868	-0.3265	-0.8750	-0.9278	-1.1071
BHAR (0)		-0.18%	0.03%	-0.18%	0.11%	-0.17%	-0.19%	-0.26%	0.09%	-0.04%	-0.07%	0.00%	0.01%	-0.17%	-0.12%	-0.22%	-0.18%
		-0.7429	0.1385	-0.7798	0.5403	-0.6569	-0.7660	-1.1691	0.4949	-0.1635	-0.2716	-0.0043	0.0616	-0.6438	-0.4961	-0.9035	-0.7400
BHAR (1)		-0.17%	-0.11%	-0.31%	0.12%	-0.22%	-0.23%	-0.20%	0.11%	-0.12%	-0.05%	-0.10%	-0.06%	-0.23%	-0.38%	-0.36%	-0.39%
		-0.7210	-0.5328	-1.4002	0.6055	-0.8604	-1.0039	-0.9167	0.5615	-0.4623	-0.1945	-0.4585	-0.2747	-0.9273	-1.6501	-1.5725	-1.7472
NETHERLA	NDS																
CAR (0)		-0.09%	-0.11%	-0.01%	0.10%	-0.02%	-0.07%	0.10%	0.03%	0.04%	0.01%	0.03%	-0.03%	0.17%	0.00%	-0.06%	-0.05%
		-0.3579	-0.5649	-0.0816	0.7388	-0.0683	-0.2798	0.4723	0.1781	0.1454	0.0321	0.1310	-0.1303	0.5636	-0.0177	-0.2243	-0.2141
CAR (1)		-0.20%	-0.12%	0.04%	0.05%	-0.11%	-0.02%	0.09%	-0.01%	0.12%	0.04%	0.03%	-0.05%	0.09%	-0.03%	-0.10%	-0.08%
		-0.8551	-0.6007	0.2346	0.3795	-0.3919	-0.1006	0.4414	-0.0473	0.4422	0.1650	0.1360	-0.2549	0.3040	-0.1276	-0.4105	-0.3599
BHAR (0)		-0.12%	-0.45%	-0.32%	-0.27%	0.01%	-0.09%	-0.13%	0.19%	0.04%	-0.18%	0.04%	0.01%	0.08%	0.02%	-0.18%	-0.09%
		-0.4002	-1.5953	-1.1278	-0.8569	0.0173	-0.3179	-0.4138	0.7282	0.1341	-0.6161	0.1507	0.0311	0.2548	0.0523	-0.6227	-0.3007
BHAR (1)		-0.39%	-0.56%	-0.23%	-0.19%	-0.28%	-0.16%	-0.05%	0.08%	0.02%	0.01%	0.01%	-0.04%	0.14%	-0.11%	-0.16%	-0.16%
		-1.4247	-2.0183	-0.8783	-0.6427	-0.9104	-0.5353	-0.1517	0.3216	0.0652	0.0316	0.0359	-0.1657	0.4436	-0.3666	-0.5946	-0.5745
NEWZEALA	ND																
CAR (0)		0.41%	0.28%	0.21%	0.18%	0.46%	0.33%	0.31%	0.20%	0.39%	0.26%	0.17%	0.15%	0.63%	0.38%	0.25%	0.16%
		1.7717	1.7404	1.5444	1.3955	1.9581	1.5738	1.6833	1.2572	1.5604	1.2032	0.8663	0.7797	2.3254	1.5486	1.1187	0.7243
CAR (1)		0.18%	0.16%	0.12%	0.09%	0.34%	0.27%	0.24%	0.11%	0.28%	0.15%	0.13%	0.06%	0.46%	0.25%	0.18%	0.10%
		0.8558	0.9940	0.8707	0.6848	1.4411	1.3460	1.3619	0.7472	1.1360	0.6965	0.6637	0.3513	1.7672	1.0684	0.8049	0.4547
BHAR (0)		0.51%	0.15%	0.31%	-0.37%	0.67%	0.34%	0.47%	-0.28%	0.57%	0.15%	0.13%	0.03%	0.66%	0.67%	0.43%	0.62%
		1.7467	0.4879	1.1941	-1.3069	2.5802	1.4152	1.6818	-1.1710	2.0261	0.5493	0.4887	0.1083	2.2349	2.3045	1.5256	2.1338
BHAR (1)		0.15%	-0.07%	0.09%	-0.49%	0.39%	0.16%	0.34%	-0.47%	0.28%	-0.07%	-0.02%	-0.13%	0.54%	0.57%	0.17%	0.67%
		0.5086	-0.2226	0.3575	-1.7032	1.5455	0.6649	1.2092	-1.9364	0.9942	-0.2499	-0.0682	-0.4638	1.7756	1.9462	0.6025	2.2953

MW	J =		3				6	j			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWA	Y																
CAR (0)		-0.20%	-0.01%	0.02%	0.08%	-0.08%	0.02%	0.12%	0.06%	0.14%	0.17%	0.07%	0.01%	0.25%	0.14%	0.02%	-0.04%
		-0.9061	-0.0920	0.1309	0.6575	-0.3139	0.0910	0.6283	0.3486	0.5464	0.7173	0.3157	0.0403	0.9331	0.5823	0.0817	-0.1954
CAR (1)		-0.19%	0.02%	0.06%	0.07%	0.03%	0.14%	0.17%	0.03%	0.21%	0.19%	0.07%	-0.03%	0.25%	0.07%	-0.04%	-0.07%
		-0.9246	0.1114	0.4291	0.5888	0.1077	0.6367	0.9130	0.1713	0.8253	0.8364	0.3199	-0.1347	0.9553	0.3079	-0.1911	-0.3556
BHAR (0)		-0.06%	0.22%	0.01%	0.40%	-0.29%	-0.22%	-0.08%	0.07%	0.07%	0.06%	0.15%	0.20%	0.24%	0.15%	0.21%	-0.04%
		-0.1975	0.8606	0.0430	1.5239	-0.9848	-0.7893	-0.2829	0.2684	0.2357	0.2083	0.5540	0.7100	0.8268	0.5325	0.7587	-0.1296
BHAR (1)		0.06%	0.24%	0.21%	0.28%	-0.12%	-0.01%	-0.04%	0.02%	0.16%	0.16%	0.25%	0.12%	0.35%	0.14%	0.09%	0.06%
		0.2479	1.0269	0.8309	1.0782	-0.4171	-0.0194	-0.1424	0.0602	0.5782	0.5815	0.8692	0.4182	1.1734	0.5312	0.3103	0.2168
PORTUGA	A L																
CAR (0)		0.43%	0.21%	0.25%	0.29%	0.22%	0.24%	0.39%	0.33%	0.21%	0.36%	0.35%	0.36%	0.10%	0.22%	0.29%	0.30%
		1.2317	0.7158	0.9939	1.3803	0.5810	0.7331	1.5076	1.4045	0.5397	1.0201	1.0299	1.1126	0.2541	0.5609	0.7834	0.8463
CAR (1)		0.41%	0.21%	0.33%	0.31%	0.23%	0.29%	0.45%	0.30%	0.32%	0.45%	0.43%	0.36%	0.23%	0.35%	0.36%	0.32%
		1.1720	0.6950	1.3383	1.4666	0.6092	0.9434	1.8176	1.2757	0.7983	1.2958	1.2579	1.1222	0.5580	0.8876	0.9604	0.9081
BHAR (0)		0.49%	0.06%	0.50%	0.65%	0.02%	0.27%	0.46%	0.55%	0.21%	0.30%	0.74%	0.12%	-0.05%	0.11%	0.40%	0.41%
		1.1503	0.1410	1.3461	1.4333	0.0545	0.5739	1.1180	1.2082	0.4557	0.6482	1.5278	0.2657	-0.1163	0.2433	1.0095	0.8781
BHAR (1)		1.10%	0.20%	0.74%	0.74%	0.22%	0.66%	0.71%	0.51%	0.35%	0.23%	0.88%	0.17%	0.14%	0.11%	0.51%	0.34%
		2.6192	0.4664	2.0995	1.6416	0.5020	1.4828	1.7179	1.1647	0.7795	0.4865	2.0127	0.3683	0.3115	0.2428	1.3066	0.7339
SINGAPO	RE																
CAR (0)		-0.14%	-0.05%	-0.12%	-0.08%	0.06%	-0.10%	-0.10%	-0.13%	0.00%	-0.10%	-0.21%	-0.27%	-0.08%	-0.21%	-0.32%	-0.33%
		-0.4892	-0.2790	-0.6958	-0.5410	0.2408	-0.4206	-0.4569	-0.6438	-0.0114	-0.3527	-0.8151	-1.1195	-0.2625	-0.7229	-1.1990	-1.3184
CAR (1)		-0.23%	-0.06%	-0.12%	-0.14%	-0.05%	-0.12%	-0.11%	-0.17%	-0.13%	-0.20%	-0.25%	-0.32%	-0.14%	-0.26%	-0.37%	-0.32%
		-0.8861	-0.3500	-0.7140	-0.9038	-0.1988	-0.5206	-0.5075	-0.8453	-0.4379	-0.7111	-0.9856	-1.4069	-0.4584	-0.9365	-1.3747	-1.3757
BHAR (0)		-0.20%	-0.07%	0.17%	-0.27%	0.04%	-0.12%	-0.25%	-0.03%	0.15%	0.00%	-0.13%	-0.47%	0.06%	-0.05%	-0.32%	-0.22%
		-0.6210	-0.2318	0.6295	-0.8282	0.1242	-0.3583	-0.7592	-0.0943	0.4582	0.0149	-0.4471	-1.4245	0.1827	-0.1616	-1.0216	-0.6913
BHAR (1)		-0.61%	-0.32%	0.14%	-0.26%	-0.19%	-0.16%	-0.23%	0.03%	-0.02%	-0.17%	-0.10%	-0.66%	-0.12%	0.01%	-0.59%	-0.23%
		-2.0116	-1.0099	0.5177	-0.8142	-0.6217	-0.4814	-0.7226	0.0814	-0.0638	-0.5213	-0.3448	-1.9677	-0.3760	0.0299	-1.8876	-0.7469
SPAIN		,															
CAR (0)		0.05%	-0.06%	0.05%	0.18%	-0.16%	-0.10%	0.11%	0.13%	0.12%	0.23%	0.25%	0.25%	0.20%	0.20%	0.25%	0.26%
		0.2215	-0.3043	0.2994	1.2611	-0.6006	-0.3997	0.5193	0.7835	0.4316	0.8970	1.1057	1.1878	0.7286	0.8213	1.0880	1.1621
CAR (1)		0.03%	-0.05%	0.12%	0.16%	-0.24%	0.01%	0.16%	0.12%	0.27%	0.25%	0.28%	0.26%	0.18%	0.17%	0.26%	0.24%
		0.1423	-0.2541	0.7243	1.1976	-0.8941	0.0504	0.8313	0.7592	0.9581	1.0000	1.2503	1.2665	0.6651	0.7291	1.1468	1.0741
BHAR (0)		-0.27%	-0.43%	0.05%	-0.04%	-0.17%	-0.40%	-0.04%	0.55%	-0.04%	0.05%	0.40%	0.21%	0.23%	0.56%	0.24%	0.32%
		-0.9028	-1.4686	0.1640	-0.1339	-0.5962	-1.2653	-0.1455	1.8849	-0.1176	0.1542	1.4496	0.7608	0.7597	1.8440	0.8116	1.0419
BHAR (1)		-0.05%	-0.49%	0.14%	0.02%	-0.29%	-0.33%	-0.12%	0.53%	0.15%	0.05%	0.46%	0.14%	0.07%	0.32%	0.23%	0.18%
		-0.1868	-1.7047	0.5137	0.0870	-0.9661	-1.0678	-0.3939	1.8048	0.4799	0.1772	1.6072	0.4974	0.2433	1.0826	0.8233	0.5729

MW	J =		3		6						9				12			
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12	
SWEDEN	V																	
CAR (0)		0.35%	0.18%	0.06%	0.06%	0.36%	0.14%	0.10%	0.06%	0.39%	0.19%	0.08%	-0.02%	0.18%	0.03%	-0.05%	-0.10%	
		1.2714	0.8486	0.3083	0.3466	1.1640	0.4961	0.3825	0.2487	1.1528	0.6091	0.2799	-0.0708	0.5320	0.0955	-0.1452	-0.3149	
CAR (1)		0.19%	0.12%	0.03%	0.01%	0.27%	0.10%	0.07%	-0.02%	0.21%	0.11%	0.00%	-0.08%	0.04%	-0.07%	-0.14%	-0.17%	
		0.7190	0.5357	0.1474	0.0445	0.8878	0.3868	0.3042	-0.0641	0.6586	0.3620	0.0123	-0.2619	0.1112	-0.2063	-0.4481	-0.5541	
BHAR (0)		0.47%	0.31%	-0.02%	-0.41%	0.46%	-0.03%	-0.03%	-0.29%	0.40%	0.00%	0.21%	-0.18%	0.10%	0.04%	0.03%	-0.09%	
		1.4785	1.0214	-0.0694	-1.1809	1.4521	-0.0796	-0.0748	-0.8368	1.1308	0.0104	0.5984	-0.5503	0.2906	0.0937	0.0716	-0.2481	
BHAR (1)		0.32%	0.18%	-0.08%	-0.43%	0.51%	-0.03%	0.23%	-0.29%	0.35%	0.18%	0.13%	-0.12%	0.01%	-0.13%	-0.10%	-0.09%	
		0.9866	0.5917	-0.2499	-1.2811	1.5428	-0.0880	0.6656	-0.8458	0.9792	0.5244	0.3759	-0.3350	0.0320	-0.3481	-0.2736	-0.2442	
SWITZERL	AND																	
CAR (0)		-0.12%	0.00%	0.07%	0.14%	-0.17%	0.05%	0.23%	0.20%	0.09%	0.25%	0.28%	0.25%	0.22%	0.29%	0.26%	0.24%	
		-0.6710	0.0037	0.5635	1.2412	-0.7677	0.2631	1.2881	1.2612	0.3854	1.2083	1.4276	1.3864	0.9265	1.2917	1.2256	1.1921	
CAR (1)		0.00%	0.08%	0.17%	0.14%	-0.01%	0.22%	0.30%	0.22%	0.26%	0.34%	0.33%	0.23%	0.27%	0.29%	0.27%	0.20%	
		-0.0286	0.5596	1.3777	1.2812	-0.0561	1.1430	1.7256	1.3796	1.1565	1.6081	1.7122	1.3024	1.1607	1.2922	1.3155	1.0462	
BHAR (0)		-0.02%	-0.12%	-0.32%	0.06%	-0.19%	0.01%	0.11%	0.42%	0.02%	0.15%	0.20%	0.15%	0.25%	0.22%	0.14%	0.18%	
		-0.0790	-0.5302	-1.3940	0.2777	-0.7740	0.0543	0.4724	1.8515	0.0811	0.5877	0.8816	0.6597	0.9860	0.8552	0.5632	0.7331	
BHAR (1)		0.07%	0.01%	-0.18%	0.10%	0.03%	0.27%	0.16%	0.42%	0.31%	0.29%	0.14%	0.05%	0.24%	0.22%	0.14%	0.21%	
		0.3803	0.0538	-0.7932	0.4405	0.1198	1.1764	0.6942	1.8908	1.2192	1.1531	0.5959	0.2311	0.9741	0.8726	0.5767	0.9057	
UK																		
CAR (0)		-0.12%	0.03%	0.07%	0.20%	0.05%	0.12%	0.25%	0.26%	0.20%	0.32%	0.32%	0.21%	0.33%	0.36%	0.22%	0.14%	
		-0.6460	0.1905	0.5217	1.5834	0.2100	0.5460	1.2725	1.5403	0.7985	1.3331	1.4793	1.0410	1.3073	1.4659	0.9589	0.6518	
CAR (1)		-0.09%	0.06%	0.13%	0.20%	0.10%	0.19%	0.29%	0.23%	0.27%	0.37%	0.30%	0.15%	0.36%	0.33%	0.16%	0.09%	
		-0.4659	0.3806	0.9140	1.6045	0.4139	0.8896	1.5662	1.3854	1.0492	1.6078	1.4153	0.7676	1.3968	1.3777	0.7413	0.4373	
BHAR (0)		-0.28%	-0.12%	0.04%	-0.04%	-0.09%	0.04%	0.09%	0.37%	0.12%	0.26%	0.30%	0.32%	0.30%	0.46%	0.18%	0.14%	
		-1.2700	-0.5578	0.1796	-0.1779	-0.3657	0.1527	0.3347	2.0648	0.4456	0.9677	1.3168	1.3712	1.1257	1.7796	0.7148	0.5273	
BHAR (1)		-0.05%	-0.11%	0.10%	0.13%	-0.01%	0.11%	0.21%	0.26%	0.19%	0.28%	0.20%	0.19%	0.28%	0.33%	0.00%	0.01%	
		-0.2244	-0.5567	0.4281	0.6524	-0.0325	0.4531	0.9031	1.4279	0.7092	1.1243	0.8814	0.8243	1.0896	1.2755	0.0184	0.0467	
US		1			-				-				1					
CAR (0)		-0.23%	-0.07%	0.06%	0.08%	-0.14%	0.05%	0.13%	0.10%	0.11%	0.17%	0.17%	0.10%	0.17%	0.16%	0.13%	0.08%	
		-1.3499	-0.4988	0.4753	0.7372	-0.6833	0.3060	0.8210	0.7278	0.5069	0.9191	0.9526	0.6352	0.8224	0.8462	0.7313	0.4800	
CAR (1)		-0.17%	0.01%	0.12%	0.08%	0.00%	0.16%	0.16%	0.10%	0.23%	0.22%	0.17%	0.09%	0.17%	0.16%	0.11%	0.07%	
		-1.0143	0.1005	0.9771	0.8388	0.0064	0.9461	1.0885	0.7415	1.1587	1.2040	1.0230	0.5986	0.8466	0.8539	0.6383	0.3873	
BHAR (0)		-0.32%	0.00%	-0.19%	0.17%	-0.15%	0.05%	-0.14%	0.29%	0.14%	0.11%	0.26%	0.08%	0.17%	0.20%	0.14%	0.13%	
		-1.5984	-0.0176	-0.9910	0.8478	-0.6919	0.2473	-0.6493	1.8714	0.6510	0.5320	1.4051	0.4593	0.7732	0.9550	0.6591	0.6190	
BHAR (1)		-0.15%	-0.11%	-0.11%	0.16%	-0.04%	0.15%	-0.12%	0.21%	0.24%	0.03%	0.16%	-0.06%	0.06%	0.11%	0.00%	0.00%	
		-0.7286	-0.5783	-0.6236	0.8413	-0.1984	0.7603	-0.5639	1.4323	1.0804	0.1540	0.8543	-0.3340	0.2781	0.5361	-0.0121	0.0026	

Panel C. The time-series momentum strategy using inversed volatility-weighted return

IVOL	J =		3				6		8	iverseu	9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAI	LIA																
CAR (0)		0.64%	0.52%	0.27%	0.23%	0.93%	0.45%	0.32%	0.27%	0.81%	0.57%	0.50%	0.39%	0.69%	0.49%	0.48%	0.37%
		2.6743	2.4495	1.4683	1.4123	3.8192	1.8985	1.5260	1.4321	3.1902	2.3867	2.1169	1.7671	2.5942	1.9710	1.9258	1.6030
CAR (1)		0.56%	0.58%	0.51%	0.38%	0.74%	0.38%	0.32%	0.21%	0.65%	0.55%	0.48%	0.34%	0.54%	0.49%	0.47%	0.34%
		2.5301	3.0039	2.9437	2.3945	3.0524	1.6332	1.4490	1.0461	2.5531	2.2346	1.9389	1.5252	2.0962	1.8962	1.8145	1.4142
BHAR (0)		0.52%	0.43%	-0.44%	0.16%	0.82%	0.31%	0.20%	0.56%	0.68%	0.35%	0.75%	0.73%	0.53%	0.71%	0.19%	0.51%
		1.6284	1.3199	-1.1172	0.5900	2.5934	0.8858	0.4601	2.1226	2.2489	1.0787	1.9493	2.2124	1.6549	2.1461	0.5616	1.3812
BHAR (1)		0.58%	0.86%	0.59%	0.83%	1.15%	0.21%	0.50%	0.16%	0.56%	0.28%	0.63%	0.74%	0.54%	0.57%	0.23%	0.34%
-		1.9203	2.4088	1.4671	2.1144	3.6465	0.4722	1.4310	0.3808	1.7445	0.7431	1.3829	1.7278	1.8736	1.6832	0.7510	0.8745
AUSTRI	A																
CAR (0)		0.72%	0.48%	0.43%	0.46%	0.74%	0.69%	0.63%	0.61%	0.95%	0.83%	0.76%	0.62%	0.85%	0.70%	0.60%	0.49%
		4.0266	3.1290	3.0974	3.6653	3.5198	3.6628	3.6070	3.7077	4.3322	3.5866	3.2370	2.8549	3.6401	2.8595	2.5612	2.3436
CAR (1)		0.50%	0.33%	0.31%	0.37%	0.65%	0.63%	0.60%	0.55%	0.88%	0.77%	0.67%	0.52%	0.78%	0.63%	0.51%	0.41%
		2.8317	2.2213	2.2715	2.8951	3.2362	3.3985	3.4649	3.3509	3.9578	3.2424	2.8504	2.3894	3.3730	2.6311	2.2718	2.0446
BHAR (0)		0.63%	0.41%	0.38%	0.44%	0.67%	0.49%	0.56%	0.78%	0.89%	0.79%	0.88%	0.62%	0.82%	0.63%	0.61%	0.33%
		2.8220	1.8292	1.4301	1.7803	3.0748	2.2729	2.6754	3.8346	4.0338	2.7696	3.9117	2.8423	3.5310	2.6218	2.4887	1.4749
BHAR (1)		0.48%	0.26%	0.30%	0.21%	0.64%	0.51%	0.65%	0.83%	0.80%	0.73%	0.78%	0.54%	0.75%	0.62%	0.53%	0.26%
		2.1229	1.1526	0.9375	0.8061	3.0606	2.3471	3.1448	4.2239	3.5780	2.5305	3.5229	2.0541	3.2626	2.5939	1.7728	0.9123
BELGIU	M	1							1								
CAR (0)		0.35%	0.32%	0.31%	0.37%	0.47%	0.51%	0.51%	0.45%	0.64%	0.60%	0.53%	0.43%	0.63%	0.54%	0.45%	0.38%
		2.9029	3.0089	3.4529	4.7028	3.5563	4.1687	4.6220	4.6170	4.5103	4.4909	4.4339	3.8610	4.4976	4.0740	3.6543	3.2946
CAR (1)		0.36%	0.27%	0.28%	0.32%	0.52%	0.55%	0.51%	0.43%	0.70%	0.59%	0.51%	0.40%	0.65%	0.53%	0.43%	0.35%
		3.0168	2.6863	3.2516	4.3348	3.9349	4.6156	4.8364	4.5068	5.1222	4.5862	4.4459	3.6553	4.6718	4.0766	3.5778	3.0889
BHAR (0)		0.30%	0.27%	0.11%	0.27%	0.42%	0.38%	0.35%	0.46%	0.67%	0.56%	0.59%	0.49%	0.68%	0.54%	0.47%	0.30%
		2.3420	1.7842	0.5658	1.7619	3.0700	2.7154	2.7134	3.7605	4.3512	3.7991	4.8805	3.8907	4.5898	3.6901	3.3159	2.1163
BHAR (1)		0.34%	0.43%	0.32%	0.31%	0.44%	0.42%	0.39%	0.46%	0.67%	0.51%	0.57%	0.33%	0.62%	0.53%	0.49%	0.29%
CANAD		2.3309	2.4965	1.7362	2.1097	3.0992	2.9946	3.0053	3.6274	4.6943	3.4828	4.9383	2.3860	4.2894	3.6819	3.4998	1.8413
CAR	A	0.410/	0.220/	0.210/	0.250/	0.740/	0.600/	0.640/	0.520/	0.010/	0.640/	0.570/	0.200/	0.020/	0.610/	0.440/	0.220/
CAR (0)		0.41% 2.2164	0.22% 1.5893	0.31% 2.5538	0.25% 2.4982	0.74% 3.5947	0.69% 3.7037	0.64% 3.9526	0.52% 3.6597	0.81% 3.7531	0.64% 3.5502	0.57% 3.4319	0.38% 2.6013	0.82% 3.9858	0.61% 3.2542	0.44% 2.5179	0.32%
CAR (1)		0.14%	0.20%	0.28%	0.17%	0.67%	0.69%	0.61%		0.73%	0.58%	0.50%		0.65%	0.52%	0.36%	1.9547
CAR (1)		0.14%		2.5236	1.6970	3.3899	3.8703	3.9237	0.43% 3.1886	3.7308	3.3524	3.1165	0.31%		2.8091		0.25% 1.5364
DIIAD (0)			1.4359										2.1474	3.3048		2.0634	
BHAR (0)		0.28%	0.19% 0.6552	0.28%	0.40%	0.63%	0.53%	0.18%	0.90%	0.73%	0.38%	0.25%	0.30%	0.61% 2.7375	0.58% 2.7937	0.49%	0.40%
DHAD (1)		1.1880		1.3132	1.3994	2.1512	1.8721	0.8058	3.2630	3.1986	1.5383	1.2490	1.1442			2.3382	1.9303
BHAR (1)		-0.02% -0.0992	-0.04%	0.22% 1.0149	0.18% 0.8721	0.42% 1.9492	0.44%	0.20% 0.9158	0.71% 4.0187	0.57% 2.5400	0.47%	0.38%	0.48% 2.4644	0.59% 2.8239	0.64% 1.9549	0.64% 1.7287	0.33% 1.5940
		-0.0992	-0.1748	1.0149	0.0/21	1.9492	2.1255	0.9138	4.010/	2.3400	2.1466	1.1965	2.4644	2.0239	1.9349	1./20/	1.3940

