THE IMPACT OF

FOREIGN DIRECT INVESTMENT

ON NEW ZEALAND INDUSTRY

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ABSTRACT

This thesis examines the impact of Foreign Direct Investment (FDI) on industry in New Zealand. The research question addressed by the thesis is "What is the impact of FDI on New Zealand industry?". The scope of the research incorporates the immediate, or first round impact of FDI on the foreign-owned affiliates operating in New Zealand, and the long-term, or second round impact on other local firms via inter-firm linkages. The thesis operationalises the Investment Development Path (IDP) concept which links economic development to inward and outward FDI. The IDP posits that given appropriate receptor conditions, the unique Ownership-Location-Internalisation (OLI) configuration of the Multinational Enterprise (MNE), via the inward FDI vehicle, might provide the impetus for upgrading of local industry and eventually, outward FDI by indigenous firms. This thesis assesses how this might occur at the firm-level.

A survey of all foreign-owned firms operating in New Zealand as at November 1999, resulted in 516 useable responses from an estimated population of 1554 firms. Descriptive statistics, multiple and logistic regression, and cluster analysis were employed to analyse these responses. This is the only major survey of FDI in New Zealand undertaken since the late 1960s, and thus fills a considerable gap in the existing literature.

The results reveal that the affiliates are reliant on their foreign parent companies for resources such as finance, technology, knowledge and innovation, that offer them competitive advantage in New Zealand. The affiliates form a variety of linkages with local firms. The most significant of these are indirect competitive linkages, forward linkages with agents and customers, backward linkages to source specialised services, and collaborative linkages. The research model relates the Degree Of Linkage (DOL) of the affiliate within the local economy to its impact on local industry upgrading. The results suggest that as DOL increases, the opportunities for upgrading also increase via quasi-internalisation of ownership-specific advantages by the affiliate.

The thesis concludes that FDI has a significant impact on local industry upgrading at the first round level by adding to the competencies of the affiliate, and at the second round level through competitive pressure, creating demand and supply, providing assistance, and transferring firm-specific resources to local firms. The contributions of this thesis to existing knowledge relating to the impact of FDI are as follows. One, examination of a broad range of linkages allows a more comprehensive assessment of the extent and pattern of second round impact. Two, incorporating assistance and collaborative linkages confirms that quasi-internalisation of ownership-specific advantages may occur through intermediate organisational routes as a complement to the hierarchical routes associated with FDI. Three, focus on the second round impact at the micro-level demonstrates the crucial link between inward FDI, upgrading of local industry, outward FDI, and the eventual economic development of a host country. Four, classification of affiliates by DOL enables the identification of distinct types of FDI and thus, different outcomes for industry upgrading. Five, analysis of the key determinants of linkage formation and DOL, provides policymakers with a foundation from which to evaluate the potential of FDI for upgrading in the future.

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CHAPTER ONE
INTRODUCTION

INTRODUCTION

Inward foreign direct investment (FDI) has spurred the development and growth of specific industries in the New Zealand economy throughout its history (Akoorie, 1996a). Today, New Zealand is one of the most heavily reliant recipients of FDI in the developed world relative to other countries (UNCTAD, 1999) and foreign-owned companies play a significant part in New Zealand industry. In New Zealand and worldwide, there is also increasing recognition of the importance of FDI to economic growth and performance (UNCTAD, 1999). This is of particular concern in New Zealand, a country which is looking to improve economic performance as well as international competitiveness.

FDI, or *direct* foreign investment implies a direct or lasting interest in, and control of an enterprise in addition to equity-based ownership (in contrast, portfolio investment only involves ownership of equity). As FDI is the primary vehicle for the multinational enterprise (MNE), it typically comprises a bundle of assets, including capital, technology, market access, skills, management practices and the economies of scale and scope associated with multinational operations. This bundle not only enables the MNE to overcome the difficulties of operating in a foreign location, but more importantly from the perspective of the thesis, has implications for the extent and pattern of local development in a host country. The importance of this foreign investment bundle of assets for a country, such as New Zealand, seeking to upgrade and extend its existing assets cannot be overstated and offers enormous potential for positive economic externalities.

However, beyond the evaluation of capital flows, output and employment, the nature and extent of the contribution of inward FDI to New Zealand is not well understood.

In fact, the available evidence on the impact of inward FDI is somewhat conflicting, and has provoked much debate as to its merits (or otherwise) at both public and at academic levels (Deane, 1970; KPMG, 1995; Sutch, 1972). A sharp rise in the amount of inward FDI since government reform in the mid-1984s, including increasing investment from non-traditional sources (i.e. Asia), and more recently, a dramatic drop in FDI levels have only served to fuel this debate.

While the media and opponents of FDI have often played on the issues of sovereignty and foreign domination (Fox & Roy, 1994; Legat, 1991; Rosenberg, 1998), the contribution of FDI, namely the ability of a country to extend its production possibility boundary through the external sourcing of resources, is increasingly being recognised as of vital importance to a geographically-isolated country such as New Zealand that lacks certain resources domestically (Enderwick, 1998).

The level of debate and indeed, the level of FDI in New Zealand, has not been matched by a corresponding level of objective, academic research on the operations of foreign-owned affiliates in New Zealand. In terms of addressing the opposing perspectives, there are few representative studies that could support or refute claims that MNEs are controlling New Zealand enterprises to the benefit or detriment of New Zealand (but see KPMG, 1995), although most case study-based research suggests that MNEs have a positive economic influence.

As a result, research in New Zealand has not developed from established foundations (i.e. a population of investors), but has constructed an overall impression of the nature of FDI in rather a piecemeal fashion. This is not to say that the research to-date has failed to achieve worthy and useful results. However, the lack of statistically representative studies on the impact of FDI leaves objective conclusions reliant on case study evidence that often accentuates the extreme beneficial or detrimental cases - thus refuelling the debate.

The implications of this lack of research for New Zealand are twofold. First, while the potential contributions of FDI are well recognised, the extent to which foreign

investment contributes to specific areas; such as technology transfer and development, up-skilling of domestic labour, access to resources and markets internationally, and positive externalities on local firms for example, presents a significant gap in the existing literature.

Second, a lack of information on the activities of MNEs in New Zealand, infers that New Zealand has very little control over the resulting impacts of FDI. The *laissez-faire* approach to FDI policy taken in New Zealand coupled with a market-oriented economy has meant that foreign investors operate under minimal guidance or restrictions. This allows us to examine the contributions of FDI in virtually a neutral policy context, however, this implies that there may be opportunities to extend the current contributions of FDI in New Zealand industry. One thing is certain - in the absence of reliable information, the Government cannot hope to maximise the potential that FDI holds for New Zealand as it strives to upgrade its capabilities and meet the challenges of a globalizing economy.

The aim of this thesis, therefore, is to address the debate as to the impact of FDI on New Zealand. To this end it builds on the findings of previous empirical, exploratory and case based studies (see Chapter Four) by providing empirical evidence on the extent and nature of the impact of inward FDI in New Zealand. Specifically, the thesis focuses on examining the impact of inward FDI on the development of local industry in New Zealand. Its primary objective is to examine the unique characteristics of the MNE via its primary vehicle, FDI, and how those characteristics might impact on the upgrading of other firms operating locally.

This chapter outlines the purpose and structure of the thesis. It begins by describing the background and origins of foreign investment in the New Zealand context. It then defines the broad objectives of the study in light of the limitations of existing knowledge in the area. These objectives are clarified by three research questions that address the specific areas of impact of FDI on New Zealand industry. The research paradigm that underpins the study receives a brief review in the following section of this chapter, as well as an explanation of the rationale and limitations of the research

methodology employed. The importance of the thesis and its key contributions to the research in New Zealand are outlined to conclude this initial discussion. Finally, the structure of the thesis is presented by giving a brief overview of the material contained in subsequent chapters.

BACKGROUND TO THE RESEARCH

From the late 1800s until the present day, New Zealand has had a high reliance on foreign sources of capital (Akoorie, 1998b; UNCTAD, 1999). Deane (1970) established in his thesis that FDI made significant contributions in areas of industry that involved large- scale investments in plant, distribution, or research and development. In other areas, FDI has served to complement domestic investment either by providing previously unavailable goods and services domestically, or by spawning a cluster of related supporting industries or firms.

Significant foreign investment first flowed into New Zealand in the 1920s, in areas such as meat, dairying, finance, and infrastructure. The majority of direct foreign investments prior to 1965 were either made in the 1930s or between 1955 and 1965. These investments coincided with the implementation of government- imposed import restrictions. For example, inward investment in the late 1930s was encouraged by official barriers to trade. Early investments originated from the United Kingdom and Australia and in later years, the United States. By 1964, more than one quarter of total factory output, 20 percent of factory employment and five percent of establishments were attributed to companies with substantial foreign interest (Deane, 1970).

Motivations behind FDI into New Zealand have traditionally centred around market expansion and/or avoidance of government-imposed restrictions. The reduction of government involvement in the economy following the economic reforms of 1984 onwards has prompted foreign investors to move into new areas. In particular, the reforms provided the impetus for foreign investors to increase their control over New

Zealand's resources. Almost all areas typically reserved for national control in other countries are no longer restricted to foreign ownership in New Zealand. These include transportation-related sectors, telecommunications, insurance and banking, government services, and natural resources.

However, in practice, minimal regulation of foreign investment in New Zealand has meant that foreign investors subject to almost the same treatment as indigenous firms. Evidence from other countries suggests that the potential for economic development offered by FDI will not be reached through a *laissez-faire* approach to policy such as New Zealand's, but through careful selection and management of investment (Dunning & Narula, 1996).

Previous research has suggested that government policy is critical to economic development and to successful economic progression (Dunning & Narula, 1996; Ozawa, 1996a; Porter, 1990). The role of government consists, primarily, of being a 'fashioner' of the system in which resources and capabilities are organised. Effectively, governments establish the institutional and policy structures that direct and regulate the activities of firms, and in turn, influence the nature and extent of their activities on local industry.

In light of the changes to the investment environment in New Zealand over the past two decades, there is a lack of research that considers the impact of FDI on the development of local industry, and on long-term economic development. Hence, this thesis stems from a need to respond to increasing academic and public interest in foreign investment and its economic impacts. Many of the issues raised are similar to those in Deane's thesis (1967, cited in Deane, 1970), yet still remain topical, controversial, and unresolved.

OBJECTIVES OF THE RESEARCH

The primary objective of this thesis is to examine the impact of FDI on New Zealand industry. Our main concern, therefore, is to assess the extent to which the unique characteristics of the multinational enterprise (MNE) might influence the development of local industry via indirect and direct linkages with local firms. This development or upgrading might be apparent at the first round level of the foreign-owned affiliate itself, and at the second round level of other firms that make up local industry in New Zealand. First round effects are those aggregate benefits that accrue to an economy from capital flows, employment creation, and technology transfers. In addition, these benefits also flow onto the affiliate based in the host country. Second round effects occur via linkages between the foreign affiliate and indigenous firms.

Our first task is to assess the extent and pattern of foreign-ownership in New Zealand using existing statistical, empirical and case study data. The evidence given in Chapter Four reveals that New Zealand continues to be reliant on direct investment from offshore in many of its industries. This chapter provides the grounding for the remainder of the thesis, and suggests three general research questions. The first research question is:

- What influence does foreign-ownership have on the characteristics, activities and competitiveness of foreign-owned firms operating in New Zealand?

The thesis proposes that the nature and extent of the impact of FDI will depend on the extent of internalisation of firm-specific advantages by the affiliate and the type of investment. Internalisation is a term used to describe the use and control of assets and resources within the MNE, rather than via other firms, essentially internalising the market for these resources. Hence, we are concerned with the first and second round impacts that arise from the unique bundle of skills and resources that are transferred to the foreign-owned affiliate via the parent MNE once it has been established in New Zealand. A detailed profile of the affiliates is presented in order

to address these issues, and in particular, consideration is given to evaluating how affiliation with the MNE might affect the foreign-owned affiliate operating on New Zealand soil.

In light of this profile, we propose the following research question:

- In what ways do the activities of foreign-owned affiliates in New Zealand contribute to the upgrading of local firms?

This question is addressed by assessing the extent and type of linkages formed between the foreign-owned affiliates and local firms in New Zealand. For example, we evaluate the extent to which foreign affiliates' local operations might impact on the ability of other local firms to compete, to increase demand or supply by having local firms fill the roles of suppliers or agents, or to enable local firms to offer more competitive products and services as a result of such linkages. In particular, we are concerned with investigating the ways in which the firm-specific advantages or other resources belonging to the affiliate, might diffuse to local firms via linkage formation. We analyse which firm-specific and location-specific factors might help determine the extent of linkage formation by the affiliate.

Our final research question relates to the overall degree of integration or *linkage* of the affiliate with the New Zealand economy.

- Are there specific characteristics of the foreign-owned affiliates that are likely to bring about a greater degree of linkage with the local economy than others?

The thesis proposes that the degree of linkage of the affiliate with local industry will determine the extent and nature of its overall impact on upgrading. The thesis also addresses the issue of whether certain types of FDI are more likely to form linkages that result in such upgrading. For instance, are the motivations for the investment, the main activities of the affiliate, or the ownership form associated with different linkages with the local economy?

In summary, the degree to which the indigenous firm may profit from the diffusion or transfer of firm-specific advantages of a MNE operating locally is central to the thesis. The proposition that MNE activity has the potential to impact - either in a positive or negative way - on the ability of a local firm to compete within its own domestic industry and internationally provides the underlying basis for the thesis. Thus, this research attempts to show that inward FDI can play an important role in prompting or enabling host country firms to become outward investors in their own right. We briefly review the research paradigm that gives rise to this proposition in the following section.

RESEARCH PARADIGM

The eclectic paradigm, or Ownership, Location and Internalisation paradigm (OLI) suggests that the extent to which FDI will impact on an economy is a function of: the nature of the ownership (O)-specific characteristics of the investor; the location (L)-specific characteristics of the host country; and the degree to which firms choose to internalise (I) cross-border markets for intermediate products (Dunning, 1993, p. 265).

This paradigm is the most widely used conceptual foundation for work in this area. It is able to address the issue of the impacts of FDI in the New Zealand context by illustrating the relationship between the ownership, location, and internalisation (OLI) configuration of the foreign and local firms and the progression of a country through the five stages of the investment development path (IDP) trajectory (Dunning & Narula, 1996).

The OLI paradigm offers a means of assessing the extent to which inward FDI coupled with favourable receptor (L) conditions, enables a local firm to continually upgrade and eventually undertake outward FDI. In effect, the OLI paradigm presents a means of operationalising what is essentially a macro-level concept (i.e. the IDP) based on a micro-level phenomena (i.e. the process of local industry upgrading). This

is developed more fully in Chapter Two.

The paradigm suggests that MNEs (via the FDI vehicle) contribute to the development of O-specific assets of domestic firms, which then enable those firms to become outward investors themselves. In the process, economic progression is achieved and the host country advances through the stages of development identified by the IDP. The ability of local firms to benefit from indirect linkages with the MNE will depend on the extent to which O-specific advantages are disseminated. It is proposed that the direct transfer and indirect diffusion of foreign technology, managerial practices, employment and organisational practices, production processions, innovation, and research have the potential to strengthen the economic activities of indigenous firms in the host country.

Therefore, the link between firm-level investment by a foreign entity and the development and progression within an economy proposed by Dunning's IDP, suggests an enormous potential for FDI. The realisation of this potential depends on a specific country's composition of FDI, locational factors, and government policy. Dunning and Narula (Dunning & Narula, 1996) suggest that it is through the appropriate mix of government policy and foreign investment-led development that many countries, such as Singapore and Ireland, developed international competitiveness. These factors in turn, enable local firms to invest offshore and to perpetuate both their own development and the IDP cycle.

At the level of the firm, or the foreign-owned affiliate, the impact of FDI is linked to the O-advantages of the investing MNE. These include the firm-specific assets of the MNE and the advantages of common governance of the MNE's activities over many markets. Corporate strategy and the motivation behind the investment will also influence changes to performance at the level of the affiliate. For example, a resource-seeking investment might incorporate the foreign-owned affiliate into a worldwide production system to supply raw materials with little value-added. This strategy may not further the skills or production technology of the affiliate. Alternatively, strategic asset-seeking investment may acquire an innovative firm that

is then given access to corporate capital, experience, and R&D to further its activities.

The combination of O-advantages and strategy of the MNE also has important implications at the level of industry. While the affiliate may profit from the O-specific advantages of the MNE, the thesis is concerned with whether these advantages diffuse through to local firms. Literature suggests many reasons why this might not occur. For instance, if the affiliate is bound by the parent company to limit local supply arrangements then very few advantages can be expected to be transferred to local suppliers. Or, if the local technological capability is low, local suppliers might not be able to absorb the advantages transferred by the MNE.

However, it is generally recognised that the extent of diffusion is situation-specific and generalisations from one context to another are difficult. There are also many reasons why the affiliate might choose to let some advantages diffuse through to local firms. For instance, recent studies that consider the formation of non-equity cooperative agreements and organisational learning show that, given appropriate circumstances, firms frequently share capabilities for mutual benefit (Inkpen, 1998; Lei, Slocum, & Pitts, 1998).

Overall, the extent of such diffusion will depend on both the type and use of O-specific assets of the foreign and local firms, as well as the L-specific resources and capabilities of the host or home country (Dunning, 1993). The subsequent impact will also be determined by government policies towards foreign investment, the type of investment undertaken, the specific industry involved, and the capabilities of the MNE versus those of local firms. The ability of the country to benefit from the O-advantages of the foreign firms is highly dependent on its stage of development and the subsequent levels of technological capability, market demand, and other L-specific factors.

METHODOLOGY

The positivist paradigm underlies this thesis. The research employs quantitative methodology to answer research questions and to test research propositions. The research questions and propositions are based on the review of existing literature, and attempt to overcome some of the limitations associated with this literature. The research uses a postal survey on the basis that a large number of firms (i.e. a representative sample) would be contacted, prohibiting the use of more personal techniques such as interviews.

The population defined for this study includes those companies which are significantly owned and controlled by foreign investor(s) and operate within New Zealand. In practice, this means those companies which have 25 percent or more of their capital owned by foreign interest(s). A comprehensive database of foreign-owned firms is constructed to conduct this research. As the only other database of foreign-owned firms is unavailable for confidentiality reasons from Statistics New Zealand, the research uses a number of secondary sources to determine the foreign-owned business population in New Zealand.

The layout and administration of the questionnaire follows the Total Design Method (TDM) (Dillman, 1978; 2000), which is a proven system for survey design that increases response rate and quality of response.

IMPORTANCE OF THE RESEARCH

Although New Zealand businesses are aware of the changing business environment and the necessity of remaining globally competitive, the contribution of inward FDI to the equation is less well recognised. Foreign investment is appreciated for its immediate benefits to the competitiveness of the affiliate through access to resources and international markets (Enderwick, 1995). However, the impacts on locally-owned firms through the diffusion of capital, technology, management practices,

skills, and new products/services into the industry are not clearly understood (Enderwick, 1998).

The need for empirical evidence is vital given there is scant evidence that addresses this issue in New Zealand. This research offers a contribution to existing knowledge by presenting results that demonstrate the capacity for upgrading via FDI in the New Zealand context.

Hence, this current research is important for a number of reasons. The literature available in New Zealand concerning FDI only provides a narrow view of the overall situation, due to the use of techniques such as case study methodology. Previous studies (Enderwick, Akoorie, & Duncan, 1995) have provided isolated case study evidence of specific benefits associated with FDI, yet only one recent study has attempted empirical research on a larger sample of companies (KPMG, 1995). In order to reach more useful conclusions, a statistically representative population sample is needed.

CONTRIBUTIONS OF THE RESEARCH

This thesis makes an original contribution to the existing literature in two key ways. First, the thesis is based on a survey that was directed to all significant[1] foreign-owned affiliates operating in New Zealand. This is the first time that a single comprehensive database approximating the population of foreign-owned affiliates in New Zealand has been constructed. The survey achieved a 33 percent response rate from the original sample, making it the most representative research in New Zealand to-date.

Second, the primary focus of the thesis is on the second-round effects foreign investment has on New Zealand industry. Research has suggested that such effects

[1] Implies 25 percent or more foreign ownership.

may contribute just as much to the economic development of a host economy as the first round or immediate effects of the investment. Despite this proposition, the measurement of such effects is often plagued with difficulties, and has limited researchers (in New Zealand) to examining the extent of local sourcing.

As a result, there is a dearth of empirical evidence with which to examine the nature of such effects. This thesis addresses this gap by assessing the extent and nature of a broad range of second round effects, ranging from indirect competitive influence over other firms, to forward and backward linkages with local agents, customers and suppliers, and collaborative linkages with local partners.

STRUCTURE OF THE THESIS

The second chapter of the thesis examines the existing literature which is concerned with the impact of MNE activity (or FDI) and the relationship this has with economic development. The evolution of the key theories of the MNE is also reviewed with respect to impact assessment. In particular, it discusses how Dunning's eclectic paradigm integrates streams of previous international business studies research. This research, *inter alia*, considers why the MNE should choose to, and is able to, operate beyond domestic markets and compete with local companies in their home market. The resulting paradigm provides insight into the motivations and strategy of the MNE which relate to its behaviour via the foreign affiliate.

Chapter Two notes that prior to the eclectic paradigm, no specific connection had been made between inward FDI, outward FDI, and the economic development of a country. At a micro-level, it is the MNE's ability to internationalise and internalise firm-specific advantages, coupled with appropriate receptor conditions and the subsequent potential for transfer and dissemination of these advantages to indigenous firms, that provides the impetus for economic progression.

Chapter Three presents empirical evidence in support of the theoretical discussion in Chapter Two. The key empirical studies investigate the nature, extent, and determinants of FDI and its economic impact. Specifically, we focus on reviewing the literature which considers the impact of MNE activity on local firm upgrading.

The purpose of Chapter Four is threefold. First, the chapter presents the current statistics on the extent and pattern of inward FDI in New Zealand. This data provides a clear picture as to the role of FDI in the economy and trends of inward and outward FDI stocks and flows. New Zealand's net outward investment position (NOI) as per the IDP framework is also illustrated using this data.

Second, the determinants of New Zealand's IDP trajectory are discussed. These include the L-specific advantages of the New Zealand investment environment, the economic systems and strategy of economic development employed in New Zealand, and government policy and its impact on the development of L-specific advantages. A review of previous research that considered the motivations behind foreign investment in New Zealand, confirms which L-specific factors have the most influence on the extent and type of investment being attracted to New Zealand.

The third section of Chapter Four examines existing empirical evidence on the impact of FDI in New Zealand. In particular, the thesis focusses on the first and second round effects of FDI that have been identified by previous research. The majority of studies concentrate on the evaluation of first round effects, although some of the case studies do mention linkages between the foreign-owned firm and indigenous firms at the second round level.

The most recent review of FDI in New Zealand (Duncan, Yeabsley, Akoorie, & Enderwick, 1997) found that while foreign-owned firms benefited because of their affiliation with the MNE, they also enabled New Zealand firms to benefit from their activities. First round impacts on capital, technology and employment were the most tangible impacts resulting from the investment. Second round effects included further employment creation through demand for local inputs and in the longer term

the investments had a positive impact on the competitiveness of New Zealand business by expanding consumer choice and prompting the upgrading of domestic business activity. However, this particular review was limited to an assessment of twenty case-studies, previous research and official statistics.

Case studies provide a much more in-depth analysis of the impact of FDI. Perhaps the most comprehensive and relevant to this thesis, is Akoorie's work which replicated and extended Dunning's IDP and the OLI paradigm specifically to the New Zealand context using a longitudinal case study approach. Her thesis investigated the impact of unbundled inward FDI on a domestic firm's ability to develop its own O- and I-advantages and subsequently become a MNE in its own right (Akoorie, 1996a).

Despite a number of useful studies in the area, Chapter Four shows clearly the limitations of existing research in New Zealand. It confirms the need to extend and develop certain areas such as the impact of FDI at the second round level that have not been adequately addressed by previous research.

The model and research questions are presented in Chapter Five. The chapter begins by proposing a process by which the upgrading of local advantages might occur. It then sets out a series of research questions and propositions based on the objectives of the thesis, to assess whether this process is occurring and its key determinants.

The research methodology is outlined in Chapter Six. The primary goal of the methodology is to address some of the inadequacies of existing literature summarised in Chapters Three and Four. The chapter discusses the data collection techniques, the design of the questionnaire, and the construction of the database of significant foreign investors operating in New Zealand. It then presents the measurement constructs of each of the variables and the primary data analysis techniques.

Chapter Seven presents the results of the survey. Specifically, it gives a profile of the foreign-owned affiliates in the sample and assesses the extent of local linkages formed by the affiliates, such as competitive influence, forward and backward

linkages, and collaborative agreements. The chapter then provides evidence of the specific determinants of these linkages. Finally, the degree of linkage of the affiliates is analysed.

Chapter Eight discusses the results with regard to the research questions and hypotheses presented in Chapter Five. It evaluates the findings in light of existing research in New Zealand and established theory. It also highlights possible implications of the results both for the competitiveness of the affiliate, and for potential upgrading by local firms as a result of the affiliate's activities.

The final chapter reviews the development of the reasoning throughout the thesis, from the identification of initial research problems, refinement of these issues into testable propositions through the review of the empirical literature and the research paradigm, to the final results and discussion. In doing so it revisits the gap in the literature that the research sought to fill, and outlines the principal contributions of the thesis to this body of knowledge. It reviews the principal findings and implications of the study for New Zealand industry, and puts forward recommendations for policy in New Zealand. Finally, the thesis concludes by suggesting areas that the study has opened up for future research.