IVOL	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	RK																
CAR (0)		0.64%	0.61%	0.55%	0.53%	0.84%	0.73%	0.70%	0.61%	0.88%	0.82%	0.70%	0.59%	0.91%	0.78%	0.63%	0.52%
		6.1776	6.1170	6.1255	6.7072	6.7108	5.9724	6.2299	5.9738	6.8667	6.4832	5.8605	5.3178	6.7778	5.8652	5.0548	4.4260
CAR (1)		0.59%	0.56%	0.52%	0.47%	0.79%	0.72%	0.64%	0.53%	0.85%	0.73%	0.62%	0.50%	0.80%	0.68%	0.53%	0.43%
		5.6943	5.8302	6.0590	6.0587	6.2522	5.7921	5.7742	5.2927	6.5983	5.8669	5.2423	4.5884	6.1169	5.2661	4.3506	3.6982
BHAR (0)		0.74%	0.69%	0.51%	0.53%	0.80%	0.65%	0.62%	0.79%	0.85%	0.86%	0.79%	0.72%	0.90%	0.83%	0.66%	0.60%
		5.8912	5.1592	3.7288	4.2669	5.6841	4.0034	4.3522	5.9019	6.0544	5.6761	5.5357	4.7769	6.1962	5.5198	4.3487	3.7591
BHAR (1)		0.51%	0.64%	0.56%	0.55%	0.71%	0.68%	0.49%	0.71%	0.89%	0.74%	0.73%	0.54%	0.81%	0.70%	0.63%	0.41%
		3.7159	4.9181	3.7108	4.4387	5.2900	4.2768	3.7286	5.8432	6.2732	5.0364	5.2477	3.6917	5.7526	4.7601	4.1795	2.6723
FINLAN	D																
CAR (0)		0.41%	0.38%	0.37%	0.33%	0.48%	0.47%	0.43%	0.36%	0.60%	0.49%	0.37%	0.27%	0.59%	0.40%	0.30%	0.22%
		2.9058	3.0134	3.3989	3.3791	2.9181	3.2751	3.2354	2.8790	3.3217	3.0035	2.3903	1.8688	2.9984	2.2136	1.7726	1.3879
CAR (1)		0.35%	0.33%	0.34%	0.30%	0.49%	0.47%	0.43%	0.31%	0.63%	0.46%	0.31%	0.21%	0.48%	0.31%	0.22%	0.17%
		2.4682	3.0755	3.4042	3.1955	3.2102	3.3702	3.2135	2.5566	3.5437	2.7950	2.0136	1.5059	2.5374	1.7326	1.3119	1.0866
BHAR (0)		0.34%	0.31%	0.21%	0.11%	0.35%	0.52%	0.48%	0.56%	0.58%	0.24%	0.28%	0.20%	0.54%	0.56%	0.16%	0.33%
		1.5850	1.3027	1.2657	0.4420	1.9221	3.2767	2.8273	3.3053	2.8880	1.1214	1.5245	1.0662	2.5879	2.7846	0.8157	1.7092
BHAR (1)		0.54%	0.23%	0.25%	0.14%	0.55%	0.59%	0.49%	0.49%	0.58%	0.21%	0.21%	0.16%	0.48%	0.45%	-0.02%	0.29%
		3.2823	1.3951	1.6161	0.7427	3.1821	3.6619	2.9400	2.9397	2.9947	1.0039	1.1686	0.8831	2.3681	2.2814	-0.0917	1.5078
FRANCI	E																
CAR (0)		-0.06%	-0.04%	0.08%	0.33%	0.13%	-0.12%	0.16%	0.27%	0.25%	0.22%	0.23%	0.07%	0.42%	0.30%	0.01%	-0.03%
		-0.3343	-0.1833	0.4584	2.1643	0.6179	-0.4775	0.7445	1.4594	1.2557	0.8778	1.0670	0.3971	2.0656	1.4343	0.0694	-0.1519
CAR (1)		0.14%	-0.03%	0.12%	0.27%	0.17%	0.03%	0.25%	0.22%	0.35%	0.40%	0.23%	0.01%	0.50%	0.22%	-0.09%	-0.07%
		0.7331	-0.1442	0.7549	1.8263	0.8307	0.1259	1.1859	1.2345	1.7418	1.6832	1.1269	0.0775	2.5608	0.9688	-0.4004	-0.3646
BHAR (0)		0.30%	-0.42%	0.53%	0.00%	0.16%	-0.59%	0.52%	0.57%	0.37%	0.79%	-0.11%	1.08%	0.53%	0.40%	0.16%	0.03%
		1.0835	-1.1024	1.3076	0.0085	0.7240	-1.5145	1.5656	1.3851	1.9921	2.8258	-0.2722	3.0985	2.5327	1.1527	0.4494	0.0893
BHAR (1)		0.17%	-0.78%	0.63%	0.05%	0.05%	-0.47%	0.21%	0.86%	0.09%	0.63%	-0.58%	0.29%	0.45%	0.04%	-0.11%	-0.11%
		0.6348	-1.9491	1.2708	0.1083	0.1633	-1.2398	0.5506	2.1752	0.3313	1.5843	-1.3545	0.6167	1.5434	0.0963	-0.3208	-0.2749
GERMAN	ΝY								-				1				
CAR (0)		0.72%	0.48%	0.46%	0.38%	0.75%	0.69%	0.58%	0.48%	0.75%	0.66%	0.54%	0.47%	0.82%	0.65%	0.56%	0.42%
		4.5238	3.1731	3.3895	3.2671	4.3144	4.1134	3.5241	2.9428	3.6000	3.0792	2.4786	2.7493	4.1174	2.9634	3.2127	2.6141
CAR (1)		0.67%	0.53%	0.57%	0.43%	0.75%	0.68%	0.55%	0.46%	0.76%	0.60%	0.53%	0.44%	0.77%	0.64%	0.48%	0.34%
		4.3873	3.5699	4.3123	3.4239	4.4439	3.8775	3.1609	2.8573	3.8309	2.9119	2.7808	2.8291	3.9598	3.3683	2.8676	2.2016
BHAR (0)		0.54%	0.15%	0.42%	-0.28%	0.65%	0.67%	0.60%	0.55%	0.81%	0.63%	0.62%	0.34%	0.81%	0.83%	0.54%	0.27%
		2.5944	0.5717	1.7653	-0.8782	3.2704	3.4980	2.9506	2.3517	3.9163	2.4141	2.4566	1.2952	4.1297	4.1538	2.0529	1.5399
BHAR (1)		0.67%	0.62%	0.70%	0.03%	0.58%	0.89%	0.53%	0.54%	0.79%	0.43%	0.41%	0.15%	0.71%	0.75%	0.40%	0.28%
		3.5355	2.9582	3.1404	0.0870	3.0788	3.8485	2.6016	2.0614	3.9631	1.6969	1.5729	0.5592	3.7133	3.8541	1.5307	1.6895

IVOL	J =		3	3			6	i			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECI	C																
CAR (0)		0.34%	0.30%	0.24%	0.18%	0.49%	0.33%	0.19%	0.02%	0.50%	0.29%	0.04%	-0.08%	0.35%	0.11%	-0.03%	-0.10%
		1.3257	1.3563	1.1955	1.0108	1.8125	1.3244	0.8254	0.0719	1.7554	1.0766	0.1746	-0.3654	1.2371	0.3881	-0.1263	-0.4230
CAR (1)		0.28%	0.26%	0.18%	0.10%	0.42%	0.30%	0.12%	-0.05%	0.51%	0.22%	-0.02%	-0.13%	0.22%	0.01%	-0.07%	-0.14%
		1.1211	1.2766	0.9683	0.6241	1.5945	1.1965	0.5150	-0.2201	1.8071	0.8092	-0.0652	-0.5653	0.7769	0.0384	-0.2887	-0.5909
BHAR (0)		0.17%	0.66%	0.32%	0.38%	0.48%	0.29%	-0.06%	0.22%	0.54%	0.38%	0.14%	0.03%	0.38%	0.08%	-0.06%	-0.31%
		0.5684	2.3590	1.0345	1.4259	1.7264	0.8744	-0.1652	0.7963	1.7838	1.2748	0.4847	0.1056	1.2624	0.2666	-0.2295	-1.0804
BHAR (1)		0.41%	0.64%	0.22%	0.46%	0.33%	0.25%	0.05%	0.10%	0.60%	0.39%	0.24%	-0.11%	0.32%	-0.02%	-0.14%	-0.25%
		1.4355	2.3205	0.7028	1.6872	1.1631	0.8209	0.1925	0.3816	1.9536	1.3119	0.8535	-0.3923	1.0577	-0.0499	-0.5175	-0.8905
HONGKO	٧G																
CAR (0)		0.17%	0.35%	0.25%	0.12%	0.60%	0.40%	0.18%	0.01%	0.52%	0.29%	0.13%	-0.02%	0.39%	0.13%	-0.03%	-0.13%
		0.7014	2.0467	1.6478	0.7969	2.3437	1.7868	0.8484	0.0390	1.9689	1.1557	0.5680	-0.1054	1.4480	0.5323	-0.1419	-0.5711
CAR (1)		0.18%	0.38%	0.21%	0.07%	0.65%	0.36%	0.15%	0.01%	0.41%	0.18%	0.02%	-0.09%	0.27%	0.00%	-0.14%	-0.19%
		0.8459	2.5046	1.4275	0.4822	2.7438	1.6468	0.7422	0.0593	1.5927	0.7404	0.0987	-0.4354	1.0342	-0.0153	-0.5861	-0.8689
BHAR (0)		-0.30%	0.18%	-0.15%	0.24%	0.53%	0.46%	-0.24%	0.03%	0.61%	0.29%	0.39%	0.04%	0.35%	0.33%	0.07%	-0.11%
		-0.9742	0.6850	-0.5484	0.9669	1.7521	1.4999	-0.7114	0.1026	1.9642	1.0230	1.4698	0.1409	1.1812	1.1339	0.2636	-0.4368
BHAR (1)		-0.17%	0.08%	0.01%	0.15%	0.52%	0.40%	-0.06%	0.28%	0.30%	0.07%	0.29%	-0.12%	0.10%	0.13%	-0.08%	-0.13%
		-0.6166	0.3205	0.0252	0.6337	1.9006	1.6029	-0.2171	1.2303	1.0770	0.2709	1.1837	-0.4671	0.3615	0.5544	-0.2995	-0.5320
IRELAN)																
CAR (0)		0.54%	0.42%	0.46%	0.53%	0.58%	0.49%	0.56%	0.48%	0.64%	0.63%	0.60%	0.50%	0.67%	0.56%	0.50%	0.41%
		2.6867	2.4341	2.9647	3.8872	2.6796	2.4248	2.9802	2.8562	2.7237	2.8248	2.8617	2.6443	2.6557	2.3292	2.2311	1.9881
CAR (1)		0.33%	0.21%	0.36%	0.38%	0.61%	0.51%	0.51%	0.41%	0.62%	0.59%	0.53%	0.43%	0.70%	0.54%	0.42%	0.35%
		1.5387	1.1252	2.2539	2.7649	2.7697	2.4338	2.7411	2.4314	2.6720	2.6801	2.6003	2.3025	2.7465	2.2312	1.8711	1.7333
BHAR (0)		0.42%	0.32%	0.29%	0.78%	0.59%	0.59%	0.17%	0.69%	0.54%	0.42%	0.55%	0.34%	0.67%	0.72%	0.67%	0.50%
		1.6892	1.2583	1.1029	3.2642	2.3486	2.2907	0.6461	2.8846	2.0698	1.5102	2.0326	1.2481	2.5601	2.6816	2.6155	1.7414
BHAR (1)		0.07%	0.13%	0.21%	0.33%	0.44%	0.37%	-0.04%	0.41%	0.43%	0.41%	0.46%	0.20%	0.53%	0.60%	0.49%	0.49%
		0.2364	0.5123	0.7562	1.0539	1.7488	1.4109	-0.1703	1.6275	1.6046	1.5240	1.6570	0.7469	1.9486	2.2232	1.8635	1.7109
ISRAEL																	
CAR (0)		0.20%	0.02%	-0.06%	-0.11%	0.13%	-0.01%	-0.15%	-0.19%	0.17%	0.06%	0.01%	-0.09%	0.19%	0.14%	0.08%	0.00%
		1.2192	0.1441	-0.4501	-0.9111	0.8086	-0.0818	-0.9989	-1.3978	1.0180	0.3603	0.0315	-0.6157	1.0900	0.7783	0.4359	-0.0004
CAR (1)		0.16%	0.08%	-0.07%	-0.17%	0.14%	-0.02%	-0.16%	-0.23%	0.26%	0.05%	-0.04%	-0.12%	0.22%	0.17%	0.08%	0.00%
		1.0753	0.5164	-0.4965	-1.2778	0.8621	-0.1437	-1.0797	-1.7460	1.5166	0.3030	-0.2568	-0.8665	1.2012	0.8844	0.4406	0.0278
BHAR (0)		0.01%	-0.21%	-0.38%	-0.36%	0.03%	-0.13%	-0.62%	-0.46%	0.22%	0.01%	0.34%	0.28%	0.19%	0.25%	0.01%	-0.20%
		0.0408	-0.8912	-1.4162	-1.3576	0.1536	-0.5847	-2.6493	-2.0228	1.1579	0.0482	1.3852	1.1428	1.0394	1.3922	0.0295	-1.1879
BHAR (1)		0.19%	-0.26%	-0.35%	-0.32%	0.06%	-0.13%	-0.33%	-0.22%	0.11%	-0.09%	0.43%	0.22%	0.21%	0.29%	0.16%	-0.05%
		0.9856	-1.2748	-1.3914	-1.3734	0.3381	-0.5360	-1.4496	-0.9557	0.5563	-0.3738	1.7253	0.9631	1.0856	1.4606	0.6469	-0.2605

IVOL	J =		3				6	i			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.34%	0.37%	0.38%	0.33%	0.52%	0.50%	0.46%	0.37%	0.55%	0.53%	0.47%	0.37%	0.57%	0.50%	0.44%	0.34%
		2.0914	2.7577	3.4106	3.2742	2.8851	3.2082	3.2430	2.7408	3.2053	3.3519	3.1969	2.7124	3.2228	3.0290	2.8601	2.3722
CAR (1)		0.35%	0.36%	0.34%	0.27%	0.55%	0.52%	0.42%	0.33%	0.60%	0.52%	0.44%	0.32%	0.56%	0.48%	0.37%	0.30%
		2.2756	2.8991	3.1592	2.7564	3.3455	3.5648	3.1489	2.5945	3.7697	3.4467	3.0913	2.4317	3.2816	2.9945	2.5053	2.1212
BHAR (0)		0.24%	0.34%	0.31%	0.34%	0.48%	0.41%	0.29%	0.31%	0.50%	0.48%	0.58%	0.19%	0.55%	0.48%	0.55%	0.32%
		1.2718	1.6700	1.9154	2.2662	2.4766	2.3603	1.3444	1.7861	2.8211	2.6699	3.4135	1.0335	3.0772	2.8399	3.3860	2.0227
BHAR (1)		0.28%	0.33%	0.38%	0.37%	0.49%	0.42%	0.48%	0.24%	0.54%	0.51%	0.57%	0.17%	0.56%	0.51%	0.47%	0.34%
		1.5181	1.6829	2.2299	2.6113	2.6150	2.4032	2.6695	1.4518	3.1478	3.0799	3.4432	1.0061	3.1949	3.0116	2.8508	2.1287
JAPAN																	
CAR (0)		-0.05%	-0.13%	-0.08%	-0.01%	-0.25%	-0.20%	-0.08%	-0.08%	-0.19%	-0.10%	-0.10%	-0.13%	-0.07%	-0.13%	-0.15%	-0.17%
		-0.3239	-1.0137	-0.8026	-0.1155	-1.4946	-1.3703	-0.6413	-0.6847	-1.1391	-0.6530	-0.6922	-0.9918	-0.4037	-0.7969	-1.0238	-1.2884
CAR (1)		-0.03%	-0.10%	-0.03%	-0.01%	-0.18%	-0.10%	-0.03%	-0.08%	-0.03%	-0.03%	-0.07%	-0.13%	-0.02%	-0.13%	-0.15%	-0.18%
		-0.2023	-0.8588	-0.2605	-0.1080	-1.1321	-0.7231	-0.2242	-0.7369	-0.2109	-0.1955	-0.4897	-1.0437	-0.1448	-0.8067	-1.0748	-1.3572
BHAR (0)		-0.13%	0.07%	-0.10%	0.09%	-0.20%	-0.18%	-0.11%	0.09%	-0.13%	-0.07%	0.02%	-0.01%	-0.08%	-0.10%	-0.15%	-0.13%
		-0.8090	0.4290	-0.6250	0.6492	-1.1760	-1.0604	-0.6702	0.6702	-0.7844	-0.4424	0.1753	-0.0438	-0.4688	-0.5823	-0.9478	-0.8644
BHAR (1)		-0.10%	0.08%	-0.12%	0.11%	-0.22%	-0.30%	-0.09%	0.02%	-0.08%	0.00%	-0.04%	-0.06%	-0.08%	-0.21%	-0.26%	-0.19%
-		-0.6493	0.5201	-0.7291	0.8310	-1.2944	-1.7930	-0.5389	0.1731	-0.5081	0.0244	-0.2705	-0.4002	-0.4538	-1.2876	-1.6694	-1.2315
NETHERLA	NDS																
CAR (0)		0.45%	0.30%	0.32%	0.36%	0.50%	0.44%	0.49%	0.44%	0.65%	0.63%	0.57%	0.49%	0.69%	0.61%	0.52%	0.47%
		3.3956	2.7705	3.3867	4.1630	3.6696	3.4465	4.1442	4.1568	4.1354	4.3020	4.1416	3.8053	4.3526	3.9166	3.4712	3.3157
CAR (1)		0.31%	0.28%	0.32%	0.30%	0.47%	0.46%	0.49%	0.41%	0.65%	0.62%	0.53%	0.45%	0.65%	0.57%	0.48%	0.44%
		2.5929	2.6766	3.3754	3.5859	3.5127	3.6533	4.1613	3.8700	4.2368	4.2281	3.8955	3.5861	4.0708	3.7400	3.2340	3.1315
BHAR (0)		0.44%	0.26%	0.20%	0.19%	0.57%	0.39%	0.43%	0.59%	0.64%	0.55%	0.56%	0.54%	0.64%	0.59%	0.54%	0.42%
		2.7765	1.5834	1.5007	1.2850	3.7182	2.6142	2.8076	4.9384	3.9157	3.2670	3.4311	3.3669	3.9372	3.6999	3.4310	2.4513
BHAR (1)		0.21%	0.08%	0.24%	0.12%	0.43%	0.42%	0.45%	0.51%	0.59%	0.52%	0.49%	0.43%	0.62%	0.60%	0.52%	0.41%
		1.3672	0.5217	1.7833	0.7327	2.8506	2.8002	2.9841	4.3864	3.5395	3.1308	3.0170	2.6808	3.8650	3.6808	3.5206	2.4496
NEWZEALA	.ND																
CAR (0)		1.15%	0.93%	0.62%	0.53%	0.90%	0.74%	0.55%	0.35%	0.81%	0.69%	0.48%	0.24%	0.85%	0.64%	0.39%	0.16%
		3.6967	4.5889	4.1148	4.6702	6.8400	6.0499	4.6961	2.7525	5.7368	5.5430	3.7293	1.7337	6.1491	4.9395	2.9489	1.1140
CAR (1)		1.13%	0.83%	0.57%	0.47%	0.82%	0.64%	0.47%	0.25%	0.74%	0.60%	0.39%	0.15%	0.77%	0.54%	0.30%	0.07%
		3.7527	4.2988	3.9446	4.3129	6.1551	5.3395	3.9634	2.0144	5.4620	4.9583	3.0811	1.0961	5.7378	4.2631	2.2498	0.5134
BHAR (0)		1.25%	0.70%	0.79%	0.29%	0.90%	0.88%	0.57%	0.26%	0.83%	0.59%	0.59%	-0.05%	0.82%	0.79%	0.30%	0.42%
		3.2633	4.2125	1.8994	1.7543	6.1602	6.0775	3.6788	1.1707	5.1339	3.5745	4.1491	-0.1922	5.6387	5.8160	1.5510	3.1040
BHAR (1)		1.19%	0.60%	0.47%	0.18%	0.96%	0.75%	0.53%	0.07%	0.78%	0.50%	0.41%	-0.15%	0.82%	0.68%	0.11%	0.40%
		3.6461	3.7717	1.3067	1.0114	6.1287	4.6821	3.5351	0.2550	4.9874	2.8767	2.1877	-0.6290	5.4783	4.9753	0.5205	2.9317

IVOL	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWA	Y																
CAR (0)		0.30%	0.28%	0.29%	0.26%	0.42%	0.39%	0.40%	0.29%	0.51%	0.47%	0.40%	0.25%	0.57%	0.39%	0.30%	0.16%
		1.7632	2.1676	2.4203	2.4323	2.4646	2.4926	2.7018	2.1674	2.7474	2.6661	2.3690	1.5958	2.9611	2.1056	1.7194	0.9626
CAR (1)		0.27%	0.28%	0.30%	0.22%	0.43%	0.43%	0.39%	0.23%	0.53%	0.46%	0.35%	0.17%	0.51%	0.33%	0.21%	0.09%
		1.7645	2.1275	2.3973	2.0607	2.5499	2.7073	2.6126	1.7223	2.8762	2.5569	2.1395	1.1300	2.5390	1.7929	1.2534	0.5404
BHAR (0)		0.44%	0.35%	0.43%	0.45%	0.37%	0.24%	0.20%	0.51%	0.59%	0.46%	0.45%	0.21%	0.63%	0.37%	0.25%	0.11%
		2.0258	1.3598	2.0063	2.6364	1.9615	1.2373	1.0238	2.9622	2.9555	2.2115	2.0758	0.9556	2.9810	1.7670	1.2430	0.4965
BHAR (1)		0.28%	0.26%	0.26%	0.36%	0.36%	0.31%	0.18%	0.35%	0.51%	0.41%	0.46%	0.10%	0.53%	0.39%	0.19%	0.12%
		1.7050	1.5700	1.7267	2.2120	1.9618	1.5620	0.9610	1.9912	2.7392	2.1680	2.1999	0.5167	2.6006	1.9307	1.0159	0.5889
PORTUG	AL																
CAR (0)		0.52%	0.48%	0.42%	0.23%	0.89%	0.53%	0.42%	0.26%	0.34%	0.21%	0.11%	-0.06%	0.42%	0.23%	-0.03%	-0.17%
		1.6760	1.6002	1.6055	0.8642	2.9200	1.5357	1.3116	0.9024	1.1005	0.6603	0.3728	-0.2274	1.4073	0.6895	-0.0803	-0.5153
CAR (1)		0.31%	0.51%	0.33%	0.22%	0.80%	0.55%	0.48%	0.27%	0.48%	0.22%	0.08%	-0.11%	0.34%	0.15%	-0.11%	-0.22%
		0.9788	1.6858	1.2089	0.8424	2.6036	1.6154	1.4714	0.9524	1.4597	0.6797	0.2684	-0.3772	1.1099	0.4684	-0.3215	-0.6812
BHAR (0)		0.42%	0.55%	0.37%	0.52%	1.01%	0.66%	0.34%	0.36%	0.36%	0.16%	0.68%	0.50%	0.43%	0.22%	0.01%	-0.11%
		0.8710	1.1503	0.6435	1.1155	2.9007	1.6505	0.5257	0.8579	1.1906	0.3968	1.4959	1.0983	1.3235	0.5480	0.0338	-0.2069
BHAR (1)		0.09%	0.69%	0.84%	0.08%	0.67%	0.82%	0.31%	0.24%	0.41%	0.18%	0.48%	0.08%	0.05%	0.25%	-0.20%	-0.24%
		0.1967	1.4131	1.6158	0.1733	1.4326	1.8023	0.5174	0.5659	0.8561	0.3944	0.8735	0.1645	0.1354	0.5929	-0.4348	-0.4589
SINGAPO	RE																
CAR (0)		0.38%	0.40%	0.29%	0.14%	0.41%	0.35%	0.22%	0.11%	0.39%	0.24%	0.11%	0.00%	0.29%	0.18%	0.05%	-0.03%
		1.6740	2.2887	1.8205	0.9002	1.9190	1.7699	1.1843	0.6073	1.6666	1.1175	0.5334	-0.0140	1.2799	0.8488	0.2470	-0.1511
CAR (1)		0.28%	0.31%	0.19%	0.06%	0.40%	0.31%	0.15%	0.05%	0.32%	0.18%	0.03%	-0.06%	0.28%	0.12%	-0.02%	-0.07%
		1.2275	1.8050	1.1494	0.3680	1.9149	1.5425	0.8007	0.2581	1.3740	0.8623	0.1626	-0.3315	1.2792	0.5703	-0.0821	-0.3556
BHAR (0)		0.37%	0.25%	0.12%	0.23%	0.41%	0.38%	0.09%	0.16%	0.35%	0.24%	0.13%	-0.01%	0.31%	0.20%	0.07%	-0.09%
		1.3466	0.9086	0.5347	0.9397	1.5396	1.5504	0.3390	0.6925	1.4305	1.0361	0.6058	-0.0587	1.2454	0.8476	0.2982	-0.4351
BHAR (1)		0.13%	-0.06%	-0.05%	0.06%	0.46%	0.50%	0.03%	0.34%	0.42%	0.15%	0.15%	0.02%	0.27%	0.26%	-0.09%	0.05%
		0.4983	-0.2642	-0.2090	0.3795	2.0566	2.3275	0.1227	1.9124	1.7304	0.7175	0.7386	0.0708	1.1979	1.1274	-0.4190	0.2093
SPAIN			0.4007	0.770/	=	0.500/	0.500/	0.740/	0.400/	. ===:	0.500/	0 =001		0.6404	0.500/	. ===:	
CAR (0)		0.55%	0.40%	0.53%	0.47%	0.59%	0.59%	0.54%	0.42%	0.73%	0.59%	0.50%	0.42%	0.64%	0.58%	0.52%	0.45%
		3.0678	2.3795	3.8530	3.5900	3.1015	3.4294	3.1603	2.7708	3.5983	2.8170	2.6140	2.4631	3.1451	3.0092	2.8453	2.6625
CAR (1)		0.41%	0.35%	0.46%	0.38%	0.53%	0.59%	0.52%	0.38%	0.70%	0.53%	0.43%	0.36%	0.61%	0.56%	0.49%	0.41%
		2.5041	2.4368	3.5556	3.1871	2.9171	3.3895	3.1537	2.6089	3.5276	2.6494	2.3675	2.1936	3.1625	2.9836	2.7323	2.4798
BHAR (0)		0.37%	0.22%	0.40%	0.31%	0.50%	0.46%	0.42%	0.40%	0.66%	0.62%	0.60%	0.38%	0.54%	0.49%	0.62%	0.27%
		1.5147	0.8854	1.4733	1.2475	2.0448	1.9121	1.5363	1.7436	2.7327	2.5079	2.9144	1.7200	2.2161	2.0888	3.0942	1.1843
BHAR (1)		0.28%	0.02%	0.26%	0.03%	0.41%	0.48%	0.24%	0.29%	0.68%	0.39%	0.55%	0.16%	0.55%	0.47%	0.61%	0.26%
		1.3861	0.0823	1.0566	0.1289	1.9946	2.3339	1.1372	1.3053	3.3176	1.6307	2.7628	0.7339	2.6779	2.4312	3.1193	1.3157

IVOL	J =		3				6				9	1			10	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDE	N																
CAR (0)		0.67%	0.45%	0.41%	0.42%	0.60%	0.47%	0.45%	0.35%	0.65%	0.52%	0.37%	0.28%	0.65%	0.39%	0.29%	0.27%
		3.1368	2.4347	2.5313	2.8102	2.4689	1.8897	1.8715	1.4754	2.6047	2.0780	1.4522	1.1221	2.6659	1.5076	1.1125	1.2207
CAR (1)		0.53%	0.39%	0.43%	0.39%	0.58%	0.45%	0.40%	0.26%	0.64%	0.45%	0.28%	0.24%	0.53%	0.28%	0.23%	0.22%
		2.7307	1.8738	2.5065	2.3855	2.4890	1.8660	1.7046	1.1536	2.7410	1.8516	1.1571	1.0531	2.2442	1.1186	1.0057	1.0733
BHAR (0)		0.79%	0.20%	0.69%	-0.12%	0.51%	0.46%	0.35%	0.31%	0.58%	0.30%	0.47%	0.14%	0.66%	0.63%	0.43%	0.30%
		2.6040	0.6718	1.9887	-0.4413	1.7326	1.5288	1.0703	1.0638	1.8820	0.9942	1.4033	0.4231	2.1523	2.0319	1.3971	0.9188
BHAR (1)		0.56%	0.41%	0.94%	0.17%	0.65%	0.48%	0.35%	0.15%	0.71%	0.35%	0.50%	0.07%	0.71%	0.65%	0.29%	0.31%
		2.3562	1.2989	3.0971	0.5822	2.7931	2.1002	1.0647	0.5218	3.0067	1.1847	2.0535	0.2117	3.0898	2.9018	0.9671	1.7338
SWITZERL	AND																
CAR (0)		0.50%	0.37%	0.31%	0.33%	0.54%	0.44%	0.43%	0.40%	0.52%	0.52%	0.48%	0.38%	0.64%	0.52%	0.42%	0.33%
		3.6661	3.0739	2.8642	3.5400	3.4243	2.9524	3.1952	3.2788	3.1154	3.1989	3.2457	2.7885	3.8266	3.2045	2.7050	2.1908
CAR (1)		0.38%	0.31%	0.30%	0.30%	0.48%	0.42%	0.39%	0.33%	0.52%	0.48%	0.43%	0.31%	0.59%	0.45%	0.36%	0.26%
		2.9920	2.6666	3.0153	3.4213	3.0095	2.8275	2.9361	2.7810	3.1070	3.0387	2.9913	2.2707	3.5250	2.8193	2.3135	1.7515
BHAR (0)		0.44%	0.33%	0.35%	0.33%	0.52%	0.45%	0.33%	0.59%	0.55%	0.45%	0.47%	0.49%	0.65%	0.57%	0.44%	0.28%
		2.6278	1.8208	2.1884	2.1858	3.1827	2.7743	2.2145	4.2283	3.1205	2.3330	3.0576	2.8334	3.7680	3.3288	2.6097	1.6231
BHAR (1)		0.37%	0.19%	0.40%	0.31%	0.43%	0.34%	0.22%	0.52%	0.43%	0.38%	0.39%	0.30%	0.51%	0.48%	0.36%	0.26%
		2.4232	1.1206	2.5052	1.9873	2.5813	1.8731	1.5300	3.6555	2.2999	1.9924	2.5001	1.6706	3.0189	2.8137	2.2034	1.5005
UK																	
CAR (0)		0.59%	0.57%	0.45%	0.47%	0.83%	0.66%	0.61%	0.55%	0.87%	0.70%	0.53%	0.50%	0.83%	0.60%	0.51%	0.47%
		5.3461	6.3437	5.4353	6.0152	6.3891	5.4808	5.4577	4.9853	6.1402	5.0820	3.8417	4.2456	5.7361	3.7856	3.8598	3.9431
CAR (1)		0.43%	0.43%	0.43%	0.43%	0.70%	0.59%	0.58%	0.49%	0.71%	0.59%	0.47%	0.42%	0.66%	0.46%	0.44%	0.40%
		3.7305	4.6321	5.0775	5.6208	5.7041	4.7255	5.0980	4.4614	4.9656	4.1249	3.3990	3.4271	4.5624	2.8491	3.3042	3.4333
BHAR (0)		0.42%	0.67%	0.48%	0.43%	0.70%	0.53%	0.48%	0.85%	0.78%	0.71%	0.71%	0.54%	0.80%	0.53%	0.60%	0.51%
		2.8626	4.2963	2.5271	2.8148	4.9423	3.2268	2.7787	5.7498	5.2028	4.1029	3.5917	3.1822	5.7943	2.1942	4.4915	2.7754
BHAR (1)		0.56%	0.37%	0.63%	0.28%	0.65%	0.57%	0.46%	0.74%	0.75%	0.41%	0.68%	0.40%	0.47%	0.47%	0.55%	0.40%
		3.0621	2.4730	3.2188	1.9119	4.0118	3.2590	2.7420	6.0500	3.9651	1.5770	3.3857	2.3701	1.9880	1.9329	3.5451	2.2218
US					0.000/	0.450/	0.040/		0.040/				0.000/		0.040/	0.040/	
CAR (0)		0.24%	0.37%	0.33%	0.29%	0.42%	0.34%	0.32%	0.24%	0.37%	0.30%	0.20%	0.08%	0.17%	0.04%	-0.04%	-0.17%
		0.9223	1.6309	1.5950	1.5986	1.3819	1.2063	1.2892	1.0623	1.2050	1.0567	0.7968	0.3462	0.5976	0.1668	-0.1805	-0.8557
CAR (1)		0.39%	0.36%	0.34%	0.27%	0.34%	0.28%	0.25%	0.15%	0.39%	0.22%	0.13%	-0.03%	0.10%	-0.01%	-0.14%	-0.23%
		1.5083	1.6748	1.7519	1.5905	1.0498	1.0146	1.0154	0.6688	1.3004	0.8105	0.5511	-0.1240	0.3749	-0.0511	-0.6489	-1.1903
BHAR (0)		0.00%	0.61%	-0.01%	0.24%	0.37%	0.41%	0.04%	0.26%	0.37%	0.24%	0.02%	-0.13%	0.27%	0.38%	0.05%	0.01%
		-0.0164	1.9462	-0.0429	0.8428	1.0191	1.1088	0.0973	1.0751	1.0554	0.7656	0.0512	-0.4071	0.8341	1.2391	0.1613	0.0303
BHAR (1)		-0.07%	0.42%	-0.18%	0.24%	0.43%	0.39%	-0.13%	-0.02%	0.15%	0.05%	-0.06%	-0.33%	-0.10%	0.07%	-0.17%	-0.26%
		-0.2400	1.3154	-0.6143	0.9502	1.2869	1.2479	-0.4797	-0.0694	0.4660	0.1624	-0.2114	-1.0485	-0.3196	0.2407	-0.5388	-0.8098

Appendix 11. Time-series momentum strategy-"Out of sample"

Panel A. The time-series momentum strategy using equal-weighted return

EW	J =		3				6			ising cqu	9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAI	LIA																
CAR (0)		-0.05%	0.18%	0.14%	0.11%	0.46%	0.41%	0.32%	0.11%	0.46%	0.41%	0.16%	-0.07%	0.48%	0.21%	-0.05%	-0.25%
		-0.1743	0.6882	0.6808	0.6653	1.2842	1.3707	1.3251	0.5232	1.3073	1.3756	0.6073	-0.3035	1.4034	0.7228	-0.1874	-1.0887
CAR (1)		0.67%	0.45%	0.35%	0.16%	0.73%	0.54%	0.32%	0.05%	0.72%	0.40%	0.11%	-0.16%	0.42%	0.11%	-0.16%	-0.37%
		2.3283	1.9772	1.9262	0.9998	2.2420	1.9922	1.4198	0.2496	2.2481	1.4672	0.4675	-0.7169	1.3329	0.3993	-0.6435	-1.6242
BHAR (0)		0.03%	0.16%	-0.14%	-0.16%	0.50%	0.39%	-0.12%	-0.02%	0.42%	0.27%	0.20%	-0.01%	0.48%	0.17%	0.04%	-0.04%
		0.0902	0.5941	-0.4292	-0.6337	1.2694	1.1043	-0.3636	-0.0947	1.0900	0.8732	0.7003	-0.0520	1.2816	0.4874	0.1349	-0.1077
BHAR (1)		0.81%	0.24%	-0.13%	-0.18%	0.83%	0.52%	-0.14%	-0.13%	0.61%	0.20%	0.14%	-0.07%	0.40%	-0.03%	-0.28%	-0.31%
		2.5715	0.9071	-0.3960	-0.7279	2.4162	1.6367	-0.4313	-0.5938	1.7772	0.6374	0.4827	-0.2382	1.1879	-0.0990	-0.9405	-0.9280
AUSTRI	A																
CAR (0)		0.82%	0.79%	0.84%	0.83%	1.08%	1.14%	1.12%	1.02%	1.43%	1.23%	1.11%	0.90%	1.35%	1.14%	0.94%	0.67%
		2.3176	2.4870	2.9558	3.3874	2.5856	2.9923	3.3034	3.4004	3.1458	2.9540	2.9829	2.7905	3.0916	2.8142	2.5865	2.1194
CAR (1)		1.23%	0.91%	0.95%	0.84%	1.22%	1.19%	1.12%	0.93%	1.51%	1.18%	1.06%	0.79%	1.21%	1.01%	0.80%	0.53%
		3.2918	3.0152	3.4238	3.5841	2.9175	3.1868	3.3760	3.2155	3.5423	2.9770	3.0019	2.5722	2.8630	2.6088	2.3281	1.7614
BHAR (0)		0.97%	0.85%	1.12%	0.38%	0.88%	0.97%	1.25%	1.32%	1.45%	1.42%	1.39%	1.44%	1.42%	1.18%	0.98%	0.43%
		2.4295	2.0750	2.3234	1.0176	2.2485	2.1654	3.0092	3.5226	3.0660	3.0324	3.4260	3.3385	3.0838	2.7527	2.3753	1.0775
BHAR (1)		1.41%	0.80%	0.92%	0.40%	1.34%	1.09%	1.25%	1.21%	1.51%	1.18%	1.44%	1.24%	1.28%	1.00%	0.57%	0.38%
		3.6133	1.9251	1.9950	1.0833	3.2208	2.4630	3.2865	3.1992	3.3913	2.5725	3.5278	3.0163	2.8642	2.4627	1.4596	0.9398
BELGIU	M																
CAR (0)		1.07%	1.14%	1.06%	1.04%	1.57%	1.53%	1.50%	1.30%	1.63%	1.67%	1.46%	1.24%	1.77%	1.58%	1.36%	1.14%
		3.6512	4.4157	4.6365	4.7913	4.5568	4.7755	5.0217	4.6775	4.4225	4.8593	4.5772	4.1315	4.8585	4.6396	4.2241	3.6796
CAR (1)		1.40%	1.22%	1.17%	1.03%	1.67%	1.61%	1.48%	1.23%	1.83%	1.66%	1.42%	1.18%	1.80%	1.52%	1.26%	1.05%
		5.1258	4.8970	5.1640	4.9198	5.1140	5.1158	5.1018	4.5324	5.0866	5.0025	4.5347	4.0026	5.2531	4.5505	4.0153	3.4478
BHAR (0)		1.23%	0.93%	0.86%	0.61%	1.66%	1.58%	1.21%	1.56%	1.81%	1.82%	1.50%	1.53%	1.82%	1.44%	1.38%	0.93%
		3.6862	2.8962	2.9031	1.8917	4.4810	4.6580	3.4943	5.3500	4.7534	4.9984	4.2243	4.4613	4.7911	3.8239	4.0482	2.5509
BHAR (1)		1.25%	0.71%	0.87%	0.54%	1.71%	1.60%	1.18%	1.41%	1.89%	1.59%	1.42%	1.24%	1.73%	1.35%	1.23%	0.83%
		4.1880	2.0477	2.9034	1.8080	4.8781	4.8806	3.5381	4.9784	5.0868	4.4187	4.2610	3.6194	5.0480	3.8412	3.7236	2.2622
CANAD	A																
CAR (0)		0.49%	0.52%	0.59%	0.64%	0.83%	0.84%	0.90%	0.61%	1.10%	1.09%	0.80%	0.43%	1.19%	0.76%	0.42%	0.09%
		1.3040	1.7107	2.1396	2.7793	2.0731	2.2976	2.7897	2.2038	2.5709	2.8816	2.3519	1.4194	2.8613	2.0286	1.2202	0.2997
CAR (1)		0.87%	0.75%	0.80%	0.63%	1.12%	1.08%	0.92%	0.48%	1.40%	1.10%	0.71%	0.26%	1.06%	0.59%	0.23%	-0.11%
		2.4790	2.4564	3.0502	2.9321	2.8129	2.9881	2.9936	1.8559	3.4199	3.0482	2.2108	0.8823	2.6488	1.6370	0.6958	-0.3667
BHAR (0)		0.51%	0.47%	0.62%	0.65%	0.52%	0.77%	0.57%	0.65%	1.04%	0.88%	0.72%	0.45%	1.20%	0.63%	0.41%	-0.03%
		1.1493	1.0648	1.5566	1.7513	1.1346	1.8048	1.3032	1.7939	2.1595	1.8676	1.9313	1.1713	2.7936	1.6472	1.0337	-0.0827
BHAR (1)		0.84%	0.58%	0.81%	0.60%	1.21%	1.21%	0.69%	0.46%	1.36%	0.93%	0.61%	0.40%	1.02%	0.49%	0.24%	-0.19%
		2.1720	1.5357	2.3485	1.6534	2.7486	2.9479	1.6965	1.2661	2.9633	2.2531	1.6491	1.0060	2.5120	1.3919	0.6743	-0.5680