CHAPTER TWO
LITERATURE REVIEW - THEORETICAL FOUNDATION

INTRODUCTION

This chapter aims to establish the theoretical foundation for the thesis. It will review the relevant theories and paradigms that explain the impact of multinational enterprise (MNE) activity on economic development. It forms the first section of a tripartite treatment of the literature, namely:

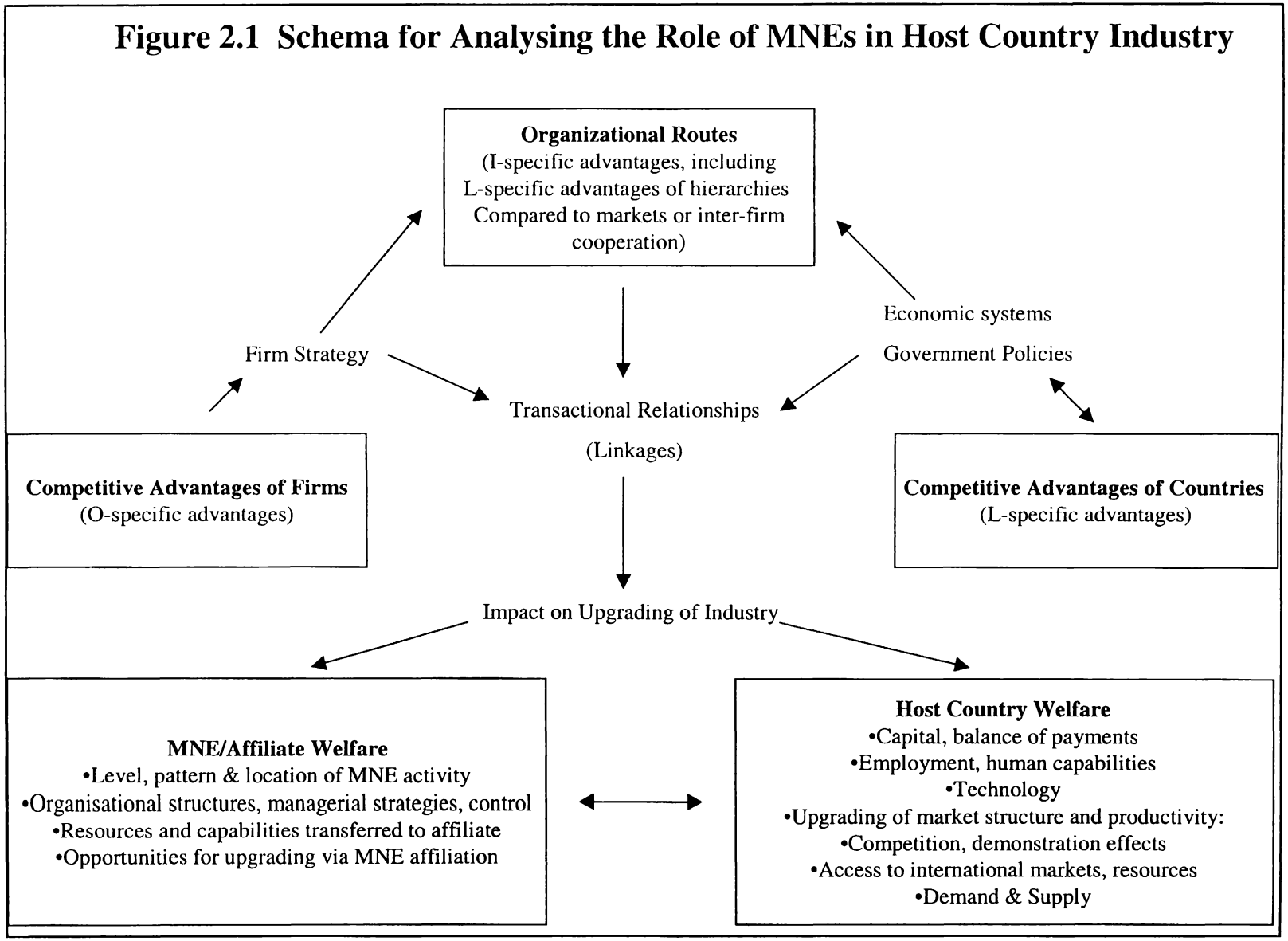
- 1) the theoretical foundation is given in this chapter;
- 2) empirical studies are reviewed in chapter three; and
- 3) New Zealand research is presented in chapter four.

The themes explored in these three chapters are therefore distinguished by their level of focus; first, at the theoretical level, second, at the firm (industry) level and then; finally, in a specific-country context. This distinction facilitates the identification of significant research issues relating to MNEs and upgrading of host country competencies. The schema for analysing the role of the MNE is illustrated by the following classification model (Figure 2.1), and provides a guide to the discussion in these three chapters.

Figure 2.1 Schema for Analysing the Role of MNEs in Host Country Industry (see over)
Source: Adapted from Dunning 1993, p.xv.

Figure 2.1 illustrates the interaction between the foreign MNE and the host country in which its affiliate(s) operate. In the following sections, each of these components are described more fully, however, a brief summary of the model is warranted at this point. The key players in the model, namely the foreign-owned affiliate and the host

Figure 2.1 Schema for Analysing the Role of MNEs in Host Country Industry



country government have their own sets of competencies or competitive advantages that can be considered to be either specific to the firm (in the case of the MNE) or specific to the locality (in the case of the host country). The MNE's ownership (O)-advantages, coupled with wider firm strategy will determine the organisational routes taken by the affiliate in order to best organise its resources and competencies in the host market. Government policy and the economic systems employed in that country will also influence the choice of operational mode taken by the affiliate, as well as the location (L)-specific advantages of the host country.

We argue that the choice of organisational route is central to understanding the occurrence of transactional relationships (or linkages) formed between foreign affiliates and indigenous firms. The degree to which the affiliate employs market-based and/or inter-firm cooperative strategies for organising its resources, rather than solely hierarchical organisational structures (i.e. internalisation (I)-advantages), will influence the extent to which the resources and capabilities of the MNE might diffuse to local firms. In summary, therefore, the impact of the MNE on local industry will depend on the extent and nature of 1) linkages with the affiliate that involve the transfer of resources, and 2) linkages with other local firms and whether the resources remain internalised within the MNE (and the affiliate) or diffuse to local firms. The extent to which these linkages occur is expected to be a function of the interplay between the strategy and O-advantages of the MNE, and the policies and L-advantages of the host country.

THE INVESTMENT DEVELOPMENT PATH (IDP)

The relationship between inward investment by foreign MNEs, and eventually outward investment by domestic firms, and a country's economic development has been formalised by Dunning's seminal work on the Investment Development Path or IDP (Dunning, 1981b), developed further by the same author (1986; 1988), and extended to include a fifth stage by Narula (1996). Narula describes the relationship as symbiotic: "FDI activity is influenced by the structure of the economy, and at the

same time influences its development" (1996, p.11). Hence, the IDP provides a dynamic framework within which to examine the relationship between economic growth and FDI activity, where government acts as a catalyst to change.

The IDP suggests that a country might progress through five stages of economic development relative to the rest of the world. These stages may be identified by the country's net outward investment (NOI) position (the stock of outward FDI less the stock of inward FDI), where economic development is proxied by gross domestic product (GDP) per capita. The relative position of countries on the IDP trajectory can be further explained by:

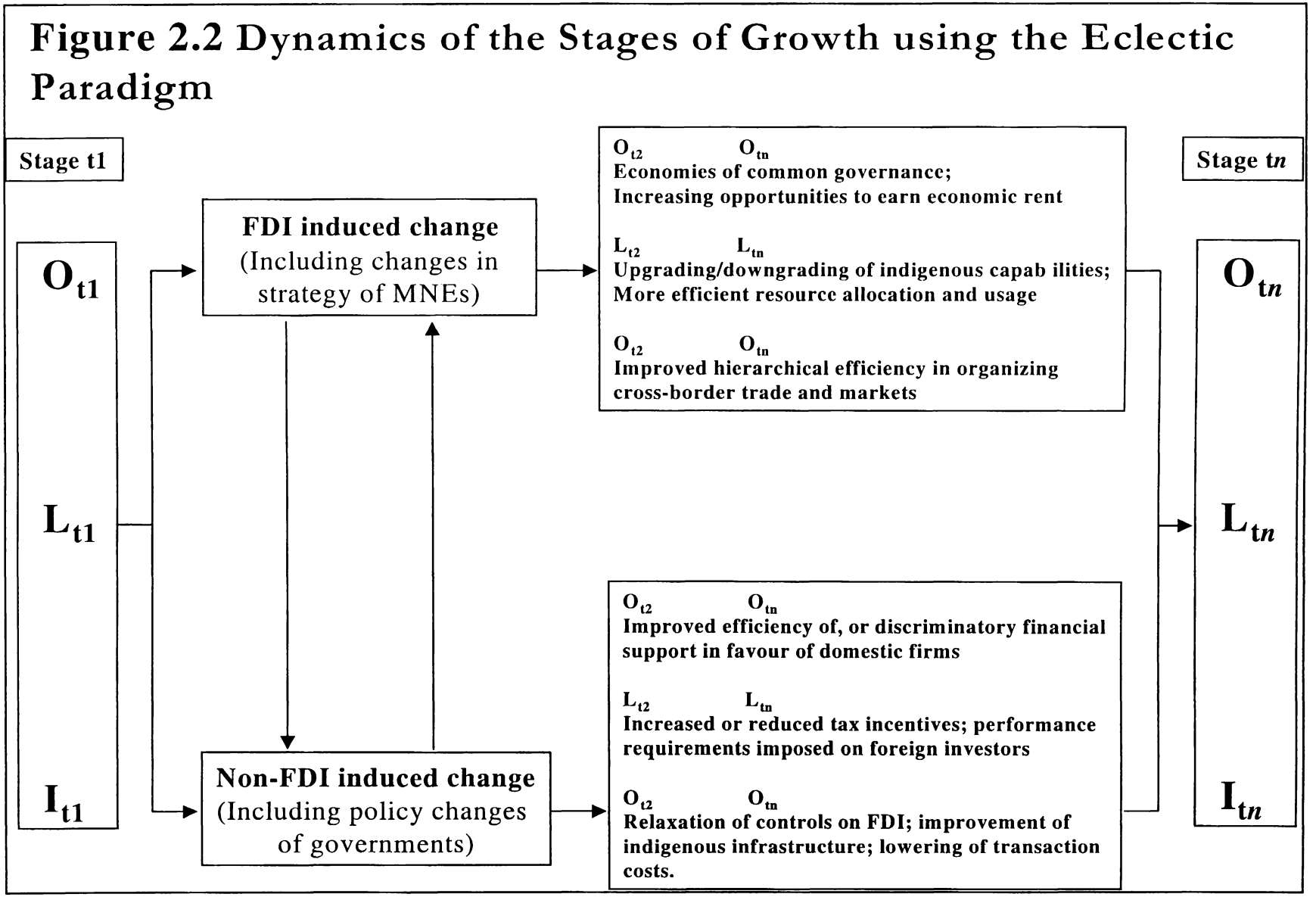
- the extent and nature of Ownership (O) or firm-specific advantages of indigenous firms;
- the Location-specific (L) advantages, such as resources, competencies and assets available to all firms in the specific country; and
- the extent to which the O-advantages of both foreign and indigenous firms, in conjunction with home and host country L-advantages, are utilized via cross-border internalisation (I) (Dunning & Narula, 1996).

As the OLI configuration changes, so too does the country's NOI position. In a dynamic sense, the NOI position of a country changes as changes occur in:

- the O-advantages of its firms and its L-advantages relative to those of other countries;
- the extent to which firms perceive these advantages are best organised within the firm or via the market; and
- the strategy of those firms which determines their response to these changes in the OLI configuration.

We shall now focus on the stages of IDP trajectory, and the implications of inward and outward FDI for economic development, and go on to consider in depth the OLI advantages in the following section of this chapter.

Figure 2.2 Dynamics of the Stages of Growth using the Eclectic Paradigm



Catalysts for change

Before we go on to review each of the five stages of the IDP, we need to explain the underlying catalysts that prompt the change from earlier to later stages of development. Figure 2.2 shows how these catalysts may act to transform the OLI configuration from that in stage t1, to that in stage t2, and then through future stages (tn). These catalysts for change can be classified into two broad groups: FDI and non-FDI factors.

Figure 2.2
Some dynamics of the stages of growth using the eclectic paradigm (see previous page)
Source: Dunning (1993, p.278). Note: only two stages illustrated

FDI-induced change: Firm strategy and motive for investment

FDI-induced change occurs as a result of both inward FDI by foreign firms and outward FDI by indigenous firms. These investments are typically accompanied by O-advantages of the respective firms which are then further augmented in the host country, a concept that will be discussed in more detail in the following section. The exact nature of the changes depends on the OLI configuration, strategy and motive for investment of the firms. For instance, inward investment into a developing country by a developed- country MNE seeking low cost labour (resource-seeking motive), may bring new technology (O-advantage) which, through demonstration effects (internalisation strategy), eventually diffuses to local firms. Outward investment by firms from the same developing countries may seek technology they are lacking (asset-seeking motive). The importance of firm strategy and motive for investment to the IDP necessitates a brief summary of each.

Firm strategy. The nature of the MNE's and affiliate's strategy toward local involvement and the internalisation of its advantages will impact on the extent and nature of local upgrading. It is important to recognise that the presence of FDI in a host economy does not necessarily translate into benefits for the economy. For

instance, while the foreign affiliate is expected to profit from the O-advantages transferred by the MNE, there is no guarantee that benefits arising from those O-advantages, or the more general activities of the affiliate, will diffuse through to local firms - although this is what the IDP suggests might happen. The strategies of the MNE, and the affiliate at the local level, have important implications for the extent of diffusion of these advantages.

If an affiliate is bound by the parent company to source inputs within the MNE, the extent of local sourcing and opportunities for spillovers will be limited. In the extreme case, the foreign affiliate may operate under enclave conditions, using very few locally produced inputs. In this scenario, very few advantages can be expected to be passed on to local firms. Alternatively, the affiliate may wish to source locally, but if local technological capability (due to inadequate educational, skill and/or technology levels) is insufficient to produce competitive and reliable inputs, then the affiliate may be forced to import. A third strategic response may be that the affiliate recognises the potential for local sourcing (in the longer term) and works with local firms. The affiliate's willingness to commit to local suppliers, sub-contractors and the like, to bring them up to speed, to improve supply capability and to enforce high standards, may be the most effective means of local upgrading.

Hirschman first introduced the idea of 'exit' and 'voice' strategies (1970) as responses to market failure. The firm could choose to use intra-firm sources of inputs, and thus 'exit' the market through hierarchical internalisation. Alternatively, the firm could employ a 'voice' strategy, ie. try to change the factors which were impeding the use of local markets. The latter strategy was usually achieved by working with existing suppliers or purchasers to reduce or eliminate market failure (Dunning, 1995) and could have a very positive effect on local development.
However, the literature fails to make two important points explicit. First, exit and voice strategies are given responses to market failure based on rationality and transaction cost economies. They do not consider the purely strategic decision-making by the firm which could, as in the example above, force intra-firm sourcing upon the affiliate even in the absence of market failure. Second, market failure could

also be remedied by attracting new firms (such as other MNE affiliates) to the local market as suppliers, rather than working with existing firms, as has been the case with Japanese vehicle manufacturers in the United States. This has considerable implications for indigenous development, and, as we shall see in the following chapter, has received very little attention in the empirical literature.

In sum, although it is recognised that a firm's strategic response to any given OLI configuration will also affect its O and I advantages in subsequent periods (Dunning, 1993), it less well recognised that a country's O-advantages or L-advantages more generally, may be affected by this strategic response.

Motive for investment. Table 2.1 shows four key motives for investment identified by existing literature and consolidated in Dunning (1993).

For each of these motives, the O, L and I advantages associated with the specific type of investment and the acitivites of the affiliate are identified. This OLI configuration is expected to impact on the degree of linkage of the affiliate with local industry. Table 2.1 presents the expected positive and negative impacts on a local economy as a consequence of this OLI configuration. The degree of linkage or integration into the local economy that is typically associated with each motive and OLI configuration is then suggested.

Table 2.1
Motive for Foreign Investment, OLI Configuration, Expected Impact and Degree of Integration

Type of FDI	O	L	I	Expected Impacts *Degree of Linkage with local economy*
Resource-seeking	Capital, technology, access to markets, complementary assets, size, negotiating strengths	Natural resources, transport & communication infrastructure, incentives	Stability of supply, prices & market control	Positive: introduction of O-advantages, employment, increased market access for exports, increase in output through utilisation of natural resources, improvements to infrastructure, exports Negative: high capital intensity control over resources, market concentration *Degree of linkage: Low to moderate*
Market-seeking	Capital, technology, information, management & organisational skills, surplus R&D & other capacity, EoS, brand loyalty	Material and labour costs, market size or characteristics, government policy (regulations, imports, incentives)	Reduce transaction or information costs, buyer ignorance or uncertainty, protection of property rights	Positive: introduction and possible transfer or diffusion of O-advantages through local sourcing, R&D (product modification), import reduction, employment, g&s availability and cost improvements Negative: market concentration and competition *Degree of Linkage: moderate*
Efficiency-seeking a)products b)processes	As above, plus access to markets, economies of scope, geographical diversification, sourcing of inputs	a) Economies of product specialisation and concentration b) Low labour costs, incentives	a) As for second category plus gains from economies of common governance b) Economies of vertical integration and horizontal diversification	Positive: As above, plus market access for exports, increased output/efficiency due to scale/scope economies Negative: Specialisation of affiliate may reduce opportunities for O-advantage transfer/diffusion *Degree of linkage: low to moderate*
Strategic asset-seeking	Any of the first three that offer opportunities for synergy with existing assets	Any of the above that offer technology, markets or assets in which the firm is deficient	Economies of common governance, competitive or strategic advantage, risk reduction	Positive: As above, plus opportunities for transfer of O-advantages through collaboration. Negative: Hollowing out of local capacity *Degree of linkage: moderate to high*

Source: Adapted from Dunning, (1993, p.82-3).

Non-FDI induced change: The ESP paradigm and the role of government

Non-FDI induced changes, on the other hand, are those which associated with specific countries, rather than specific firms. They relate to the economic systems and government policies associated with a particular country. In order to illustrate these influences, it is useful to draw on a complementary paradigm. The ESP paradigm holds that countries can be classified according to their economic environment (E),

economic systems (S), and government policies (P) (Dunning, 1993; Koopman & Montias, 1971).

The economic environment (E) encompasses the country's natural and created resources arising from skilled labour and indigenous capabilities; the basis and stage of economic development of the country (pre-industrialised or industrialising, resource or service-based for example); and its cultural and historical background which influence attitudes to work and wealth. These existing resources and capabilities can be likened to L-advantages, and as we discuss later in this chapter, are crucial to a country's ability to absorb and utilize the assets that accompany inward FDI.

Economic systems (S) explain the nature of authority and governance over the allocation of resources in an economy. Are resources allocated via central government fiat, or via market mechanisms? Almost all countries have now moved to capitalist, market-based economic systems whereby the majority of resources are allocated via markets, and indeed the IDP makes the assumption of a free market economic system (Narula, 1996). Ozawa (1992) also makes a useful distinction between the economic orientation of an economy, either:

- outward-looking, export-oriented (OL-EO), which characterises the newly industrialising economies (NIEs) of South-east Asia, such as Singapore; or
- inward-looking, import-substituting (IL-IS), such as New Zealand prior to liberalisation in the mid-1980s (see Akoorie, 1998b).

The specific orientation of a country is clearly directed by government policy as it relates to trade, investment, industry, and competition.

This brings us to the final, and perhaps the most significant, component of the ESP configuration in terms of its impact on, and arising from, FDI. Government influence typically extends over macro-economic areas (fiscal, monetary, and exchange rate policies) as well as micro-economic areas (industry, trade, investment and competition policies). These policies directly influence the activities of MNEs in the host economy

(Dunning, 1993). They have an even more significant influence on the economic environment, or the host economy's L-advantages. Such policies, along with others that determine spending on education, welfare, infrastructure, consumer and property right protection, and R&D play a vital facilitative (or inhibiting) role in the developmental trajectory of an economy.

In sum, therefore, the ESP configuration of a country is shaped by government forces, and determines both the nature and impact of inward investment, and the degree to which indigenous firms are able to upgrade their own competencies and undertake outward investment. In the following section, we discuss how this transitional process might occur.

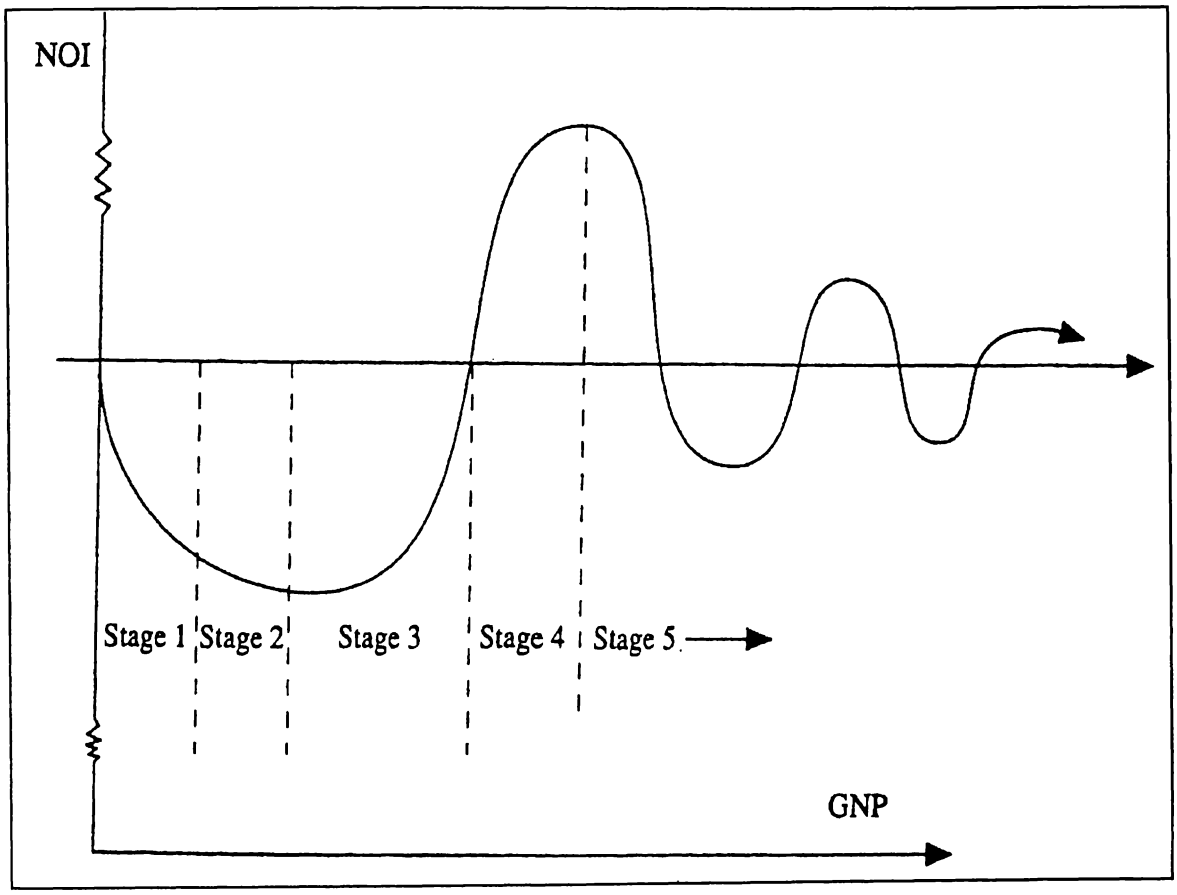
The IDP stages of development

Figure 2.3 shows an idealised or typical IDP trajectory. Between stages one and four the country's NOI position is negative, then in stages four into five it becomes positive and after stage five fluctuates about zero. It should be noted, before we discuss typical characteristics of each of these stages, that each country's IDP trajectory will be unique depending on its ESP and OLI configurations (see Dunning & Narula, 1996, for case studies of 11 countries). Also, there have been a number of other attempts to classify countries into specific stages of development eg. the ESP paradigm; Porter's (1990) work on the competitive advantage of nations; and Ozawa's technology development path (TDP) which considers the role alternative organisation forms (namely licencing) played in Japan's development (1996b).

Ozawa (1992) has also attempted to construct a dynamic paradigm of the stages of economic development, expanding on the IDP framework. The paradigm recognises five structural characteristics of the world economy and the firm as explanatory factors of the industrialisation and structural transformation of developing and newly industrialising countries (NICs). These paradigms serve to complement the eclectic paradigm by making the link between the firm/industry specific growth and growth of an economy. The stages identified in these studies can be considered similar to the five

stages of the IDP (Narula, 1996) discussed here. We make reference to these alternate approaches where appropriate.

Figure 2.3
A Typical IDP Trajectory: Stages One to Five



Source:(Narula, 1996, p.22).

Stage One

The initial stage of the IDP corresponds to Porter's resource-driven stage of development (Porter, 1990). In Stage One, a (host) country has few L-specific advantages attractive to inward investment other than natural resources. Levels of infrastructure, skills and training of the workforce, income and market demand are typically low. Under these conditions the net outward investment (NOI) position is

negative. A limited amount of inward investment is attracted to labour-intensive manufacturing or primary industries, or for trade-supporting purposes, and there is little or no outward investment (Narula, 1996). Indigenous firms have competencies relating to the processing of primary resources, but the level of technology accumulation is low and they do not typically possess sufficient O-advantages to become outward investors. Nor can indigenous firms offer complementary assets by acting as suppliers, subcontractors or collaborative partners with foreign investors.

Stage Two

The shift from Stage One to Stage Two is dependent on location-specific factors, and especially government policy, rather than on the activities of the MNE. For example, host country governments may seek to apply economic and social policies, such as import protection and local content requirements, to boost domestic activity. The imposition of tariff or non-tariff barriers will also encourage inward investment by firms previously servicing the market via exporting.

The extent of investment attracted is also a function of the extent to which the host country can offer adequate transportation and communications infrastructure, or other desirable L-advantages such as skilled labour (education/training) or growing market demand. In short, while the ability of indigenous firms to undertake outward investment increases in Stage Two, this is likely to be more a function of government-driven improvements that develop created assets, and less due to supporting linkages with foreign (typically primary) industry.

At this stage the NOI position worsens, as inward investment rises faster in response to new L-advantages, and outward investment by indigenous firms is still negligible but beginning to emerge. Technology accumulation has increased in local firms, which are now able to provide a supportive network in primary industries or basic consumer goods and in some instance may undertake outward strategic asset-seeking investment to increase their capabilities (Chen & Chen, 1998a). The latter phases of this stage parallel those of Porter's investment-driven countries (1990), who shift their reliance

from primary industries, to large-scale capital intensive industry and consumer goods (Dunning, 1993).

Stage Three

As inward investment declines slightly and outward investment rises, the NOI position of the country improves. This is characteristic of Stage Three of the IDP. While some L-advantages such as market demand and sophistication, income levels, skills, innovatory capacity and infrastructure, are now very favourable in the host country, labour costs and competition from indigenous firms is also rising. Outward investment will be directed towards countries either in earlier stages of the IDP to counter these rising costs and to access new markets, or towards those in Stages Three or Four for market or strategic asset-seeking reasons. Government policy (P) plays a less significant role in this transformation, but facilitates structural adjustment.

Indigenous firms make use of their competitive O-advantages developed, in part as a result of inward and outward investment activities, forcing foreign firms to upgrade technological, managerial or marketing innovations in order to compete. An improved stock of created assets available in the host country may encourage foreign firms to undertake strategic asset-seeking investment. Alternatively they may form cooperative or collaborative agreements with indigenous firms. This suggests that there are some opportunities for indigenous firms to benefit from the diffusion of foreign O-advantages, particularly in non-leading edge technological innovation.

Stage Four

The host country is considered to have reached the fourth stage of development when outward FDI stock equals, then exceeds, that of inward stock and is continuing to rise. Inward investment will continue to contribute to local upgrading where it is accompanied by O-advantages that are lacking in the host country (Dunning, 1993), and through linkages with local suppliers, subcontractors and partners. Indigenous

firms will be able to compete domestically and overseas on the basis of strong created assets developed both at home and abroad.

This stage typically characterises the developed country nation which engages in reciprocal rationalised and strategic asset-seeking investment with other developed nations, and relocates labour intensive activities to countries at earlier stages of the IDP (Narula, 1996). The extent to which this is able to occur will depend heavily on the set of government policies and firm strategies that influence the utilisation and development of home and host country resources, and encourage asset accumulation in developing areas of industry. This stage also marks the shift from investment-driven to innovation-driven growth (Porter, 1990). At this stage O-advantages of indigenous firms relate to their ability to manage, organise and augment their created resources, rather than use of natural resources as in earlier stages.