EW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMA	RK																
CAR (0)		1.21%	1.26%	1.17%	1.13%	1.65%	1.63%	1.55%	1.33%	1.88%	1.83%	1.57%	1.29%	2.07%	1.81%	1.47%	1.19%
		4.7645	5.9482	6.2085	6.4513	5.9256	6.2024	6.3418	5.7316	6.0715	6.2559	5.5180	4.7747	6.7241	5.9807	4.8999	4.1934
CAR (1)		1.44%	1.28%	1.22%	1.09%	1.73%	1.64%	1.51%	1.22%	1.95%	1.79%	1.45%	1.14%	1.93%	1.61%	1.30%	1.01%
		6.2024	6.3449	6.5766	6.1358	6.2305	6.2576	6.1807	5.1932	6.4884	6.1396	5.1065	4.2962	6.2368	5.2234	4.3319	3.6149
BHAR (0)		1.18%	1.05%	0.77%	1.06%	1.55%	1.53%	1.35%	1.65%	1.78%	1.48%	1.63%	1.23%	1.97%	1.89%	1.48%	0.93%
		4.3925	3.8293	2.8773	3.9975	5.0713	4.8351	4.2415	5.7483	5.6002	4.6579	4.9323	3.9862	5.8850	5.8426	4.4343	2.8985
BHAR (1)		1.33%	1.04%	0.95%	1.05%	1.67%	1.53%	1.34%	1.52%	1.88%	1.70%	1.50%	1.06%	1.86%	1.53%	1.30%	0.69%
		5.1875	3.9894	3.4693	4.0646	5.6130	4.7214	4.0691	5.4395	5.9616	5.2667	4.7060	3.3275	5.6977	4.7757	3.8720	2.1712
FINLAN	ND .																
CAR (0)		0.73%	0.77%	0.87%	0.75%	1.18%	1.11%	1.08%	0.86%	1.29%	1.14%	0.95%	0.69%	1.10%	0.86%	0.68%	0.45%
		2.0778	2.7523	3.5852	3.2676	3.0969	3.2694	3.5652	2.8320	3.2513	3.0588	2.4651	1.8211	2.4970	1.9889	1.5693	1.0832
CAR (1)		1.14%	0.94%	0.94%	0.78%	1.28%	1.17%	1.02%	0.76%	1.32%	1.03%	0.83%	0.54%	1.06%	0.75%	0.55%	0.36%
		3.4458	3.5749	4.0672	3.3564	3.5385	3.6624	3.3205	2.4349	3.3592	2.6750	2.0643	1.4003	2.3115	1.6803	1.2626	0.8715
BHAR (0)		0.28%	0.37%	0.88%	0.68%	1.19%	1.13%	0.85%	1.22%	1.14%	0.89%	0.71%	0.33%	1.00%	1.11%	0.77%	0.72%
		0.5656	0.7407	1.9975	1.3141	2.7251	2.7415	2.1807	3.0517	2.6539	1.8668	1.6678	0.7304	2.1486	2.5833	1.5484	1.6910
BHAR (1)		1.12%	0.52%	1.08%	0.74%	1.33%	1.31%	0.82%	0.97%	1.34%	0.74%	0.56%	0.30%	0.96%	0.86%	0.46%	0.56%
		2.7665	1.1243	2.5841	1.4482	3.5403	3.5106	2.1358	2.4632	3.1255	1.5325	1.2492	0.6416	2.0714	2.0414	0.9060	1.3649
FRANC	E																
CAR (0)		-0.20%	0.39%	0.46%	0.54%	0.50%	0.76%	0.83%	0.73%	0.73%	0.97%	0.89%	0.72%	0.90%	0.93%	0.77%	0.62%
		-0.6062	1.4851	2.0905	2.7957	1.4177	2.5028	3.1194	2.9441	2.0192	3.0266	2.9084	2.5427	2.4374	2.7182	2.3897	2.0305
CAR (1)		0.84%	0.82%	0.78%	0.70%	1.12%	1.06%	0.99%	0.77%	1.25%	1.15%	0.95%	0.71%	1.17%	0.98%	0.77%	0.60%
		2.8280	3.4158	3.8479	3.8527	3.4888	3.7346	3.8425	3.2017	3.7103	3.7013	3.1500	2.5542	3.4002	2.9531	2.4569	2.0148
BHAR (0)		-0.16%	0.12%	0.62%	-0.03%	0.49%	0.76%	0.50%	0.52%	0.68%	0.78%	1.00%	0.71%	0.85%	0.94%	0.93%	0.51%
		-0.4137	0.3492	1.8945	-0.0963	1.2713	2.1664	1.3363	1.8277	1.7726	2.1330	3.1572	2.1439	2.2771	2.5251	2.6497	1.4677
BHAR (1)		0.74%	0.46%	0.85%	0.19%	1.04%	1.03%	0.68%	0.54%	1.11%	0.91%	1.01%	0.47%	1.05%	0.96%	0.88%	0.57%
		2.2809	1.4730	2.7587	0.5956	3.1139	3.1666	1.8872	2.1073	3.0693	2.4463	3.0433	1.3599	2.9665	2.7678	2.5137	1.6442
GERMA	NY																
CAR (0)		0.82%	0.83%	0.84%	0.81%	1.17%	1.14%	1.08%	0.86%	1.26%	1.21%	0.99%	0.78%	1.35%	1.09%	0.86%	0.70%
		2.5249	3.1854	3.6224	3.9163	3.3567	3.7540	3.8986	3.3040	3.5248	3.6655	3.1185	2.6770	3.7995	3.1884	2.6672	2.3223
CAR (1)		1.34%	1.05%	0.98%	0.85%	1.37%	1.22%	1.06%	0.78%	1.45%	1.19%	0.93%	0.71%	1.37%	0.99%	0.77%	0.62%
		4.4820	4.3232	4.4925	4.2778	4.3363	4.1695	3.8382	3.0899	4.1907	3.6266	2.9275	2.5054	3.9584	2.9475	2.4577	2.0891
BHAR (0)		0.77%	0.49%	1.03%	0.22%	1.24%	1.38%	1.02%	0.97%	1.27%	1.23%	0.95%	0.82%	1.43%	1.22%	0.81%	0.55%
		2.0911	1.3418	3.0312	0.5414	3.1785	4.1628	2.5022	2.7611	3.4022	3.1476	2.9437	2.1423	3.9456	3.6647	2.2689	1.7341
BHAR (1)		1.35%	0.68%	1.13%	0.26%	1.28%	1.32%	0.99%	0.69%	1.40%	1.15%	0.75%	0.67%	1.32%	0.97%	0.54%	0.47%
		4.0772	2.0620	3.4436	0.6153	3.7023	4.0733	2.5981	1.9828	4.0554	3.0274	2.2519	1.7378	3.7093	3.1036	1.6345	1.5171

EW	J =		3				6	i			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECI	E																
CAR (0)		0.14%	0.34%	0.22%	0.17%	0.35%	0.33%	0.20%	0.00%	0.15%	0.15%	-0.06%	-0.21%	0.04%	-0.09%	-0.30%	-0.40%
		0.3161	0.9229	0.7036	0.5988	0.6821	0.7279	0.4858	0.0110	0.2906	0.3115	-0.1344	-0.4827	0.0826	-0.1711	-0.6015	-0.8278
CAR (1)		0.38%	0.42%	0.30%	0.17%	0.53%	0.38%	0.19%	-0.04%	0.32%	0.19%	-0.05%	-0.24%	0.13%	-0.15%	-0.35%	-0.46%
		0.8758	1.1896	0.9536	0.5865	1.0987	0.8770	0.4583	-0.1011	0.6278	0.3928	-0.1039	-0.5410	0.2460	-0.2895	-0.6919	-0.9232
BHAR (0)		0.13%	0.60%	0.25%	0.64%	0.56%	0.64%	0.14%	0.20%	0.39%	0.48%	-0.07%	-0.03%	0.07%	-0.18%	-0.24%	-1.08%
		0.2218	1.2337	0.5145	1.5023	0.9932	1.1462	0.2748	0.3867	0.7028	0.9180	-0.1060	-0.0502	0.1230	-0.3107	-0.4532	-1.6471
BHAR (1)		0.78%	0.77%	0.29%	0.81%	0.61%	0.40%	-0.02%	0.16%	0.54%	0.40%	0.08%	-0.35%	0.08%	-0.24%	-0.31%	-1.01%
		1.4959	1.4916	0.5854	1.7338	1.1536	0.7859	-0.0469	0.3413	0.9594	0.7502	0.1262	-0.6440	0.1462	-0.4120	-0.6656	-1.6484
HONGKO	NG																
CAR (0)		0.11%	0.32%	0.23%	$\boldsymbol{0.08\%}$	0.37%	0.34%	0.11%	-0.11%	0.18%	0.07%	-0.18%	-0.43%	-0.02%	-0.22%	-0.52%	-0.68%
		0.3013	1.1604	0.9259	0.3958	0.9449	0.9871	0.3632	-0.4185	0.4352	0.1876	-0.5003	-1.3391	-0.0509	-0.5629	-1.4298	-2.0661
CAR (1)		0.26%	0.39%	0.21%	0.01%	0.55%	0.32%	0.00%	-0.24%	0.12%	-0.07%	-0.35%	-0.56%	-0.14%	-0.38%	-0.67%	-0.78%
		0.8043	1.4518	0.8582	0.0630	1.5047	0.9477	-0.0036	-0.8854	0.2780	-0.1815	-1.0088	-1.7939	-0.3525	-0.9779	-1.8590	-2.3860
BHAR (0)		-0.12%	0.12%	-0.14%	0.02%	0.34%	0.37%	0.02%	-0.08%	0.14%	0.00%	-0.20%	-0.54%	-0.14%	-0.25%	-0.68%	-0.64%
		-0.2812	0.2842	-0.3796	0.0530	0.7328	0.9144	0.0397	-0.2478	0.2989	-0.0075	-0.4867	-1.3336	-0.2893	-0.6113	-1.6174	-1.7280
BHAR (1)		-0.34%	0.06%	-0.19%	-0.12%	0.25%	0.14%	-0.16%	-0.32%	-0.05%	-0.21%	-0.48%	-0.63%	-0.42%	-0.50%	-0.84%	-0.84%
		-0.8895	0.1463	-0.5402	-0.3228	0.5969	0.3925	-0.3679	-1.0100	-0.1131	-0.4581	-1.2330	-1.6678	-0.9513	-1.3176	-1.9704	-2.3199
IRELAN	D																
CAR (0)		0.16%	0.32%	0.25%	0.46%	0.64%	0.47%	0.58%	0.54%	0.43%	0.55%	0.65%	0.52%	0.92%	0.82%	0.73%	0.50%
		0.3411	0.7666	0.6972	1.5208	1.0020	0.8201	1.1909	1.2017	0.6743	0.9658	1.1976	1.0396	1.4412	1.3471	1.2414	0.9139
CAR (1)		0.84%	0.56%	0.51%	0.57%	0.66%	0.51%	0.59%	0.44%	0.60%	0.71%	0.72%	0.44%	1.07%	0.91%	0.72%	0.37%
		1.7862	1.3277	1.4744	1.8536	1.0454	0.9372	1.2126	0.9795	1.0103	1.2529	1.3670	0.9018	1.6768	1.5125	1.2282	0.6873
BHAR (0)		0.78%	-0.51%	-0.65%	0.43%	0.28%	0.77%	-0.97%	1.77%	0.39%	0.10%	1.04%	0.64%	1.01%	1.04%	0.93%	0.23%
		1.3322	-0.8297	-0.9921	0.7370	0.3789	0.9998	-1.2672	2.7265	0.5824	0.1500	1.7218	1.1610	1.4824	1.5552	1.3954	0.3382
BHAR (1)		0.75%	-0.27%	-0.64%	1.05%	0.25%	0.65%	-0.60%	1.41%	0.14%	0.42%	0.67%	0.42%	1.17%	0.80%	0.53%	0.05%
		1.3296	-0.4264	-0.9858	1.7633	0.3786	0.8682	-0.8975	2.3938	0.2135	0.7113	1.0694	0.7810	1.7919	1.2284	0.8209	0.0771
ISRAEL		ı							-								
CAR (0)		-0.47%	-0.13%	-0.07%	-0.12%	-0.06%	0.09%	0.04%	-0.10%	0.11%	0.12%	-0.02%	-0.20%	0.07%	0.02%	-0.15%	-0.32%
		-1.8763	-0.5979	-0.3935	-0.6833	-0.2070	0.3390	0.1443	-0.4506	0.3358	0.4115	-0.0813	-0.7782	0.2238	0.0557	-0.5025	-1.1395
CAR (1)		-0.06%	0.13%	0.07%	-0.08%	0.28%	0.26%	0.07%	-0.08%	0.30%	0.15%	-0.05%	-0.25%	0.17%	0.02%	-0.20%	-0.36%
		-0.2175	0.6021	0.3971	-0.4776	0.9678	0.9674	0.2808	-0.3758	0.9675	0.5208	-0.1670	-0.9864	0.5078	0.0524	-0.7050	-1.3222
BHAR (0)		-0.32%	-0.31%	-0.36%	-0.61%	0.05%	0.12%	-0.01%	0.25%	0.05%	0.09%	0.05%	0.13%	0.08%	0.12%	-0.19%	-0.23%
		-1.1567	-1.0601	-1.0876	-1.7727	0.1439	0.4029	-0.0313	0.9408	0.1381	0.2513	0.1775	0.4776	0.2181	0.3447	-0.5361	-0.7240
BHAR (1)		-0.08%	-0.18%	-0.26%	-0.57%	0.41%	0.21%	0.11%	0.22%	0.19%	0.14%	-0.06%	0.04%	0.13%	0.15%	-0.20%	-0.25%
		-0.2645	-0.6083	-0.7748	-1.6954	1.2750	0.6884	0.3708	0.8452	0.5610	0.4295	-0.2056	0.1613	0.3706	0.4571	-0.5750	-0.7263

EW	J =		3				6	i			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.91%	0.95%	0.97%	0.95%	1.22%	1.29%	1.29%	1.13%	1.55%	1.52%	1.32%	1.11%	1.62%	1.40%	1.19%	0.98%
		3.2479	3.8887	4.7572	4.9832	3.6817	4.3762	4.7974	4.4404	4.5580	4.7257	4.3670	3.8998	4.7565	4.3256	3.8601	3.2722
CAR (1)		1.09%	1.06%	1.02%	0.95%	1.36%	1.33%	1.26%	1.06%	1.67%	1.48%	1.23%	1.01%	1.58%	1.30%	1.07%	0.89%
		4.1183	4.7212	5.1018	5.1717	4.5328	4.7161	4.8170	4.2643	5.0411	4.7485	4.0861	3.5769	4.8563	4.0898	3.4855	3.0199
BHAR (0)		0.72%	0.69%	1.03%	0.60%	1.04%	1.25%	1.18%	0.95%	1.46%	1.39%	1.36%	0.99%	1.45%	1.27%	1.24%	0.88%
		2.2020	2.2747	3.1479	1.8899	2.7513	3.4581	3.3188	3.0195	3.9442	3.8898	4.2311	3.0261	4.0355	3.7042	3.6295	2.6052
BHAR (1)		0.99%	0.77%	1.19%	0.67%	1.18%	1.20%	1.22%	0.89%	1.61%	1.30%	1.18%	0.80%	1.50%	1.23%	1.16%	0.88%
		3.4999	2.7693	3.6999	2.1120	3.5125	3.2791	3.5084	2.8219	4.3636	3.6913	3.7682	2.2910	4.3804	3.5890	3.2488	2.6175
JAPAN																	
CAR (0)		-0.11%	-0.21%	-0.13%	0.00%	-0.31%	-0.25%	-0.08%	-0.12%	-0.32%	-0.15%	-0.15%	-0.24%	-0.12%	-0.23%	-0.30%	-0.35%
		-0.4494	-0.8888	-0.6182	-0.0258	-0.9301	-0.8501	-0.3093	-0.4908	-0.9306	-0.4475	-0.5254	-0.9338	-0.3466	-0.7082	-1.0049	-1.3061
CAR (1)		0.01%	-0.14%	0.00%	0.00%	-0.19%	-0.10%	0.00%	-0.14%	-0.04%	-0.02%	-0.12%	-0.25%	-0.05%	-0.25%	-0.32%	-0.37%
		0.0534	-0.5998	-0.0081	0.0230	-0.5922	-0.3481	0.0094	-0.6399	-0.1214	-0.0535	-0.4365	-1.0274	-0.1359	-0.8011	-1.1021	-1.4362
BHAR (0)		-0.20%	0.08%	-0.05%	0.24%	-0.21%	-0.19%	-0.09%	0.34%	-0.20%	-0.04%	0.08%	-0.06%	-0.06%	-0.16%	-0.28%	-0.42%
		-0.6832	0.2545	-0.1724	0.8006	-0.5826	-0.5376	-0.2636	1.1766	-0.5320	-0.1121	0.2582	-0.2142	-0.1763	-0.4576	-0.8914	-1.3922
BHAR (1)		-0.14%	0.03%	-0.13%	0.28%	-0.31%	-0.46%	-0.02%	0.14%	-0.20%	0.08%	-0.01%	-0.19%	-0.11%	-0.38%	-0.49%	-0.48%
		-0.5076	0.0952	-0.4356	1.0325	-0.8996	-1.3333	-0.0786	0.5229	-0.5906	0.2558	-0.0294	-0.7320	-0.3231	-1.1317	-1.6095	-1.6203
NETHERLA	NDS				1				1								
CAR (0)		1.25%	1.25%	1.17%	1.09%	1.58%	1.50%	1.39%	1.19%	1.61%	1.58%	1.40%	1.20%	1.83%	1.57%	1.39%	1.19%
		3.7303	4.9532	5.2739	5.0792	4.5641	5.0150	4.8129	4.2048	4.5491	4.6425	4.0588	3.6010	4.5221	3.9825	3.6309	3.2319
CAR (1)		1.36%	1.31%	1.19%	1.00%	1.63%	1.55%	1.30%	1.08%	1.78%	1.55%	1.32%	1.08%	1.75%	1.46%	1.24%	1.08%
		4.5670	5.4977	5.5300	4.7327	5.1013	5.2582	4.3745	3.8075	5.1760	4.3381	3.7196	3.2083	4.3113	3.7274	3.2581	2.9679
BHAR (0)		1.38%	1.08%	1.28%	0.75%	1.58%	1.70%	1.13%	1.54%	1.57%	1.33%	1.54%	1.47%	1.89%	1.67%	1.58%	1.19%
		3.3645	3.1368	3.3754	2.1046	4.0944	5.0157	2.5737	4.7499	4.0161	3.0744	4.3557	3.9107	4.1654	3.9512	3.6464	2.8379
BHAR (1)		1.56%	1.11%	1.10%	0.71%	1.61%	1.58%	1.11%	1.31%	1.81%	1.44%	1.51%	1.22%	1.75%	1.54%	1.37%	1.10%
		4.0591	3.4366	3.0680	2.1571	4.7166	4.6329	2.6720	3.8711	4.8934	3.3354	4.1396	3.0048	3.8791	3.6079	3.2869	2.6008
NEWZEALA	ND	4 0 0 0 1		0.000/	0.000/			4.4.01	4 0 = 0 / 1	1 100/			0.0501	4 =00/		1000	
CAR (0)		1.00%	1.13%	0.98%	0.92%	1.54%	1.40%	1.26%	1.05%	1.40%	1.42%	1.14%	0.96%	1.58%	1.33%	1.03%	0.82%
~.~		2.9077	3.8257	3.8741	4.4731	3.8414	4.0317	4.3141	4.0456	3.4342	3.9943	3.5568	3.3249	4.0485	3.7046	3.1673	2.7390
CAR (1)		1.28%	1.27%	1.08%	0.92%	1.67%	1.49%	1.24%	0.98%	1.66%	1.41%	1.10%	0.86%	1.50%	1.25%	0.93%	0.73%
		3.7450	4.3911	4.5932	4.6530	4.2682	4.5092	4.3535	3.8734	4.4127	4.1869	3.6179	3.0949	3.9574	3.5803	2.8813	2.4176
BHAR (0)		0.87%	1.28%	0.47%	0.21%	1.80%	1.70%	0.90%	0.87%	1.66%	1.39%	1.57%	0.97%	1.72%	1.73%	0.89%	1.12%
		2.1568	3.1395	1.2215	0.5710	4.0045	4.0771	2.0021	2.3747	3.7284	3.2669	3.7281	2.4890	4.0382	4.6753	2.5945	2.6654
BHAR (1)		1.52%	1.46%	0.41%	0.31%	1.98%	1.68%	1.04%	0.58%	1.82%	1.36%	1.35%	0.95%	1.46%	1.38%	0.57%	1.03%
		3.4018	3.7091	0.9739	0.8356	4.6240	4.2026	2.3088	1.5218	4.0718	3.3718	3.2996	2.5850	3.4420	3.4939	1.7377	2.4201

EW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWA	Y																
CAR (0)		0.78%	0.83%	0.86%	0.78%	1.04%	1.04%	1.02%	0.77%	1.38%	1.30%	1.01%	0.63%	1.46%	1.03%	0.69%	0.38%
		1.8488	2.7194	3.3329	3.1626	2.3597	2.8056	2.9622	2.2949	3.2895	3.1875	2.5211	1.6554	3.0907	2.3018	1.6275	0.9523
CAR (1)		0.74%	0.89%	0.92%	0.67%	1.15%	1.13%	1.00%	0.64%	1.40%	1.21%	0.83%	0.44%	1.14%	0.77%	0.45%	0.18%
		1.9356	3.2563	3.6467	2.7365	2.8556	3.1931	2.9121	1.9189	3.3194	2.9073	2.0293	1.1594	2.4172	1.7169	1.0483	0.4617
BHAR (0)		0.60%	0.79%	0.51%	0.73%	1.15%	0.99%	0.65%	1.49%	1.46%	1.35%	1.12%	0.89%	1.39%	1.02%	0.91%	0.25%
		1.2112	1.7512	1.3925	2.0668	2.5126	2.1453	1.4799	3.6793	3.1587	2.8717	2.2398	1.7585	2.6755	2.0628	1.7626	0.5065
BHAR (1)		0.66%	0.98%	0.68%	0.68%	1.24%	0.98%	0.55%	1.12%	1.40%	1.18%	0.90%	0.68%	1.19%	0.65%	0.95%	-0.06%
		1.4461	2.6190	1.9815	1.7682	2.9522	2.2152	1.3468	2.6969	3.1207	2.5421	1.9434	1.4261	2.4384	1.3633	1.9638	-0.1352
PORTUGA	AL																
CAR (0)		-1.12%	-0.36%	-0.02%	-0.02%	-0.57%	-0.04%	0.14%	0.11%	-0.19%	0.14%	0.26%	0.20%	-0.03%	0.13%	0.26%	0.20%
		-2.5683	-1.0063	-0.0759	-0.0666	-1.0938	-0.0936	0.3407	0.2901	-0.3729	0.2830	0.5674	0.4823	-0.0490	0.2560	0.5295	0.4261
CAR (1)		0.02%	0.38%	0.33%	0.33%	0.28%	0.47%	0.36%	0.27%	0.32%	0.45%	0.38%	0.34%	0.40%	0.42%	0.40%	0.30%
		0.0413	1.1191	1.1365	1.2317	0.5563	1.0713	0.9121	0.7207	0.6138	0.9163	0.8674	0.7836	0.7248	0.8075	0.8228	0.6527
BHAR (0)		-0.87%	0.33%	0.34%	0.34%	-0.44%	-0.10%	0.83%	0.09%	-0.22%	0.38%	0.31%	0.76%	-0.03%	-0.28%	0.24%	0.16%
		-1.3659	0.5083	0.5765	0.5155	-0.6966	-0.1733	1.5448	0.1733	-0.3627	0.6293	0.5696	1.3200	-0.0582	-0.4920	0.4109	0.2788
BHAR (1)		-0.14%	0.73%	0.66%	0.55%	0.15%	0.22%	0.99%	0.03%	0.16%	0.43%	0.39%	0.72%	0.27%	0.03%	0.34%	0.04%
-		-0.2114	1.2530	1.1468	0.9049	0.2609	0.4104	1.7802	0.0665	0.2966	0.7754	0.8126	1.2033	0.4666	0.0592	0.5765	0.0640
SINGAPO	RE																
CAR (0)		0.35%	0.60%	0.49%	0.34%	0.88%	0.79%	0.53%	0.32%	0.76%	0.59%	0.33%	0.12%	0.48%	0.30%	0.07%	-0.08%
		0.8533	2.0309	1.8494	1.4174	2.1320	2.1332	1.5603	1.0461	1.6833	1.4272	0.8759	0.3498	0.9965	0.6949	0.1775	-0.2358
CAR (1)		0.68%	0.75%	0.53%	0.34%	1.07%	0.78%	0.45%	0.24%	0.76%	0.49%	0.21%	0.03%	0.40%	0.20%	-0.05%	-0.13%
		1.7462	2.8316	2.0851	1.4873	2.8400	2.1837	1.3953	0.8153	1.6943	1.2142	0.5810	0.0854	0.8886	0.5025	-0.1253	-0.4020
BHAR (0)		0.27%	0.27%	0.67%	0.36%	0.96%	0.80%	0.38%	0.65%	0.83%	0.58%	0.35%	-0.12%	0.59%	0.53%	0.35%	-0.02%
		0.5866	0.6326	2.0659	1.2454	1.8398	1.9026	0.8444	1.9833	1.6541	1.2559	0.9120	-0.2865	1.1331	1.2088	0.8413	-0.0617
BHAR (1)		0.63%	0.23%	0.76%	0.25%	1.05%	0.76%	0.21%	0.57%	0.68%	0.55%	0.38%	-0.13%	0.41%	0.44%	0.08%	-0.01%
		1.5678	0.6895	2.4701	0.8948	2.5264	1.8961	0.4567	1.8378	1.4339	1.3636	1.1083	-0.3297	0.8515	1.0841	0.1925	-0.0363
SPAIN																	
CAR (0)		0.33%	0.42%	0.50%	0.54%	0.62%	0.70%	0.81%	0.73%	0.97%	1.04%	0.96%	0.81%	1.16%	1.02%	0.94%	0.80%
		1.3635	1.9291	2.5310	3.0082	2.1689	2.5472	3.0506	2.9916	2.8757	3.2420	3.0918	2.8469	3.2132	2.9415	2.7984	2.4922
CAR (1)		0.52%	0.52%	0.58%	0.53%	0.74%	0.82%	0.80%	0.68%	1.09%	1.04%	0.92%	0.73%	1.13%	0.99%	0.88%	0.73%
		2.2315	2.4178	2.8918	3.0066	2.5930	2.8342	2.9610	2.7622	3.2157	3.1588	3.0230	2.5741	3.0947	2.8066	2.6456	2.2777
BHAR (0)		0.38%	0.15%	$\boldsymbol{0.80\%}$	0.78%	0.56%	0.96%	0.81%	0.81%	1.09%	1.15%	0.98%	0.52%	1.29%	1.17%	1.14%	0.78%
		1.2498	0.4909	2.1274	2.4414	1.7176	2.6756	1.9248	2.6952	2.9597	3.2015	2.7956	1.6352	3.2508	3.2951	3.0301	2.1147
BHAR (1)		0.68%	0.13%	0.67%	0.78%	0.66%	0.91%	0.75%	0.69%	0.97%	0.89%	0.66%	0.31%	1.13%	1.06%	0.97%	0.75%
		2.2217	0.3459	1.7503	2.3679	1.9959	2.5764	1.7808	2.3762	2.7262	2.4002	1.8632	0.9004	2.9733	3.0252	2.6466	2.0429

EW	J =		3				6				9)			10	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	1																
CAR (0)		0.98%	1.21%	0.94%	0.91%	1.47%	1.37%	1.14%	0.94%	1.58%	1.47%	1.10%	0.83%	1.57%	1.25%	0.94%	0.70%
		2.2784	3.3574	3.0951	3.5109	3.0451	3.3349	3.1695	2.9485	3.3763	3.5007	2.7815	2.3353	3.2326	2.7576	2.2383	1.7888
CAR (1)		1.53%	1.31%	1.06%	0.90%	1.69%	1.41%	1.09%	0.85%	1.75%	1.37%	0.98%	0.71%	1.40%	1.05%	0.77%	0.58%
		3.7184	4.0144	3.8754	3.7053	3.7623	3.6436	3.1954	2.7565	3.9880	3.3865	2.5206	2.0300	3.0048	2.3890	1.8774	1.5303
BHAR (0)		1.11%	0.99%	0.89%	0.65%	1.63%	1.67%	1.09%	0.90%	1.65%	1.38%	1.13%	0.58%	1.49%	1.32%	0.95%	0.85%
		2.5215	2.5242	2.3414	1.4799	3.1522	3.9086	2.1589	2.2630	3.4641	2.8242	2.4328	1.2679	2.9771	2.9737	2.1677	2.2805
BHAR (1)		1.49%	1.11%	0.95%	0.70%	1.84%	1.64%	1.04%	0.87%	1.71%	1.36%	1.15%	0.43%	1.41%	1.29%	0.75%	0.86%
		3.4800	2.9314	2.8240	1.6683	3.8411	4.3166	2.1596	2.2762	3.7948	3.0116	2.5615	0.9349	2.9113	2.9848	1.6988	2.1581
SWITZERL	AND																
CAR (0)		0.99%	0.96%	0.85%	0.84%	1.37%	1.24%	1.15%	0.97%	1.35%	1.27%	1.06%	0.82%	1.44%	1.16%	0.89%	0.67%
		4.1098	4.3937	4.0072	4.4884	4.7463	4.2777	4.2984	4.1141	4.0941	4.0044	3.5895	3.1135	4.2248	3.5870	2.9580	2.4318
CAR (1)		1.05%	0.96%	0.85%	0.79%	1.40%	1.21%	1.09%	0.85%	1.33%	1.18%	0.94%	0.68%	1.34%	1.02%	0.74%	0.53%
		4.5476	4.3346	4.0831	4.3898	4.7299	4.1222	4.1612	3.7437	4.0061	3.7509	3.2470	2.6512	4.0676	3.1951	2.5071	1.9700
BHAR (0)		0.83%	0.84%	0.78%	0.84%	1.51%	1.48%	1.08%	1.36%	1.32%	1.08%	1.25%	0.93%	1.45%	1.44%	0.95%	0.86%
		2.9153	2.6614	2.5384	2.3404	4.6960	4.4165	3.0824	4.3986	3.7573	2.8540	4.0460	2.9679	4.1561	4.2664	2.6916	2.7155
BHAR (1)		0.94%	0.71%	0.78%	0.78%	1.39%	1.37%	0.99%	1.20%	1.18%	0.94%	1.06%	0.73%	1.26%	1.26%	0.69%	0.75%
		3.5281	2.3336	2.5705	2.2508	4.1387	3.9683	2.9905	4.0397	3.4362	2.6167	3.4758	2.1703	3.8405	3.8904	2.1231	2.4248
UK																	
CAR (0)		1.33%	1.26%	1.07%	1.05%	1.75%	1.49%	1.37%	1.16%	1.72%	1.57%	1.31%	1.02%	1.85%	1.50%	1.15%	0.85%
		4.6483	5.0210	5.1210	5.8403	5.1364	5.0239	5.4367	5.1503	5.0110	5.1743	4.6640	3.9375	5.3343	4.5643	3.7512	2.9773
CAR (1)		1.42%	1.23%	1.07%	0.98%	1.63%	1.39%	1.24%	1.01%	1.63%	1.42%	1.13%	0.83%	1.61%	1.27%	0.92%	0.67%
		5.1101	5.1959	5.5134	5.6885	5.0635	5.0902	5.2226	4.6174	5.0552	4.8336	4.0965	3.2426	4.8351	3.9581	3.0878	2.3817
BHAR (0)		1.17%	1.08%	1.04%	0.77%	1.75%	1.50%	1.05%	1.44%	1.70%	1.49%	1.30%	1.02%	1.72%	1.53%	1.16%	0.75%
		3.4454	3.4370	3.3904	2.3690	4.9345	4.5759	3.1648	6.0324	4.6373	4.3012	4.6246	3.2989	4.7615	4.5150	3.3073	2.3485
BHAR (1)		1.36%	1.03%	0.89%	0.69%	1.60%	1.36%	1.00%	1.21%	1.63%	1.29%	1.07%	0.80%	1.54%	1.22%	0.80%	0.45%
		4.4256	3.5156	3.2200	2.1432	5.0927	4.7365	3.2545	5.3880	4.8663	4.0004	3.8057	2.5910	4.5212	3.9083	2.3441	1.4942
US																	
CAR (0)		0.03%	0.16%	0.16%	0.09%	0.26%	0.30%	0.21%	-0.01%	0.37%	0.27%	0.05%	-0.18%	0.18%	-0.01%	-0.23%	-0.41%
		0.1129	0.6793	0.8264	0.4960	0.8007	1.0532	0.8094	-0.0313	1.0775	0.8574	0.1583	-0.6436	0.5071	-0.0364	-0.6972	-1.3862
CAR (1)		0.18%	0.27%	0.23%	0.04%	0.41%	0.38%	0.17%	-0.09%	0.44%	0.21%	-0.05%	-0.30%	0.08%	-0.12%	-0.35%	-0.51%
		0.7391	1.2368	1.2383	0.2216	1.3735	1.4194	0.6752	-0.4100	1.3514	0.6848	-0.1562	-1.1101	0.2405	-0.3703	-1.1267	-1.7940
BHAR (0)		-0.08%	0.23%	0.07%	0.13%	0.23%	0.37%	-0.23%	0.34%	0.42%	0.19%	0.23%	-0.13%	0.21%	0.16%	-0.16%	-0.32%
		-0.2776	0.8969	0.2295	0.4590	0.6256	1.1064	-0.6234	1.4146	1.1192	0.5325	0.8498	-0.4349	0.5555	0.4451	-0.4551	-0.9350
BHAR (1)		0.22%	0.18%	0.05%	0.02%	0.34%	0.36%	-0.30%	0.02%	0.40%	0.02%	-0.04%	-0.34%	-0.02%	-0.13%	-0.39%	-0.50%
		0.8764	0.6423	0.1605	0.0563	1.0987	1.2731	-0.8472	0.0795	1.1686	0.0471	-0.1229	-1.1168	-0.0584	-0.3667	-1.1593	-1.4484

Panel B. The time-series momentum strategy using market-weighted return

MW	J =		3				6			sing man	9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAI	LIA																
CAR (0)		1.90%	1.79%	1.59%	1.30%	2.46%	2.02%	1.73%	1.31%	2.19%	1.94%	1.46%	0.98%	2.06%	1.52%	1.09%	0.65%
		3.8372	4.3510	4.3365	4.1679	4.3973	4.0118	3.8971	3.3577	3.8916	3.7505	3.1440	2.4742	3.7884	3.1253	2.4764	1.6787
CAR (1)		2.08%	1.74%	1.55%	1.09%	2.34%	1.93%	1.53%	1.04%	2.17%	1.75%	1.23%	0.72%	1.83%	1.28%	0.82%	0.39%
		4.4803	4.4623	4.4646	3.6480	4.5331	4.0035	3.6035	2.7798	3.9388	3.5260	2.8111	1.9057	3.6576	2.8232	2.0117	1.0662
BHAR (0)		2.00%	1.73%	1.18%	1.06%	2.61%	2.39%	0.84%	1.72%	2.28%	2.04%	1.50%	1.42%	2.30%	1.61%	1.12%	0.87%
		2.8881	3.3389	2.2123	1.7247	4.1271	4.3739	1.3111	3.6932	3.5947	3.5474	2.6738	3.0129	4.0039	2.8583	2.3532	1.5763
BHAR (1)		2.20%	1.60%	0.95%	1.04%	2.72%	2.34%	0.79%	1.42%	2.13%	1.81%	1.28%	1.19%	1.86%	1.12%	0.68%	0.28%
		4.6493	3.2373	1.8042	1.8260	4.8783	4.3663	1.3587	3.2322	3.7505	3.1860	2.4367	2.4615	3.8073	2.2591	1.4901	0.5301
AUSTRI	A																
CAR (0)		0.44%	0.38%	0.64%	0.58%	0.89%	1.10%	0.98%	0.85%	1.49%	1.05%	0.86%	0.57%	0.95%	0.74%	0.46%	0.20%
		0.9186	0.8691	1.6781	1.7870	1.6368	2.2308	2.1655	2.0912	2.4705	1.8210	1.6938	1.2932	1.5301	1.2709	0.8725	0.4246
CAR (1)		0.32%	0.39%	0.61%	0.51%	1.11%	1.16%	0.93%	0.78%	1.34%	0.74%	0.70%	0.40%	0.57%	0.46%	0.26%	-0.01%
		0.6718	0.9740	1.7082	1.6238	2.0860	2.4177	2.1081	1.9860	2.3153	1.3657	1.4680	0.9570	0.9607	0.8410	0.5227	-0.0277
BHAR (0)		0.57%	0.78%	1.38%	0.66%	0.73%	0.56%	0.85%	1.00%	1.68%	1.39%	1.31%	0.98%	1.25%	1.12%	0.84%	0.30%
		0.9031	1.1129	1.9982	1.0559	1.2590	1.0136	1.4555	1.8273	2.7007	1.9203	2.2454	1.5190	1.9518	1.8525	1.4146	0.4849
BHAR (1)		0.40%	0.36%	1.03%	0.63%	1.19%	0.87%	1.14%	1.06%	1.71%	0.93%	1.16%	0.57%	0.84%	0.77%	0.28%	-0.17%
		0.6263	0.5265	1.5342	1.0785	2.0211	1.4543	2.1508	1.8547	2.6905	1.3624	2.0734	0.9052	1.3459	1.3638	0.4791	-0.3005
BELGIU	M																
CAR (0)		0.88%	0.93%	0.80%	0.79%	1.47%	1.49%	1.47%	1.11%	1.36%	1.61%	1.31%	0.92%	1.41%	1.28%	0.98%	0.67%
		2.1986	2.8403	2.5632	2.7384	3.3941	3.4581	3.5028	2.9858	2.7310	3.2820	2.9380	2.2160	2.5336	2.6315	2.1199	1.5263
CAR (1)		1.08%	0.85%	0.85%	0.71%	1.39%	1.52%	1.35%	0.92%	1.72%	1.56%	1.19%	0.81%	1.56%	1.18%	0.84%	0.56%
		2.6628	2.5584	2.6239	2.5879	3.1354	3.3760	3.2220	2.5375	3.2534	3.1851	2.6803	1.9649	2.9114	2.4689	1.8705	1.3076
BHAR (0)		0.76%	1.06%	0.02%	0.66%	1.52%	1.14%	1.73%	1.13%	0.89%	2.00%	1.50%	1.34%	1.27%	0.91%	1.00%	0.45%
		1.3849	2.0352	0.0306	1.0751	3.1269	2.0720	2.5948	1.8968	1.6701	4.0486	2.8415	2.4415	2.1717	1.7201	1.8481	0.8836
BHAR (1)		0.95%	0.88%	0.14%	1.11%	1.69%	1.62%	1.74%	0.91%	1.31%	1.88%	1.35%	0.72%	1.28%	1.07%	0.89%	0.60%
		1.8948	1.7331	0.2796	1.9183	2.9492	3.1826	2.8905	1.5834	2.3107	3.5280	2.6587	1.2937	2.3140	2.1480	1.7080	1.2032
CANAD.	A	4.000/	1.600/	1 (00/	4 500/	2 420/	2 2 4 2 /	2.100/	4.000/	2 = (0/	2 220/	2.000/	4.460/	2 2 40/	2040/	1 = <0/	4.040/
CAR (0)		1.80%	1.68%	1.69%	1.59%	2.42%	2.24%	2.18%	1.89%	2.56%	2.33%	2.00%	1.46%	2.34%	2.04%	1.56%	1.04%
CAP (1)		2.9603	3.5506	3.7666	4.0234	4.1806	3.9361	4.3232	3.9801	3.4120	3.3167	2.9676	2.1987	3.0184	2.7541	2.1785	1.4641
CAR (1)		2.00%	1.71%	1.77%	1.45%	2.40%	2.27%	2.09%	1.63%	2.69%	2.26%	1.79%	1.17%	2.29%	1.77%	1.29%	0.73%
DILAD (0)		3.6471	3.5139	4.2044	3.7977	3.9492	3.9787	4.2074	3.4135	3.5123	3.2313	2.6280	1.7598	3.0736	2.4356	1.7901	1.0389
BHAR (0)		1.69%	1.42%	1.80%	1.00%	2.02%	1.97%	2.33%	1.63%	2.62%	2.22%	2.13%	1.21%	2.25%	2.04%	1.28%	0.92%
DILAD (1)		2.1110	1.9764	2.1165	1.4107	3.2596	2.9448	3.4020	2.5068	3.1374	2.5699	2.8952	1.4249	2.7863	2.6612	1.5688	1.1971
BHAR (1)		2.28%	1.26%	1.94%	0.81%	2.27%	2.00%	2.13%	1.00%	2.68%	2.10%	1.79%	1.12%	1.78%	1.40%	0.94%	0.58%
		3.3020	1.7322	2.5216	1.1362	3.3120	2.9879	3.0309	1.5313	3.1174	2.4962	2.3301	1.2929	2.1979	1.8015	1.1889	0.7287

MW	J =		3				6	i			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAR	RK																
CAR (0)		1.25%	1.29%	1.20%	1.06%	1.97%	1.73%	1.64%	1.48%	1.87%	1.71%	1.59%	1.38%	1.87%	1.73%	1.51%	1.24%
		3.2472	3.8977	4.2021	3.9147	4.2248	4.2214	4.4680	4.2063	3.9383	3.7508	3.6366	3.2913	3.8903	3.5452	3.1339	2.7160
CAR (1)		1.28%	1.21%	1.17%	0.99%	1.85%	1.72%	1.57%	1.36%	1.91%	1.66%	1.48%	1.25%	1.89%	1.63%	1.38%	1.10%
		3.4408	3.7589	4.0497	3.6937	4.1953	4.2089	4.2953	3.8464	4.0918	3.5636	3.4187	2.9925	3.7987	3.1975	2.8350	2.3977
BHAR (0)		0.95%	1.21%	0.71%	1.00%	1.99%	1.93%	0.87%	1.57%	1.46%	0.77%	1.42%	0.52%	1.41%	1.59%	1.37%	1.06%
		1.8539	2.1011	1.3565	1.6080	3.5015	3.7715	1.5164	3.6609	2.7078	1.2131	3.0338	1.1753	2.2005	2.9959	2.2860	2.0163
BHAR (1)		1.28%	1.01%	0.94%	1.11%	1.96%	1.95%	0.91%	1.39%	1.91%	1.37%	1.51%	0.43%	1.76%	1.51%	1.19%	1.00%
		2.5875	1.7611	1.6136	1.9691	3.7311	3.7878	1.6542	3.4327	3.6984	2.2966	3.3921	0.9500	3.0723	2.8325	2.0885	1.8576
FINLAN	D																
CAR (0)		1.35%	1.29%	1.53%	1.50%	1.26%	1.50%	1.80%	1.57%	1.63%	1.92%	1.94%	1.65%	1.41%	1.65%	1.63%	1.31%
		2.2877	2.5452	3.5000	3.7384	1.9551	2.6027	3.5050	3.1540	2.4343	3.0820	3.0794	2.7932	1.9391	2.3760	2.4859	2.0779
CAR (1)		1.47%	1.39%	1.64%	1.46%	1.40%	1.73%	1.78%	1.52%	1.96%	2.03%	1.91%	1.54%	1.45%	1.58%	1.52%	1.24%
		2.2774	2.7274	3.8283	3.5135	2.1370	3.1350	3.4583	3.0441	2.9712	3.1758	3.0303	2.6034	1.9046	2.2593	2.3175	1.9458
BHAR (0)		0.48%	1.16%	1.53%	0.94%	1.07%	1.34%	2.31%	1.71%	1.63%	1.97%	1.35%	1.43%	1.40%	1.88%	1.89%	1.69%
		0.6833	1.6752	1.9818	1.1519	1.3369	1.6979	3.2438	2.4236	2.1571	2.5439	1.8489	1.8584	1.8698	2.4225	2.3603	2.4675
BHAR (1)		1.38%	1.57%	1.91%	1.05%	1.36%	1.20%	2.08%	1.18%	1.67%	1.92%	1.21%	1.19%	1.18%	1.46%	1.73%	1.63%
		1.9940	2.1431	2.5865	1.2632	1.9345	1.6506	2.9602	1.7189	2.1494	2.3447	1.7426	1.5146	1.5435	2.0010	2.2713	2.4605
FRANC	E																
CAR (0)		-0.57%	0.09%	0.15%	0.29%	-0.10%	0.10%	0.37%	0.38%	-0.09%	0.31%	0.39%	0.32%	0.22%	0.31%	0.34%	0.27%
		-1.2505	0.2692	0.4904	1.0946	-0.2203	0.2442	1.0197	1.0995	-0.1656	0.6741	0.8662	0.7355	0.4064	0.6213	0.6949	0.5706
CAR (1)		0.14%	0.33%	0.41%	0.34%	0.39%	0.44%	0.56%	0.44%	0.57%	0.54%	0.51%	0.37%	0.51%	0.44%	0.38%	0.26%
		0.3476	1.0667	1.4816	1.3242	0.8714	1.0756	1.5652	1.2597	1.2206	1.2474	1.1526	0.8572	0.9866	0.8912	0.7820	0.5586
BHAR (0)		-0.42%	0.22%	0.32%	0.39%	0.05%	0.20%	-0.06%	0.37%	-0.17%	0.22%	0.25%	0.50%	0.25%	0.40%	0.62%	0.48%
		-0.8831	0.4658	0.6481	0.7141	0.1023	0.3646	-0.1033	0.7413	-0.3010	0.4016	0.5346	0.9100	0.4428	0.7430	1.2201	0.8904
BHAR (1)		0.11%	0.41%	0.13%	0.59%	0.21%	0.44%	-0.01%	0.26%	0.09%	0.26%	0.68%	0.10%	0.34%	0.46%	0.64%	0.44%
		0.2239	0.8822	0.2455	1.0576	0.4385	0.9227	-0.0225	0.4929	0.1599	0.4874	1.4643	0.1706	0.6088	0.8882	1.2464	0.8319
GERMAN	ΝY																
CAR (0)		1.47%	1.45%	1.42%	1.38%	1.62%	1.69%	1.57%	1.29%	1.77%	1.79%	1.48%	1.23%	1.67%	1.29%	1.11%	0.90%
		3.1065	3.8472	4.0131	4.1461	3.2752	3.8029	3.4931	3.0287	3.2673	3.4952	2.8705	2.4795	2.4737	1.9755	1.7774	1.5326
CAR (1)		1.37%	1.60%	1.50%	1.31%	1.61%	1.66%	1.44%	1.16%	1.77%	1.64%	1.28%	1.07%	1.45%	1.13%	0.93%	0.73%
		3.0471	4.3138	4.2768	3.9232	3.4958	3.7291	3.1951	2.7198	3.3299	3.0665	2.4231	2.1143	2.0589	1.7345	1.4992	1.2699
BHAR (0)		1.34%	1.33%	1.89%	0.84%	1.64%	1.94%	1.57%	1.47%	1.88%	1.79%	1.12%	1.82%	1.86%	1.54%	1.41%	0.92%
		2.0882	2.0438	3.6170	1.5355	2.8352	3.8331	2.3675	2.5530	3.0694	2.7204	1.6754	2.8335	2.5874	2.0861	2.1204	1.3515
BHAR (1)		1.41%	1.35%	1.94%	0.74%	1.48%	1.73%	1.16%	0.96%	1.57%	1.39%	0.96%	1.44%	1.41%	1.18%	0.96%	0.49%
		2.6777	2.8755	3.6041	1.2854	2.9841	3.3713	1.7546	1.6080	2.5316	1.8752	1.4433	2.0598	1.8417	1.5791	1.4239	0.7310