Stage Five

This fifth stage can be likened to the post-industrial or services stage of development (Dunning, 1993), characterised by the high service component embodied in goods and services, high levels of spending on R&D and innovation and cross-border inter- and intra-firm linkages. In this stage, the NOI position of a country declines, then fluctuates around zero as both inward and outward investment become more balanced. Ozawa describes this as an "*equilibration in knowledge dissemination:* that is, a *narrowing* of the industrial technology gap" (1996b, p.143).

Advanced industrialised countries (eg. the United States, which is both a dominant outward and inward investor) are rapidly approaching this stage of development. Narula (1996) notes that the two key features of this stage are: the internalisation of cross-border transactions via the MNE collaborative agreements; and the fact that competitive advantages of countries nearing this stage are *converging*. Host countries are becoming increasingly dependent on the creation and organisation of technological and human resources and the ability to tap new markets rather than comparative advantage. In other words, not only do the advanced nations produce and sell similar,

but *differentiated*, products, but value-chains are spread over a number of countries, hence blurring once- distinct country-of-origin competencies.

THE ECLECTIC (OLI) PARADIGM OF INTERNATIONAL PRODUCTION

The analytical framework used in the IDP is the eclectic (or OLI) paradigm of international production. The paradigm suggests that both the antecedents to FDI, and the subsequent impact of an MNE's activities, are determined by the configuration of the MNE's ownership-specific advantages (O), the location-specific advantages of both home and host countries (L), and its propensity to internalise (I) markets for these O-advantages in a foreign location. That is, the paradigm is concerned with both the spatial distribution of a firm's value-added activities and factor endowments, and the ownership and organization of those activities.

Dunning (1979; 1980; 1981a) attempted to overcome the limitations of singular research traditions as full explanations of MNE activity by proposing an *eclectic* paradigm of internationalisation. Hence, the OLI paradigm draws on the following three distinct research traditions: theories that explain 'why' international production occurs; 'where' it occurs; and 'how' it occurs. The following discussion looks critically at the contribution of each of these three 'legs of the OLI stool' to the paradigm, their emergence from previous theories and finally, their impact on development.

Ownership-specific advantages

Ownership-specific (O) advantages explain *why* foreign MNEs undertake international production and are able to compete against indigenous competitors in host markets (Dunning, 1993). A foreign entrant to such markets faces a significant number of disadvantages relative to existing companies, such as unfamiliarity with distribution and marketing practices, an absence of supplier and purchaser networks, as well as the

additional costs of having to relocate and establish production facilities in a foreign country. It is proposed, therefore, that in order to overcome these disadvantages and still remain competitive, the firm must possess certain firm-specific advantages that, by definition, indigenous (or other existing) firms do not possess.

O-advantages can be classified into two broad types: those advantages relating to the MNE's property rights or the ownership of intangible assets; and those advantages arising from common governance of the MNE's activities. The existence of both types of O-advantage is a result of two types of market failure. The first is that firms are different in terms of the resources they have ownership over and can exploit exclusively of other firms (property rights). The second market failure relates to the fact that those resources may be more efficiently organised (at lower cost) within the firm hierarchy as opposed to being organised via external market transactions (common governance). We discuss the relevance of market failure to the paradigm in more depth in the internalisation-advantages section.

Property right and intangible asset advantages allow MNEs to enjoy efficiency advantages via the exploitation of company-wide resources over many markets. These resources include capital, product and production technology, human capital and accumulated knowledge, innovative management, marketing and entrepreneurial practices, and access to established marketing networks. These O-advantages add to the stock of productive resources available in the economy, and utilisation of these resources adds to economic output and development.

Advantages of common governance are concerned with the firm's ability to organise cross-border value-adding activities in order to achieve efficiency and lower transaction-costs. These advantages relate to the benefits of the firm's multiple sites and size, such as cumulative experience gained through different affiliates, product diversity or the ability of different affiliates to specialise in certain functions, economies of scale, and favoured access to production inputs as well as final product markets.

The MNE also acquires advantage relative to uninational firms through its multinational nature. The ability of the firm, for instance, to select the best countries in which to site production, source inputs, gain knowledge and experience, or acquire strategic assets can offer a 'global' quality to the firm's operations. Equally, the ability to remain flexible about these choices, to spread risks and respond to opportunities worldwide offers further advantage to the firm. Common governance advantages may also enable the MNE to produce or provide the product at a more competitive price than local producers, or introduce new products that were previously unavailable locally.

The concept of using unique firm-specific advantages as an edge over domestic rivals when undertaking direct investment abroad was first proposed by Hymer in his seminal thesis (1960), later published posthumously in 1976 (1976). The thesis applied an industrial organisational approach to the theory of foreign production. The significance of the research was not discovered until after Hymer's death, but was crucial to recognising the existence of market imperfections as a source of advantage, and distinguishing the unique characteristics of direct investment, as opposed to portfolio investment. In particular, Hymer noted that direct investment involved organisation and transfer (but not a transfer of ownership) of a 'package' of resources which included capital, technology and management practices, and was not dependent on interest rate differentials - as was suggested by classic portfolio theory and later work by Aliber (1970).

Later work in this area focussed on specific O-advantages, for instance, Caves (1971) who gave product differentiation as the key source of advantage. He recognised that FDI was motivated by the opportunity to exploit market imperfections, monopolistic advantages (Lall & Siddharthan, 1982) and unique intangible assets (Kumar, 1990). In the management strategy literature, Porter's "competitive advantages" of internationalising firms (1985), closely resemble the O-advantages in the paradigm, except that the latter also include monopolistic rather than solely competitive advantages.

Finally, extensive research has been done in the area of technology as a firm-specific advantage, particularly in its tacit form which prevents transfer or diffusion to other firms (see Cantwell, 1992). This internalised element of technology is achieved through continuous learning and is embodied in the collective skills and expertise of the firm's employees, and hence, not easily communicated to others.

Location-specific advantages

In contrast to O-advantages which are specific to a particular firm, location-specific (L) advantages are assets which are specific to a certain location or country and are available to all firms. L-advantages can be thought of as the competitive advantages of countries, rather than companies. These advantages explain 'where' MNEs choose to locate their activities. In simple terms, the MNE is attracted to a specific location because it perceives that because of that country's unique set of L-advantages, it can better organise its O-advantages there than in other locations.

L-advantages include natural assets (land, primary resources), created assets (skilled labour), and the quality and price of inputs available in the host country. L-advantages may be embodied in local industry in the form of shared knowledge and competencies that are attractive to inward investors.

The wider cultural, legal, political and institutional environments also shape the L-advantages of a country. For example, the level of development in an economy, in terms of physical, financial and commercial infrastructure or market demand and sophistication, will influence the type and level of investment that is attracted. Government policy, in particular, plays a vital role in the manifestation of these advantages. The imposition of tariff barriers to imports, for example, creates an immediate incentive for the MNE to circumvent these barriers and operate in a protected market by undertaking import-substituting investment. Other policy, such as spending on education, will tend to have a longer-term impact on the quality and utilization of created assets in the economy.

The study of the 'where' of production originated in classical or neo-classical trade theories (Dunning, 1993). Location was thought to play a primary role in determining which countries would be involved in trade and FDI, and where they would invest. Much of Kojima's research in the area (1982; 1990), for example, took a macroeconomic perspective to explain the extent and pattern of Japanese investment abroad. Perhaps the most significant work in the area was that of Vernon (1966; 1974), who proposed that the choice of location of foreign production by large North American MNEs followed the rise and decline stages of the product life cycle.

The product life cycle (PLC) theory was significant in that it identified how L-advantages played a critical role in determining the location of production, and recognised the interplay between international trade and international production. The argument was that L-advantages of the home country (in this case, the U.S.), such as skilled scientists and a well developed home market, encouraged the development of innovatory products (Posner, 1961). However, as the original technology matured and competition increased, these products became standardised. They were then produced offshore where new markets were developing and labour costs were cheaper, to be exported back to the home and third country markets. At each stage of the product's life cycle, different countries were able to offer the required L-advantages. At the time, the theory offered a plausible explanation for the relocation of production activity by the MNE, proposing that relocation was driven by the need to access appropriate inputs competitively, to site production closer to emerging markets, and preempt or restrict the emergence of competitors (Knickerbocker, 1973).

Finally, L-advantages of the home country also influence the MNE's activities, by contributing to the development of O-advantages. Porter (1990) suggests that a firm's propensity to undertake FDI depends on firm-specific advantages that are the result of home country competencies.

Internalisation-specific advantages

Internalisation, or the organization of transactions, production, and resources within the firm, forms the third 'leg' of the OLI paradigm. Internalisation can be described as the perceived advantages of hierarchical control of activities across national boundaries (Buckley & Casson, 1998; Casson, 1993; Dunning, 1993). If the firm perceives that it will benefit more from adding value to its O-specific advantages itself, rather than transferring the right to their use to other firms, then this constitutes an internalisation (I) advantage.

The combination of O- and L-advantages alone can explain why an MNE is able to compete against foreign competitors, and may choose to relocate production offshore, perhaps exporting final products back to the home country. However, it is only through an understanding of 'how' the MNE is able to organize cross-border activities that we gain a full explanation of 'why', 'where' and 'how' international production takes place.

In sum, internalisation theory explains 'how' a international firm may choose to organise its activities through vertical and horizontal integration in terms of the costs and benefits of doing so, in relation to the costs and benefits of market transactions. The eclectic paradigm expands on this theory by explaining that it is not only the firm's assets, say technology, that give it a competitive edge, but the ability to realise the benefits from integrating this advantage with other resources, such as entrepreneurial skill, to achieve *inter alia*, economies of scale and lower transaction costs across international markets.

Put another way, I-advantages are concerned with protecting the firm against, or exploiting, market failure. Theory suggests where market failure exists or external transaction costs are high, the MNE will choose to internalise its advantages (Hennart, 1989). Transactional market failure occurs when the market is unable to organise transactions in an optimal way (Dunning, 1993). This may be due to either imperfect information and uncertainty arising from say, political risk, unreliability of supply,

potential dissipation of proprietary via arm's-length transactions; or due to difficulties in valuing the asset or transaction or achieving economies of scale (Magee, 1977).

For instance, where a firm wishes to produce in another country where 'the market' is unable to provide a satisfactory licencing or contracting agreement (for whatever reason), the firm may choose to internalise the production activity within the firm hierarchy by undertaking FDI. Or, intra-firm trade may allow the firm to counter or minimise the effects of exogenous market imperfections such as trade barriers, capital controls and differing tax rates (Jenkins, 1987). These are examples of *avoiding* market failure and thus improving market efficiency through internalisation.

However, the firm may also choose to *exploit or even create* market failure by using O-advantages (including the ability to organise its resources more efficiently than other firms) as a source of competitive advantage over local competitors (Barnet & Cavanagh, 1994; Barnet & Muller, 1974). Structural market failure, therefore, is concerned with the capture of what Hymer referred to as 'monopoly' rents (1960) through existing, or created barriers to entry toward other firms. In other words, the more a foreign firm possesses O-advantages over indigenous firms in a potential recipient country, the more imperfect the market is for the transfer of these intangible assets, and hence the more likely that firms will choose to deploy them in the host country via FDI (Dunning, 1986b). Ultimately, the creation of market failure may involve restrictive business practices, or even acquisition of competitors and subsequent internalisation of their O-advantages (Dunning, 1993). As Jenkins notes "the existence of oligopolistic markets means that firms enjoy considerable discretionary powers rather than being the atomistic firms of neo-classical theory which respond to market conditions" (1987, p.21).

The origins of the theory of internalisation in Hymer's (1960) thesis and later work by Kindleberger (1969), can be traced back to the founder of modern transaction cost economics, Coase (1937). Coase recognised the anomaly of the firm which was governed by market forces externally, but allocated resources internally through top management organisation and planning. Research on the MNE undertaken in the

1970s focussed on the theory of the firm and organisation theory, with internalisation theory being the most popular. The "markets versus hierarchies" concept of internalisation theory was revisited by Williamson (1975) who expanded on existing theory by suggesting that effective internal organisation by the firm enabled it to internationalise while maintaining control and economies of scale.

The focus on internalisation and the firm as an "organisational hierarchy"' was continued by the neo-classicists in the late 1970s and early 1980s, including Buckley and Casson (1976; 1985) and Hood and Young (1979) who termed this the contemporary orthodox approach, and then Caves (1982), and Rugman (1981) who referred to internalisation as the transactional approach (for an excellent review of the internalisation literature during this period see Rugman (1980)).

The internalisation strand of research continued to grow in popularity throughout the 1980s and into the 1990s (for a review see Dunning, 1993). Hennart (1982; 1986; 1991), for example, focussed on transaction cost theory as an explanation for the MNE's internal organisation of transactions internationally. Teece (1986b) also drew on this theory with a specific focus on the transfer of technology via the FDI mechanism, and was later to consider alternate mechanisms for organising resources other than FDI or arm's-length trade (Teece, 1992).

Finally, while proponents argue that internalisation theory forms a complete theory of FDI, they have acknowledged that location-specific variables need to be integrated to explain the organisation of resources beyond home country boundaries (Casson, 1987). In addition, one of the major limitations of internalisation theory and the OLI paradigm, is the lack of consideration of the organisation of transactions beyond pure hierarchical or pure market forms. In the following section we consider how the internalisation concept may be moderated to encompass the emerging collaborative or 'quasi-internalised' forms of transaction and inter-firm relationships.

QUASI-INTERNALISATION AND TRANSACTIONAL RELATIONSHIPS

Traditional industrial organisation theory correctly asserts that MNEs benefit from internalising transactions within the firm hierarchy, across national borders. However, as indicated by figure 2.1 in this chapter, the OLI paradigm refers to the organizational routes taken by the firm, suggesting a distinct *choice* of organisation of value-activities. One would expect that where the net value of externalising transactions via the market is higher than that of internalising these transactions within the firm, then the firm will choose the former route.

Such an outcome has been referred to as 'quasi-internalisation', and the concept is crucial to the thesis, as it endeavours to assess *how* MNE activity may contribute to the upgrading of indigenous firms, given the nature of its transactional relationships in the host country. So, in this section we introduce a line of argument, based on existing and emerging theory, that suggests a divergence from traditional transaction-cost hierarchical capitalism and full-internalisation under FDI, toward alliance capitalism and quasi-internalisation (see Dunning, 1995, for a discussion on alliance capitalism).

There are several emerging areas of theory that suggest clearly there are opportunities for some activities to be contracted out via market transactions - even as a complement to FDI rather than a substitute. These theories recognise that firms are pursuing flexibility through alternate organisational forms that blur the distinction between markets and hierarchies (Ghoshal & Bartlett, 1990). These organisational forms reflect the responses of many MNEs to the increasing volatility of the global business environment. In order to remain competitive, firms may pursue the requisite flexibility and responsiveness through specialisation and streamlining of their operations (Dunning, 1995), outsourcing and undertaking collaborative agreements that augment, as well as exploit, existing and complementary assets (Buckley & Casson, 1998; Teece, 1992), and lowering the costs of R&D and technology (Dunning, 1995). There is also considerable disincentive for firms who contract out non-core activities to other firms to do this via arm's-length transactions. Instead, they need to maintain influence over

the price, quality, design and innovation processes associated with products included in their value chain. This frequently requires inter-firm cooperative agreements, or on-going interaction and support of suppliers and sub-contractors.

The organizational capability (OC) view of the firm expands the traditional concept of boundary and governance decisions. According to transaction cost theory these boundaries are determined on the basis of the real or potential cost of externalising via arm's-length transactions versus internalisation within the MNE (Hennart, 1989). However, the OC view proposes that "firms do not compete on the basis of cost alone but, rather, on the basis of value" (Madhok, 1996, p.588). Richardson (1972) for instance, argues that cooperation will be more beneficial to firms that engage in dissimilar, but complementary activities.

In other words, quasi-internalisation of activities via groups of networked firms, collaborative partners, or even individual subcontractors and agents, is based on the perceived ability of the outside firm to provide more *net* value (more value at less cost) than would be possible via internal markets within the MNE. For instance, alliances may be undertaken for market-seeking reasons, drawing on the local firm's knowledge of the domestic market and allowing the MNE rapid entry into unfamiliar territory (Dunning, 1995). The value of these types of agreement is wide-reaching - they may allow the MNE to concentrate on core activities, source inputs from reliable suppliers without having to internalise these transactions, take advantage of local firm experience and knowledge of the market, and develop their O-advantages in collaboration with other firms.

Firms and governments alike recognise that competitive market forces alone do not always optimise growth in this dynamic, technology-driven environment. An increasing emphasis on cooperative, rather than just competitive strategy is evidence of the inability of firms to remain solely reliant on intra-firm resources for competitiveness. In the past decade, the majority of FDI was undertaken for strategic asset-seeking (Wesson, 1999) or asset-augmenting investment reasons (Dunning,

1998b). Merger and acquisition activity in the 1980s and early 1990s sought to acquire complementary assets embodied in local firms, especially competitors.

However, if these resources could not be acquired directly, came at too high a price, or otherwise encumbered the recipient, then the MNE sought alternative (often collaborative) mechanisms, such as strategic alliances or technology-sharing agreements. This altered the firm's response from a more traditional 'exit' manoeuver via horizontal or vertical integration, to a 'voice' strategy intended to maximise the benefits from joint or quasi-internalisation of inter-related activities (Dunning, 1995). The benefits included reduction of transaction and coordination costs, and the ability to leverage O-advantages of partners.

If competencies were intrinsic to a specific industry or area (such as innovatory capability in the U.S., for example) then the firm could choose to locate in close proximity to the source. Research into industrial districts, regional or spatial clusters and networks of firms (Gerlach, 1992; Håkansson & Johanson, 1993), has found evidence of quasi-internalisation of firm-specific assets via higher-order linkages (Ivarsson, 1999). The mutual upgrading of spatially clustered firms and their contribution to economic development is well recognised by network theorists and economic geographers. The geographical proximity of the firms in the cluster allows them to gain agglomerative economies - a concept first considered by Marshall (1920). Within this agglomeration of related industries, firms which possess complementary resources (such as technology) are able to collaborate in order to develop their dynamic capabilities (Porter, 1990). This, in turn, leads to competitive upgrading in the region or economy. Regional clusters have been accredited with the accumulation of national competitive advantage (see Porter, 1996; 1998).

Networks of firms are a dominant feature of Japanese MNEs (Gerlach, 1992), where multiple firms are linked through co-operative, although not uncompetitive, arrangements. This integration facilitates the transfer of knowledge and innovation between firms necessary to assist the common strategic outputs of the group. A flatter, leaner organisational structure maximises the firm's ability to respond to change while

the network of interlinked firms maintains strategic cohesion. The hierarchy of organisation passes beyond the boundaries of the firm to incorporate suppliers, alliance and joint venture partners. Hence, the firm becomes a controller of a network of interrelated activities both within and outside of the firm. In terms of internalisation theory, these higher-order linkages with the local economy effectively open internal markets which were previously closed within the firm (Buckley & Casson, 1998).

Technology accumulation theory (Cantwell, 1989; 1994) offers a compatible illustration of the gradual, and diffuse process of innovation-led growth evident in clusters of firms with congruous capabilities. The theory suggests that technological upgrading is an evolutionary process that may be facilitated by the creation of such higher-order linkages as alliances or technology development agreements, to exchange complementary firm-specific assets such as technology, and so minimise research, development and commercialisation costs. Similarly, the asset accumulation and restructuring paradigm (an extension of the model of cumulative technological change developed by (Cantwell, 1989; Pavitt, 1987)) seeks to explain the cumulation of asset capabilities (eg. innovatory capability) of firms, industries or countries over time (Dunning, 1993).

A spatial cluster may also play host to smaller firms with less developed resources (i.e. few complementary capabilities) which offer ancillary support and specialised services to larger firms, and are attracted by opportunities for upgrading firm-specific assets. For instance, as the flagship firm's technology matures, there are fewer reasons to retain this technology within the firm, thus opening other appropriate avenues of exploitation via firms who are less technologically competent but may fulfil the role of licencee or subcontractor (Magee, 1977). Similarly, strategic linkage theory explains the foreign investment decision as an attempt by follower firms lacking in certain capabilities, to link with existing host-country competencies in certain industries (Chen & Chen, 1998a; Nohria & Garcia-Pont, 1991).

In terms of the eclectic paradigm, location-specific industries are used as a source of competitive advantage for the MNE (Enright, 1998; Porter, 1996; Storper & Scott,

1995). The transfer or sharing of O-specific assets is occurring with mutual consent between firms, in order to minimise the costs of research and development, and maximise the benefits gained through the sharing of best practices in production and management, labour, innovation and the like. The change to more cooperative firm strategy in light of increased competition and the need to achieve greater flexibility, economies of scale, and continuous upgrading of O-advantages, suggests that research can no longer focus on pure hierarchies or pure markets as the only organisational choices.

Table 2.2
Incentives for Linkage Formation: Direct Linkages and Partial Internalisation

Incentives to form direct linkages	To lower commitment at initial entry stage To assist use of product by customers To capitalise on local firm knowledge and experience of markets/distribution To make up for deficiencies in firm-specific assets (ie. smaller firms) Where standardised inputs, components, finished products can be sourced more conveniently and competitively from local suppliers To subcontract non-core activities locally Where local firms/government control supply of inputs (ie. natural resources) Where local content requirements are enforced If government, industry or institutional support is available for linkage creation To provide competitive discipline on internal transfer prices To enhance firm flexibility
Incentives for quasi-internalisation of O-advantages	*Any of the above, plus:* Concentration on core business, streamlining of activities Where knowledge (or any O-advantage) acts as a catalyst To enable consistent marketing effort to be undertaken by local firms To enable local supply of certain inputs To assist suppliers, subcontractors to meet quality standards, improve productivity, reliability, delivery times etc. Where co-operative arrangements are a requirement for market entry If contracts may be gained through local partnership Where competitors or other local firms possess complementary and/or unique assets To achieve economies of synergy and/or scale To decrease costs of internalising intermediate product markets; communication, organisation, production and commitment of additional resources and capabilities

It also suggests that consideration of a singular act of foreign investment via a singular hierarchy, but multiple activities that encompass non-equity relationships with other firms (Dunning, 1993). These theories also suggest that host-countries have the potential to benefit from FDI, not only at the level of the affiliate or through local

sourcing, but via linkage formation with local firms that encourages quasi-internalisation of O-advantages. Table 2.2 shows a summary of reasons why the foreign affiliate may not only form direct linkages with local firms, but also engage in quasi-internalisation of O-advantages.

LIMITATIONS OF THE IDP AND THE ECLECTIC PARADIGM AS A FRAMEWORK FOR IMPACT ASSESSMENT

The IDP explains the relationship between a country's stages of economic development, government policy, and the extent of inward and outward foreign investment activity (Dunning & Narula, 1996). Advancement through the five stages is triggered by improvements to the investment environment, accompanied by appropriate inward FDI that fosters further development. The underlying value of the model is its recognition of a significant link between inward FDI and the eventual development of O-advantages in indigenous firms. The model recognises that it is these O-advantages that ultimately enable indigenous firms to undertake outward FDI, independently. It suggests that given appropriate receptor conditions, inward inward FDI provides the impetus for the upgrading of indigenous advantages through the introduction of new technologies, critical skills and knowledge, competitive effects, and linkages with local enterprises.

However, one of the limitations of the IDP as a framework for impact assessment is its focus on changes at the aggregate level, both in terms of investment (measured by aggregate levels of FDI flows/stocks) and development (proxied by gross domestic product or GDP per capita). The IDP concept, therefore, makes a rather uneasy transition from the analysis of economic development of countries at a macro level, to the upgrading of competitiveness of firms at a micro level. Hence, while measurement of both the inputs (inward investment) and the outputs (GDP and outward investment) is at the macro-level, the actual *process* (local firm upgrading) which is anticipated to result in these outputs takes place at the micro-level.

Another distinct limitation of the IDP framework for the study of economic development, is its slant towards the MNE as a reactive rather than developmental, agent. Throughout the stages the firm responds to both its own needs and abilities, and what the host country is able to offer. This suggests that it is the government's role to entice the MNE and to initiate the development process by upgrading domestic assets. While Dunning and Narula (1996) state that "the growing stock of created assets of the host country [is] due to increased expenditure on education, vocational training and innovatory activities" (p.5), it is unclear as to what extent this can be attributed to the role of government, the MNE or both. It appears that government contributes more in the initial stages, and then MNEs (both foreign and domestic) in the later stages, as inward and outward investment and linkages between firms increase.

Innovatory capacity rises in the host country as FDI increases and local firms upgrade their ownership specific advantages. However, the exact process of the latter is not explained by the framework. Similarly, the extent to which MNEs contribute to indigenous firms' competitiveness is not quantified nor adequately distinguished from the contributions of the host government.

As a consequence of these limitations, the IDP fails to explain the process by which local firms upgrade their O-advantages, via interaction with inward investment and L-advantages, and ultimately become outward investors themselves. This process may be likened to the *black box* of the IDP, in that the IDP explains *what* happens, but does not explain *how* it happens. For instance, local upgrading may occur through the purposeful transfer of certain O-advantages from the MNE affiliate to a local alliance partner, or alternatively, the gradual diffusion of new ideas, technology or practices to local competitors. Hence, the IDP, and the majority of its associated literature, has sought to explain the changes to investment activity over time, rather than the process of local upgrading which occurs as a consequence. Chapters Three and Four show that the process by which indigenous firms develop their capabilities and subsequently become outward investors has received insufficient empirical attention largely due to the difficulties in measuring this dynamic relationship (Enderwick, 1998).

Another limitation is that the implications for development of reciprocal investments between developed countries, characteristic of stages Four and Five are not clearly specified. While a technology or capability gap exists between firms from home and host countries, the potential impact is more clearly defined. As this gap narrows, and competitive advantages converge, the implications for upgrading become less distinct. Nor does the IDP explore the potential for decline through the stages, in other words, where countries reverse the development process. The exact nature of the path (vis-a-vis investment) given this scenario, and the resulting impact on development, has not been discussed in the literature. For instance, could local industry be subject to 'hollowing out' by foreign MNEs undertaking strategic asset-seeking investment?

The inability of the IDP and the eclectic paradigm to adequately capture alternate, *non-equity* forms of organising transactions, limits their usefulness as frameworks for assessing the developmental implications of MNE activity. The eclectic paradigm has hierarchical capitalism as its base. This implies that the O-advantages of the firm are considered to be endogenous being created and developed independently from their dealings with other firms, and that reasons for internalization are primarily an exit response to market failure (Dunning, 1995).

These assumptions exclude alternative modes of organising transactions that fall between the poles of hierarchies or markets, and may complement, rather than substitute, FDI activity. Some of these alternate modes, eg. collaborative and networking activities, have received considerable attention in recent theoretical and empirical literature. However, the relationship between such micro-organisational strategies and economic upgrading has not been made explicit. Equally, while an attempt has been made to systematically incorporate quasi-internalisation and inter-firm collaborative arrangements into the eclectic paradigm on a conceptual level (Dunning, 1995), there has been little empirical research which operationalises, or indeed substantiates the MNE's use of organisational modes as a complement to FDI; or which considers the resultant impact on local firm upgrading.