MW	J =		3				6	i			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREEC	E																
CAR (0)		0.48%	0.65%	0.61%	0.45%	0.81%	0.59%	0.53%	0.24%	0.56%	0.56%	0.45%	0.31%	0.41%	0.44%	0.22%	0.15%
		0.6849	1.0713	1.2923	1.1135	0.9902	0.8146	0.9293	0.4952	0.6689	0.7703	0.7319	0.5605	0.5224	0.6091	0.3328	0.2424
CAR (1)		0.64%	0.76%	0.55%	0.38%	0.96%	0.64%	0.49%	0.14%	0.46%	0.52%	0.36%	0.21%	0.52%	0.29%	0.18%	0.09%
		0.9313	1.3612	1.2571	0.9656	1.1974	0.9769	0.9275	0.3084	0.5763	0.7695	0.6216	0.3863	0.6730	0.4067	0.2783	0.1377
BHAR (0)		1.37%	0.98%	0.89%	1.02%	1.03%	1.06%	0.18%	0.67%	1.07%	0.81%	0.08%	0.43%	0.55%	0.55%	-0.17%	-0.50%
		1.5419	1.0856	1.1762	1.2498	1.1667	1.1983	0.2236	0.8430	1.1971	0.9512	0.1054	0.5688	0.6739	0.6565	-0.2181	-0.5540
BHAR (1)		1.00%	1.16%	0.43%	1.32%	1.20%	0.85%	0.51%	0.49%	0.77%	0.74%	-0.61%	0.08%	0.88%	0.41%	-0.26%	-0.53%
		1.2127	1.2298	0.5965	1.4856	1.4124	1.0503	0.6099	0.6388	0.9061	0.9022	-0.7638	0.1025	1.0842	0.4748	-0.3559	-0.6244
HONGKO	NG																
CAR (0)		1.20%	1.03%	0.85%	0.68%	1.11%	0.99%	0.72%	0.52%	0.92%	0.80%	0.58%	0.25%	0.60%	0.47%	0.16%	-0.01%
		2.5268	2.8601	2.6097	2.4061	2.0036	1.9961	1.6685	1.4010	1.5138	1.4710	1.2109	0.5802	1.0420	0.9205	0.3387	-0.0148
CAR (1)		1.11%	1.09%	0.77%	0.57%	1.34%	1.01%	0.63%	0.39%	0.88%	0.73%	0.42%	0.09%	0.62%	0.42%	0.08%	-0.04%
		2.3242	2.9669	2.3604	1.9974	2.4699	2.0452	1.5156	1.0613	1.4420	1.3855	0.8831	0.1995	1.1146	0.8491	0.1754	-0.0932
BHAR (0)		0.91%	0.38%	0.58%	0.12%	1.52%	1.62%	0.96%	0.22%	0.97%	0.73%	0.53%	-0.07%	0.94%	0.97%	0.09%	0.70%
		1.5583	0.6465	1.0508	0.2096	2.7214	2.8233	1.7234	0.4975	1.4950	1.1804	0.9700	-0.1279	1.4894	1.6833	0.1456	1.1840
BHAR (1)		0.43%	0.22%	0.19%	-0.04%	1.31%	1.21%	0.82%	-0.13%	0.36%	0.58%	0.02%	0.16%	0.58%	0.69%	-0.28%	0.48%
		0.8316	0.4218	0.3710	-0.0686	2.4081	2.3027	1.5521	-0.3135	0.5827	1.0431	0.0303	0.3123	0.9703	1.3644	-0.5056	0.9249
IRELAN	D																
CAR (0)		1.25%	1.02%	0.40%	0.59%	1.44%	0.79%	0.55%	0.50%	0.45%	0.50%	0.38%	0.28%	0.81%	0.44%	0.35%	0.26%
		1.5781	1.5680	0.6828	1.2152	1.6040	1.0223	0.8352	0.8312	0.4659	0.6099	0.4960	0.4035	0.8482	0.5059	0.4208	0.3415
CAR (1)		1.60%	0.79%	0.43%	0.52%	1.01%	0.36%	0.34%	0.28%	0.22%	0.30%	0.31%	0.18%	0.53%	0.35%	0.26%	0.06%
		2.4223	1.3365	0.8120	1.0913	1.1768	0.4932	0.5280	0.4758	0.2379	0.3764	0.4090	0.2723	0.5584	0.3941	0.3090	0.0821
BHAR (0)		1.15%	-0.72%	-0.63%	-0.14%	0.91%	1.80%	-1.25%	3.25%	0.43%	-0.12%	1.19%	0.48%	1.02%	0.34%	1.13%	-0.11%
		1.2271	-0.7421	-0.6304	-0.1298	0.8519	1.7949	-1.1190	2.9542	0.3932	-0.1133	1.2365	0.5019	0.9962	0.3309	1.0099	-0.1150
BHAR (1)		0.94%	-0.88%	-1.31%	0.49%	0.91%	1.08%	-0.32%	2.62%	0.23%	-0.41%	0.48%	-0.13%	0.54%	-0.08%	0.15%	-0.30%
		1.1804	-0.9095	-1.2270	0.4125	0.9686	1.1439	-0.3432	2.6160	0.2152	-0.3827	0.4875	-0.1329	0.5583	-0.0848	0.1362	-0.3214
ISRAEI	_																
CAR (0)		0.88%	0.88%	0.89%	0.68%	0.97%	1.11%	0.97%	0.68%	1.44%	1.04%	0.85%	0.58%	1.15%	0.86%	0.57%	0.22%
		1.8361	2.0274	2.3476	1.9824	1.6258	2.0563	2.0178	1.5537	2.3072	1.7315	1.5275	1.1238	1.7192	1.2972	0.9329	0.3887
CAR (1)		0.87%	0.90%	0.90%	0.53%	1.39%	1.28%	0.93%	0.58%	1.35%	0.92%	0.72%	0.37%	0.89%	0.71%	0.36%	0.03%
		1.6707	1.9742	2.3867	1.4894	2.4626	2.4768	2.0041	1.3664	2.1778	1.5009	1.3307	0.7189	1.2407	1.0493	0.6016	0.0613
BHAR (0)		0.31%	0.68%	0.87%	0.02%	1.20%	1.36%	0.81%	1.18%	1.57%	1.37%	1.39%	1.74%	1.31%	0.95%	1.21%	0.90%
		0.5292	1.2586	1.3840	0.0399	1.7879	2.1624	1.3989	2.1705	2.2818	1.9776	2.0775	2.6330	1.8341	1.3261	1.6685	1.1938
BHAR (1)		0.56%	0.80%	1.11%	0.02%	1.84%	1.55%	0.99%	0.99%	1.58%	1.10%	1.43%	1.51%	1.18%	0.93%	0.94%	0.90%
		0.8620	1.3418	1.7251	0.0340	3.0870	2.5933	1.7430	1.9501	2.3371	1.5166	2.1886	2.1372	1.5678	1.3121	1.3432	1.1874

MW	J =		3				6				9				10	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.49%	0.83%	0.66%	0.75%	1.10%	1.09%	1.06%	1.05%	1.05%	1.31%	1.25%	1.18%	1.54%	1.52%	1.35%	1.19%
		1.1959	2.1951	2.2621	2.9020	2.1067	2.4546	2.7422	2.9135	2.0553	2.7418	2.8967	2.9058	2.9074	3.0182	2.9069	2.7442
CAR (1)		0.99%	1.03%	0.81%	0.84%	1.20%	1.11%	1.05%	1.02%	1.41%	1.37%	1.24%	1.15%	1.58%	1.46%	1.27%	1.13%
		2.3638	3.0324	2.8625	3.4176	2.4913	2.6306	2.7851	2.9033	2.8136	2.9938	2.9063	2.8938	2.9969	2.9533	2.7770	2.6888
BHAR (0)		0.89%	0.41%	1.21%	0.77%	1.13%	1.08%	0.76%	1.14%	1.07%	0.66%	1.22%	0.46%	1.64%	1.73%	1.58%	1.46%
		1.6704	0.7687	2.0956	1.3541	1.9824	2.0512	1.3816	2.1588	1.9286	1.0747	2.4482	0.8935	3.0030	3.3705	3.0036	3.1095
BHAR (1)		1.04%	0.85%	1.59%	1.08%	0.92%	0.93%	0.66%	1.24%	0.98%	0.84%	0.88%	0.36%	1.66%	1.64%	1.47%	1.35%
		1.9544	1.6617	2.8267	2.0059	1.6352	1.7723	1.2667	2.3308	1.6662	1.4480	1.7859	0.7023	2.9708	3.3264	2.6851	2.9011
JAPAN																	
CAR (0)		-0.12%	-0.17%	0.02%	0.06%	-0.28%	-0.17%	0.04%	-0.01%	-0.15%	0.06%	0.05%	0.00%	0.00%	-0.11%	-0.09%	-0.11%
		-0.3187	-0.4701	0.0542	0.2229	-0.6086	-0.4048	0.1080	-0.0315	-0.3054	0.1416	0.1283	-0.0034	-0.0051	-0.2512	-0.2215	-0.3216
CAR (1)		0.02%	-0.04%	0.12%	0.07%	-0.11%	0.05%	0.15%	-0.02%	0.19%	0.22%	0.12%	0.02%	0.05%	-0.11%	-0.06%	-0.11%
		0.0528	-0.1157	0.4206	0.2992	-0.2441	0.1228	0.4480	-0.0545	0.4191	0.5156	0.3186	0.0558	0.1117	-0.2502	-0.1527	-0.3212
BHAR (0)		-0.03%	0.14%	-0.04%	0.34%	-0.01%	-0.12%	0.04%	0.57%	-0.03%	0.14%	0.27%	0.19%	0.19%	0.19%	-0.23%	0.01%
		-0.0700	0.3314	-0.0949	0.8490	-0.0186	-0.2482	0.0821	1.3898	-0.0536	0.3088	0.6979	0.4775	0.3721	0.3940	-0.5263	0.0240
BHAR (1)		0.01%	-0.28%	-0.48%	0.27%	-0.18%	-0.19%	0.02%	0.49%	-0.09%	0.11%	0.15%	-0.08%	-0.05%	-0.15%	-0.40%	-0.24%
		0.0234	-0.6592	-1.0700	0.6849	-0.3779	-0.4332	0.0515	1.2418	-0.2107	0.2849	0.4013	-0.2116	-0.1113	-0.3233	-0.9747	-0.5657
NETHERLA	NDS																
CAR (0)		0.69%	0.35%	0.54%	0.54%	0.43%	0.46%	0.54%	0.46%	0.47%	0.42%	0.37%	0.24%	0.45%	0.34%	0.38%	0.29%
		1.5687	0.9936	1.8482	2.0691	0.8650	1.0976	1.3719	1.2798	0.8821	0.8272	0.7806	0.5572	0.8129	0.6375	0.7740	0.6490
CAR (1)		0.50%	0.30%	0.55%	0.39%	0.37%	0.50%	0.49%	0.34%	0.55%	0.40%	0.33%	0.15%	0.33%	0.25%	0.29%	0.26%
		1.1737	0.8902	1.8881	1.5928	0.7581	1.1531	1.2316	0.9446	0.9967	0.7737	0.6964	0.3513	0.5919	0.4836	0.5900	0.6123
BHAR (0)		1.01%	0.10%	0.20%	0.59%	0.20%	0.25%	0.26%	1.28%	0.32%	0.38%	0.56%	0.36%	0.80%	0.77%	0.59%	0.57%
		1.9635	0.2084	0.3502	1.1563	0.3349	0.4630	0.4159	2.4139	0.5330	0.6467	1.0131	0.6551	1.2371	1.1818	0.9455	0.9337
BHAR (1)		0.77%	-0.11%	-0.03%	0.71%	-0.02%	0.02%	0.26%	0.89%	0.41%	0.28%	0.34%	-0.05%	0.36%	0.28%	0.46%	0.27%
		1.4212	-0.2101	-0.0490	1.3826	-0.0268	0.0299	0.3987	1.6992	0.6926	0.4941	0.6289	-0.0910	0.5695	0.4439	0.7605	0.4486
NEWZEALA	.ND																
CAR (0)		2.19%	1.88%	1.49%	1.31%	1.99%	1.63%	1.36%	1.10%	1.54%	1.47%	1.12%	0.99%	1.70%	1.42%	1.27%	1.07%
		3.2112	3.7748	3.8732	4.1239	3.3567	3.4528	3.3608	3.1075	2.7729	2.9390	2.5670	2.5381	2.8716	2.7355	2.8078	2.6120
CAR (1)		1.82%	1.52%	1.30%	1.07%	1.54%	1.39%	1.14%	0.86%	1.40%	1.30%	1.01%	0.86%	1.40%	1.23%	1.11%	0.91%
		3.1546	3.4899	3.8821	3.7202	2.7334	3.0313	2.9445	2.5076	2.5971	2.7004	2.4538	2.2983	2.4218	2.4838	2.5901	2.2602
BHAR (0)		2.00%	2.05%	0.82%	0.95%	1.61%	1.65%	0.73%	1.07%	1.43%	1.23%	1.60%	0.61%	1.91%	1.95%	1.67%	1.64%
		2.6314	3.9517	1.0659	1.8612	2.3883	2.6012	1.3132	1.8800	2.4971	1.9112	3.0094	1.2365	3.0532	3.3195	2.9563	2.9747
BHAR (1)		1.64%	1.21%	0.04%	0.59%	1.19%	1.02%	0.60%	0.52%	1.52%	1.09%	1.26%	0.39%	1.64%	1.42%	1.18%	1.47%
		2.4878	2.4029	0.0665	1.1676	1.9013	1.7200	1.1615	1.0069	2.4649	1.6995	2.3292	0.7805	2.5563	2.3643	2.2018	2.6295

MW	J =		3				6	i			9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWA	Y																
CAR (0)		0.57%	0.69%	0.84%	0.85%	0.81%	1.10%	1.34%	1.16%	1.20%	1.38%	1.29%	1.03%	1.39%	1.23%	1.12%	0.91%
		1.2474	1.9709	2.7586	3.0373	1.5739	2.3586	3.2242	2.9471	2.2761	2.8981	2.7737	2.3121	2.7117	2.5374	2.3964	2.0388
CAR (1)		0.69%	0.72%	0.98%	0.80%	0.86%	1.37%	1.33%	1.04%	1.41%	1.44%	1.19%	0.89%	1.15%	1.07%	0.97%	0.76%
		1.5180	2.1665	3.2625	2.8607	1.6595	3.0422	3.2235	2.6576	2.6843	2.9965	2.5311	2.0047	2.2576	2.1911	2.0865	1.6841
BHAR (0)		0.51%	0.35%	0.57%	1.24%	1.17%	1.22%	1.40%	2.17%	1.40%	1.40%	0.98%	1.41%	1.32%	1.10%	1.02%	0.93%
		0.9079	0.6560	1.1084	2.1109	2.0394	2.2093	2.7165	4.2033	2.4821	2.3910	1.7653	2.3757	2.1040	1.8486	1.5867	1.4332
BHAR (1)		0.88%	0.72%	0.76%	1.40%	1.13%	1.20%	1.33%	1.85%	1.35%	1.62%	0.93%	1.25%	1.15%	0.67%	1.03%	0.79%
		1.5615	1.3666	1.6613	2.4253	2.2385	2.3540	2.6645	3.4779	2.4862	2.8503	1.6639	2.1624	2.0377	1.1571	1.8886	1.3293
PORTUGA	AL																
CAR (0)		1.04%	0.83%	0.97%	0.72%	0.36%	0.55%	0.62%	0.50%	0.97%	0.77%	0.62%	0.35%	0.84%	0.64%	0.58%	0.41%
		1.3973	1.4344	2.1725	1.7315	0.4858	0.9407	1.2739	1.1408	1.2282	1.1658	1.1131	0.7070	1.0083	0.9429	1.0032	0.7750
CAR (1)		1.47%	1.15%	1.03%	0.80%	0.62%	0.69%	0.61%	0.45%	0.93%	0.73%	0.51%	0.32%	0.49%	0.57%	0.45%	0.33%
		2.2190	2.1997	2.3102	2.1127	0.8969	1.2191	1.3360	1.0813	1.2334	1.1728	0.9836	0.6590	0.6105	0.9191	0.8324	0.6444
BHAR (0)		1.73%	1.34%	1.24%	1.29%	0.59%	1.04%	1.42%	0.84%	0.48%	1.05%	1.74%	1.06%	0.82%	0.09%	-0.11%	0.33%
		1.9426	1.4124	1.5811	1.3722	0.7460	1.3641	2.1106	1.2841	0.5530	1.1867	2.0525	1.3767	0.9019	0.1158	-0.1566	0.4712
BHAR (1)		1.72%	1.62%	0.97%	1.22%	0.97%	1.27%	1.59%	0.42%	0.62%	1.07%	1.68%	0.70%	0.32%	0.16%	-0.16%	0.52%
		2.2959	1.7592	1.2718	1.3988	1.2520	1.7682	2.3771	0.6508	0.8236	1.3075	2.0284	1.0655	0.3441	0.2134	-0.2304	0.7366
SINGAPO	RE																
CAR (0)		0.40%	0.31%	0.32%	0.19%	0.50%	0.42%	0.33%	0.16%	0.35%	0.25%	0.15%	0.07%	0.38%	0.23%	0.13%	0.11%
		0.8442	0.9129	1.1286	0.7043	0.9964	1.0034	0.8889	0.4601	0.6463	0.5114	0.3510	0.1950	0.7383	0.4944	0.3147	0.2947
CAR (1)		0.00%	0.34%	0.22%	0.11%	0.47%	0.47%	0.27%	0.10%	0.32%	0.25%	0.09%	0.05%	0.28%	0.21%	0.11%	0.10%
		-0.0026	1.0606	0.8010	0.4384	0.9707	1.1317	0.7339	0.3010	0.5887	0.5249	0.2240	0.1362	0.5523	0.4851	0.2744	0.2817
BHAR (0)		0.22%	-0.07%	1.04%	0.17%	0.62%	0.26%	-0.02%	0.36%	0.49%	0.39%	0.22%	-0.27%	0.33%	0.28%	0.38%	0.17%
		0.4377	-0.1397	2.4797	0.3882	1.0287	0.5326	-0.0388	0.8150	0.8047	0.6808	0.4198	-0.4502	0.5586	0.5347	0.7873	0.3998
BHAR (1)		-0.15%	-0.57%	0.93%	-0.02%	0.31%	0.10%	-0.25%	0.39%	0.04%	0.42%	0.39%	-0.27%	0.12%	0.08%	0.16%	0.20%
		-0.2714	-1.1057	2.2017	-0.0537	0.5521	0.1925	-0.4939	0.8702	0.0653	0.7381	0.7779	-0.4899	0.2005	0.1479	0.3355	0.4920
SPAIN																	
CAR (0)		0.12%	0.05%	0.27%	0.44%	0.12%	0.11%	0.51%	0.65%	0.14%	0.34%	0.57%	0.64%	0.57%	0.79%	0.89%	0.86%
		0.3274	0.1314	0.8867	1.6446	0.2333	0.2283	1.2162	1.7904	0.2532	0.6864	1.3181	1.6444	1.0768	1.6617	1.9528	1.9715
CAR (1)		0.24%	0.13%	0.42%	0.46%	0.10%	0.25%	0.66%	0.62%	0.29%	0.57%	0.73%	0.65%	0.79%	0.94%	1.01%	0.90%
		0.5152	0.3491	1.2702	1.6965	0.1913	0.4900	1.6081	1.7093	0.4978	1.1850	1.7105	1.6613	1.5873	1.9938	2.2270	2.0733
BHAR (0)		-0.02%	-0.88%	-0.02%	-0.05%	-0.38%	-0.12%	0.40%	0.63%	0.03%	0.42%	0.48%	0.45%	0.83%	1.39%	0.85%	0.95%
		-0.0368	-1.4900	-0.0343	-0.1011	-0.6540	-0.2098	0.6367	1.1820	0.0551	0.7389	0.9579	0.7827	1.5100	2.6161	1.5757	1.8472
BHAR (1)		0.62%	-0.67%	0.35%	0.11%	0.20%	0.31%	0.62%	0.62%	-0.06%	0.26%	0.34%	0.05%	1.02%	1.38%	0.86%	0.96%
		1.2367	-1.1353	0.6568	0.2015	0.3644	0.5696	1.0171	1.1615	-0.0956	0.4244	0.6522	0.0900	1.8373	2.6465	1.6644	1.8942

MW	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	1																
CAR (0)		1.59%	1.10%	0.85%	0.77%	1.37%	1.03%	0.70%	0.62%	0.83%	0.54%	0.38%	0.16%	0.66%	0.37%	0.13%	-0.03%
		3.0956	2.4879	2.0923	2.0994	2.3911	1.9016	1.3031	1.2125	1.3719	0.8575	0.6026	0.2739	0.8799	0.4984	0.1890	-0.0406
CAR (1)		1.27%	0.91%	0.75%	0.56%	1.20%	0.83%	0.61%	0.47%	0.91%	0.44%	0.26%	0.03%	0.36%	0.25%	-0.03%	-0.09%
		2.5451	2.1313	1.9524	1.5433	2.2257	1.4829	1.1197	0.9213	1.3943	0.6715	0.4180	0.0463	0.4851	0.3550	-0.0386	-0.1363
BHAR (0)		1.52%	0.36%	0.95%	0.00%	1.27%	1.41%	0.66%	0.33%	1.05%	0.09%	0.26%	-0.73%	0.42%	0.40%	-0.35%	0.37%
		2.4410	0.6618	1.5635	0.0050	2.0191	2.2935	0.8548	0.4906	1.5344	0.1256	0.3771	-1.0506	0.5361	0.5394	-0.4605	0.5022
BHAR (1)		1.32%	0.21%	0.88%	-0.10%	1.17%	1.23%	0.65%	0.17%	0.92%	0.16%	0.01%	-0.79%	0.33%	0.11%	-0.50%	0.41%
		2.4439	0.3949	1.5878	-0.1823	1.9155	1.9727	0.8568	0.2393	1.3116	0.2298	0.0204	-1.1308	0.4618	0.1433	-0.6691	0.5509
SWITZERL	AND																
CAR (0)		0.14%	0.48%	0.49%	0.59%	0.69%	0.70%	0.72%	0.62%	0.65%	0.86%	0.76%	0.56%	0.97%	0.85%	0.65%	0.50%
		0.4688	2.0017	2.1501	2.9597	1.9570	2.0961	2.3447	2.2576	1.7231	2.3900	2.2506	1.7625	2.3753	2.1600	1.7636	1.4708
CAR (1)		0.47%	0.55%	0.62%	0.61%	0.88%	0.82%	0.74%	0.56%	1.03%	0.93%	0.75%	0.49%	0.94%	0.75%	0.53%	0.41%
		1.7277	2.2088	2.5975	3.1388	2.4396	2.4510	2.4682	2.0662	2.6052	2.4924	2.1681	1.5675	2.3312	1.8901	1.4639	1.2019
BHAR (0)		-0.10%	0.28%	0.12%	0.30%	0.72%	0.73%	0.45%	0.93%	0.49%	0.30%	0.83%	0.68%	0.83%	1.20%	0.59%	0.70%
		-0.2738	0.8329	0.3322	0.7708	1.8260	1.9081	1.0363	2.3935	1.1628	0.6495	2.1744	1.8328	1.9417	2.5955	1.2230	1.6330
BHAR (1)		0.14%	0.07%	0.20%	0.33%	0.96%	0.90%	0.27%	0.88%	0.66%	0.32%	0.63%	0.39%	0.74%	0.88%	0.51%	0.41%
		0.4023	0.1910	0.5514	0.8265	2.3716	2.2690	0.6207	2.2557	1.5421	0.6856	1.5824	0.9460	1.9041	2.0117	1.1166	0.9773
UK																	
CAR (0)		0.44%	0.59%	0.57%	0.75%	0.45%	0.61%	0.82%	0.73%	0.84%	1.03%	1.00%	0.70%	0.67%	0.87%	0.74%	0.51%
		1.0170	1.5373	1.6426	2.5189	0.8385	1.2603	1.9294	1.9096	1.4783	1.9423	2.0340	1.5476	1.1248	1.5623	1.4390	1.0433
CAR (1)		0.50%	0.65%	0.68%	0.75%	0.71%	0.87%	0.93%	0.71%	0.95%	1.10%	0.92%	0.57%	0.86%	0.90%	0.68%	0.42%
		1.1143	1.6737	1.9965	2.6145	1.4056	1.8426	2.2746	1.9060	1.6269	2.0966	1.9054	1.2820	1.5447	1.6787	1.3643	0.8881
BHAR (0)		0.17%	0.56%	0.15%	0.59%	0.50%	0.65%	0.57%	1.17%	0.99%	1.20%	1.11%	1.04%	0.52%	0.82%	0.88%	0.59%
		0.3150	1.0648	0.2906	1.1973	0.8749	1.1620	1.0689	2.8415	1.5418	1.9596	2.0083	1.9937	0.7922	1.3250	1.4942	0.9807
BHAR (1)		0.24%	0.37%	0.13%	0.74%	0.77%	0.78%	0.69%	0.97%	1.10%	1.38%	1.09%	0.84%	0.99%	0.63%	0.47%	0.34%
		0.4329	0.6845	0.2469	1.5548	1.4886	1.5202	1.4093	2.3286	1.8107	2.4236	1.9869	1.6294	1.6661	1.0370	0.7775	0.5549
US																	
CAR (0)		0.05%	0.19%	0.31%	0.32%	0.26%	0.46%	0.55%	0.40%	0.51%	0.66%	0.50%	0.32%	0.45%	0.43%	0.28%	0.19%
		0.1526	0.6480	1.2388	1.3251	0.6197	1.2280	1.5969	1.2556	1.1230	1.5844	1.3054	0.8821	0.9473	0.9745	0.6659	0.4829
CAR (1)		0.15%	0.31%	0.41%	0.27%	0.52%	0.68%	0.59%	0.38%	0.83%	0.75%	0.52%	0.27%	0.43%	0.38%	0.22%	0.14%
		0.4391	1.0773	1.6211	1.1533	1.2572	1.8405	1.7310	1.1986	1.8392	1.8776	1.3537	0.7425	0.9233	0.8759	0.5417	0.3521
BHAR (0)		-0.22%	0.41%	-0.16%	0.38%	0.28%	0.35%	0.06%	0.85%	0.51%	0.60%	0.67%	0.30%	0.58%	0.63%	0.32%	0.33%
		-0.5328	1.0358	-0.3480	0.9300	0.6114	0.8024	0.1318	2.7369	1.0407	1.3092	1.6350	0.7134	1.1676	1.3918	0.6586	0.6803
BHAR (1)		0.21%	0.12%	-0.17%	0.24%	0.31%	0.48%	0.11%	0.54%	0.67%	0.57%	0.50%	0.14%	0.27%	0.32%	0.16%	0.14%
		0.5773	0.2463	-0.3849	0.5498	0.7200	1.2451	0.2410	1.6076	1.3744	1.1742	1.1140	0.3181	0.5199	0.7489	0.3406	0.2835

Panel C. The time-series momentum strategy using inversed volatility-weighted return

IVOL	J =		3			iics iiioi	6		<u>8</u>		9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
AUSTRAI	JA																
CAR (0)		0.42%	0.66%	0.58%	0.49%	1.16%	0.91%	0.72%	0.44%	1.28%	1.00%	0.59%	0.29%	1.20%	0.74%	0.35%	0.07%
		1.5507	2.6161	2.7511	2.5173	3.1996	2.7737	2.5365	1.8223	3.3606	2.8683	1.9236	1.1038	3.2229	2.1925	1.2095	0.2815
CAR (1)		0.84%	0.81%	0.69%	0.46%	1.25%	0.90%	0.61%	0.31%	1.40%	0.90%	0.46%	0.14%	1.00%	0.52%	0.13%	-0.12%
		3.0951	3.3776	3.4394	2.3624	3.5598	2.8081	2.2683	1.3633	3.7783	2.6612	1.5669	0.5622	2.8256	1.6364	0.4967	-0.4943
BHAR (0)		0.52%	0.43%	0.16%	-0.05%	1.13%	0.66%	0.07%	0.20%	1.17%	0.80%	0.69%	0.56%	1.14%	0.69%	0.38%	0.31%
		1.7225	1.4823	0.4003	-0.1412	2.6691	1.5844	0.1745	0.6950	2.7491	2.0745	2.2404	2.1112	2.7566	1.7777	1.0656	0.7713
BHAR (1)		0.89%	0.51%	0.00%	0.39%	1.37%	0.90%	0.15%	0.32%	1.28%	0.72%	0.49%	0.43%	1.00%	0.35%	-0.02%	-0.02%
		2.8880	1.5213	0.0074	1.0183	3.5332	2.3359	0.3950	1.0471	3.2908	1.9170	1.6154	1.4691	2.6422	1.0027	-0.0662	-0.0580
AUSTRI	A																
CAR (0)		0.96%	0.81%	0.91%	0.87%	1.08%	1.13%	1.13%	1.09%	1.58%	1.34%	1.22%	1.02%	1.54%	1.34%	1.09%	0.78%
		2.9727	2.5428	3.2244	3.5214	2.7156	3.0439	3.3201	3.5460	3.6853	3.3309	3.2351	3.0279	3.4009	3.1662	2.7579	2.2653
CAR (1)		1.03%	0.77%	0.82%	0.77%	1.08%	1.13%	1.08%	0.94%	1.54%	1.25%	1.12%	0.85%	1.34%	1.11%	0.89%	0.60%
		3.3361	2.5924	3.0598	3.3025	2.7506	3.1255	3.2535	3.1002	3.8489	3.2177	3.0667	2.6541	3.0725	2.7103	2.3742	1.8068
BHAR (0)		0.88%	0.78%	1.34%	0.83%	0.94%	0.94%	0.84%	1.35%	1.57%	1.34%	1.28%	1.40%	1.68%	1.43%	1.17%	0.62%
		2.5576	2.0403	3.1094	2.2420	2.3322	2.1113	1.9514	3.5155	3.5312	2.9591	2.9498	3.5593	3.6576	3.2408	2.8371	1.5069
BHAR (1)		1.08%	0.62%	1.13%	0.64%	1.08%	1.13%	1.17%	1.33%	1.45%	1.04%	1.28%	1.19%	1.43%	1.23%	0.74%	0.50%
DEL CIT		3.0319	1.6210	2.5034	1.6797	2.6206	2.5998	2.8305	3.2306	3.3958	2.3723	3.0234	3.0755	3.1659	2.8582	1.8561	1.2376
BELGIU	М	1.000/	0.050/	0.000/	0.000/	1.530/	1.550/	1.500/	1.210/	1.500/	1.520/	1 400/	1.050/	1.000/	1.660/	1.410/	1.150/
CAR (0)		1.00%	0.95%	0.88%	0.90%	1.53%	1.55%	1.50%	1.31%	1.70%	1.72%	1.49%	1.27%	1.88%	1.66%	1.41%	1.17%
CAR (1)		4.0717	4.0863	4.2585	4.4904	4.8863	5.2007	5.3201	5.0608	4.8836	5.1026	4.8222	4.3916	5.4272	5.0384	4.5631	3.9790
CAR (1)		1.02%	0.97%	0.92%	0.85%	1.67%	1.62%	1.46%	1.24%	1.90%	1.68%	1.43%	1.18%	1.90%	1.59% 4.9303	1.29%	1.07%
BHAR (0)		4.4077 0.85%	4.5152 0.59%	4.8511 0.40%	4.7940 0.51%	5.4643 1.63%	5.4859 1.54%	5.2615 1.31%	4.8643 1.47%	5.5655 1.85%	5.1675 1.96%	4.7176 1.58%	4.1810 1.59%	5.7988 1.86%	4.9303 1.46%	4.2630 1.46%	3.6655 0.97%
BHAK (0)		2.8474	1.8722	1.0557	1.3686	4.8423	4.8629	4.0898	5.1529	5.0119	5.5395	4.7630	4.8868	5.0770	4.0609	4.4965	2.8797
BHAR (1)		0.86%	0.70%	0.66%	0.58%	1.70%	1.56%	1.22%	1.33%	2.02%	1.74%	1.49%	1.25%	1.83%	1.44%	1.33%	0.82%
DIIAK (1)		2.8599	2.2393	2.0898	1.9090	5.1859	5.0230	4.0105	5.0159	5.7644	5.1110	4.6409	3.8548	5.4757	4.2283	4.2261	2.4568
CANAD	Δ	2.0399	2.2393	2.0090	1.9090	3.1039	3.0230	4.0103	3.0139	3.7044	3.1110	4.0409	3.0340	3.4737	7.2203	7.2201	2.4300
CAR (0)		1.08%	0.91%	0.91%	0.88%	1.50%	1.32%	1.29%	0.94%	1.60%	1.49%	1.13%	0.71%	1.67%	1.12%	0.72%	0.36%
01111 (0)		3.1038	2.9210	3.1534	3.6371	3.6314	3.3793	3.7832	3.2543	3.6131	3.7198	3.1869	2.2453	3.8104	2.7881	1.9542	1.0859
CAR (1)		1.10%	0.96%	0.99%	0.78%	1.58%	1.43%	1.22%	0.75%	1.77%	1.41%	0.98%	0.49%	1.42%	0.86%	0.47%	0.11%
(-)		3.2129	2.9283	3.5155	3.3496	3.8429	3.7349	3.7964	2.7437	4.1300	3.7070	2.9040	1.6008	3.4443	2.2429	1.3356	0.3586
BHAR (0)		1.01%	0.65%	0.91%	0.75%	1.27%	1.39%	1.04%	0.99%	1.51%	1.35%	1.03%	0.77%	1.67%	1.06%	0.68%	0.26%
ν-/		2.3407	1.5394	2.2162	2.0051	2.7274	3.0598	2.2819	2.7254	3.0233	2.7055	2.7398	1.9848	3.6506	2.6803	1.6468	0.6433
BHAR (1)		1.05%	0.65%	1.02%	0.61%	1.66%	1.64%	1.00%	0.73%	1.64%	1.22%	0.81%	0.63%	1.38%	0.79%	0.54%	0.12%
` '		2.7960	1.6881	2.7948	1.6536	3.6756	3.7827	2.4333	2.0235	3.4759	2.8779	2.1829	1.5764	3.2871	2.0979	1.4287	0.3252

IVOL	J =		3				6				9				12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
DENMAI	RK																
CAR (0)		1.25%	1.28%	1.15%	1.16%	1.75%	1.62%	1.56%	1.34%	1.84%	1.80%	1.55%	1.28%	2.13%	1.84%	1.49%	1.19%
		5.8134	6.2314	6.0789	6.8097	6.3196	6.0467	6.3363	5.8989	5.8000	5.8444	5.2925	4.7602	6.9385	6.0290	4.9482	4.2088
CAR (1)		1.32%	1.28%	1.19%	1.12%	1.74%	1.57%	1.46%	1.19%	1.88%	1.72%	1.39%	1.10%	1.96%	1.63%	1.29%	0.99%
		6.0679	6.2555	6.2250	6.4873	6.1551	5.8179	6.0229	5.2562	6.0606	5.5968	4.8376	4.1664	6.3509	5.2506	4.3063	3.5543
BHAR (0)		1.17%	1.08%	0.78%	0.96%	1.64%	1.62%	1.28%	1.76%	1.75%	1.54%	1.61%	1.28%	2.04%	1.92%	1.52%	0.92%
		4.9298	4.0402	2.6881	3.5459	5.3470	5.0991	4.0671	6.1447	5.1728	4.6725	4.9055	4.3272	6.0197	5.8468	4.6484	2.8357
BHAR (1)		1.23%	1.05%	0.85%	1.02%	1.69%	1.50%	1.18%	1.47%	1.88%	1.66%	1.51%	1.07%	1.92%	1.61%	1.37%	0.65%
		4.9602	4.1324	2.9839	3.9695	5.6964	4.7530	3.9287	5.1917	5.9770	4.9807	4.7936	3.5113	6.0302	4.8921	4.0945	2.0207
FINLAN	D																
CAR (0)		0.88%	0.92%	0.95%	0.83%	1.25%	1.16%	1.12%	0.91%	1.41%	1.24%	1.02%	0.73%	1.23%	0.97%	0.77%	0.54%
		2.6266	3.3181	3.9694	3.6960	3.5205	3.5804	3.7354	3.0411	3.6217	3.3120	2.6604	1.9559	2.7216	2.1963	1.7791	1.2858
CAR (1)		1.15%	1.02%	0.98%	0.83%	1.28%	1.19%	1.03%	0.76%	1.41%	1.10%	0.88%	0.55%	1.15%	0.84%	0.64%	0.44%
		3.5095	3.8956	4.2813	3.6625	3.7797	3.8428	3.3597	2.4998	3.6362	2.8707	2.1987	1.4483	2.4667	1.8662	1.4501	1.0453
BHAR (0)		0.38%	0.56%	0.86%	0.69%	1.21%	1.10%	1.00%	1.21%	1.31%	1.06%	0.88%	0.40%	1.22%	1.27%	0.92%	0.91%
		0.7737	1.1917	2.0924	1.3257	3.0021	2.6830	2.6562	2.9639	3.0196	2.2913	2.1443	0.8963	2.6499	2.9352	1.8640	2.1560
BHAR (1)		1.20%	0.61%	1.13%	0.55%	1.49%	1.30%	0.97%	0.98%	1.55%	0.93%	0.74%	0.38%	1.11%	1.00%	0.64%	0.69%
		3.0665	1.4719	3.0328	1.0963	4.3950	3.4542	2.5999	2.5216	3.6942	1.9896	1.7501	0.8452	2.4494	2.3760	1.2852	1.7088
FRANC	E																
CAR (0)		-0.02%	0.41%	0.38%	0.54%	0.73%	0.78%	0.81%	0.70%	1.06%	1.09%	0.99%	0.78%	1.10%	1.04%	0.82%	0.67%
		-0.0507	1.7342	1.8217	3.0257	2.1321	2.4902	2.9121	2.7530	2.9404	3.3235	3.1879	2.7808	3.0217	3.0623	2.5779	2.2243
CAR (1)		0.52%	0.55%	0.46%	0.53%	0.94%	0.83%	0.82%	0.62%	1.33%	1.12%	0.92%	0.68%	1.21%	0.99%	0.75%	0.61%
		1.6930	2.4037	2.2874	2.9823	2.7812	2.7473	3.0479	2.5269	3.8239	3.4486	3.0168	2.4815	3.5437	2.9939	2.4079	2.0634
BHAR (0)		0.28%	0.18%	0.69%	-0.18%	0.68%	0.46%	0.49%	0.05%	0.92%	0.93%	1.17%	0.81%	1.08%	1.05%	1.10%	0.64%
		0.7568	0.4897	1.6919	-0.4457	1.9230	1.1072	1.2194	0.0960	2.5119	2.6223	3.7757	2.4131	2.9033	2.8269	3.0752	1.8188
BHAR (1)		0.30%	0.32%	0.66%	0.19%	0.85%	0.75%	0.64%	0.48%	1.15%	0.97%	1.09%	0.50%	1.19%	0.93%	0.92%	0.55%
		0.8227	0.8815	1.3447	0.4247	2.3283	1.9917	1.6542	1.5261	3.0191	2.5151	3.2187	1.3583	3.2794	2.5258	2.6472	1.4782
GERMAN	NY																
CAR (0)		1.14%	0.99%	0.89%	0.87%	1.47%	1.35%	1.33%	1.09%	1.63%	1.51%	1.27%	1.01%	1.70%	1.39%	1.12%	0.95%
		3.8995	3.8930	3.8206	4.0801	4.4146	4.5112	4.7760	4.0483	4.7251	4.5622	3.8462	3.3266	4.7740	3.9001	3.3170	3.0079
CAR (1)		1.49%	1.07%	0.96%	0.86%	1.54%	1.34%	1.25%	0.95%	1.68%	1.42%	1.13%	0.88%	1.66%	1.23%	0.98%	0.83%
		4.8750	4.1482	4.1339	3.9089	4.8797	4.5308	4.4316	3.5977	4.8443	4.1857	3.3762	2.8825	4.7361	3.4790	2.9771	2.6825
BHAR (0)		1.05%	0.55%	0.82%	-0.53%	1.48%	1.45%	1.38%	1.10%	1.59%	1.50%	1.08%	1.04%	1.70%	1.38%	1.04%	0.91%
		3.1383	1.5536	2.3175	-1.0366	3.9790	4.3093	3.4014	2.9602	4.3320	3.7469	3.1813	2.5313	4.7551	3.8456	2.8083	2.6495
BHAR (1)		1.54%	0.81%	1.39%	0.19%	1.46%	1.41%	1.26%	0.91%	1.63%	1.35%	0.90%	0.84%	1.60%	1.29%	0.85%	0.87%
		4.9111	2.4459	4.7192	0.4497	4.3897	4.1953	3.2445	2.4577	4.6246	3.2901	2.6246	2.0046	4.4816	3.7878	2.4547	2.5521

IVOL	J =		3	3			6	i			9)			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
GREECI	Ξ																
CAR (0)		0.34%	0.48%	0.31%	0.26%	0.60%	0.48%	0.31%	0.11%	0.42%	0.35%	0.05%	-0.15%	0.30%	0.03%	-0.26%	-0.37%
		0.7295	1.2465	0.9350	0.8266	1.1486	1.0253	0.7330	0.2735	0.7898	0.6867	0.1037	-0.3432	0.5512	0.0614	-0.5070	-0.7493
CAR (1)		0.38%	0.52%	0.37%	0.23%	0.72%	0.50%	0.28%	0.04%	0.52%	0.32%	0.00%	-0.23%	0.33%	-0.09%	-0.34%	-0.46%
		0.8187	1.3805	1.1020	0.7375	1.4353	1.1149	0.6543	0.1066	0.9861	0.6359	-0.0084	-0.5050	0.6038	-0.1710	-0.6680	-0.9083
BHAR (0)		0.27%	0.67%	0.16%	0.66%	0.76%	0.78%	0.18%	0.45%	0.62%	0.63%	0.02%	0.11%	0.32%	0.01%	-0.17%	-0.97%
		0.4681	1.3920	0.2989	1.4487	1.3528	1.3851	0.3389	0.8701	1.1321	1.1584	0.0303	0.1901	0.5541	0.0209	-0.3117	-1.4459
BHAR (1)		0.77%	0.98%	0.22%	0.96%	0.83%	0.57%	0.07%	0.30%	0.75%	0.59%	0.07%	-0.23%	0.40%	-0.10%	-0.28%	-0.86%
		1.3924	1.8571	0.4236	1.9033	1.5599	1.1186	0.1347	0.6289	1.3242	1.0570	0.1083	-0.4193	0.6991	-0.1597	-0.5673	-1.3683
HONGKO	NG																
CAR (0)		0.42%	0.43%	0.30%	0.10%	0.67%	0.49%	0.15%	-0.11%	0.43%	0.17%	-0.11%	-0.39%	0.11%	-0.14%	-0.48%	-0.65%
		1.1842	1.4777	1.1185	0.4280	1.6877	1.3050	0.4423	-0.3816	0.9730	0.4008	-0.2791	-1.1331	0.2445	-0.3328	-1.2311	-1.8650
CAR (1)		0.43%	0.50%	0.22%	0.00%	0.85%	0.43%	-0.01%	-0.27%	0.33%	0.00%	-0.31%	-0.55%	-0.02%	-0.31%	-0.64%	-0.78%
		1.3090	1.7330	0.8391	0.0008	2.2945	1.2122	-0.0289	-0.9025	0.7324	0.0095	-0.7999	-1.6112	-0.0562	-0.7598	-1.6836	-2.2542
BHAR (0)		0.28%	0.30%	-0.09%	0.06%	0.61%	0.54%	0.00%	-0.08%	0.46%	0.09%	-0.15%	-0.51%	-0.02%	-0.12%	-0.58%	-0.53%
		0.6506	0.6086	-0.2315	0.1562	1.3371	1.3135	-0.0095	-0.2381	0.9483	0.1635	-0.3433	-1.1336	-0.0433	-0.2895	-1.2777	-1.3238
BHAR (1)		0.01%	0.04%	-0.10%	-0.22%	0.54%	0.35%	-0.10%	-0.38%	0.18%	-0.12%	-0.39%	-0.62%	-0.29%	-0.30%	-0.71%	-0.69%
		0.0236	0.0810	-0.2778	-0.5283	1.2528	0.9390	-0.2202	-1.1460	0.3662	-0.2405	-0.9092	-1.4685	-0.6141	-0.7585	-1.5591	-1.8523
IRELAN	D																
CAR (0)		0.63%	0.58%	0.41%	0.59%	0.87%	0.68%	0.72%	0.62%	0.76%	0.82%	0.76%	0.59%	1.21%	1.03%	0.89%	0.58%
		1.7206	1.4427	1.1140	1.9277	1.5753	1.3090	1.5674	1.5005	1.3085	1.5614	1.5177	1.2893	1.9867	1.7582	1.5878	1.1432
CAR (1)		0.72%	0.43%	0.42%	0.52%	0.77%	0.61%	0.66%	0.46%	0.74%	0.74%	0.72%	0.41%	1.13%	0.97%	0.75%	0.39%
		1.7543	0.9579	1.1627	1.5755	1.3967	1.2153	1.4148	1.1053	1.3534	1.4160	1.4734	0.9048	1.9009	1.6783	1.3674	0.7835
BHAR (0)		1.02%	-0.41%	-0.39%	0.50%	0.73%	1.10%	-0.42%	1.95%	0.91%	0.58%	1.05%	0.76%	1.41%	1.31%	1.21%	0.20%
		2.2456	-0.6878	-0.6646	0.8667	1.0702	1.5243	-0.5648	3.2089	1.4693	0.9290	1.8071	1.5333	2.1654	1.9654	1.8280	0.3045
BHAR (1)		0.69%	-0.53%	-0.52%	0.96%	0.71%	0.87%	-0.15%	1.59%	0.37%	0.48%	0.48%	0.25%	1.36%	1.05%	0.63%	-0.06%
		1.4278	-0.8404	-0.9212	1.7738	1.1816	1.2611	-0.2332	2.8111	0.6178	0.8813	0.8373	0.5056	2.2290	1.6617	0.9644	-0.0879
ISRAEL	,																
CAR (0)		-0.06%	-0.02%	-0.11%	-0.16%	0.22%	0.17%	0.03%	-0.13%	0.42%	0.20%	0.00%	-0.17%	0.38%	0.22%	0.00%	-0.19%
		-0.2479	-0.0757	-0.5329	-0.8920	0.7666	0.6149	0.1164	-0.5672	1.3152	0.6070	-0.0159	-0.6299	1.0868	0.6312	-0.0116	-0.6581
CAR (1)		0.16%	0.07%	-0.16%	-0.26%	0.43%	0.20%	-0.06%	-0.23%	0.46%	0.11%	-0.13%	-0.30%	0.36%	0.11%	-0.13%	-0.32%
		0.6379	0.3027	-0.7310	-1.3442	1.4922	0.6954	-0.2490	-1.0085	1.4208	0.3194	-0.4272	-1.0873	1.0089	0.3242	-0.4335	-1.1256
BHAR (0)		0.07%	-0.39%	-0.41%	-0.40%	0.19%	0.14%	-0.21%	0.31%	0.41%	0.09%	0.21%	0.32%	0.37%	0.25%	-0.04%	-0.20%
		0.2261	-0.8768	-1.0682	-0.8743	0.5128	0.4369	-0.5660	1.1989	1.1341	0.2471	0.7275	1.0821	1.0119	0.7477	-0.0969	-0.5987
BHAR (1)		0.32%	-0.24%	-0.62%	-0.60%	0.79%	0.32%	-0.04%	0.23%	0.32%	-0.07%	-0.05%	0.02%	0.39%	0.18%	-0.16%	-0.43%
		1.0982	-0.6743	-1.4983	-1.2961	2.6249	1.0358	-0.1453	0.7082	0.8893	-0.2039	-0.1398	0.0733	1.0885	0.5506	-0.4342	-1.1591