The eclectic paradigm of international production operationalises the IDP, suggesting that the extent to which FDI will impact on an economy is a function of the nature of the ownership-specific characteristics of the investor, the location-specific characteristics of the host country, and the degree to which firms choose to internalise cross-border markets for intermediate products (Dunning, 1993, p. 265). The paradigm is able to address the issue of the impacts of MNE activity in a country-specific context, as it illustrates the linkage between the ownership, locational, and internalisation configuration of the foreign firm; and, at the macro level, the progression of a country through the five stages of the investment development path trajectory (Dunning & Narula, 1996).

The value of the eclectic paradigm in this thesis is that it offers a means of assessing the extent to which inward FDI enables the local, internationalising firm to undertake outward FDI. The paradigm suggests that MNEs (via the inward FDI vehicle) contribute to the development of O-assets of domestic firms, which then enables those firms to become outward investors themselves. In the process, economic progression is achieved and the host country advances through the stages of development identified by the IDP. However, if local upgrading is to occur, some of these advantages need to diffuse through to local firms, either directly via buy/supply relationships, or indirectly via competitive or demonstration effects. The diffusion of foreign technology, managerial, employment and organisational practices, production processes, innovation and research has the potential to augment local O-advantage, or contribute more generally to industry-specific L-advantages.

As the following chapter will demonstrate, the existing O-advantages of indigenous firms combined with the L-advantages of the host country will determine whether or not these advantages are diffused to local industry. The complementarity of local and foreign O-advantages will determine the extent and quality of linkage formation by the foreign affiliate. L-advantages in the host country are also crucial to the extent of local linkage formation. They influence both the type of FDI attracted, and the extent of local created assets. In turn, these factors help determine the degree to which local firms are able to act as suppliers or agents, absorb new technologies, and increase their

competitiveness. Finally, the mode of organising transactions employed by the MNE; either via market transactions, hierarchical intra-firm transactions, or some intermediate mode (such as a network relationship or an alliance), will also determine the extent and nature of linkages formed with local firms.

Although helpful to assess the determinants of linkage formation, the OLI paradigm does not elucidate the how the process of local upgrading might occur. In other words, it does not explain how linkages which engender diffusion or direct transfer of O-advantages, lead to subsequent upgrading by indigenous firms. This fundamental process is not given sufficient consideration by the paradigm, thus limiting its potential utility for assessing MNE impact on local upgrading and economic development.

Thus, despite the paradigm's usefulness as a conceptual framework by which the level, structure and impact of foreign value-added activities of firms can be assessed in light of location-specific factors and firm strategy, it is not a *theory* of the MNE as such (Dunning, 1993). This makes it difficult to formulate, operationalise and empirically test a set of propositions about the nature and form of relationships between MNE activities and the impact on a host-country's firms.

CONCLUSION

The IDP (Dunning, 1981b; Dunning & Narula, 1996) suggests that countries may progress through five stages of development, and that the cycle of development is facilitated by the interplay of host country receptor conditions, inward FDI and then outward FDI. The link between the MNE's ability to internalise O-advantages across national boundaries, and the subsequent potential for transfer and dissemination of these advantages to indigenous firms had not been clearly explicated in literature prior to Dunning's work on the eclectic paradigm (1979; 1980; 1981b; 1995; 1998b). This was despite the fact that considerable research had already been carried out in the areas of O, L, and I advantages. Development theories had clearly linked MNE activity to specific impacts in host nations, yet prior to the eclectic paradigm there was no definite

connection made between inward FDI, outward FDI and economic development of a country.

Theoretical arguments suggest that relative to the uninational firm, the MNE represents a distinct enterprise with a specific set of characteristics that are pivotal when analysing the impact of FDI on host countries. These characteristics may be defined by a MNE's unique configuration of O, I, and L specific advantages. In this sense, the eclectic paradigm which incorporates these three elements is useful as a broad framework for the analysis of MNE impact on local industry, despite the focus of the paradigm on the foreign firm. However, as we have suggested in this chapter, the paradigm also needs to be moderated by other theories and paradigms that suggest alternatives to full-internalisation. Emerging research in the area of cooperative forms of organising transactions suggests that there are growing incentives for foreign affiliates to employ flexible strategies with other firms, and subsequently increased opportunities for spillovers from their activity.

Despite these developments, the international business literature has not paid sufficient attention to the role of the MNE in the process of upgrading of ancillary firms. As a framework for linkage analysis, the literature is deficient in several respects. First, the focus of current research remains on the strategy of the MNE as it seeks to acquire and exploit resources or locate in a specific area rather than the effects of this on linked local firms. Second, the literature considers either the international joint venture or strategic alliance as an alternative to FDI, rather than considering a wider range of inter-firm linkages as a complement to FDI.

In conclusion, the IDP explains *what* happens when MNE activity impacts on the economic development of a country and gives evidence to support this. The OLI or eclectic paradigm explains *why* it happens given the antecedents and outcomes of the investment. The gap that this thesis attempts to explain is *how* it happens, i.e., the process of upgrading through both direct and indirect firm interaction. In order to better understand the process by which countries progress through the stages of the IDP, it is necessary to understand the nature and extent of the impact of MNEs'

activities on indigenous industry. We suggest that the operationalisation of the IDP and the eclectic paradigm may be facilitated by a better understanding of how and why process occurs. The following chapter looks at how the eclectic paradigm, or more specifically the configuration of OLI advantages might translate into specific areas of impact on the upgrading of local industry in a host economy.

CHAPTER THREE
LITERATURE REVIEW - EMPIRICAL EVIDENCE

> [T]he findings of a large number of studies over the past 30 years are virtually unanimous that the presence of foreign-owned firms has helped raise the standards and productivity of many domestic suppliers, and that this has often had beneficial spillover effects on the rest of their operations (Dunning, 1993, p. 456).

INTRODUCTION

Foreign direct investment (FDI) is recognised as a mechanism by which a host country can upgrade the competitiveness of its resources and capabilities. Chapter Two reviewed the IDP concept which suggests economic development is facilitated by the interplay of appropriate host country receptor conditions with inward and then outward FDI (Dunning, 1981b; Dunning & Narula, 1996).

Research has sought to explain the changes to net levels of investment and economic development at the aggregate or macro-level. However, there is a lack of literature that considers the process of firm upgrading at the micro-level which occurs as a consequence of this inward investment. In addition, empirical assessment of the impact of FDI has focussed almost exclusively on the immediate or first round effects of capital, employment and technology transfer, without a corresponding emphasis on longer-term, second round effects on local industry.

This chapter reviews empirical literature that investigates the nature, extent and determinants of the economic impact of the MNE with a view to operationalising a macro-level concept (the IDP and economic development) to investigate a micro-level phenomenon (local firm upgrading). We review recent research that looks at the impact of MNE activity on the affiliate, and linkages between foreign and indigenous firms. Finally, the chapter reviews the literature that looks at the determinants of

these linkages. The relevance of this literature to the thesis is two-fold. First, it provides support for existing theory as discussed in Chapter Two. Second, it clarifies the need to explore certain avenues of research further. In particular, the existing literature is evidence of the lack of thorough and systematic study of the impact of the MNE on local firms.

THE IMPACT OF MNE ACTIVITY

There are three principal ways in which the MNE's operation may impact the host country. The first and most immediate impact occurs at the level of the foreign-owned affiliate. The intra-firm transfer of O-advantages; the ability to restrict the use of these to the firm through internalisation, and exploitation of L-advantages in a host country may enable the firm to enjoy monopolistic advantages while upgrading its competencies in the local market. The changes at the level of the affiliate are important because they reflect the transfer of O-advantages to the host economy, the resultant performance and competitive advantages of the affiliate relative to local firms, and ultimately, changes to levels of competition and the standard of output in the industry.

It is also important to consider how the inward FDI might have aggregate benefits for the economy, from inflows of capital, technology and changes to employment that may occur via the MNE's activities. These aggregate first round benefits have been the focus of the majority of impact-related studies, and, although we consider the relevant literature briefly in this chapter, these aggregate effects are not the focus of this thesis.

The second impact occurs at the industry level through linkages between foreign and indigenous firms. The MNE's presence may encourage local firms to respond to increased competition or increased demand for local inputs, possibly upgrading their O-advantages in the process. In addition, direct linkages between the foreign affiliate and local suppliers and customers may encourage improvement to standards of output,

technological sophistication of production processes and the like. However, the means and process by which upgrading might occur due to these second round effects, has received insufficient attention in the extant literature. The majority of this chapter, therefore, will be spent examining the extent and types of linkages formed between foreign and local firms, and the possible determinants of those linkages.

Third, at the level of the economy, the accumulative effects of the MNE's activities will ultimately lead to changes in the structure and nature of industry, the output and productivity of the nation's firms, and the overall competitiveness of the host country. Again, investigation of these longer-term, aggregate, third round effects are beyond the scope of this thesis.

Theory suggests that relative to the uninational firm, the MNE represents a distinct enterprise with a specific set of characteristics that will determine the impact of FDI on host countries. These characteristics are defined by a MNE's unique configuration of ownership (O), home and host location (L), and internalisation (I) advantages. The impacts that are of most concern in this thesis are those that arise as a result of the unique characteristics of the MNE.

This last point must be emphasised as many studies that have sought to measure impacts of foreign ownership on an economy, do so at an aggregate level. This type of analysis does not capture the impacts that result from the bundle of assets and organisational competences that are transferred from the parent company to the affiliate. The FDI bundle typically comprises any of the following assets: capital; technology; employment-related resources in the form of human resources and skills; managerial and organisational practices; and favoured access to markets and inputs.

The introduction of these resources via the affiliate may have an impact at the level of the firm, industry or the economy. Over time, according to the IDP concept, they might also influence the capability of local firms to invest overseas. For our purposes in this thesis, it is useful to classify these effects into the two categories of first and second round effects.

First Round Effects on the Host Economy

First round, or immediate, effects are the aggregate benefits that accrue to an economy from capital flows, employment creation and technology transfers (Enderwick, 1998). These effects tend to occur immediately following the investment and can be directly associated with the activities of the MNE. They are measurable at both the firm and aggregate levels, and as a consequence have attracted more attention in the literature (see Dunning (1993), and for a review of developing countries see Jenkins (1990)).

From the host country's perspective, introduction and utilisation of bundled resources by the foreign affiliate lead to changes in industry such as increased output, productivity, and trade; and ultimately, accrue economic benefits such as GDP growth and development (Enderwick, 1998).

Foreign capital. This may serve to narrow the savings gap and add to the stock of domestic capital available for investment, particularly where domestic capital markets are limited, as in the case of New Zealand (Scott-Kennel, 1998a). The effect of inward FDI on a host country's capital formation is dependent on the size of that investment and whether it adds to, or substitutes for, domestic investment activity.

The extent to which the MNE has a positive or negative impact on a host country's balance of payments depends on its strategy towards sourcing of capital, as well as importing and exporting activity. This is often influenced by government policy. For instance, a protectionist policy stance by government might encourage import-substituting investment intended to serve local markets. Alternatively, where policies are more liberal towards trade and investment, and domestic markets are limited (as in New Zealand), the MNE might engage in more importing of inputs and exporting to third country markets.

The degree to which local sourcing replaces imports depends on L-advantages (e.g. labour, materials and intermediate products), being favourable to local production.

Empirical evidence is mixed as to whether the net impact of inward FDI is positive under such different conditions, however, it is more likely to be favourable under conditions of free trade (Agosin & Prieto, 1993; Dunning & Narula, 1996; Lloyd, 1996; Ozawa, 1992).

Employment. While the contribution of MNEs to worldwide employment is a mere three percent, MNEs account for a considerable portion of paid employment in manufacturing and services (UNCTAD, 1994). The entry mode and type of investment have significant bearing on the changes to employment in a host country. Acquisition (and restructuring) of an existing company will have less impact on employment numbers than the establishment of a greenfield venture which creates new jobs. Investment in primary industries might use low-skilled labour in conjunction with capital-intensive processes to extract resources to be processed offshore, whereas service or manufacturing related investments typically draw more on local sources of un/skilled labour.

In terms of employment generation by the foreign-owned affiliate, consideration of the counterfactual position is important. Consider a scenario where the technology gap between the home and the host countries is wide. Capital-intensive foreign investment may involve less employment than more labour-intensive domestic investment. If this foreign investment crowds out domestic investment then the overall impact on employment is negative. However, if that domestic investment would not have occurred in the absence of inward FDI, then the foreign investment can still be thought of as making a contribution to employment. In the case of acquisition and rescue of a local company experiencing difficulties, subsequent downsizing by the new foreign owners may reduce local employment significantly. However, the counterfactual scenario may have involved a greater loss of employment through the closure of the company.

MNEs may also make a valuable contribution to the quality of employment and the development of human resources in the affiliate. Empirical evidence suggests that on average, wages are higher, jobs more skilled and employees given more training than

in uninational firms (Baldwin, 1994; Campbell, 1994; UNCTAD, 1994; Zhao, 1998). The ability of the MNE to offer such superior conditions is based on their ability to access the O-advantages of the parent-company, including firm-specific assets and the advantages of multinationality and common governance.

Technology. This one of the key sources of competitiveness for the MNE. It encompasses both hard (physical, codifiable) forms such as machinery or products, and soft (tacit, non-codifiable) forms such as knowledge, managerial innovation and processes (Grosse, 1988). MNEs are heavily involved in the creation, development and transfer of technology, and account for an estimated 75-80 percent of all civilian R&D expenditure (Dunning, 1993). Commercialisation of the majority of new technologies is also the domain of the MNE, where the largest 700 industrial firms (mostly MNEs) account for about half of the all commercial patents (Cantwell, 1994).

For a host country, the presence of a technologically superior MNE provides an opportunity for leadership and improved economic performance, either directly via the affiliate or through industry linkages with local firms. In fact, there are few alternative sources that can offer the scope and diversity of technology embodied in MNEs, while simultaneously circumventing the costs and risks of invention, adaptation and innovation. Reliance on technology via the inward FDI vehicle has been high for countries such as Singapore, Hong Kong, Thailand, China and, more recently, Ireland, although there are also notable exceptions of countries that successfully relied on licencing rather than inward FDI as a source of technology, such as Japan and Korea.

It is generally agreed in the literature that technology is the key determinant of economic growth and the net impact tends to be positive, particularly for industrialising and developed countries (Cantwell & Dunning, 1991; Chesnais, 1988; Ozawa, 1996b). MNEs may bring advanced technology unavailable via alternate sources, or improve the efficiency with which current technologies are used. The type and extent of technology transfer will again depend on the strategy of the MNE, the type and motive for the investment, which in turn are influenced by L-advantages.

The ability of a country to benefit from transferred technology is dependent on the level of skills, education and experience of the workforce.

Increasing competitive pressures, advances in technology and liberalisation and pro-active regulatory frameworks have encouraged MNEs to relocate R&D activities offshore (UNCTAD, 1995), particularly in advanced industrialised countries, where complementary capabilities exist. The implications of this trend for host countries are increased competition, technological capacity and upgrading, and potential spillovers to local industry. However, the vast majority of R&D activity is still undertaken in the home rather than the host countries (Dunning, 1998), especially where those countries are developing (Jenkins, 1990).

The predominant focus of existing literature has been on the transfer of scientific and engineering knowledge from parent to affiliate (see Caves, 1982, for a review). The impact of such transfer on host countries has also been subject to an immense volume of research, with earlier studies focussing on impacts in LDCs, and more recently the link between technological development and economic growth in industrialised countries.

FIRST ROUND IMPACT ON THE FOREIGN AFFILIATE

At the level of the firm (in this case the foreign-owned affiliate) the impact of inward FDI is linked to the O-advantages of the investing MNE. As discussed in Chapter Two, these firm-specific resources enable the affiliate to overcome the disadvantages of operating in a foreign country and successfully compete against local firms. In other words, foreign investment is expected to confer performance and efficiency benefits on the foreign-owned affiliate, as a result of access to the bundle of parent company resources (Dunning, 1958; 1998a).

As discussed in the previous section, the more immediate effects are likely to arise due to changes to capital flows, employment, and technology. For a locally-owned

firm that is acquired by a large multinational company, the impact of additional capital injection, changes to both the quantity and quality of employment, and the transfer of technology (increasingly embodied in tacit forms such as knowledge) can be very beneficial to the firm's subsequent performance and competitiveness (Cantwell, 1992).

For instance, the acquired firm might experience employment losses if the MNE introduces capital or technological intensive processes that substitute for employment. However, these same processes can improve the firm's efficiency and performance. In addition, the MNE might improve the quality of human resources through introducing training and new skills. This is particularly evident in the case of privatisation (Svetlicic & Rojec, 1994), and occurred in New Zealand in 1990 when the sole telecommunications provider was sold to US investors (Scott-Kennel, 1998a). The affiliate may also draw on the R&D output, technical know-how and expertise of the corporate family. Core innovation can be adapted to suit local conditions and then used to gain competitive advantage (Dunning, 1998a). However, MNEs have also been known to reduce local R&D activities, or relocate them offshore following the acquisition of a local firm.

The new affiliate is likely to benefit from innovative managerial and work practices, favoured access to inputs, information, established markets, and distribution networks, as well as the advantages of common governance and economies of scale and scope. The beneficial impacts from the intra-firm transfer of these resources will occur in the medium to long term. As a consequence, they are better thought of as second round effects on the affiliate, even though this term is usually associated with the effects on other firms in the host country (see below). However, to avoid repetition we introduce the remaining elements of the investment bundle in this section.

Organisational and managerial practices. MNEs can provide a new source of management skill and expertise to an economy via the affiliate. Integration within the MNE network can encourage the development of skills associated with

multinationality, such as the coordination of global activities (UNCTAD, 1999). Where acquisition has occurred, the result may be a blend of best practices from both local and foreign sources. In a study of acquisitions of 201 UK firms by US, Japanese, French and German investors, Child, Faulker and Pitkethly found that managerial practices were changed more in firms acquired by foreign, rather than local, investors. Areas most affected were performance-related rewards and quality in operations (1997).

Voss and Blackmon (1996) interviewed 500 managers of manufacturing sites located in Britain and Germany. They found that those with foreign parents were significantly more likely to have adopted world class manufacturing practices, particularly those owned by Japanese investors. Dunning found that U.S. affiliates in the U.K. benefited considerably from home-country competence in management techniques and other accumulated expertise (Dunning, 1998a).

Access to markets, internal networks and inputs. One of the most important contributions to the host economy by the affiliate is trade, through exports and/or import substituting activity. It is estimated that MNEs account for up to two thirds of world trade, and approximately one third of world trade is conducted between affiliated firms (UNCTAD, 1999). Therefore, most affiliates and subsequently host economies, benefit from intra-firm access to internal and external international markets. The firm also benefits from firm-specific knowledge and experience of how to operate in those markets. In addition, the affiliate benefits through the use of established marketing and distribution networks. These networks facilitate the flow of both intra- and inter-firm trade, resulting in broader market coverage and favoured access to inputs that would not otherwise be available to the firm.

The parent company also may offer the affiliate exclusive or favoured access to inputs, such as the technology-intensive products often associated with FDI intensive industries (UNCTAD, 1999). Finally, perhaps the most important resource available to the firm is the ability to coordinate these inputs effectively and efficiently over global markets. Such competences are determining competitive advantage in the

knowledge-based, dynamic global business environment (Dunning, 1998).

In order to capture the unique contributions of the MNE, inferred from its OLI configuration in the host economy, we need to determine the competences present in the affiliate. These competencies are the consequence of its foreign ownership, and by definition are not available to indigenous firms. Our research questions (see Chapter Five), therefore, relate to the extent to which foreign affiliates rely on resources included in the intra-firm transfer or bundled investment from the parent company, and the extent to which these affiliates use these resources as a source of competitive advantage in the host country.

The resources transferred to the affiliate from the parent will also affect the nature of second round effects on local industry. As this bundle of resources includes firm-specific assets unavailable in the host country, it is expected that the affiliate will not influence local development in the same manner as local, uninational firms. In the following section, we consider the impacts of MNE activity on local industry in more detail.

SECOND ROUND EFFECTS

Dunning (1993, p. 456) concludes that the findings of a large number of studies over the past 30 years have shown that the presence of foreign-owned firms has had a positive effect at the second round level, by helping raise the standards and productivity of many domestic suppliers.

A complete assessment of the impact of foreign investment on development, therefore, must recognise the contribution of both first and second round effects (spillovers). Second round effects are associated with an increase in economic activity and competitive up-grading of indigenous, uninational firms. These effects occur via linkages between the foreign affiliate and indigenous firms in the host-

country. Because such second round effects tend to be more diffuse, occur over a longer time frame, and are difficult to measure, they have received considerably less attention in the literature (Enderwick, 1998). This is despite suggestions that their potential benefits may outweigh those accruing from first round or immediate changes to capital, employment and technology.

Linkages between foreign affiliates and indigenous firms facilitate the direct transfer or indirect diffusion of technology, information and knowledge, managerial or organisational practices, access to markets or assistance which may contribute to the upgrading of local O-specific advantages. Local sourcing also generates increased economic activity through demand for locally produced goods and services. In the longer term, such linkages can also provide the impetus for changes to market structure, consumer choice and international competitiveness.

These inter-firm linkages[1] can either be:

- indirect linkages, where there is no direct relationship between the firms but local upgrading may still occur through competitive, agglomeration or demonstration effects or;
- direct, where a purposeful transactional (buy or supply) relationship is fostered between the foreign affiliate and local firm.

In the following sections we examine these types of linkages in more detail and briefly review the relevant literature in this area.

Indirect linkages

Indirect linkages occur, not as a result of transactional relationships between firms that may engender the transfer of certain competences, but where these competences

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1 This thesis is primarily concerned with the investigation of primary inter-firm linkages rather than secondary linkages with political, professional or business associations, charities, research institutes, universities or social contacts (Barrow and Hall, 1995).

escape or diffuse to local industry. Indirect diffusion of competences such as technology suggests that local firms may still be able to benefit from spillovers or externalities arising from MNE activity even if they cannot access that technology directly. This is of particular significance to development when the MNE creates few direct linkages by choosing to source offshore and/or internalise transactions. For example, indirect linkages help to explain the process whereby all firms in a specific industry will tend to upgrade to the technologies or standards set by a leading firm through exposure to new ideas or products.

The innovation-network model (Ostry & Gestrin, 1993) asserts that competing firms may capture spillovers from technology development where the results cannot be fully appropriated within the innovating firm. In other words, even under full internalisation, competitors can exploit foreign technologies introduced to the host country via demonstration effects (see discussion below), reverse engineering, and accessing publically available information such as patents, as well as through more formal linkages.

Competitive, demonstration & agglomeration effects. It is very difficult to come to reliable conclusions as to the extent and pattern of indirect diffusion as evidence is limited and does not usually consider specific, micro-level effects. However, the literature suggests that the indigenous firm may benefit from these externalities in the following interrelated ways:

- competitive pressures to upgrade technology and productivity to certain (international) standards;
- spillovers associated with foreign presence and clusters or agglomerations of firms; and
- demonstration effects that involve the recognition, adoption and emulation of new technology, products, processes and managerial practices (UNCTAD, 1995).

A summary of the empirical literature concerned with the impact of FDI via such indirect linkages is included in Appendix 3.1.

Empirical evidence holds that foreign competition does in fact exert a significant influence on the upgrading of indigenous firms. Foreign competition may stimulate consumer demand or prompt improvements to efficiency, forcing local firms to raise standards and productivity. The most positive effects occur when strong local innovatory and production capacity exists, or MNEs prompt the development of a new area of industry (Blomstrom, 1991; UNCTAD, 1999).

Evidence of positive spillovers through competitive effects is more common in industrialised countries. For example, in the 1960s, American electronics companies led industry standards, pressuring European firms to follow (Mansfield, 1974). A study of 1270 German manufacturing firms by Bertschek (1995) found that both product and process innovation of these domestic firms were significantly and positively influenced by increased market competition through imports and inward FDI.

As discussed in Chapter Two, MNEs locate close to centres of excellence associated with particular countries or regions in order to gain from existing L-specific technological competences. Cantwell (1992) cites the German motor vehicle industry, where existing technological competences were strong and MNEs from other countries set up research bases to tap into this L-specific technology, thus fuelling the strength and diversity of these competences. Local, established firms benefit from the introduction of complementary technologies by these MNEs, while new entrants have the opportunity to integrate with these clusters by providing ancillary support services to complement the affiliate's core activities.

The MNE also might have detrimental competitive effects on the upgrading of local industry. This can occur through fierce competition crowding out local activities in product, financial or factor markets (UNCTAD, 1999). MNEs are able to out-compete local competitors through the use of superior O-advantages developed

overseas. In particular, this competition prevents local firms from undertaking lengthy and expensive learning processes, thus stifling their development and growth.

Alternatively, foreign players may hollow out local capability. The issue of hollowing out most frequently arises where local technical competence and research exists. MNEs attempt to glean these local capabilities without establishing complementary research facilities (Cantwell, 1992). This might be accomplished through selective poaching of skilled employees, acquisition of local firms (Shan and Song 1997), formation of joint ventures (Kogut & Chang, 1991), or alliances with local firms. MNEs could also discourage domestic investment in R&D. Relatively weaker local firms may be forced to play a supportive role to the larger MNE, at the expense of their own technological expansion. For example, existing technological capability in the British vehicle industry was undermined by European competitors from the early 1960s up until the mid 1980s (Cantwell, 1987).

A number of studies have sought to measure the aggregate effect of foreign presence on the performance of domestic firms[2]. Studies using cross-sector industry data at the aggregate level in both developed (Canada, Australia) and developing (Mexico) countries have found that foreign presence is associated with higher productivity levels in domestic firms or industry (Blomstrom, 1989, and Blomstrom and Wolff, 1994, Mexico; Caves, 1974, Australia; Globerman, 1979, Canada; Kokko, 1992, Uruguay).

However, Haddad and Harrison (1993) found no evidence of such spillovers in Morocco. The authors commented in a later article that "empirical studies that use aggregate data...find a positive correlation between sectoral productivity and the sectoral level of FDI; but studies that use plant-level data...find either a negative correlation or no relationship between the presence of MNEs and the productivity of domestically-owned manufacturing plants" (Aitken, Hanson and Harrison 1997,

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Note that at the aggregate level, it is difficult to determine if changes in performance levels have come about as a result of indirect or direct linkages between firms.

p.105; but see Kokko, Tansini, & Zejan, 1996 for an exception). Overall, the empirical evidence suggests that FDI has promoted improvements to industry efficiency (Dunning, 1985) and revealed comparative advantage[3] (Globerman, 1985), as local firms either upgrade or exit the industry (see Dunning, 1993, for a review).

Studies of export behaviour suggest that the presence of foreign firms has a positive influence on the exporting activities of local firms (Aitken, Hanson, & Harrison, 1997). General spillovers from MNE activity may encourage local firms to upgrade their O-specific advantages and undertake international trade. Geographic concentration of exporters enables economies of scale in distribution infrastructure, for example, or the exchange of market information leading to increases in total factor productivity. Often, a foreign affiliate might act indirectly as a conduit for knowledge of foreign markets, consumers or new technology. Alternatively the affiliate might serve as a direct channel for the export of locally produced goods, components or materials embodied in the MNE's products (UNCTAD, 1999). The main limitation of all these studies that consider the aggregate impact of FDI is that they are restricted to examining the existence rather than the nature and magnitude of such linkages.

Agglomeration of firms in related industries can also encourage local upgrading through demonstration effects. Case studies allow deeper insight into the nature of linkages between agglomerating firms. The introduction of foreign management practices and skills for instance, can benefit local firms which then go on to emulate these practices. Demonstration effects might also help local firms upgrade their products and services by bench-marking them with those of leading firms that bring international ideas and standards.

Voss and Blackmon (1996) suggest that the presence of foreign owned sites offer opportunities to local firms for benchmarking of manufacturing practices and

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Early studies used measures of retained value (local wages, inputs, profits accruing to local shareholders and taxes) to measure the contribution of foreign firms to the local economy, however we limit our discussion to effects on local firms (see Dunning, 1993, for a review).

performance. Training of local staff for technical, financial or managerial posts by the affiliate improves the skill level of the labour pool. Labour turnover then benefits local firms as these employees move on and share their knowledge and experience (Barrow & Hall, 1995). In sum, empirical evidence of the diffusion of managerial practices, skills and expertise is limited. However, many studies note that best practices associated with certain countries have become widespread (Japanese management practices in particular).

Direct linkages

Direct linkages involve a purposeful inter-firm relationship. They can be classified according to the value-chain of production as either forward (downstream) linkages, such as supplying local firms with a product that requires further processing; or backward (upstream) linkages, such as sourcing inputs from local suppliers (Hirschman, 1958). Direct linkages also include non-equity collaborative agreements between firms. A summary of empirical literature on backward and forward linkages between foreign affiliates and local firms is included in Appendix 3.1.

Forward linkages occur when raw materials, intermediate or final products or services are passed from the foreign affiliate to another firm for further processing, packaging, marketing or distribution, use by industrial customers, or for additional value-added such as after-sales services. The extent of forward linkage by the affiliate depends on the product itself, the L-advantages of the host country, the presence of capable local firms, and the extent of local experience by the affiliate.

Evidence suggests that forward linkages are typically not as common as backward linkages, for several reasons. First, the MNE often stands to gain more by independently adding value to the product which discourages the use of forward linkages for agency/marketing purposes.

Second, the affiliate may forego forward linkages by developing and producing output intended for more sophisticated, offshore markets, rather than the home market

(O'Loughlin & O'Farrell, 1980). If value-adding is done offshore, then not only are very few linkages created, but the potential for local employment is limited. Timber, for example, is logged in New Zealand but frequently sent to Japan to be processed. Overall, evidence is mixed as to whether FDI promotes downstream development in processing industries (Dunning, 1993, p. 461).

Third, there is also less emphasis on forward linkages in the literature. Empirical research has focussed on manufacturing industries where backward linkages are more prevalent (Sun, 1998). Exceptions do exist however, such as textiles and fashion MNE, Benetton (Italy).

Fewer studies have sought to establish the reliance of foreign affiliates on forward linkages for the purposes of agency, marketing and distribution. However, this can occur for several reasons.

- One, the company chooses to focus on core activities and sub-contracts non-core activities to other firms. Benetton, for example, forms forward linkages with European manufacturers and outlets who produce and sell the clothing. Core activities, such as design, cutting, dyeing and packing, are kept in-house (UNCTAD, 1995).

- Two, in the initial stages of investment, the affiliate can learn from the locally experienced and knowledgeable indigenous firm.

- Three, the MNE may need to maintain close relations with the marketing outlets for its products, in order to offer guidance about use and servicing. MNEs producing appliances, electronic and technical products, for example, work closely with outlets.

One of the benefits of forward linkages for local industry, is that MNEs can provide a cheaper, closer, and more reliable source of products for use in local manufacturing. Often these products would otherwise only be available through importing (Dunning,

1958). The MNE can introduce new products and services to a host economy, that enable local firms to produce their own products more efficiently and competitively. Linkages may also be forged between the affiliate and industrial customers of their technical products and equipment who need ongoing operation and/or maintenance advice. For example, IBM provided training, software and installation support to new customers in countries where the technology had been previously unavailable (Mansfield, 1974). Dunning (1958) found that US affiliates in British industry invested more in training for their customers than domestic firms.

Finally, a number of studies have shown a high reliance by foreign affiliates on local service providers (Collis, Noon, & Berkeley, 1994) (Fuentes, Alegria, Brannon, James, & Lucker, 1993). These findings are not unexpected, as the perishable and inseparable nature of many services means they are more likely to be purchased from service providers in close geographic proximity. Where these firms provide after-sales services, maintenance services or other support to customers, then the affiliate frequently offers training and technical knowledge about the product/service to facilitate the local firms' efforts. However, existing research typically does not clarify whether these services constitute inputs (such as cleaning, insurance), or further downstream processing (such as marketing or after-sales service). Hence, the difference between backward and forward linkages is not made distinct.

Backward linkages occur when the affiliate acquires inputs from local suppliers, or subcontracts part of the production process or service function out to other firms, increasing demand for local goods and services. These linkages traditionally have been considered one of the principal conduits for spillovers from foreign-owned to indigenous industry in a host economy (Hirschman, 1958).

Local sourcing Empirical work in this area is most often concerned with the extent or *quantity* of local sourcing by the affiliate in the host country. The available evidence suggests that the majority of foreign firms have some local linkages (McIntyre, Narula, & Trevino, 1996). Some affiliates (for example Nissan Motor Manufacturing in the UK, Nike and Ikea (UNCTAD, 1994)), are highly reliant on

external suppliers, although these tend to be the exception. Even in developed countries the extent of direct linkages with indigenous firms typically is limited (Barkley & McNamara, 1994; Barrow & Hall, 1995; Collis et al., 1994; ILO, 1976; Kennedy, 1991; Phelps, 1993; Turok, 1993). Linkages are even more limited in developed countries where local capabilities are few or export processing zones create foreign enclaves (Fuentes et al., 1993) (Sung, 1993).

Some studies have found that while foreign ownership has acted as a beneficial stimulus to the development of the foreign-owned affiliate, this has not been met by a corresponding positive impact on local firms. Barrow and Hall (1995) conceptualise the extent of local sourcing linkages with a continuum that places at one end the affiliate that has no linkages and operates in an enclave environment (such as a "screwdriver" assembly plant), and at the other end, the linked (or locally integrated) firm. In terms of the OLI reviewed in the previous chapter, it is expected that MNEs would internalise most of their O-advantages and activities. Therefore, we would anticipate that the number of local linkages formed by MNEs would be fewer than those of uninational firms.

Empirical evidence supports this assertion. Ruane and Gorg (1997) found that foreign-owned affiliates in Ireland purchased fewer raw materials and services locally than indigenous firms. A study of foreign-owned affiliates in the United States found that relative to domestic multi-branch plants, they purchased proportionally more inputs. However, locally-owned firms had the highest levels of local sourcing of all the firms (Barkley & McNamara, 1994).

The major limitation of Barkley and McNamara's study and others such as Barrow and Hall's (1995), is that they fail to distinguish the three different sources of local inputs. First, are the local purchases made from other foreign-owned firms based in the host country. Second are the intra-firm purchases made from branches or divisions of the same firm operating in the same country. Third are the specifically local purchases made from indigenous (and unrelated) firms in the host country.

Such a distinction would reveal the extent to which affiliates were operating in foreign enclaves. An enclave exists when sourcing is either intra-firm or from other foreign owned firms in the host country rather than through linkages with indigenous firms. For example, high levels of local sourcing from other foreign affiliates has been evident in service industries, such as financial services, consultancy and hotels (Dunning, 1989). A particularly notable example is the Japanese auto component suppliers who followed major Japanese vehicle manufacturers into the European Union and the United States.

Studies that use value-added, import intensity or vertical integration to measure the extent of local sourcing linkages have mixed results, and many focus on developing countries. For instance, foreign export-oriented affiliates had higher value-added (to exports) than domestic firms in a study by Kumar (1987), but the results of studies by Landi (1986, Nigeria), Jo (1980, South Korea) and McAleese and McDonald (1978, Ireland) show that MNE affiliates have a tendency to import more than their local counterparts.

This finding is confirmed by the majority of developing country studies reviewed in Jenkins (1990). In contrast, Kumar (1990) found that the import propensities of both foreign and domestic firms in India to be similar. However, a comparison of the vertical integration of the firms in the same study was found to be significantly higher in the foreign afffiliates. This result is similar to that of Halbach (1988, developing countries) for large subsidiaries, but incongruent with previous studies by Newfarmer and Marsh (1981, Brazil), and Willmore (1986, Brazil) who found vertical integration to be negatively correlated to the degree of foreign ownership.

A major limitation of studies that use local value-added, import intensity, or extent of vertical integration to assess local sourcing by foreign affiliates in comparison to domestic firms, is their focus on aggregate level impacts. They effectively measure the difference in the *levels of local sourcing* between foreign and local firms - which are to be expected given internalisation theory. But they do not reveal more important differences that relate to the 'bundle' of unique competences and resources embodied

in the affiliate (Dunning, 1993). But these types of studies do not address the question of whether these linkages, and their resultant impacts, are unique to the MNE. For example, Gonçalves (1986) found that MNEs in Brazil did not offer more technical assistance to suppliers than domestic firms, once size and industrial sector were controlled for, but the *type* of technical assistance offered may have been more important than the extent of this assistance.

A major limitation of the local sourcing literature as a whole, is its suggestion that the impact of direct linkages is limited to increased demand for, or supply of, locally produced goods and services. This is especially true of studies that use aggregate level data. The generation of such economic activity is insufficient, in itself, to generate the virtuous cycle of local up-grading. In reality, direct linkages can be far more complex than simple demand/supply market transactions. For instance, they may involve on-going relationships between firms, and the provision and supply of goods and services customised to the purchaser's requirements.

In summary, the empirical evidence suggests that the extent of local sourcing linkages formed by affiliates is lower than that of indigenous firms. However, the implications for local firm upgrading arising from the introduction and utilization of firm-specific resources are less clear. So, in addition to assessing the absolute value of local purchases, research should also evaluate:

- the extent to which resources (including O-advantages) of the MNE influence the types of local linkage formed;
- the extent to which these resources are internalised; and
- the extent to which diffusion or transfer of these resources to indigenous firms.

This would enable a more insightful evaluation of the impact on local upgrading as a result of the unique OLI configuration of the affiliate.

Developmental linkages The *quality* or dynamic nature of linkages are more critical considerations for the development of local O-advantages, than whether or not linkages are occurring or the *quantity* of those linkages. The quality of linkages refers to how much upgrading of local capabilities occurs over time, the extent of deepening of local linkages and the extent to which affiliates are integrated into the local economy (UNCTAD, 1999). Turok (1993) suggests a useful dichotomy which classifies the likely effect of MNE linkages on the local economy as either 'developmental' or 'dependent' (also see Barrow & Hall, 1995). Put simply, the terms make the distinction between linkages that contribute to upgrading (quality) and linkages that just increase demand (quantity).

In the *development scenario*, the affiliate responds to economic and market pressure or failure by engendering flexibility through decentralisation of decision making and closer relationships with others in the value chain, or in other words chooses a 'voice' response (refer Chapter Two). The result is a cluster of geographically close firms who can benefit from lower transaction and transportation costs and the exchange of technical ideas and market knowledge.

Although empirical evidence is limited there are a few recent studies worthy of mention and these are briefly reviewed in table 3.1 (see following page). These studies differ from the typical local sourcing literature in that they take a more qualitative approach which investigates specific impacts at the firm-level.

Table 3.1
Empirical Evidence of Local Upgrading via FDI

Author	Findings
Dunning (1998a)	A survey of suppliers in the U.K. found that the majority benefited from formulae, manufacturing methods, machinery design or other knowledge as a result of their relationships with locally-based U.S. affiliates (follow-up of earlier 1958 study).
Barrow and Hall (1995)	A case study of AMEX in the U.K., found that the affiliate had prompted improvements to systems and technology at its main local bank and encouraged local suppliers to achieve national, if not international, standards for price, service and quality through close linkages, high volume trading and competitive purchasing practices.
Cases reviewed in UNCTAD (1994)	Case study evidence that suggests MNEs have played a positive role in the creation subcontracting linkages in East Asia (electronics), Hong Kong and Taiwan Province of China (textiles and clothing). This has enabled subcontractors to upgrade production to higher value-added activities Nike (a U.S. sportswear giant) relies on backward linkages with suppliers for all its production activity. It gives its suppliers the opportunity to receive high volume, regular orders, to shift production to higher value-added products and to benefit from assistance with upgrading production capability. Ikea (Sweden) relies on 2,300 subcontractors in seventy countries for the manufacture of its furniture. To achieve high standards of quality and efficiency Ikea imposes strict selection criteria on its suppliers. It has made considerable contributions towards the upgrading of production facilities through the dissemination of better production methods, new technologies such as computer ordering systems and modern machinery.
Wong (1992)	A study of eight MNE affiliates and their 16 subcontractors in Singapore found that these relationships had a significant and positive influence on the technological development of the subcontractors. The impetus for this upgrading came from the affiliates themselves. They encouraged the local subcontractors to upgrade their production capabilities to meet the required standards. The affiliates offered technology, information such as product design specifications, exposure to good manufacturing processes, or assistance with technological learning through quality testing and diagnostic feedback. They also offered on-going contracts to subcontractors willing to invest in improvements to technology and quality. Some even threatened to switch to other subcontractors.

In the alternative, *dependent scenario*, flexibility is achieved through price-cutting and short-term, convenient relationships with local firms. Loyalty is weak to local suppliers who are exposed to international competition through adversarial purchasing contracts, and are limited to supplying standardised, low-technology components or raw materials. The result is an absence of mutually beneficial development and the promotion of economic and technological dependence by local firms. This scenario is evident in several studies which found insignificant evidence of value-added, technology based linkages between firms, as well as low levels of local sourcing (Barrow & Hall, 1995, U.K.; Phelps, 1993; Turok, 1993, Scotland).

In summary, the critical issue for upgrading is not whether linkages with local firms exist, but the quality and longevity of those linkages. We make the important point that forward and backward linkages may not only stimulate the level of business activity (demand), but also contribute to the productivity and competitiveness of the indigenous firms via on-going relationships and assistance. In the longer-term, such 'quality' linkages may evoke a stream of virtuous up-grading and economic development, including the creation of employment, and further downstream linkages between indigenous firms and their own customers and suppliers. However, a simple dichotomy of backward and forward linkages still excludes collaborative linkages whereby local firms and foreign affiliates engage in mutually beneficial inter-firm agreements. We examine this possibility in the following section.

Collaborative linkages These inter-firm agreements typically involve a *reciprocal transfer or development* of non-equity resources, competences or services. As such, collaborative linkages can be thought of as 'higher order linkages', that extend beyond the simple market transactions discussed in the previous section. These linkages include strategic alliances, technology sharing or development agreements, and managerial contracts as well as licencing, franchising, and joint ventures. These latter agreements are typically equity-based and therefore not included in this review (but see Mowery & Rosenberg, 1989).

Collaborative linkages may be instigated for a variety of purposes such as:

- competitive or collusive activities;
- sharing of complementary assets such as technology, information and resources (including human resources) (Chesnais, 1988);
- joint R&D activity to avoid duplication of new research or speed up the development process (Mowery & Rosenberg, 1989);
- exclusive supply or purchase agreements to ensure quality and reliability from on-going relationships;
- exclusionary market or manufacturing rights;
- co-operative marketing efforts that may seek establishment or commercialisation of a product in foreign markets; and

- specialisation of core activities while allowing external firms to develop others, especially where they are able to bring innovations to the market more quickly. (Teece, 1992; UNCTAD, 1995).

There have been some valuable contributions made in the area of technology diffusion via industry networks or clusters (see chapter two). This research is largely restricted to industrialised countries (Håkansson & Johanson, 1993).

Competitive industry clusters attract firms which often engage in collaborative linkages to access L-specific competences embodied in local industry. In a study of Sweden's internationally competitive industry clusters, Ivarsson (1999) found that foreign firms in the competitive clusters engaged in significantly more collaborative linkages than firms in non-competitive clusters.

This result confirms the general hypothesis that foreign firms exploit the localised pool of process and product technology available in the competitive clusters. However, the research also revealed a high reliance on internal (corporate) sources of technological competence. Parent and sister affiliates overseas were the most important source of such competences for approximately three quarters of the firms in both types of cluster.

There has been considerable attention given to the role of technology in economic development, and co-operation between firms to develop this technology. In particular, the distinction between firm-specific (tacit and non-tradeable) and public, generic knowledge (codifiable and tradeable) provides further justification of quasi-internalisation of O-advantages. This distinction explains how firms are able to maintain *core* competitive advantages within the firm, *while simultaneously* sharing and jointly developing other competences to the mutual benefit of collaborative partners (Cantwell, 1992; Mowery & Rosenberg, 1989). Therefore the diffusion or transfer of technology via both indirect and direct linkages usually involves codifiable, generic technology, rather than the more tacit core advantages of the affiliate.

Despite the growth of the network and technology development literatures in this area, fewer studies in the international business literature have explicitly investigated the role of collaborative linkages between foreign and local firms in the development of indigenous industry (although see UNCTAD, 1995). This literature also largely understates the developmental potential of a *two-way transfer* of competences through such alternative organisational forms (Perez, 1997). Dunning (1998a) recognises that the affiliate may coordinate its activity with those of a network of firms in order to augment their own O-advantages, while R&D alliances may strengthen the competitiveness of the participating firms. This, he asserts, is equivalent to a 'voice' strategy, overcoming the inflexibility and risks of hierarchical internalisation (Dunning, 1995).

As with the indirect diffusion of innovation and competences, the extent of collaborative agreements is difficult to quantify, outside of the United States, due to the limited recording of non-equity forms of collaborative activity. In addition, despite mounting empirical evidence of the mutually beneficial development taking place in specific firms, industries or regions, the majority of studies do not differentiate between affiliate-affiliate and affiliate-local firm agreements.

This limitation is also evident in studies of backward and forward linkages, as discussed in the previous section. Some would argue that this distinction is largely irrelevant given the convergence of globalised firms who draw on worldwide sources of technology and inputs. Nonetheless, the fact that 'clusters of excellence' do occur in specific countries suggests that L-specific differences are influencing these competences. It also explains the need for inter-firm cooperation and the subsequent mutual upgrading that occurs.

DETERMINANTS OF LINKAGE FORMATION

> The consensus of the great majority of those [studies] is that the contribution of fdi to the upgrading and increased productivity of the host country's resources and firms is strongly conditional of the motives for the investment, the size, nationality and the degree of multinationality of the investing companies, the human and physical infrastructure and market structure of the host country, the form of entry by the foreign affiliate, the nature of the products, the characteristics of related firms (e.g. competitors, suppliers, etc.), and the entrepreneurial ethos and strategies of both the investing companies and indigenous competitors in the host country. (Dunning, 1998a, p.263).

It is evident that the extent of linkages between foreign and local firms depends on a wide range of variables. We focus our discussion on the three main areas of firm strategy, host government policy, and existing local industry

Firm strategy

The firms global strategy influences the extent of local sourcing and the types of linkages formed in the host economy (Kotabe & Omura, 1989). The two key influences are the motive for the investment and the role of the affiliate in the wider corporate network. The mode of entry and the degree of autonomy also have been found to influence the extent of local sourcing.

Motive for investment As discussed in Chapter two, the motives for investment can be classified into five broad categories and tend to exert influence on the degree of linkage of the foreign affiliate with the local economy.

Resource-seeking investments which locate on the basis of low-cost labour or for the extraction of natural resources, tend to require few inputs from other local firms. Foreign investment in manufacturing tends to be more integrated with the local economy than investment in extractive and resource-based industries. The ILO (1976) found that affiliates in extractive and resource-based industries import approximately

half their imports, and only source basic inputs such as fuel, transport and public works. However, resource-seeking investments that involve on-shore processing have the potential to create forward linkages.

Williams (1997) asserts that as both resource and market-seeking investments are driven by the need to access low-cost resources and new markets, the affiliate is likely to concentrate on low value-added activities and rely on parent company know-how. However, there is scope for forward linkages if local firms are given responsibility for marketing or distribution functions. If the affiliate also incorporates manufacturing with market-seeking investment, then backward linkages will occur, at least for standardised inputs.

The market orientation of the market-seeking affiliate also influences the extent of local linkage formation. Those engaged in import substituting activities and servicing of the domestic market have significantly more inter-industry linkages than those involved in export-oriented activities seeking to service foreign markets (Halbach, 1988; Reuber, 1973). A more recent study of German companies operating from both the UK and Ireland found that the latter was used as an intra-firm exporting base, while the former was a base for domestic-market (UK) servicing. As a consequence, there were higher levels of local sourcing evident in the UK (Hood & Taggart, 1997).

Efficiency-seeking investments, particularly those which involve manufacturing, are associated with higher levels of local linkage. The purpose of efficiency-seeking investment is to combine the existing strengths and capabilities of the global firm with those of the local economy for the purposes of economies of scale and scope. This would suggest that affiliates that are able to rationalise their own activities and acquire cost-effective quality inputs locally will chose to do so.

The impact of strategic asset-seeking investment depends on the mode of entry. If the affiliate forms collaborative linkages with local innovators, this results in high-quality linkages (Chen & Chen, 1998a). However, if the investment involves acquisition of local, innovative firms then the affiliate has bypassed linkage formation in favour of

full internalisation of local O-advantages. The impact then is principally on the (new) firm, rather than industry.

Finally, trade-supportive FDI typically forms few linkages with the local economy as its purpose is to provide local services and administrative support. Its impact would be similar to that of non-manufacturing, local market-seeking investment.

Role of the affiliate Empirical evidence suggests affiliates that follow simple-integration, rather than stand-alone or complex-integration strategies, are less likely to establish linkages in the local economy. Firms that follow simple-integration strategies conduct a narrow range of functions in the host country. They tend to rely on imported inputs and create few local supply linkages (UNCTAD, 1994). As the affiliate also performs less sophisticated functions than the parent, locally sourced inputs have lower value-added. This may mean that local suppliers are forced to compete on cost rather than upgrading their capabilities to provide more specialised inputs.

On the other hand, complex-integration strategies aim to maximise benefits of economies of scale and efficiency (see above). Such an affiliate is responsible for a wider range of functions, such as intermediate and final production or marketing, and therefore will demand more from the local economy. Dupuy and Savary (cited in UNCTAD 1994) found that affiliates that were strongly rooted in a host economy and oriented towards the domestic market accounted for significant local procurement, and Campbell found that the international production strategy of the MNE has considerable bearing on the impact on a host country (1994).

Mode of entry/Ownership form Greenfield investment typically involves an increase in local linkage formation and demand for locally produced goods and services. In contrast, where FDI involves acquisition of an indigenous firm, existing linkages may decline as the foreign affiliate sources from parent and related affiliate companies offshore (Ashcroft and Love 1989; Love 1990; Schachmann and Fallis 1989; cited in Barkley & McNamara, 1994).

Autonomy The evidence suggests that higher levels of autonomy allowed to the affiliate are related to higher local involvement. Williams (1997) argues that greater strategy autonomy allows affiliates to develop linkages through local procurement activities as they take part in more value-added activities. Studies that compare foreign owned affiliates with local branch plants tend to show that the former have fewer local linkages due to lower levels of local autonomy, and greater specialisation into higher value-added activities (see Ivarsson, 1999).

Industry/sector Many empirical studies confirm that industry sector, rather than foreign ownership per se, plays a more determining role in the extent of linkage formation. Multinational firms are over-represented in industries which typically have fewer linkages in the local economy. These industries tend to source a larger number of inputs offshore and use labour-intensive processes. Comparisons between local (multi-plant) and foreign firms in the same industry confirm this assertion. They show little difference between the extent of local linkages created within industries. Foreign firms in the high technology sectors such as automobile, semiconductor and computer industries for example, were found to establish only weak linkages to the local economy/region. This was also true of domestic firms in the chemicals and high-technology sectors (see Barkley & McNamara, 1994).

Equally, foreign firms tend to be under-represented in sectors that are most likely to source locally, such as textiles, lumber, paper and printing (Barkley & McNamara, 1994). In addition, foreign affiliates in the primary product sector (oil, mining, forestry) tend to create fewer linkages with local suppliers as inputs (such as capital, managerial resources and technology) come from the parent, and outputs (usually in the form of raw materials) are sent offshore for further processing. A major exception are service sector MNEs, such as those involved in trading and tourism which engage in frequent backward linkages.

Government policy

Trade and competition policy influences the extent to which affiliates are willing to form linkages. A general consensus is that the more competitive and outward-oriented an economy is, the more that linkages are encouraged (UNCTAD, 1999). This is of particular significance for New Zealand which has prided itself on the aggressive reduction of trade barriers, superceding efforts of neighbouring countries such as Australia with whom it competes for inward investment. However, a lack of infant industry protection coupled with concentrated effort to raise exports has undermined potential benefits of the free trade regime in New Zealand.

Government also has a direct influence on the extent of local linkage formation through specific policies aimed at foreign investors, or industry more generally. Local content requirements result in higher levels of linkage. In India, for example, the two largest and foreign-owned automobile companies had local content of sales at 94 and 95 percent (cited in Dunning, 1993). Incentives for investment, or subsequent R&D and training activity may also encourage the establishment of greenfield sites and counter some of the costs incurred through involvement in local upgrading. In isolation, these policies (particularly incentives) typically have not produced benefits greater than their costs. In contrast, countries such as Singapore where the overall policy approach is integrated and focussed on local development, have experienced considerable success (UNCTAD, 1999).

Adequate intellectual property rights may reassure MNEs seeking to introduce new technologies (Teece, 1986a). However, policies intended to speed up the rate of diffusion can often have the reverse effect. Mandatory licencing in Brazil, for example, enables local firms to access international technology, but discourages MNEs from introducing the latest developments. Trade restrictions may also discourage the transfer, and subsequent dissemination, of leading-edge technologies in markets which cannot support their full potential by acting as production bases for third country markets (UNCTAD, 1995).

In New Zealand, national treatment for foreign-owned affiliates; lack of specific incentives for foreign investment, industry development and exporting; and highly liberalised trade policy mean that investors face the same operating conditions as local firms. We discuss New Zealand policy more fully in Chapter Four.

In addition to direct influences on the activities of MNEs in the host country, host government policy has an indirect influence on receptor conditions. It shapes host economy L-advantages, for example industry and education policy influences the degree of local firm capability. Economic policy will ultimately impact on other receptor conditions such as market size (Lall, 1980), the social climate, the education system, the scientific community and the extent of industrial research (Mansfield, 1974).

Local industry

Capability of local firms There is considerable evidence that shows the capability of local firms to provide competitively priced, quality and reliable products and services has a significant bearing on local sourcing. If local suppliers can respond to the demands of affiliates' effectively, then the potential for linkages is higher. However, an affiliate will not establish these linkages where the existing networks of suppliers, skills and capabilities and technologies are woefully inadequate (UNCTAD, 1999).