IVOL	J =		3				6	i			9	ı			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
ITALY																	
CAR (0)		0.90%	0.88%	0.91%	0.89%	1.16%	1.21%	1.21%	1.07%	1.47%	1.40%	1.21%	1.01%	1.50%	1.29%	1.10%	0.90%
		3.5310	3.8009	4.7737	4.8581	3.6621	4.3424	4.7094	4.3655	4.6703	4.6080	4.1959	3.7253	4.6517	4.1787	3.7350	3.1646
CAR (1)		0.97%	0.89%	0.88%	0.83%	1.29%	1.23%	1.17%	0.99%	1.57%	1.33%	1.10%	0.90%	1.46%	1.19%	0.98%	0.82%
		3.9773	4.0590	4.6096	4.6432	4.5838	4.6727	4.7409	4.1987	5.0884	4.5008	3.8533	3.3777	4.7478	3.9629	3.3809	2.9216
BHAR (0)		0.70%	0.65%	0.89%	0.56%	0.95%	1.14%	1.07%	0.87%	1.39%	1.34%	1.31%	0.90%	1.33%	1.10%	1.25%	0.70%
		2.3809	2.2123	2.9161	1.7758	2.6063	3.2187	3.1292	2.8542	4.0677	3.8500	4.1604	2.7776	3.8853	3.4234	3.7704	2.1973
BHAR (1)		0.89%	0.70%	1.06%	0.70%	1.05%	1.07%	1.10%	0.79%	1.51%	1.17%	1.11%	0.62%	1.37%	1.14%	1.16%	0.78%
		3.3610	2.2054	3.1348	2.0662	3.2661	3.0650	3.2896	2.6755	4.3950	3.3966	3.7062	1.7782	4.1462	3.5303	3.3041	2.4900
JAPAN																	
CAR (0)		-0.06%	-0.18%	-0.13%	-0.02%	-0.25%	-0.24%	-0.08%	-0.13%	-0.28%	-0.13%	-0.16%	-0.24%	-0.08%	-0.23%	-0.29%	-0.35%
		-0.2542	-0.7988	-0.6453	-0.1027	-0.7698	-0.8140	-0.3084	-0.5287	-0.7941	-0.4038	-0.5240	-0.9238	-0.2304	-0.6956	-0.9678	-1.2590
CAR (1)		0.03%	-0.14%	-0.01%	-0.01%	-0.16%	-0.10%	-0.01%	-0.16%	0.00%	-0.01%	-0.13%	-0.26%	-0.02%	-0.26%	-0.31%	-0.37%
		0.1460	-0.6223	-0.0620	-0.0630	-0.5139	-0.3552	-0.0279	-0.7109	-0.0118	-0.0437	-0.4552	-1.0299	-0.0704	-0.8056	-1.0691	-1.3919
BHAR (0)		-0.19%	0.08%	-0.08%	0.20%	-0.21%	-0.18%	-0.12%	0.27%	-0.15%	0.01%	0.09%	-0.05%	-0.03%	-0.15%	-0.27%	-0.37%
		-0.6842	0.2614	-0.2548	0.6800	-0.5636	-0.4984	-0.3450	0.9011	-0.4166	0.0176	0.3015	-0.1842	-0.0692	-0.4356	-0.8516	-1.1818
BHAR (1)		-0.11%	0.03%	-0.12%	0.23%	-0.29%	-0.46%	-0.05%	0.06%	-0.16%	0.09%	-0.02%	-0.17%	-0.10%	-0.39%	-0.49%	-0.44%
		-0.4126	0.1085	-0.4283	0.8395	-0.8475	-1.3388	-0.1613	0.2189	-0.4722	0.2775	-0.0596	-0.6574	-0.2886	-1.1556	-1.5898	-1.4518
NETHERLA	NDS																
CAR (0)		1.09%	1.08%	1.03%	0.98%	1.42%	1.35%	1.27%	1.09%	1.47%	1.46%	1.28%	1.10%	1.74%	1.45%	1.28%	1.08%
		3.4588	4.5148	4.9391	4.8170	4.4233	4.8118	4.6979	4.0586	4.2100	4.4599	3.8770	3.3912	4.4519	3.8305	3.4402	2.9881
CAR (1)		1.17%	1.13%	1.05%	0.88%	1.43%	1.39%	1.14%	0.95%	1.60%	1.41%	1.20%	0.96%	1.63%	1.32%	1.14%	0.97%
		4.2267	4.8774	5.1583	4.3564	4.7722	5.0905	4.1349	3.5106	4.8444	4.1765	3.5262	2.9327	4.2137	3.4923	3.0635	2.7049
BHAR (0)		1.22%	1.10%	1.15%	0.66%	1.51%	1.63%	1.07%	1.55%	1.42%	1.24%	1.56%	1.47%	1.82%	1.60%	1.46%	1.22%
		3.1720	3.2631	3.0450	1.9784	4.3524	4.8876	2.4939	4.7963	3.6118	2.7869	4.2996	3.7271	4.1238	3.9401	3.3054	2.9396
BHAR (1)		1.39%	1.07%	1.01%	0.62%	1.36%	1.44%	0.99%	1.25%	1.62%	1.28%	1.52%	1.21%	1.66%	1.40%	1.28%	1.06%
		3.8858	3.3929	2.6114	2.0165	4.2076	4.4088	2.5056	3.9258	4.4611	2.9347	4.1428	2.9032	3.7626	3.4238	3.0135	2.5579
NEWZEALA	ND								1								
CAR (0)		1.83%	1.66%	1.34%	1.22%	1.98%	1.69%	1.46%	1.22%	1.66%	1.60%	1.28%	1.08%	1.85%	1.50%	1.18%	0.96%
		3.0054	3.9034	4.2617	4.7516	4.6658	4.9565	5.0788	4.8247	4.2271	4.5837	4.0568	3.8450	4.7904	4.3059	3.7991	3.4732
CAR (1)		1.86%	1.58%	1.29%	1.10%	1.83%	1.62%	1.33%	1.06%	1.75%	1.51%	1.17%	0.94%	1.67%	1.35%	1.04%	0.81%
		3.1919	4.0389	4.4480	4.6300	4.7032	5.1612	4.8515	4.3502	4.8902	4.6327	3.9178	3.5326	4.6593	4.0957	3.4504	2.9831
BHAR (0)		1.57%	1.42%	0.80%	0.44%	2.15%	2.17%	1.25%	1.25%	1.92%	1.47%	1.62%	1.03%	1.93%	1.89%	1.13%	1.33%
		2.3917	4.0508	1.2293	1.3211	5.3231	5.7295	2.8065	3.6111	4.5162	3.5384	4.1270	2.8860	4.7159	5.0183	3.4937	3.2996
BHAR (1)		2.03%	1.41%	0.56%	0.53%	2.23%	1.83%	1.23%	0.96%	1.90%	1.37%	1.40%	1.01%	1.76%	1.55%	0.87%	1.31%
		4.0026	4.1131	1.0785	1.7277	5.4348	4.5125	2.9245	2.5506	4.2158	3.3833	3.5522	2.9924	4.3653	3.9896	2.8802	3.1088

IVOL	J =		3				6				9				12	2	-
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
NORWA	Y																
CAR (0)		1.00%	0.90%	0.93%	0.85%	1.20%	1.09%	1.12%	0.85%	1.42%	1.39%	1.06%	0.68%	1.56%	1.08%	0.71%	0.43%
		2.4820	3.0478	3.6161	3.4876	2.8475	2.8632	3.1493	2.5139	3.2803	3.2759	2.5481	1.7422	3.3235	2.3926	1.6397	1.0502
CAR (1)		0.84%	0.86%	0.93%	0.71%	1.22%	1.23%	1.10%	0.71%	1.55%	1.33%	0.89%	0.50%	1.25%	0.79%	0.50%	0.24%
		2.2928	3.1558	3.6561	2.9545	3.0348	3.2978	3.0991	2.1237	3.5300	3.0593	2.1107	1.2762	2.6453	1.7169	1.1518	0.5981
BHAR (0)		0.85%	0.84%	0.75%	0.83%	1.39%	1.12%	0.90%	1.51%	1.48%	1.42%	1.04%	0.92%	1.52%	1.10%	0.95%	0.26%
		1.6944	1.9607	1.9692	2.1684	3.0315	2.4965	1.9449	3.8115	3.0894	2.8503	1.9937	1.7729	2.9339	2.2651	1.8262	0.5163
BHAR (1)		0.61%	0.94%	0.64%	0.55%	1.26%	1.02%	0.81%	1.09%	1.51%	1.23%	0.97%	0.73%	1.37%	0.77%	0.96%	0.01%
		1.4731	2.7809	1.9228	1.4746	3.0395	2.2711	1.9573	2.6995	3.2689	2.5305	2.0232	1.5229	2.8171	1.5922	1.9787	0.0190
PORTUG	AL																
CAR (0)		0.04%	0.30%	0.38%	0.29%	0.63%	0.61%	0.62%	0.44%	0.88%	0.75%	0.59%	0.33%	0.81%	0.61%	0.48%	0.29%
		0.0970	0.7929	1.0910	0.9538	1.2854	1.3876	1.5603	1.1814	1.8404	1.5694	1.3295	0.8001	1.4898	1.2254	1.0168	0.6549
CAR (1)		0.39%	0.51%	0.44%	0.35%	0.86%	0.79%	0.53%	0.35%	0.86%	0.67%	0.47%	0.23%	0.84%	0.58%	0.42%	0.25%
		0.8329	1.2659	1.1298	1.0081	1.8198	1.7540	1.3365	0.9696	1.7260	1.3647	1.0422	0.5470	1.5865	1.1972	0.9008	0.5628
BHAR (0)		-0.20%	0.56%	0.83%	0.36%	0.41%	0.40%	1.45%	0.39%	0.74%	1.08%	1.04%	0.73%	0.72%	0.18%	0.62%	0.15%
		-0.2930	0.7792	1.1631	0.4914	0.6826	0.7296	2.3703	0.6872	1.3275	1.9225	1.9451	1.2082	1.2027	0.3309	1.0834	0.2797
BHAR (1)		0.47%	1.15%	1.21%	0.80%	0.76%	0.90%	1.45%	0.09%	0.86%	1.00%	0.89%	0.49%	0.57%	0.24%	0.52%	0.12%
		0.7321	1.6891	1.5183	1.2731	1.2943	1.4544	2.0933	0.1643	1.6464	1.8375	1.6431	0.7569	1.0428	0.4370	0.8869	0.2219
SINGAPO	RE																
CAR (0)		0.63%	0.77%	0.61%	0.41%	0.96%	0.90%	0.66%	0.42%	0.93%	0.71%	0.44%	0.22%	0.65%	0.41%	0.20%	0.03%
		1.5060	2.5211	2.1641	1.5439	2.2677	2.3167	1.8214	1.2793	2.0304	1.6490	1.1048	0.5972	1.3244	0.9282	0.4946	0.0866
CAR (1)		0.71%	0.75%	0.56%	0.36%	0.99%	0.81%	0.51%	0.29%	0.87%	0.57%	0.29%	0.10%	0.45%	0.28%	0.04%	-0.05%
		1.7613	2.6611	2.0081	1.4026	2.4782	2.1307	1.4557	0.9208	1.8984	1.3473	0.7562	0.2717	0.9570	0.6696	0.1136	-0.1317
BHAR (0)		0.39%	0.09%	0.68%	0.28%	1.02%	0.94%	0.35%	0.77%	0.97%	0.71%	0.57%	0.03%	0.71%	0.60%	0.47%	0.11%
		0.7909	0.1920	1.9564	0.8753	1.9489	2.1538	0.7311	2.1934	1.9074	1.4557	1.4644	0.0745	1.3647	1.3296	1.0778	0.2844
BHAR (1)		0.66%	0.19%	0.71%	0.25%	1.10%	0.97%	0.24%	0.69%	0.77%	0.54%	0.57%	-0.04%	0.39%	0.56%	0.17%	0.12%
		1.6250	0.5533	2.2146	0.9047	2.6188	2.4239	0.5047	2.1148	1.6195	1.2360	1.5868	-0.0847	0.7982	1.3590	0.4053	0.2989
SPAIN																	
CAR (0)		0.46%	0.36%	0.51%	0.56%	0.72%	0.77%	0.86%	0.75%	1.14%	1.14%	1.01%	0.86%	1.28%	1.09%	1.03%	0.89%
		1.9164	1.7049	2.5928	3.2474	2.5305	2.8146	3.1854	3.0003	3.2538	3.4767	3.2039	2.9381	3.4239	3.1147	2.9913	2.7013
CAR (1)		0.51%	0.42%	0.56%	0.54%	0.75%	0.84%	0.81%	0.68%	1.21%	1.11%	0.95%	0.75%	1.23%	1.05%	0.96%	0.81%
		2.1754	1.9946	2.8008	3.1303	2.5657	2.8942	3.0098	2.8558	3.3620	3.2823	3.0398	2.6050	3.3688	3.0140	2.8493	2.5041
BHAR (0)		0.55%	0.06%	0.60%	0.71%	0.55%	0.98%	1.17%	0.87%	1.21%	1.29%	1.08%	0.71%	1.32%	1.24%	1.18%	0.95%
		1.9168	0.1649	1.5493	1.9689	1.7378	2.7638	2.6210	2.8592	3.0679	3.3950	2.8624	2.0691	3.3007	3.4321	3.1197	2.5265
BHAR (1)		0.36%	0.06%	0.60%	0.49%	0.62%	0.94%	0.84%	0.71%	1.09%	1.10%	0.77%	0.39%	1.11%	1.08%	1.02%	0.85%
		1.1035	0.1454	1.5330	1.2919	1.8318	2.7107	1.9807	2.3555	2.8276	2.7379	2.0229	1.0941	2.8930	3.0462	2.6879	2.2744

IVOL	J =		3				6				9	1			12	2	
	H =	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
SWEDEN	N																
CAR (0)		1.24%	1.19%	1.02%	0.97%	1.59%	1.37%	1.18%	0.99%	1.76%	1.58%	1.21%	0.92%	1.66%	1.32%	1.00%	0.76%
		3.0211	3.1461	3.2228	3.6517	3.4277	3.1311	3.0720	2.8884	3.7608	3.6718	2.9573	2.4692	3.3382	2.8260	2.2807	1.8743
CAR (1)		1.29%	1.15%	0.99%	0.87%	1.60%	1.35%	1.08%	0.83%	1.85%	1.46%	1.06%	0.77%	1.48%	1.14%	0.82%	0.64%
		3.0734	3.3190	3.3104	3.3027	3.3981	3.2095	2.8890	2.4714	4.2086	3.4875	2.6297	2.1105	3.1139	2.4945	1.9280	1.6309
BHAR (0)		1.40%	1.16%	1.10%	0.63%	1.80%	1.74%	1.18%	1.14%	1.81%	1.43%	1.15%	0.70%	1.52%	1.42%	1.00%	0.96%
		3.3476	2.7710	2.7929	1.4190	3.7441	3.9008	2.2654	2.6710	3.8306	2.8591	2.4686	1.4850	2.9590	3.0683	2.1492	2.4659
BHAR (1)		1.46%	1.05%	0.86%	0.90%	1.88%	1.65%	1.24%	0.95%	1.88%	1.50%	1.17%	0.59%	1.38%	1.32%	0.78%	0.93%
		3.5409	2.5888	2.3259	1.8080	3.9833	3.9772	2.4850	2.3348	4.1052	3.2302	2.5426	1.2377	2.7339	2.9145	1.6905	2.2688
SWITZERL	AND																
CAR (0)		0.83%	0.82%	0.75%	0.79%	1.20%	1.13%	1.10%	0.95%	1.28%	1.26%	1.08%	0.85%	1.43%	1.18%	0.92%	0.71%
		3.4963	3.7568	3.5938	4.2696	4.1345	3.8146	4.0348	3.8942	3.8330	3.9037	3.5745	3.0771	4.1175	3.5527	2.9352	2.4345
CAR (1)		0.76%	0.74%	0.74%	0.70%	1.16%	1.09%	1.02%	0.81%	1.29%	1.20%	0.97%	0.72%	1.33%	1.05%	0.78%	0.58%
		3.3896	3.3061	3.5116	3.8521	3.8720	3.6095	3.8269	3.4186	3.8041	3.7231	3.2495	2.6303	3.9409	3.1846	2.4941	1.9924
BHAR (0)		0.64%	0.68%	0.61%	0.74%	1.31%	1.36%	1.12%	1.36%	1.25%	1.13%	1.28%	1.00%	1.43%	1.42%	0.99%	0.84%
		2.3308	2.0910	1.8474	2.0330	4.0149	3.8339	3.0657	4.2162	3.5731	2.9672	3.9815	3.1185	4.1287	4.1532	2.7080	2.6317
BHAR (1)		0.57%	0.40%	0.47%	0.58%	1.17%	1.25%	0.93%	1.19%	1.15%	0.98%	1.06%	0.73%	1.23%	1.25%	0.75%	0.76%
		2.2245	1.2570	1.5251	1.6366	3.3352	3.4443	2.7053	3.7541	3.2633	2.6419	3.3279	2.1259	3.6913	3.7438	2.1151	2.4299
UK																	
CAR (0)		1.42%	1.33%	1.14%	1.16%	1.89%	1.59%	1.50%	1.27%	1.92%	1.75%	1.43%	1.10%	2.03%	1.64%	1.25%	0.93%
		5.9823	5.8583	5.8075	6.6552	6.0727	5.6814	6.0583	5.5382	5.9340	5.7988	5.0318	4.0967	6.1374	5.0898	4.1228	3.2788
CAR (1)		1.42%	1.26%	1.10%	1.05%	1.71%	1.47%	1.35%	1.09%	1.82%	1.60%	1.26%	0.91%	1.80%	1.42%	1.01%	0.74%
		5.8960	5.7563	5.9267	6.2229	5.6619	5.5137	5.6087	4.8523	5.9015	5.4345	4.4649	3.4409	5.6149	4.4798	3.4280	2.6792
BHAR (0)		1.34%	1.14%	1.27%	1.01%	1.78%	1.52%	1.12%	1.47%	1.86%	1.56%	1.41%	1.06%	1.92%	1.73%	1.35%	0.86%
		4.9154	3.9328	4.3281	3.1539	5.3651	4.6498	3.2977	6.0962	5.3268	4.4548	5.0820	3.4462	5.5622	5.2051	3.9261	2.5809
BHAR (1)		1.56%	0.90%	1.19%	0.90%	1.72%	1.47%	1.11%	1.33%	1.85%	1.44%	1.32%	0.87%	1.75%	1.42%	1.02%	0.61%
		5.2344	2.7474	4.0763	3.0803	5.6407	5.2524	3.5328	6.3135	5.6330	4.1726	4.3842	2.7805	5.3660	4.7165	3.1079	2.0245
US		ı			1				-				1				
CAR (0)		-0.21%	-0.02%	0.07%	0.04%	0.05%	0.26%	0.24%	0.05%	0.27%	0.30%	0.13%	-0.07%	0.12%	0.03%	-0.11%	-0.27%
		-0.8012	-0.0942	0.3758	0.2486	0.1640	0.9191	0.9586	0.2048	0.7852	0.9150	0.4369	-0.2481	0.3224	0.0905	-0.3287	-0.8893
CAR (1)		0.03%	0.18%	0.20%	0.05%	0.32%	0.40%	0.23%	0.01%	0.43%	0.29%	0.07%	-0.16%	0.10%	-0.01%	-0.19%	-0.32%
		0.1380	0.8400	1.0896	0.3074	1.0667	1.4812	0.9298	0.0445	1.3041	0.9062	0.2426	-0.5881	0.2954	-0.0299	-0.6140	-1.1411
BHAR (0)		-0.33%	0.02%	-0.07%	0.08%	0.08%	0.32%	-0.19%	0.41%	0.34%	0.20%	0.31%	0.00%	0.19%	0.26%	0.02%	-0.20%
		-1.0579	0.0712	-0.1874	0.2611	0.2214	0.9830	-0.5076	1.7390	0.9093	0.5357	1.0932	0.0105	0.5060	0.7097	0.0480	-0.5646
BHAR (1)		0.02%	0.02%	-0.09%	0.02%	0.25%	0.35%	-0.21%	0.14%	0.35%	0.07%	0.06%	-0.22%	0.01%	0.01%	-0.19%	-0.35%
		0.0609	0.0657	-0.2866	0.0789	0.8020	1.2081	-0.6017	0.5960	0.9964	0.1878	0.1982	-0.6965	0.0292	0.0297	-0.5742	-1.0004