In developed countries, foreign investment is most likely to have a favourable impact on local capabilities where local firms are able to absorb new ideas and technologies and build on their existing O-advantages. Increased rivalry may prompt improvements to skill levels in less efficient or protected sectors, if the technology and skill gaps between local and foreign firms are not too wide (see below). There is considerable evidence that linkages increase as local capability improves. Linkages with domestic suppliers increased in the Singaporean electronics sector as this industry developed for instance. The local content ratio of Japanese production in the United States and Europe has risen due to improvements to the quality and price of

local inputs, expansion of manufacturing facilities, and increased reliability of supply (see review in Dunning, 1993, p. 453).

However, if the local sector is weak, then inward investment is less likely to promote skill and competency upgrading as local firms cannot compete with their foreign rivals, who also raise barriers to entry for other firms (Dunning, 1993). Turok(1993) found that the extent of linkages in the Scottish electronics industry was limited by the technological weaknesses of local suppliers, the lower quality and reliability of their output, and uncompetitive prices, despite there being sufficient local capacity for production. Suppliers indicated that they had difficulties meeting the demands made by the affiliates for low-priced, irregular, and short-notice purchases. Barkley and McNamara (1994) also found that the availability and relative price of local inputs influenced the extent of local sourcing.

Technology gap between foreign and local firms The ability of local firms to benefit from linkages and technological spillovers is dependent on the extent of the technology gap between them and the foreign affiliate. If the gap is small, and the level of existing technology is of comparable sophistication, local firms are more likely to benefit. In Uruguay, Kokko et al. (1996) found significant differences in the impact of foreign presence on spillovers; it was positive for firms that had small technology gaps, but not for those with large gaps. The study indicated that large technology gaps mean local firms are unable to learn or apply foreign technology using existing skills, rather than not being able to access that technology, for instance in an enclave situation (Kokko, 1994; Perez, 1997)

A similar concept is that of absorptive capacity based on the existing resources and technological capabilities of local firms. The extent to which technology diffuses (either directly or indirectly) to indigenous firms is dependent on their absorptive capacity (Cohen & Levinthal 1990 cited in Cantwell 1992). The indigenous firm must have the capacity to recognise the potential of the technology and be able to incorporate it into existing or modified firm practice. The greater the differences between the tacit competences of the recipient (local) and donator (foreign affiliate),

the higher the cost of transfer to, and absorption by, the recipient; and the less likely there will be indirect diffusion, or direct transfer of technology via supply or collaborative agreements.

Other determinants

Other important determinants of linkage formation relate to the nationality and age of the investor.

Age Linkages tend to increase over time as the affiliate becomes more integrated with the local economy. This has been the case for Japanese manufacturing affiliates. (Watanabe 1993, cited in UNCTAD 1994) found those established prior to 1970 sourced 69 percent of inputs locally, compared to 45 percent by those established in the first half of the 1980s. In Ireland, O'Loughlin and O'Farrell (1980) found that new foreign affiliates tended to have lower levels of linkages than new domestic firms and that these linkages would increase overtime. McAleese and McDonald (1978) also had similar results, and Ruane and Gorg (1997) found that linkages increased initially and then levelled off.

Country of origin Studies that examine the impact of nationality on linkage formation have very mixed results, suggesting that other factors play a more important role. Some studies found no significant influence on local linkages (Barkley & McNamara, 1994), while others found country of origin effects were significant (Kotabe & Omura, 1989). Evidence from affiliates operating in the United States in the late 1980s, suggested that few linkages occur between local and foreign firms as a result of the country of origin. Japanese firms, for instance, were found to purchase little from indigenous suppliers and to rely heavily on other Japanese firms also operating in the United States (Iannone 1989, cited in Barkley & McNamara 1994). A study of the procurement practices of North American and European Community affiliates operating in England found the latter relied more heavily on inputs (such as capital equipment) from their country of origin (Collis et al., 1994).

CONCLUSION

MNE activity impacts on the affiliate, on industry (indigenous firms), and on the economy. The underlying assumption of the IDP is that a country's propensity to undertake outward FDI is related to inward FDI. Ultimately, MNE activity, in conjunction with appropriate policy, is expected to foster the ability of indigenous firms to undertake independent outward foreign investment. The empirical evidence suggests that this may be occurring in ideal circumstances, but in most cases, only to a limited extent. At the micro-level the unique impact of the MNE is explained by its use and organisation of the bundle of resources transferred from parent to affiliate. The diagram below shows the relationship between the typical elements of this bundle, and the anticipated impacts at the first and second round levels.

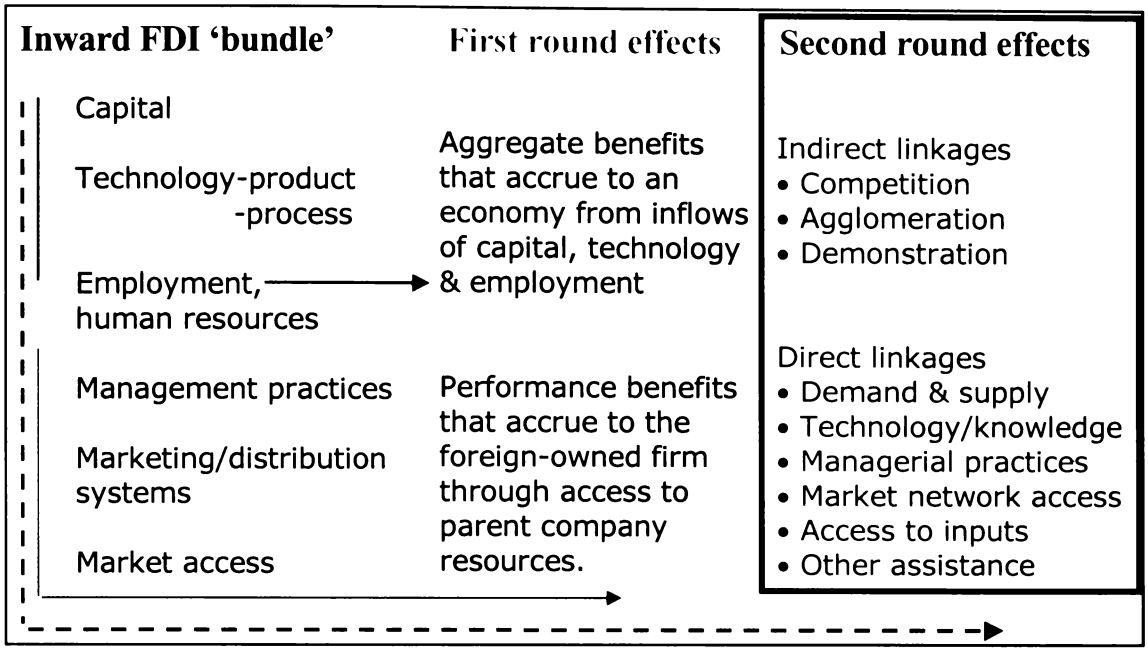
The chapter began by examining the impact of FDI at the macro-level. It looked at the impact on the host economy of first round effects arising from changes to capital, employment and technology. At the micro-level, FDI impacts on the performance and competitiveness of the affiliate through the transfer and organisation of a bundle of O-advantages transferred from the parent. These first round effects are the focus of much of the extant literature. We then considered the second round effects that occur as a result of indirect and direct linkages with indigenous firms, as shown in Figure 3.1.

Our first concern was the emphasis of these studies on measurement of these effects at the aggregate level. These results provided evidence of the aggregate *outcome* of foreign presence, but tended to blur the role of the MNE's unique characteristics in the *process* of change. These studies certainly provide evidence of the capacity of MNE activity to be associated with performance, market, and structural change, but the actual process of this change at the level of the local firm is less well understood.

Neither did the studies enable researchers to establish if changes were occurring as a result of direct linkages or indirect linkages. Measurement difficulties also meant there has been limited research on indirect effects at the level of the firm. Studies

which did consider these micro-level effects were often limited to case study approaches.

Figure 3.1
First and Second Round Effects Arising from Inward FDI



Second, empirical evidence supports the concept of internalisation of activities by the affiliate. Most research found that foreign affiliates have fewer linkages than indigenous firms. Still, more studies investigated backward rather than forward linkages, and very few studies considered agency or marketing agreements as a means of local upgrading.

Third, the emphasis of much linkage research determines whether linkages exist, and if so, their scope or extent in the local economy. Focus on the value of local sourcing has limited many studies to measuring the *quantity* rather than the *quality* of local linkages. Too infrequently did studies consider direct linkages which were of the developmental sort. These linkages involve a voice response to market imperfections. They are characterised by ongoing involvement between the firms, purchase and supply of more specialised goods and services, and/or inter-firm transfer of assistance and resources in order to help indigenous firms raise the standard of their output.

Fourth, linkages between firms were often assumed to generate positive effects on local industry, particularly direct linkages. Negative effects, such as 'crowding out' of local industry, were typically associated with indirect competitive effects, or direct acquisition of indigenous firms. Few studies considered the potential for 'hollowing out' or the cumulative decline of local industry, as a result of a strong foreign presence or collaborative linkages (exceptions include Perez, 1997). It is also important to recognise the potential for a two-way transfer of resources, which may be beneficial or detrimental to either of the firms involved.

Fifth, the majority of studies do not consider the full extent of linkages - from indirect competitive effects, to direct relationships with customers and suppliers, and finally, collaborative linkages with industry partners. The absence of the collaborative linkage, in particular, considerably underestimates the impact of an MNE's activities on local industry. This is especially true in the case of the AICs, where globalization of markets and production coupled with the need to remain flexible and innovative has increased the number of strategic alliances

Finally, and related to all these points, the international business literature fails to link the level of linkage of an affiliate with the local economy with purposeful 'externalisation' of O-advantages. If O-advantages remain successfully contained within the firm, then this strictly limits the impacts on upgrading, by excluding assistance-related linkages, collaborative linkages and the like. A more flexible definition of O-advantages is needed to include not only firm-specific tacit advantages, but also codifiable knowledge and resources that result from being part of a MNE. The transfer of such non-core advantages is more likely to occur and therefore is more important to our consideration of upgrading (or downgrading) of local firms through direct linkages.

In conclusion, Dunning (1993) states that there is still no satisfactory answer to the question of whether the MNE has a positive impact on economic welfare and how this could be maximised to the benefit of the host country. Both firm and country-specific factors influence the degree and quality of local linkages. Chapter Two considered

theories which explained why firms undertake international production, and the possible impacts of that firm's activities on a host country. In the following chapter, we consider the L-specific factors of the host country in more detail. Specifically, the extent and pattern of MNE activity in New Zealand will be addressed using existing literature and statistics. Then in Chapter Five we attempt to address the above limitations of the literature by operationalising the OLI paradigm.

CHAPTER FOUR
FDI IN NEW ZEALAND

> While there is no shortage of personal opinion on the subject of foreign investment in New Zealand, it is nevertheless an outstanding example of poor documentation (Deane, 1970, p.1).

INTRODUCTION

Foreign direct investment (FDI) has, and continues to play, a crucial role in the development and growth of New Zealand industry. Among the developed countries, New Zealand is one of the most reliant on FDI (UNCTAD, 1999). Historically, FDI has provided the foundation for many of New Zealand's fledgling industries, such as dairy, meat processing, and banking. Since liberalisation and deregulation of the economy in the mid 1980s, foreign investment has become an even more significant source of capital, assets, and employment (Enderwick, 1998). It is for these reasons that a more comprehensive study and analysis of FDI in New Zealand is critical to understanding its immediate and longer-term effects, and to devising appropriate policies to maximise economic benefits.

This chapter presents the current position of FDI in New Zealand. It draws on and refers the reader to existing literature and official statistics to illustrate the historical importance of FDI as well as the extent and pattern of investment over the past decade. The discussion then turns to examining the ESP paradigm (see Chapter Two) in the New Zealand context. Primarily we are concerned with New Zealand's location-specific (L) advantages, as well as the policy environment that has shaped these advantages.

Finally, we review the empirical evidence that looks at the impact of FDI in New Zealand at the level of the economy, the foreign-owned affiliate itself, and at the level of industry. This evidence shows that FDI in New Zealand makes a significant

contribution in a number of areas, including capital funds, employment, technology, management practices, access to corporate networks, and increased local demand and supply of goods and services. In conclusion, we present a number of caveats regarding the analysis and interpretation of current research that give rise to the need for comprehensive survey evidence to rigorously test propositions.

NEW ZEALAND'S HISTORICAL RELIANCE ON FDI

The earliest foreign investments in New Zealand industry (prior to 1900) were made where local manufacturing of products, such as sugar and ammunition was necessary. The meat industry, in particular, experienced substantial foreign investment prior to 1920. Foreign investment of any significance first flowed into New Zealand in the 1920s, but the majority of direct investments prior to 1965 were made in the 1930s or between 1955 and 1965. This coincided with government- imposed import controls (see below). These initial investments came from the United Kingdom and from Australia. Subsidiaries were wholly foreign-owned and local share participation was not common. Following the restraints of the late 1930s, investment also came from the United States.

In several recent works, Akoorie (1996a; 1998b) considered the historical role of FDI in New Zealand. She argued that FDI made a significant contribution to the early development of some of New Zealand's leading industries. These include agriculturally based sectors such as dairy and meat, that up until the 1970s supplied much of its produce to Great Britain. Natural assets such as the climate and terrain of New Zealand were combined with foreign capital, technology, and farming know-how. Industries that provided supporting infrastructure to agriculture and commerce, such as rail transport and banking, also had significant investment from offshore.

Following the depression in the 1930s and up until 1967, the New Zealand Government maintained an Import-Substituting, Inward-Looking (IS-IL) policy

orientation, designed to protect the domestic commodity-based industry from external shocks. There were high levels of government intervention in the economic management of the economy, encompassing monetary and fiscal policies, tariffs, import and exchange controls and regulation on domestic industry. However, there were no policy restrictions on inward foreign investment until 1964, when the 25 percent threshold and restrictions on the purchase of farm land were introduced.

In the absence of FDI, the only options open to the multinational enterprise (MNE) to service the New Zealand market were via licencing where the chance to exploit many firm-specific advantages was lost, or to service the market at great cost from offshore. As a result of these restrictive trade policies, and in contrast to the resource-seeking investments of the Nineteenth and early Twentieth centuries, the primary motive for inward investment from 1938 onwards was to circumvent barriers to trade and capitalise on such barriers through domestic manufacturing. In fact, foreign-owned companies established monopolistic or oligopolistic positions for themselves in many industries (Deane, 1970).

The post-1950 period saw an increase in the flow of foreign capital to New Zealand, especially following the strict import controls applied in the late 1950s (Deane, 1970, 24). Investment was directed to manufacturing, in a diverse range of industries. From 1955 to 1965 investment was concentrated in industries such as food, chemicals, metal products and machinery. Considerable non-manufacturing investment was directed to the banking, insurance, wholesale and retail trade sectors. Overall, Deane (1970) notes that foreign investment tended to be concentrated in industries which required a relatively high degree of technological knowledge, patent protection and technology. Investment continued to be dominated by Australian and British interests, although local share participation was becoming more common.

In 1984, the Labour Government instigated a series of reforms that would witness a complete return to the Export-Oriented, Outward Looking (EO-OL) principles that had guided policy pre-1938. Widespread deregulation of industry, privatisation of state-owned assets and enterprises (Scott-Kennel, 1998a), and liberalisation of

policies toward capital flows, foreign investments, and trade created a virtually non-discriminatory environment for domestic and international business alike. The L-advantages of New Zealand shifted from protectionism, to freer access to sectors such as banking, ownership of infrastructure such as telecommunications and transport, and resources such as forestry. In addition, the emerging market-driven environment became conducive to creating internationally-competitive business. These changes have had implications not only for the type of FDI attracted to New Zealand, but also for local firm capability. We consider New Zealand's current L-advantages later in this chapter. In the following section, we demonstrate the extent to which FDI has increased since the changes to policy in 1984.

EXTENT & PATTERN OF FDI

This section presents the current position of FDI in New Zealand using official statistics and previously published data. Specifically this section reveals:

- the extent of FDI investment in the New Zealand economy relative to total investment;
- recent trends in flows and stocks of investment;
- FDI by country of origin and regional groupings;
- foreign-owned enterprises by industry sector; and
- employment by foreign-owned enterprises by industry sector.

In the following section, the stocks of inward and outward investment presented in this section are used to estimate New Zealand's IDP trajectory.

FDI to total investment

Table 4.1 shows the contribution of FDI to investment in New Zealand. The figure for inward FDI flows as a percentage of nominal gross capital formation shows that from March 1993 to 1997 FDI accounted for an average of 24 percent of all

investment in New Zealand. In 1997, the dramatic drop in the inward flow of investment saw this figure reduce to just 10 percent, down from 33 percent in 1993.

As a proportion of Gross Domestic Product (GDP), inward flow of direct investment rose to over six percent in 1996, and declined in 1997 to just over two percent. The stock of FDI as a proportion of GDP increased from 37 to 59 percent over the same period.

Table 4.1
FDI Flows and Stocks as a percentage of Gross Domestic Product (GDP) and Gross Capital Formation 1993-1998

	1993	1994	1995	1996	1997	1998
Inward FDI flow as a percent of GDP	5.60%	5.84%	5.01%	6.32%	2.33%	
Inward FDI flow as a percent of Gross Capital Formation	33.3%	30.7%	23.3%	27.9%	10.1%	
FDI stock as a percent of GDP	37%	43%	47%	54%	59%	

Source: World Investment Report 1999.

Inward FDI flows

Table 4.2 shows inward and outward FDI flows taken from the balance of payments figures published by Statistics New Zealand (SNZ) since 1950. Looking at inward flow first, it is evident that this has been fairly constant throughout the 1950s and 1960s, and then started to increase in 1970 responding to policy and other L-advantages at the time. The late 1970s and early 1980s sees another rise in inward investment levels, followed by further rises following the 1984 reforms. However, the largest increases to investment levels occur from 1989 onwards and peak in 1995/96. This is attributable largely to the privatisation programme implemented during this period and the growing attractiveness of the investment environment.

The more recent figures given in Table 4.2 show considerable fluctuation in the levels of inward FDI flows. FDI flows for 1996/7dropped by 48 percent on the 1996 figure, recovered in 1997/8, then fell again by 54 percent. These fluctuations reflect the economic and political climate both in New Zealand and internationally.

Table 4.2
FDI in New Zealand - Inward and Outward Flows 1951-2000 (NZ$million)

Year	Inward flows	Outward flows*	Year	Inward flows	Outward flows*
1950/51	11	3	1975/76	115	18
1951/52	22	4	1976/77	279	37
1952/53	21	2	1977/78	159	31
1953/54	6	4	1978/79	264	54
1954/55	22	3	1979/80	343	73
1955/56	32	2	1980/81	204	118
1956/57	20	3	1981/82	366	115
1957/58	19	2	1982/83	364	604
1958/59	28	0	1983/84	205	54
1959/60	6	4	1984/85	456	349
1960/61	34	2	1985/86	745	166
1961/62	36	2	1986/87	402	949
1962/63	55	4	1987/88	238	938
1963/64	38	4	1988/89	725	226
1964/65	44	0	1989/90	2824	3961
1965/66	63	3	1990/91	2932	2546
1966/67	29	2	1991/92	2026	728
1967/68	28	-1	1992/93	4093	-2565
1968/69	39	6	1993/94	4538	3400
1969/70	76	11	1994/95	4100	2662
1970/71	130	8	1995/96	5360	-1827
1971/72	98	11	1996/97	2766	-2424
1972/73	106	3	1997/98	4062	703
1973/74	153	14	1998/99	1871	1929
1974/75	180	15	1999/00		

* Negative values given for outward FDI flows implies disinvestment by New Zealand investors.

Outward flows of FDI were negligible until the mid-1970s. Following the lifting of restrictions on capital flows, outward investment increased dramatically in the early 1980s and even exceeded the inward flow of investment in 1983 and again over several years in the late-1980s. The most significant flow of outward investment began in the 1990s, but the following decade was marked by extreme fluctuations in investment.

FDI flows by country

Table 4.3 shows the net flows of FDI by regional grouping and by country. New Zealand attracts the largest proportion of investment from the OECD followed by the APEC group. A further breakdown by country gives a clearer picture of the origin of investment. In the March year ended 1999, for example, there was a net withdrawal of investment by US, Singaporean, Canadian, and Hong Kong-based investors and Japan and Australia were the only major inward investors. Australia is the most significant foreign investor in New Zealand, followed by the UK.

Table 4.3
Inward FDI flows in New Zealand by Group/Country of origin 1992-1999

Year ended March (NZ$million)

	1992	1993	1994	1995	1996	1997	1998	1999
				BY MAJOR ECONOMIC GROUPINGS				
APEC	997	3,522	3,159	3,423	4,163	976	3,667	1,276
ASEAN	859	260	485	329	260	23	110	-1,051
EU	929	546	1,554	533	520	1,221	1,709	831
OECD	1,054	3,746	4,123	3,428	4,987	2,196	4,557	3,294
				BY MAJOR COUNTRIES				
Australia	879	3,127	903	1,018	1,402	1,214	3,085	2,817
Canada	39	305	169	244	574	-472	158	-86
Germany	6	17	34	34	54	-3	48	18
Hong Kong	42	35	-32	375	-512	-63	C	-73
Japan	11	-46	54	-50	46	177	26	1,533
Netherlands	118	-65	998	32	-275	-37	-60	634
Singapore	684	256	485	310	261	11	218	-1,108
Switzerland	63	-20	21	107	48	21	14	76
United Kingdom	761	634	511	450	553	1,122	1,463	169
United States of America	-835	-161	1,387	1,574	2,310	16	-440	-1,875
Total All Countries	2,026	4,069	4,710	4,100	5,360	2,766	4,062	1,871

Inward FDI stock

Table 4.4 shows that stocks of inward FDI in New Zealand have steadily increased, doubling from nearly NZ$ 28 billion to nearly NZ$ 63 billion from 1993 to 1997.

Table 4.4
Inward Investment Stocks 1996-2000

As at 31 March (NZ$million)

	1996	1997	1998	1999*	2000
Direct Investment in New Zealand	49,212	53,920	62,953	63,121	63,766
Equity Capital and Reinvested Earnings	40,695	43,641	50,618	50,632	50,969
Other Capital	8,518	10,279	12,335	12,489	12,798
Claims on direct investors	-1,764	-1,342	-667	-1,346	-2,684
Liabilities to direct investors	10,282	11,621	13,002	13,834	15,482
Portfolio Investment in New Zealand	28,543	29,003	31,723	33,315	27,722
Equity Securities	425	1,503	376	453	817
Debt Securities	28,118	27,500	31,347	32,862	26,905
Other Investment in New Zealand	27,847	30,043	29,380	30,825	43,962
Trade Credits	956	1,064	1,242	1,132	1,246
Loans	9,887	10,165	11,999	11,774	12,222
Currency and Deposits	16,889	18,315	15,125	17,790	30,318
Other Liabilities	115	500	1,014	130	177
Total Foreign Investment in New Zealand	105,603	112,966	124,056	127,261	135,451

*=revised
Source: SNZ Hot off the Press

Table 4.4 also shows the composition of inward investment stock in New Zealand. At March 2000, foreign direct investment (FDI) accounted for 47 percent of all inward investment. This proportion has remained relatively constant since 1996, with a slight rise in 1998 and 1999. Portfolio investment represented 20 percent of inward investment and other investment made up the remaining 32 percent.

In terms of the components of direct investment in1997, 80 percent was made up of equity capital and reinvested earnings, with the other 20 percent being other capital (principally liabilities to direct investors).

FDI stock by country of origin

Investors from OECD countries have the largest stock of investment in New Zealand, followed by those in the APEC group. Table 4.5 shows that at March 2000, the highest level of investment stock originated in Australia ($ 24.57 billion), followed by the USA ($11.60 billion), and the UK ($ 9.24 billion). These three countries accounted for 71 percent of all FDI stock in New Zealand. These are also New Zealand's traditional trading partners.

Table 4.5
Inward FDI Stocks in New Zealand by Group/Country of Origin

	As at 31 March (NZ$million)								
	1992	1993	1994	1995	1996	1997	1998	1999	2000
	MAJOR ECONOMIC GROUPINGS								
APEC	16,802	20,940	27,399	31,412	37,858	38,557	42,528	41,714	42,038
ASEAN	1,612	1,865	2,672	2,842	3,517	3,635	2,986	1,830	1,494
EU	4,231	5,019	6,610	6,761	7,940	9,822	11,627	13,757	14,719
OECD	19,199	23,443	30,324	33,916	41,055	43,750	50,323	52,944	54,348
	MAJOR COUNTRIES								
Australia	7,488	10,344	12,283	13,124	14,717	15,713	19,626	23,074	24,571
Canada	169	498	658	1,118	1,894	965	1,600	968	995
Germany	87	146	175	202	250	243	265	241	590
Hong Kong	576	970	1,139	1,612	1,439	1,355	1,117	875	1,067
Japan	800	1,237	1,294	1,512	1,598	1,690	1,227	2,327	2,025
Netherlands	499	538	1,882	1,689	1,345	1,371	1,345	3,622	3,353
Singapore	1,408	1,647	2,461	2,595	3,277	2,547	2,162	1,177	1,023
Switzerland	252	244	253	346	390	477	379	315	363
United Kingdom	3,481	4,175	4,219	4,595	5,894	6,894	8,509	8,586	9,242
United States of America	6,139	5,992	9,086	11,034	14,407	14,955	15,809	12,452	11,601
Total All Countries	22,743	27,815	36,083	40,076	49,534	54,164	62,992	63,149	63,829

Since 1992 the stock of investment has increased by $41 billion or 181 percent. The largest increases in the stocks of investment of individual countries were for Germany, the Netherlands and Canada, although these countries account for a small proportion of the stock overall. Of the largest investing nations, Australia's stock of investment has increased by over 220 percent, the UK's by 165 percent, and the US's by 90 percent.

FDI by industry sector

The extent of foreign ownership in New Zealand industry is considerable. We may evaluate the extent of its presence by retabulating two sets of data published by SNZ. The first considers the number of enterprises by degree of foreign ownership, and the second gives employment figures by foreign ownership.

Table 4.6 shows a summary of this information. For the purposes of the thesis, we show the number of *significantly* foreign-owned enterprises (those that have 25 percent or more foreign equity) and the number of full-time equivalents (FTE) employed by these enterprises in New Zealand.

It should be noted at this point that the 'enterprises' included in SNZ's annual surveys are any business enterprise that is a legal entity engaged in the provision of goods and/or services, or set up with the intention of providing goods and/or services, which earns income and/or incurs expenses (SNZ, 1999). The sampling frame for the survey includes all enterprises that meet the following criteria:

- greater than $30,000 annual GST expenses or sales;
- more than two full-time equivalent paid employees;
- in a GST-exempt industry except for residential property leasing and rental;
- part of a group of enterprises;
- new GST registration that is compulsory, special or forced;
- registered for GST and involved in agriculture or forestry.

Table 4.6
Foreign-owned Enterprises* (FOEs) and Employment (FTEs#) by Foreign-owned Enterprises: February 1999

	Foreign-owned Enterprises (25% or more foreign equity)			Employment of FTEs by Foreign-owned Enterprises		
ANZSIC Division	Number of FOEs	% of total Enterprises	% change 1996-99	Number of FTEs	% of total Employment	% change 1996-99
Agriculture, forestry, fishing	89	0.88	44	1382	4.96	15
Mining	45	12.71	-41	1250	34.63	-13
Manufacturing	610	3.07	-3	73220	31.21	-10
Electricity, gas, water supply	9	4.64	80	1170	17.01	-2
Construction	77	0.23	40	9420	9.21	94
Wholesale trade	1425	9.14	8	31380	32.34	6
Retail trade	225	0.67	11	34930	19.81	10
Accommodation, cafes, restaurants	100	1.14	11	8270	13.35	2
Transport, storage	215	2.10	-6	22300	33.86	-2
Communication services	41	1.21	37	12920	46.21	31
Finance, insurance	1035	12.04	20	33925	73.53	2
Property, business services	1560	2.01	6	25890	14.85	78
Government admin, defence	0	0.00	0	0	0.00	0
Education	30	0.52	-9	340	0.33	13
Health, community services	23	0.20	2	829	0.73	22
Cultural, recreational services	97	1.11	20	3150	11.08	114
Personal, other services	40	0.37	11	2580	5.35	70
TOTAL^ 1999	5600	2.16	8	262960	19.06	7
TOTAL 1998	5820	2.23		271170	19.58	
TOTAL 1997	5530	2.27		262110	19.15	
TOTAL 1996	5206	2.30		245477	18.50	

*FOEs-Foreign owned enterprises (25+% foreign equity)
#FTEs-Full-time equivalents, incorporating part-time workers as ½ FTE each.
^Figures may not sum to totals due to rounding and omissions made for confidentiality reasons by SNZ.

In practice, therefore, the SNZ survey includes a wide range of enterprises. These include corporate and non-corporate producer enterprises, producer boards, central and local government enterprises, a range of private and government financial intermediaries, central government and local authorities, and private non-profit organisations such as household service providers. As such, the SNZ survey extends beyond the types of business enterprise that are included in the sample for this study, and any direct comparisons between the two must take this into consideration.

Foreign-owned enterprises by industry sector

Previous studies have shown that foreign-owned enterprises in New Zealand dominate telecommunications, banking, insurance, railways (Scott-Kennel, 1998a), whiteware retailing and office products (Rosenberg, 1998).

In contrast, in the manufacturing sector, the number of foreign-owned enterprises has actually decreased since 1990. This may reflect comparative disadvantages which NZ has in this sector, such as labour constraints and a small domestic market. It might also reflect a reduced need for manufacturing presence in NZ as result of trade liberalisation (Cremer & Ramasamy, 1996, p. 65).

Between 1987-95, the number of enterprises which were officially classified as foreign-owned in NZ (25 percent or more) increased from 2,251 to 4,375 - an increase of almost 95 percent, compared to the number of fully New Zealand-owned enterprises which increased by just 40 percent (Cremer & Ramasamy, 1996). Since 1995, the growth in the number of foreign-owned enterprises has slowed somewhat to 28 percent. In 1999, there were 5,600 significantly foreign-owned enterprises in New Zealand. By way of a comparison, there were 252,800 fully New Zealand-owned enterprises operating in New Zealand 1999, which represents an increase of just 17 percent since 1995.

Table 4.6 shows that in 1999 the absolute number of foreign-owned enterprises was highest in the property and business services (1560), wholesale trade (1425), and the finance and insurance sectors (1035). Combined, these sectors had more than 4,000 significantly foreign-owned enterprises. In contrast, the manufacturing sector accounted for just 610 of the foreign-owned enterprises. There was a negligible foreign presence in the areas of government administration, education, and health and community services.

In 1999, foreign-owned enterprises accounted for just over two percent of the total number of enterprises in New Zealand. However, looking at the percentage of foreign-owned enterprises to total enterprises for each industry, it is clear that foreign firms had a stronger presence in mining (13 percent of the total), finance and insurance (12 percent) and wholesale trade (9 percent). Foreign-owned enterprises accounted for just three percent of manufacturing enterprises.

The percent change in the number of foreign-owned enterprises from 1996 to 1999 is also shown in Table 4.6. Over all industries, the number of foreign-owned enterprises has increased by eight percent, which is less than the increase of total enterprises by 15 percent over the same period. Entry of foreign-owned enterprises into the electricity, gas and water supply sectors has been the most dramatic. Since 1996, the number of foreign-owned enterprises has increased by eighty percent. Other areas that have experienced strong growth in foreign ownership include agriculture, forestry and fishing (44 percent increase), construction (40 percent), and communication services (37 percent). In contrast, the number of foreign-owned enterprises has declined in mining (by 41 percent), education (9 percent), transport and storage (6 percent), and manufacturing (3 percent).

Employment in foreign-owned enterprises by industry sector

The second half of Table 4.6 considers employment by significantly foreign-owned enterprises in New Zealand. Nineteen percent of all employment was in enterprises with 25 percent or more foreign ownership, which translates into 262,960 FTE positions. Manufacturing accounted for the greatest proportion (28 percent or 73,220 FTEs) of this figure. Foreign-owned firms in retail trade, and finance and insurance accounted for a further 13 percent of all FTEs each (approximately 34,000 FTEs), and those in wholesale trade provided a further 31,380 FTEs (12 percent).

Foreign presence, as measured by the number of FTE employees, differed significantly between industries. The number of FTE positions in significantly foreign-owned manufacturing firms, for example, equalled almost one third of total manufacturing employment in New Zealand. Foreign-owned enterprises also accounted for approximately one third of all employment in transport and storage, mining, wholesale trade, and mining.

The sector with the highest proportion of employment by foreign-owned enterprises was finance and insurance (74 percent), even though foreign firms only account for 12 percent of the total number of companies. Similarly, 46 percent of employment

in communication services was provided by foreign firms, despite only accounting for just over 1 percent of the total number of firms in the industry. This suggests that large firms in the industries were more likely to be foreign-owned, and this proposition is investigated in the following section.

Finally, Table 4.6 shows that since 1996, employment numbers in foreign-owned firms have increased by seven percent. In comparison, FTE employee numbers for all enterprises in New Zealand have only increased by four percent. So while the number of foreign-owned enterprises was not increasing at the same rate as all enterprises, these firms were increasing their employment numbers at a much faster rate. This may be indicative of takeover or acquisition of larger New Zealand-owned firms by foreign investors. The change in certain industries has been phenomenal. Take cultural and recreational services, construction, and finance and insurance, for example. From 1996 to 1999, FTE employment numbers rose by 114, 94 and 78 percent respectively in these sectors.

The only sectors since 1996 which have experienced declines in FTE employment by foreign enterprises are mining (13 percent), manufacturing (10 percent), transport and storage, and electricity, gas and water supply (2 percent each). This is of particular concern in manufacturing, where a 10 percent decrease represents 8000 FTE jobs. However, it must be noted that this decline reflects phenomena occurring over the whole industry, where FTE numbers fell by 9 percent over the 1996-99 period.

Foreign-owned enterprises by size

Table 4.7 highlights the contrast between the numbers and proportions of foreign-owned firms divided into two size groups, small and large, for the purposes of comparison. These two groups are characterised by:

- those employing fewer than one hundred FTE employees (small); and
- those employing one hundred or more FTE employees (large).

While the total number of foreign-owned enterprises in the former group is much higher, the overall percentage to all (small) firms is very low at approximately two percent. Conversely, while there were only 435 foreign-owned enterprises that employ one hundred or more FTE employees, these enterprises accounted for almost 36 percent of all (large) enterprises in New Zealand.

The largest numbers of small foreign-owned enterprises employing under one hundred employees are in the property and business service industries (1,504), wholesale trade (1,365), and finance and insurance (1,000). As a proportion of all small firms, foreign presence is highest in finance and insurance along with mining where foreign-owned enterprises comprise approximately 11 percent of the small firms in these industries.

Table 4.7
Number of Small and Large Foreign-Owned Enterprises* in New Zealand: February 1999

	Small Foreign-owned Enterprises* (employing fewer than 100 FTEs#)		Large Foreign-owned Enterprises* (employing 100 or more FTEs#)	
ANZSIC Division	Number	% of total small enterprises	Number	% of total large enterprises
Agriculture, forestry, fishing	86	0.85	3	30.00
Mining	39	11.21	6	100.00^
Manufacturing	444	2.27	166	51.39
Electricity, gas, water supply	6	3.47	3	14.29
Construction	54	0.16	23	48.94
Wholesale trade	1365	8.81	60	57.14
Retail trade	189	0.57	36	28.80
Accommodation, cafes,	75	0.86	25	71.43
restaurants	191	1.88	24	37.50
Transport, storage	29	0.86	12	80.00
Communication services	1000	11.70	35	72.92
Finance, insurance	1504	1.94	56	39.16
Property, business services	3	2.52	0	0.00
Government admin, defence	30	0.53	0	0.00
Education	20	0.18	3	3.09
Health, community services	91	1.04	6	30.00
Cultural, recreational services	34	0.31	6	37.50
Personal, other services				
TOTAL^ 1999	5145	1.99	455	35.77
TOTAL 1998	5380	2.07	440	34.81
TOTAL 1997	5095	2.10	435	34.09
TOTAL 1996	4798	2.13	408	32.82

*Foreign owned enterprises (25+% foreign equity)
#FTEs-Full-time equivalents, incorporating part-time workers as ½ FTE each.
^Figures may not sum to totals due to rounding and omissions made for confidentiality reasons by SNZ.

Table 4.7 clearly indicates the dominant foreign presence in the group of large enterprises (100+ employees). Over all industries, the percentage of large foreign-owned enterprises averages 36 percent. If the three categories where foreign presence is negligible are omitted, this average rises to 42 percent. The highest foreign presence was in the areas of mining (100 percent), communication services (80 percent), finance and insurance (73 percent), and accomodation, cafes and restaurants (71 percent). In manufacturing and wholesale trade foreign-owned enterprises accounted for 51 and 57 percent of all large enterprises.

Employment by foreign-owned enterprises by size

Table 4.8 shows that for the year ended February 1999, small foreign-owned enterprises (those employing fewer than one hundred employees) provided almost six percent of employment in all small enterprises, or 48,790 full-time equivalent positions. Thirty percent of these positions were in manufacturing, and a further 25 percent in wholesale trade. Considering the percentage of employment in small foreign-owned enterprises to total employment in small enterprises, Table 4.8 shows that this varied considerably by Australia-New Zealand Standard Industry Classification (ANZSIC) division.

The largest proportion of employment by foreign-owned enterprises was in the finance and insurance sector (29 percent), followed by mining (26 percent), and wholesale trade (21 percent). Employment in manufacturing by foreign enterprises was just under 10 percent of all employment by small enterprises in this sector.

The second half of Table 4.8 shows the number of FTE employees in enterprises that were significantly foreign-owned and had 100 or more employees. It is also clear that foreign enterprises provided a substantial proportion of all employment in large enterprises. With the exception of four sectors, the percentage of employment by large foreign enterprises exceeded 20 percent. Comparison of the average proportion of employment in small foreign enterprises (six percent) to the proportion for large foreign enterprises (40 percent) supports the proposition that foreign firms tend to be

larger than domestic firms. If the two government-dominated sectors are removed (e.g. government administration and defence, and education and health), the percentage of employment by large foreign enterprises to all large enterprises rises to 49 percent. This means that, on average, half of the employees that were employed in large enterprises in New Zealand were working for a foreign-owned enterprise.

Table 4.8
Employment by Small and Large Foreign-Owned Enterprises* in New Zealand: February 1999

	Small Foreign-owned Enterprises* (employing fewer than 100 FTEs#)		Large Foreign-owned Enterprises* (employing 100 or more FTEs#)	
ANZSIC Division	Number of employees	% of total employment by small enterprises	Number of employees	% of total employment by large enterprises
Agriculture, forestry, fishing	292	1.17	1090	39.07
Mining	510	25.50	740	45.96
Manufacturing	12220	9.94	61000	54.66
Electricity, gas, water supply	80	4.65	1090	21.12
Construction	810	0.92	8610	59.30
Wholesale trade	14420	20.59	16960	62.81
Retail trade	2410	1.87	32520	68.39
Accommodation, cafes,	1920	3.69	6350	64.21
restaurants	3070	7.98	19230	70.18
Transport, storage	430	6.43	12490	58.72
Communication services	3545	28.50	30380	90.15
Finance, insurance	7220	5.64	18670	40.36
Property, business services	0	0.00	0	0.00
Government admin, defence	340	0.52	0	0.00
Education	259	0.50	570	0.93
Health, community services	840	4.06	2310	29.81
Cultural, recreational services	400	1.36	2180	11.60
Personal, other services				
TOTAL^ 1999	48790	5.76	214170	40.29
TOTAL 1998	50270	5.96	220900	40.75
TOTAL 1997	47870	5.80	214240	39.39
TOTAL 1996	45963	5.75	199514	37.82

*Foreign owned enterprises (25+% foreign equity)
#FTEs-Full-time equivalents, incorporating part-time workers as ½ FTE each.
^Figures may not sum to totals due to rounding and omissions made for confidentiality reasons by SNZ.

In the finance and insurance sector, this proportion increases to 90 percent of all employment in large enterprises. The majority of employees (70 percent) in transport and storage were also working in a large foreign-owned enterprise. In the retail trade sector large foreign enterprises provided 68 percent of all employment by large enterprises, but only accounted for 29 percent of all large firms in that industry (see Table 4.8). The figures for transport and storage show similar discrepancies, indicating that these enterprises were larger than their domestic counterparts (although the reverse is true in the communication services sector).

Other studies support the fact that foreign-owned companies tend to account for a disproportionate number of large New Zealand firms (Fox and Roy). It has been estimated that foreign enterprises contribute to one third of employment in New Zealand (approximately 580,000 in full or part-time jobs) when both direct and indirect effects are considered (OIC 1998).

Foreign-owned enterprises and ownership structure

The ownership structure of the foreign-owned enterprises tends to favour majority ownership (over 50 percent). Table 4.9 (1999 figures) shows that of the enterprises that are between one and 100 percent foreign-owned, only 19 percent had less than 50 percent of foreign equity. Hence, despite the cut-off criteria in this thesis being 25 percent or more foreign ownership, the majority of such enterprises were over 50 percent foreign-owned.

Table 4.9
Number of Enterprises by Percent Foreign Equity (FE): February 1999

Year	All enterprises	FE < 1%	1% ≤ FE < 25%	25% ≤ FE < 50%	FE ≥ 50%
1999	259204	252800	800	410	5190
(percent of total)	(100.00)	(97.50)	(0.31)	(0.16)	(2.0)
1998	260735	254120	800	590	5230
(percent of total)	(100.00)	(97.50)	(0.31)	(0.23)	(2.0)
1997	243380	236920	930	470	5060
(percent of total)	(100.00)	(97.30)	(0.38)	(0.19)	(2.1)
1996	225996	219771	1019	419	4787
(percent of total)	(100.00)	(97.20)	(0.45)	(0.19)	(2.1)

The number of firms with 25 percent or more foreign ownership increased by 145 percent (from 2,251 to 5,530) between February 1987-97, compared with a rise of 77 percent (from 133,569 to 236,920) for fully New Zealand-owned firms (OIC 1998).

NEW ZEALAND'S IDP: THE NOI POSITION

The Investment Development Path (IDP) is constructed on the basis of a country's net stocks of outward direct investment or its Net Outward Investment (NOI) position. The NOI is calculated by subtracting the inward FDI stock from the outward FDI stock over time. Table 4.10 shows the outward and inward stocks of FDI in New Zealand from 1989 to 2000 (official records were not kept for stocks of investment prior to this date).

The figures show a steady increase in the stocks of inward FDI up until 1998 and then these figures seem to level off at approximately $63 billion. Outward FDI stocks showed less of a clear trend, with considerable fluctuation in the early 1990s. Overall outward FDI rose slowly over the period, but was still only 22 percent of the inward investment figure.

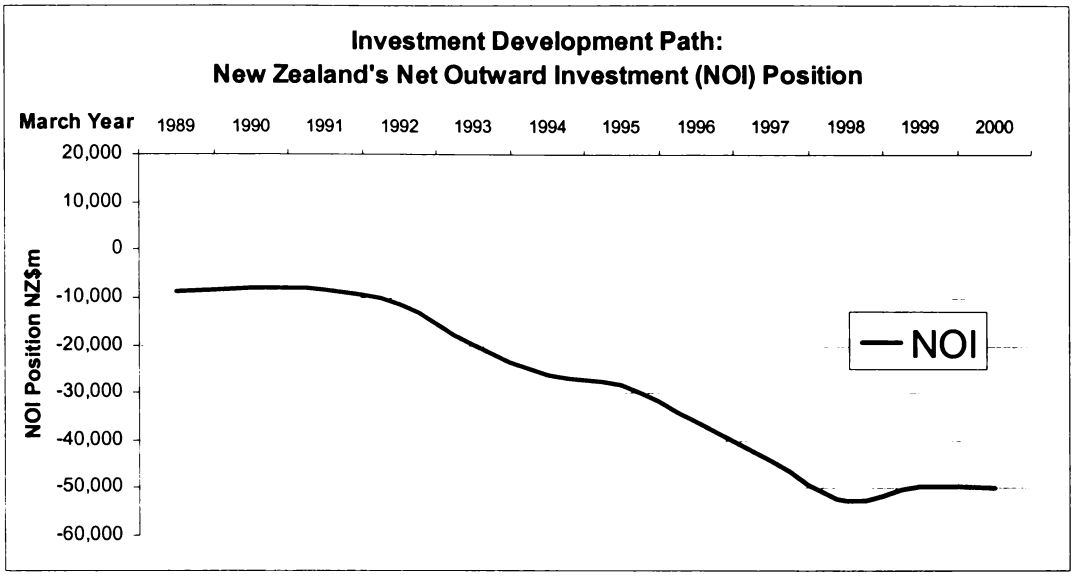
Table 4.10
FDI stock in New Zealand 1989-2000

	Foreign Direct Investment Stocks		
Year	Outward FDI	Inward FDI	Net Outward Investment (NOI)*
1989	867	9,685	-8,818
1990	5,649	13,720	-8,071
1991	10,149	18,349	-8,200
1992	11,506	22,743	-11,237
1993	7,876	27,838	-19,962
1994	9,177	35,255	-26,078
1995	11,748	40,076	-28,328
1996	13,163	49,212	-36,049
1997	9,707	53,920	-44,213
1998	10,421	62,953	-52,532
1999	13,458	63,121	-49,663
2000	13,778	63,766	-49,988

* equals the stock of outward FDI less the stock of inward FDI.

New Zealand's NOI position has also been calculated in Table 4.10, and is also shown in Figure 4.1. The figure is consistently negative over the 1989-2000 period, reflecting the much higher levels of inward investment. Figure 4.1 shows that the NOI position worsened until 1999 when it began to improve slightly.

Figure 4.1
New Zealand's Net Outward Investment Position



According to a typical IDP, Figure 4.1 suggests that New Zealand might be entering Stage Three of the trajectory, when the increases to the stock of inward investment start to level off and outward investment stocks increase more rapidly. However, Akoorie (1996b) suggested that New Zealand's NOI position is adversely affected by its resource-based economy, and that in reality it also demonstrates many of the characteristics associated with Stage Four.

Nonetheless, both Stages Three and Four of the IDP are characterised by a pressing need for local firms to upgrade existing assets. In particular, for a resource-based economy there is a need to develop created assets to complement and even replace natural assets. While natural assets have traditionally provided a basis for economic growth, the need for Stage Three/Four countries to develop globally competitive advantages means that created assets will assume a far more important role in economic development. In Stage Three in particular, inward FDI can play a vital role in the creation and improvement of such assets. These are discussed in detail in the following section.

DETERMINANTS OF NEW ZEALAND'S IDP TRAJECTORY

As discussed in Chapter Two, the IDP furnishes the researcher with a framework with which to assess the extent and pattern of FDI and its link to economic development. In theory, the IDP can be hypothesized to follow a typical pattern, where initial outward and inward FDI is negligible, then inward FDI starts to rise in response to increasingly attractive L-advantages, and then eventually, as local firms upgrade their competencies, outward FDI also rises - ultimately making the NOI position of the host country positive.

However, in reality, empirical evidence has shown (see country case studies in Dunning & Narula, 1996) that each country follows its own path which is largely determined by the host country's:

- L-advantages, principally the economic environment and the extent and nature of created and natural assets;
- economic systems and strategy of economic development;
- government policy and the role of the host country's government in shaping L-advantages (Dunning, 1986a).

These characteristics determine the nature and extent of the firm-specific assets of both foreign MNEs and domestic firms operating within a host country's borders. In this section we reappraise each of these determinants in the New Zealand environment from a developmental perspective.

Location-specific advantages

Extent of created and natural assets. New Zealand has built on a traditional base of abundant natural resources, reliance on the primary sector and supporting industries. Many of these assets, such as forestry, land, and energy resources are more readily available as well as competitively priced, relative to alternative investment locations.

New Zealand can also offer a well-educated workforce comparable to other developed countries. However, spatial distribution of these created assets such as skilled labour, tends to be increasingly concentrated within the larger urban areas.

Through privatisation and public and international investment, New Zealand has a well-developed infrastructure in telecommunications, financial institutions and transport. This is complemented by established systems of protection for consumers, intellectual property and investment.

Industry clusters. The availability of specific competencies or technical leadership within an industry can attract foreign investment. The ability to acquire or collaborate with existing firms will influence the affiliate's decision regarding quasi-internalisation. Where the firm is part of an industry cluster or group of firms in a supportive network, then the likelihood of quasi-internalisation of O-advantages increases. New Zealand has such industry-based competencies in the areas of agriculture, horticulture, forestry, and computer software.

Economic systems and economic development strategy

The broad objectives of the New Zealand Government are, in line with most other developed countries, to create employment, foster growth and development, and maintain a desirable standard of living. Equally important is improvement in the country's sustainable competitive advantage relative to overseas competitors.

Since the reforms of 1984, the primary mechanism of achieving these objectives by successive governments has been the pursuit of a market-led economic environment. This shift in policy has been the subject of numerous studies, and hence, will not be described in much detail here (Dalziel & Lattimore, 1996; Easton, 1997; Kasper, 1996; Kelsey, 1997). However, the key change to New Zealand's economic system was the move towards market forces as the primary indicator for business and economic growth and an export oriented-outward looking (EO-OL) orientation (Akoorie, 1998b).

Such a liberal approach to policy is concerned with directing assets to their most productive use, and this implies that the assets are owned by those who are best able to achieve this, regardless of nationality. Commercial objectives are assumed to drive higher efficiency and productivity than social objectives. The tenets of liberalisation guide both internal and external policy in New Zealand and have resulted in a shift from public to private operation of business. The implications for this shift in economic system have meant sectors previously restricted to foreign investors are now accessible. Both privatisation of state-owned enterprises and assets and deregulation in certain sectors were intended to increase efficiency, output and growth (Scott-Kennel, 1998a).

Hence, the principal function of government in this new era of economic management is to facilitate rather than to participate. The underlying policy of the New Zealand Government since 1984 has been the creation of a stable and supportive environment in which business can function effectively. A hands-off approach to industry policy coupled with the lowering of barriers to trade, and reducing compliance costs to business more generally, has served as the main conduit for growth in business and investment activity (Scott-Kennel, 1999).

The strategies for development of the National government (in power up until the time of the survey in November 1999), were to maintain macro-economic stability through low inflation and prudent fiscal policy; increase openness to international trade and investment; build a high quality labour force; lower regulatory costs to business; and continue to examine the role of government in the economy (Peters, 1998).

Fiscal strategy aimed to maintain operating surpluses in order to repay crown debt and priority areas for spending were health and education. At a micro-economic level, the National Government sought to raise competitiveness in domestic business by maintaining competitive markets and the efficient use of resources, whilst encouraging innovation and international competitiveness through support of science and technology.

In contrast to their National predecessors, the Labour-Alliance government has sought to take a more active role in the development of industry and regional growth. Realisation of a need to encourage business activity in New Zealand has helped shape emerging development strategies. Government has sought business opinion and comment as to how New Zealand's growth prospects might be improved in the future. Regional development has become a priority of the new Ministry for Economic Development, and there have been strong suggestions that FDI has an important role to play. In the following section, we consider specific areas of government policy which impact on the type and extent of FDI in New Zealand.

Government Policy

Government policy plays a critical role in determining the economic development achieved by a country. Governments that view FDI as a means of competitive upgrading and development need to actively co-ordinate foreign investment and regulatory policy to create attractive receptor conditions that will encourage value-adding investment and complement national goals. The focus of policy in the 1980s and 1990s has shifted towards one of facilitation and support - away from the interventionist approach of the 1960s and 1970s.

Research in New Zealand by Akoorie (1996a) revealed that government policy played a crucial role in determining the extent of diffusion of the benefits of foreign investment. In this section we examine areas of government policy which shape the L-specific factors most significant to foreign investors entering and conducting business in New Zealand. These policies are by no means an exhaustive list, but exert the most influence on the type, extent and impact of FDI.

FDI Policy In comparison to other countries, New Zealand now has one of the most liberal investment climates in the world. Apart from ownership of rural land and the fishing sector, there is effectively no prohibition or restriction on FDI. Official policy states that an overseas person must obtain consent to take 'control' of 'significant' assets. In practice, control is equivalent to the investor holding 25 percent or more of

the voting shares, and significant assets include non-land investments that exceed $50 million, and most purchases of five or more hectares of land.

Non-land investments usually involve either purchase of all or part of a New Zealand-based company (locally owned or foreign owned) or assets; or establishment of a new company (or assets) in New Zealand. Over the past decade, FDI policy in New Zealand has been gradually relaxed, allowing larger investments in a wider range of industries to proceed without official approval.

Most recently, the outgoing National government passed legislation increasing the threshold at which potential foreign investors must obtain consent for non-land purchases from $10 million to $50 million. Generally, investors should state how the investment is in the 'national interest' (see below), otherwise criteria for approval in New Zealand are few - the investor must have relevant business experience and no criminal convictions.

Land purchases and land-related investments are subject to greater restrictions to foreign investment. Ownership of any land that is "sensitive", such as the foreshore, lakes and islands, is restricted to foreign investors. In 1996, the National-New Zealand First Government tightened restrictions on investment in farmland. Such investments are required to be in the "national interest", and these criteria also apply to investments in "sensitive" areas (The Overseas Investment Amendment Act 1998 cited in OIC 1998). National interest criteria include creation or retention of employment; introduction of new technology, business skills or capital for development; development of trade or market competition and efficiency; and increased processing of New Zealand's primary products.

The majority of applications are deemed to meet such criteria. Only six applications (relating mainly to farmland) were refused in 1997, and only two prior to that date. Monitoring of the investment's contribution to the national interest rests largely on the investor, and penalties for non-compliance have not been handed down since they were introduced in 1995. Since then, new legislation has further relaxed the

restrictions on foreign-ownership by making purchases of certain urban land over five hectares, forestry or cutting rights and easements used to provide electricity, gas or water services exempt from acquiring consent.

However, it is important to note that although not part of official policy, foreign involvement is effectively restricted from agricultural and horticultural sectors including dairy, kiwifruit, apples and pears. Producer boards have a statutory monopoly over the marketing of these products. In the case of fishing, a quota system excludes most foreign investment.

In line with its free-market philosophy, the New Zealand Government does not offer incentives to specific investors, in certain areas of industry or in particular regions. Asian nations such as Singapore have acknowledged the success of these strategies, and more recently similar strategies have been introduced in Australian states. Instead of direct incentives or targeting specific investments, the New Zealand government has promulgated the importance of a stable economic and political environment as a sound base for investment growth. It has concentrated on achieving economic fundamentals such as macro-economic stability, liberalisation of trade and investment, industry deregulation, and provision of infrastructure.

However, the current Labour-Alliance Government has indicated that the provision of certain incentives to foreign investors might be considered in the future as a means of boosting economic growth and employment. This change in policy stance reflects a drop in investment flows into New Zealand, rising levels of competition for investment in the Asia-Pacific region, and increasing use of incentives in other countries. A proactive industry policy approach now being implemented in Australia, for example, is aimed at attracting investment directly rather than merely relying on a suitable investment climate created by stable and liberal policies (Scott-Kennel, 1999).

Trade policy In the early 1980s, Australia, New Zealand and Turkey were the only member countries of the OECD that had not shifted to more liberalised trading

regimes (Henderson, 1997). Restrictive trade policy presented a lucrative opportunity for the MNE to exploit. Competition from local producers, stifled by the inability to compete on an international level, was minimal in many industries. This coupled with the lack of competition from imports, encouraged investment based on market-seeking or resource-seeking motives.

There has since been considerable progress in the liberalisation of external trade policy since the mid-1980s, which reflects the realisation that lowering tariffs and other barriers to trade and investment is in the countries' best interests (Henderson, 1997). New Zealand has abolished import licensing, and reduced tariffs and restraints on the movement of capital. The Closer Economic Relations and Trade Agreement (CER) with Australia (1983), provides bilateral free trade of goods and some services. Under the Bogor Declaration, the developed members of Asia-Pacific Economic Community (APEC) including Australia and New Zealand, have agreed to the removal of all barriers to trade by 2010. New Zealand plans to reach this goal earlier, by 2006.

In New Zealand, the removal of quantitative restrictions and lowering of tariffs has radically changed the trading and investment environment. Incentives for export are no longer offered, nor are subsidies for agriculture or other significant industries. These factors, coupled with a strong currency, have created a competitive environment for manufacturers.

The turnaround in trade and tariff policy has facilitated trade and eliminated artificial incentives to foreign production seeking to shelter in protected markets. The removal of foreign exchange controls and the requirements to report the transfer of funds has also lowered the costs to international investors. Most imports are still subject to an average 8-9 percent duty, although the effective tariff rate is lowered by concessions and preferential duties (to Canada, Britain and less developed countries). Concessions are becoming more widespread in line with economic policy that seeks to create a more open and competitive business environment (MOC, 1998). Current tariffs are highest where local industry is granted some protection from imports (clothing 22.5

percent and carpets 20 percent). No duty is imposed on goods that are not produced locally or those imported from Australia.

In November 2000, the New Zealand government signed a free-trade agreement with Singapore, one of the country's most significant Asian investor nations. The agreement allows tariff-free flow of goods and services between countries. In the following week at the APEC summit, the Prime Minister of New Zealand initiated a move that will see New Zealand drop completely tariffs on imports from the least developed countries. The implication for domestic (including foreign-owned) manufacturing and support industries in a diverse range of sectors is that local production may become uncompetitive.

The rapid removal of tariffs has been criticised for not giving local industry sufficient time to adjust to international competition (Arnold, 1997), particularly when other countries, such as Australia, are proceeding more slowly with tariff reduction. Removal of a 22.5 percent tariff on the import of new cars in 1998, for example, prompted all four car assembly companies (Mitsubishi, Honda, Toyota and Nissan) to close their plants. This has caused losses to direct employment in the plants, and indirect employment in supporting industries (Somerville and Enderwick, 2000). Toyota shifted its assembly operations to Australian shores where receptor conditions were more favourable.

In contrast to the unexpected reduction of tariffs in some areas, export restrictions continue to be applied to agricultural products, which must be marketed and exported through a central organisation, usually an industry board. To date this has served as an effective measure to prevent significant ownership and control by foreign investors in agricultural industries (Akoorie & Scott-Kennel, 1999). This continued protection has drawn considerable criticism from both overseas competitors in the United States and local growers who want independent exporting rights. Both groups argue that the boards engage in unfair trade practices through their monopolistic exporting position.

Other controversial areas of trade policy include trade remedies, such as anti-dumping and countervailing duties which are used against imports that are injuring local industry. These have been criticised as incongruent with the liberalisation of trade and competitive local markets (Corden, 1996). For instance, Ministry of Commerce asserts that "there is no balancing of interests to ensure that the imposition of trade remedies, while assisting producers, does not outweigh benefits to consumers and downstream [and upstream] industries in the form of lower prices" (MOC, 1998). Removal of the ban in New Zealand on parallel importing of goods protected by copyright in 1999, enabled importers other than licensed agents to import branded products. This was expected to lower prices to consumers, but presented intellectual property right concerns for foreign firms selling such goods in the New Zealand market.

> 'We may conclude that FDI and trade are inextricably and increasingly intertwined, both at the micro-economic level of firms' strategies and operations and at the macro-economic level of the national economy. A separation of the two, both on a conceptual level and on policy-making level, is no longer suitable and is likely to create inconsistent, counterproductive policies.' (Cremer & Ramasamy, 1996, p.27).

Most authors agree that a combination of trade and investment leads to larger total benefits then from either alone (UNCTAD, 1996). Similarly, FDI and trade policies are linked, that is, they support and complement each other. However, focus in New Zealand almost exclusively has been on the liberalisation of trade policy and the formation of beneficial trading agreements with other nations, without a corresponding focus on developing FDI policy.

Immigration policy In line with the previous point, immigration policy is not seen as an integral component of the development of L-advantages in New Zealand (for a discussion of the interaction between trade, investment and migration see Bollard, 1997). Despite commendable liberalisation in trade and capital flows, at this time immigration policy in New Zealand is still very restrictive. This is due, in part, to both employment and national identity concerns. This policy stance has also been

criticised as directly contravening the principles of liberalisation and an open economy (Henderson, 1997).

Immigration is recognised as a third area where liberalisation is linked to greater economic prosperity. Immigrants also complement trade and investment. As with FDI, immigration has the potential to introduce skills, knowledge, and new enterprise to an economy. New Zealand did announce in 1998 that immigration approvals would be increased, but this was intended more as a short-term fix to economic woes than a long-term policy based on the liberal principle. Currently, immigrants may gain entry into New Zealand by investing funds into the economy. The payment system is justified as a rationing device that ensures immigrants place a high value on living in the host country and are more likely to invest personal effort in the future. It also adds to host country revenue, boosts investment funds, and encourages the establishment of new business.

Industry policy Since economic reforms began in 1984 in New Zealand, support and subsidies for industry and agriculture have been trimmed dramatically. There is a wide-reaching acceptance of the free-market philosophy and the eventual elimination of industry assistance. For example, business organisations opposed proposals by the National-led coalition Government to increase industry and export assistance measures, saying that government expenditure should continue to be reduced in these areas or redirected into reducing the cost of doing business in New Zealand (Henderson, 1997). Today, there is no formalised industry policy implemented in New Zealand. Direct industry support is limited to that provided by Trade NZ for exporters, regional business development boards, and the statutory monopoly of the producer boards.

Regulatory management This is another factor that shapes the investment environment, principally in the areas of compliance costs, business law and general legislation affecting business. The New Zealand government has tried to lower the regulatory costs to business, stating that the benefits of imposing regulations must outweigh the costs that they impose. In New Zealand compliance costs are kept to a

minimum and recent legislation has also endeavoured to reduce these and to consider the compliance costs of any new and existing policy initiatives.

However, there have been a number of recent policy initiatives and new legislation that have served, at least in the short run, to generate a feeling of uncertainty in the business environment in New Zealand. These have included a return to Government control over accident insurance in the workplace, and the reinstatement of union power over collective bargaining as well as other employment-related issues. Such 'flip-flopping' of policy raises uncertainty and increases compliance costs to business. At the very minimum these include allocating time and resources to understanding the implications of new legislation. It also fails to give clear direction to businesses as to changes in the future. The very real implications are that investors are not encouraged to expand, employ new workers or increase their investments in the face of such uncertainty.

In terms of the regulatory environment, foreign companies operating in New Zealand are subject to the same treatment as domestic firms, except for the OIC approval process for the initial (or subsequent) investments; and the requirement by the Companies Office to provide audited financial accounts on commencement of operations in New Zealand and annually thereafter. Environmental policy and Maori claims on Crown land are two areas where investors may find potential compliance costs are high (or less transparent) and legislation needs to address this issue.

Tax requirements in New Zealand are the same for all companies which are subject to a 33 percent tax on their net income. A broad based tax system is in place with a consumption tax known as Goods and Services Tax (GST) set at 12.5 percent, borne by the end consumer. Businesses are able to claim back GST paid on inputs. Top personal tax rates have fallen from a maximum of 66c to 33c in the dollar, then increased again to 39c since reform began (Arthur Andersen, 1997). Tax cuts implemented by the National Government have lowered the marginal rate of tax from 22-24 cents to 21.5 cents for those on incomes below $34,201. New Zealand allows for foreign tax credits and has double taxation treaties with other countries as well as

measures to deal with the repatriation of profits, payment of dividends and transfer pricing.

Competition policy is regulated by the Commerce Act 1986 in New Zealand and deals with restrictive trade practices, merger regulation and price control. The primary objective of competition policy is to promote economic efficiency by prompting appropriate pricing, output, and innovation, and allocating resources to their most productive use rather than using them to secure or defend market power (MOC, 1998). While the purpose of the Act is to prevent anti-competitive behaviour by firms, this can be authorised where it can be shown that this may result in public benefits that outweigh the negative effects.

In summary, there has been considerable emphasis in policy making in New Zealand on the importance of economic fundamentals. New Zealand has made considerable progress in public sector reform, deregulation, labour market reform, and addressing the grievances of indigenous peoples (under the Treaty of Waitangi). However, there has been considerable uncertainty in government since the change to the Mixed Member Proportional electoral system in 1996. This has resulted in a less clearly focussed government and a lapse in public sector reform. The current Labour-Alliance Government has, if anything, worsened this situation through reversal of previous labour and accident compensation legislation that directly impacts on the costs borne by employers (see NZBR, 1998, for a discussion on such policy issues).

To conclude this section, Table 4.11 provides a summary of the investment environment in New Zealand, namely, the advantages and disadvantages associated with the location-specific factors, economic systems and government policy. The following discussion presents a brief review of previous studies that have considered the motives for foreign investment in New Zealand, which also highlights the most important L-specific factors in the investment environment.

Table 4.11
Location-specific Determinants of New Zealand's IDP Trajectory

Advantages	Disadvantages
Location-specific factors	
-Climate, natural resources (forestry, natural gas, hydroelectricity) -English speaking, Western culture -Psychic, geographical proximity to Australian market -Geographic proximity to Asia -Labour - well educated, skilled. -Spatial distribution of natural/created assets low -Transportation, communication, banking and finance and legal infrastructure -Areas of excellence in agriculture, horticulture, computer software	-Availability of agricultural/horticultural land limited by government regulation -Limited domestic market potential, but Australian market serviceable from NZ (CER) -Distance from European and American markets -Transportation, communication costs higher due to geographical isolation
Economic systems and economic development strategy	
-Open, liberal approach to policy - EO-OL economic system -Priority areas of expenditure are education and health -Welfare support provided	- see below
Government policy	
-Fiscal & monetary policies stable, low inflation, interest rates, stable exchange rates -Industrial policy market-led and non-interventionalist -Business regulation minimised but adequate -Public sector reform fuelled increases in quality and competitiveness of inputs/infrastructure -Openness to trade and investment -National treatment to all firms with few exceptions -Political neutrality/independence	-Political continuity and stability threatened by change to MMP, leadership wrangles and changes -Lack of policy integration -Ill-defined and directed industry policy initiatives -Rising compliance costs, particularly from changes to employment related legislation. -No incentives or targeting policy for inward or outward FDI

Motive for investment

The reasons that foreign investors invest in New Zealand provide a very useful indication of L-specific advantages. A review of the relevant literature shows that access to markets, and government policy, are the two principal influences on the decision to invest in New Zealand. Other commonly cited influences include economic climate, access to resources, location, the availability of skilled labour and Western-style business practices.

A survey of 130 significantly foreign-owned companies by KPMG (1995) found that the overwhelming reason for investing in New Zealand was to increase market share (64 respondents), followed by the attractiveness of the political environment (44), and the state of the New Zealand economy (29). New Zealand was also considered to be an important export base (21 respondents) or manufacturing (18) base by some

companies. Only ten companies stated the skilled workforce in New Zealand as a reason for investing, and only five gave government incentives as a reason.

Of the eleven affiliates in Enderwick's (1995) study, seven said that the motive behind their investment in New Zealand was to have a base from which to access or integrate operations in Australasian or Asian markets. Two of the firms had invested to take advantage of opportunities in the local New Zealand market and the remaining two companies invested for resource-seeking (forestry) reasons.

Chung (1994) found that foreign investors in commercial property had invested in New Zealand because it offered political and social stability and an open economy during a period when the availability of investment funds was rising in Asia-Pacific countries, and the New Zealand dollar was weakening. These factors made the New Zealand's commercial property market very attractive. In addition, there was considerable potential for tourism growth in the Pacific region, and an increase in international visitor arrivals in New Zealand.

In his study of foreign investment promotion in New Zealand, Loh (1994) found that the principal concerns of investors related to L-advantages. Their concerns were the consistency of government policy, political stability, changes to the regulatory environment, and the availability of suitably skilled and/or cost-effective labour. The author concluded that measures to promote flows of FDI should include improving the local business environment through the relaxation of import restrictions, consistent policies, and by increasing the skills of the labour force through education.

The following section builds on this brief review by considering literature that provides insights as to the impact of FDI in New Zealand.

THE IMPACT OF FDI - EMPIRICAL EVIDENCE

There are a number of ways that FDI might add to the international competitiveness of industry in New Zealand. These include: an injection of capital, transfer of product technology and intellectual capital, and upgrading of infrastructure. The provision of a wide range of products and services at more competitive prices, the facilitation of international trade and transfer of resources through intra-firm networks, as well the impetus for local firms to upgrade their own products and processes through competitive pressure are longer term impacts of MNE activity. Many of these effects may be evident solely at the level of the affiliate which benefits through the internalisation of corporate O-advantages.

However, the affiliate's operations will also benefit the New Zealand economy via the generation of revenue, taxes, employment and reinvested earnings. Finally, there may also be industry level impacts that occur through direct and/or indirect linkages with local firms. In this section we review the literature that considers the impact of FDI in New Zealand. Table 4.2 on the following pages summarises the research to-date.

Table 4.12
FDI in New Zealand - Summary of the Literature

Author (Year)	Method/Sample	Results
(Scott-Kennel, 1998b)	Secondary data	Compared the impact of policy on FDI for New Zealand and Australia. Concluded that although New Zealand has made greater progress with deregulation, trade policy and labour reform and the removal of restrictions on FDI, Australia might prove to be a more attractive investment environment due to its hands-on approach to industry policy and foreign investment targeting.
(Scott-Kennel, 1998a)	6 case studies	Assessed the extent and impact of FDI in the privatisation process in New Zealand. Concluded that FDI has brought critical assets including capital, technology and commercially oriented management practices that have revitalised former SOEs. Restructuring however, has often come at the expense of employment numbers. Post-privatisation financial performance has improved, however pre-privatisation estimates are not strictly comparable due to the change from social to commercial objectives.
(Rosenberg, 1998)	Official statistics Secondary data	Reviewed the current position of FDI in New Zealand.
(Jaray, 1998)	Secondary data 5 case studies	Investigated the extent and impact of Japanese investment in the New Zealand forestry sector. Japanese investment accounted for approximately 66 percent of all foreign investment in NZ forestry, and was particularly dominant in processing operations.
(Duncan et al., 1997; FDIA Group, 1997)	Official statistics 20 case studies	Reviewed the current position of FDI in New Zealand. Investigated the impact of FDI on capital, dividends, employment, wages, downstream benefits, local autonomy, technology transfer, assistance from global networks, export sales and community support. See Appendix 4.1 for a summary of the results.
(Akoorie, 1996a)	Case studies	Applied the IDP concept to the development of a New Zealand multinational. Provided evidence that inward, followed by outward investment could contribute the upgrading of a local firm's O-advantages. Appropriate government policy was crucial to this process of development.
(Akoorie, 1996b, 1998b)	Historical data Case study	Applied the IDP concept to New Zealand using historical data on inward FDI and outward FDI stocks. Contrasted the type and impact of FDI evidenced during three key phases of government policy. Particularly, the impacts of a change from an IS-IL to EO-OL policy orientation. Case study research found that a dominant New Zealand-based MNE, Fletcher Challenge, grew its skill and capability through unbundled FDI. Management contracts given toa UK based firm gave Fletcher Challenge access to international expertise.
(Bollard et. al, 1996)		Study of New Zealand's outward FDI overseas.
(Cremer & Ramasamy, 1996)	Secondary data 6 case studies	Looked at the extent and role of Asian investment in NZ. in 1992/3 Singapore accounted for nearly 77 percent of Asian investment in NZ, and Hong Kong only 9 percent, Malaysia 3 percent (due to investment in Queenstown tourism). Japanese investment has never exceeded 3 percent of total net FDI flows in NZ (except in 1990), which is a rather insignificant contribution given Japan's importance as an investor in other Southeast Asian countries. Case studies of five companies in a diverse range of sectors considered the specific impacts of this investment.
(Enderwick, 1995)	11 case studies	Investigated the contribution of foreign investment to the New Zealand economy. Interviews conducted with CEOs of 11firms based in New Zealand (8 with U.S. parents). Found that these firms gain market access, managerial practices, finance from their parent companies. Found no evidence of negative aspects of FDI.

Author (Year)	Method/Sample	Results
(KPMG, 1995)	Survey of 130 foreign-owned companies Secondary data for a further 59 companies	Results showed that 64 of the firms invested in NZ for market share reasons and 44 for the attractiveness of the current political environment. 90 percent of the value added stayed in New Zealand. On average less than four percent of total sales revenue was distributed as overseas dividends. Almost half the firms claimed that over 75 percent of their sales would otherwise be imported to New Zealand. 50 percent said that they used technology that otherwise would be unavailable.
(Enderwick et al., 1995)	Official statistics Secondary data	Reviewed the current position of FDI in New Zealand.
(Harper, 1994)	Survey	Survey of Japanese-affiliated firms in New Zealand. Concluded that Japanese firms introduce new management practices and other resources.
(Loh, 1994)	Survey of 68 foreign (5+%) owned subsidiaries	The promotion of foreign investment in New Zealand. Motive for investment was access to domestic market. Many parent companies used New Zealand operations solely as sales and distribution arms of the corporate network. 54 percent of subsidiaries had expanded sales following investment, 52 percent had generated more employment. Firms benefitted from foreign expertise and technology. Low levels of exporting.
(Duncan et. al., 1994)		Tourism investment in New Zealand
(Chung, 1994)	Secondary data 1988-1993	Considered foreign investment in New Zealand commercial property. Looked at the extent of investment, the motivation for such investment and its impact. From 1988-1993, foreign commercial property investments of $2.5 billion were made. Estimated that 33 percent of Auckland CBD stock and 46 percent of Wellington CBD stock was owned by foreign interests by December 1993. Singaporean, Japanese and Hong Kong investors most dominant (61 percent). Impacts include: Stabilisation of the market at a time of serious decline, adding liquidity to the industry in the absence of local investors. Foreign investment had become substantially 'active' and offshore property acquisitions were increasingly being linked with development, refurbishment, conversion, extension and subdivision, all requiring financial commitment and the input of local expertise.
(OECD, 1993)	Official statistics Secondary data	Reviewed the position of FDI post-reform in New Zealand.
(Akoorie & Enderwick 1993)	Survey	Outward investment and internationalising activities of New Zealand firms.
(Callister, 1991)	Official Statistics Secondary data	Tracked the patterns of investment in New Zealand over the 1980s, using SNZ figures and consent approval information from the OIC.
(Cumming et/ al., 1981)		Considers aspects of FDI in New Zealand.
(CAFCA, 1980)		German investment in New Zealand.
(Sutch, 1972)	Secondary data	Provided evidence of assets in New Zealand owned by foreign interests.
(Deane, 1970)	Survey of 147 foreign manufacturing subsidiaries	Found that restrictive trade policy encouraged import-substituting investment in manufacturing. Foreign-owned firms held dominant positions in a number of industries and were heavily dependent on their foreign parent companies for technology and an associated 'bundle' of technical and organisational practices.

FIRST ROUND EFFECTS

Capital, trade and ownership structure

Investment in an economy is equal to public sector investment and private sector investment. This investment includes the savings of private households and businesses, government budget surpluses and the trade deficit, and the net income of foreigners. Research has shown that the investment funds required to upgrade New Zealand's productive assets would not have been accessible through domestic funds alone (Cremer & Ramasamy, 1996). Therefore, the capital required for development can either come from foreign debt or foreign equity (FDI or portfolio investment). In New Zealand to date, there has been a heavy reliance on the latter, which has the added advantage of being accompanied by a 'bundle' of other assets.

Figures given earlier in this chapter show the importance of foreign sources of capital to capital formation in New Zealand. In this section we address some of the other issues associated with the flow of foreign capital and foreign investment.

The first of these is 'crowding out' of local investment or capital by offshore companies. There is little evidence of crowding out of local investment by foreign investment. In fact, studies indicate that foreign investment is an important source of capital that otherwise would not be available domestically. This was particularly evident in the privatisation process, where local investors (even as a group) could not have raised sufficient capital to purchase SOEs (Scott-Kennel, 1998a).

Although there has not been any comprehensive research undertaken in New Zealand, the majority of foreign investment appears to be financed by offshore funds (Enderwick, 1995). Many Japanese firms in the forestry industry, for example, have received ongoing funding injections from their parent companies to continue expansion in what is a very capital intensive sector (Jaray, 1998).

The second issue related to capital flows is the repatriation of capital versus its retention within the host-economy. The survey by KPMG (1995) found that 90 percent of value-added[1] remained in New Zealand in the form of employee remuneration (37 percent), interest (20 percent), depreciation (15 percent), tax (9 percent), retained earnings (7 percent) and dividends (2 percent).

Only ten percent of the value added was distributed overseas as dividends. On average, this was equal to only 3.7 percent of total sales revenue. Dividend payments were a low proportion of total sales in most industries, with communications being the exception. Seventy-four percent of companies did not pay a dividend, 15 percent of companies distributed between one and 50 percent of their after-tax profits as a dividend, while 11 percent distributed over 50 percent as a dividend. Similarly, the majority of companies surveyed in Enderwick's study (1995) reinvested between 85 and 100 percent of earnings locally. The case studies summarised in Appendix 4.1 also show that for the eight firms that supplied this information, six paid no dividend to their foreign shareholders.

The available evidence from all studies suggests that reinvestment of earnings is made for the purposes of local expansion in New Zealand. In fact, in the majority of cases the foreign investors have continued to channel investment funds into New Zealand following the initial investment (Enderwick, 1995; Jaray, 1998). Appendix 4.1, for instance, shows that in almost all cases, earnings were reinvested back into the New Zealand company and/or further capital investment was made by the foreign shareholder for local expansion (Duncan et al., 1997).

There is a lack of definitive evidence on the extent of exporting and importing by foreign-owned firms in New Zealand. However, available evidence does suggest that many foreign-owned firms in resource-based and manufacturing sectors are active exporters. Appendix 4.1 confirms this proposition. The resource-seeking firms in

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[1] Value added is a measure of the wealth added by a company to inputs in the creation of its own product.

forestry and energy, for example, have a very high reliance on exporting. Manufacturing firms that produce specialised products, such as Izard Irwin and Dynamic controls, also generate almost all their revenue from export sales.

Export activity of the firms surveyed by KPMG (1995) varied, with forestry having the highest by dollar value (NZ$770.3 million), followed by manufacturing (NZ$356.1 million) and wholesale, retail (NZ$294.6). As a proportion of sales, mining companies exported 71 percent. In contrast, there was no exporting activity in service sectors such as communications, banking and finance. The KPMG survey also asked firms what proportion of total sales they believed would have otherwise been imported, had their firm not introduced the technology into New Zealand. Over half the firms believed that over 75 percent of their sales would have been imported.

Ownership structure refers to the extent of foreign versus local ownership. In most instances there is a preference by foreign investors to hold a 100 percent shareholding in the New Zealand affiliate. This is confirmed by the figures in the previous section which showed the majority of firms fall into the 50-100 percent foreign-owned category. In 2000, there are no restrictions as to the extent of foreign ownership (except those sensitive areas outlined earlier), nor are there local content or participation rules in New Zealand.

The absence of government-imposed regulations on local participation typically encourages greater commitment to the investment by foreign owners. Local participation, where it has not been sought by the investor, tends to reduce the likelihood of full transfer of, or access to, parent company resources (for a discussion on the pros and cons of full/partial ownership see Scott-Kennel, 1998a). Deane notes that local ownership regulations employed in the 1960s encouraged participation by local firms but also acted as a deterrent to investment in New Zealand (Deane, 1970).

Employment and training

Foreign investment contributes significantly to employment in New Zealand. Estimates have suggested that about one third of the New Zealand workforce, or 590,000 people, have jobs which directly or indirectly depend on FDI (Cremer & Ramasamy, 1996, p.102), and almost 20 percent of New Zealand manufacturing employment is in foreign-owned affiliates (Enderwick & Akoorie, 1994). The 20 companies in Appendix 4.1 alone employed over 9700 full-time staff, and paid approximately $338 million in wages and salaries.

Such a high level of both direct and indirect employment in the control of foreign-owned enterprises has raised the concern that should these affiliates chose to relocate, this would seriously reduce local employment (Rosenberg, 1998). However, this oversimplifies this issue for two reasons.

First, the company does not necessarily close with the withdrawal of the foreign investor. In fact, approval information from the OIC indicates that foreign capital is transferred (rather than withdrawn altogether) to other companies in New Zealand. Also, local investment may replace outflows of foreign capital.

Second, the activities of the MNE (rather than the absence of investment) have more of an impact on employment numbers. For instance, the role of the affiliate, the extent of manufacturing activity or local service delivery, and the extent of local value-added and local sourcing will all have an impact on employment generation.

Greenfield investment, for example, offers the most potential for the creation of jobs. In some sectors, foreign investment has contributed to considerable employment creation. The Japanese firms in Jaray's study (1998), for example, all established greenfield sites generating approximately 1600 new jobs. However, these firms do not accurately represent foreign investment entry modes in general. The majority of recent investments worldwide, as well in New Zealand, involve acquisition rather than greenfield investment.

Looking at Appendix 4.1, we can see that the only greenfield investments made after the mid-1980s were in sectors formerly restricted to foreign investors in some way. Privatisation of state-owned forestry and cutting rights attracted greenfield investment to the forestry sector, and deregulation attracted such investment into telecommunications. However, the remaining investments involved acquisition or were affiliates established by parent companies prior to the reforms.

Therefore, it is useful to evaluate the changes to employment and/or labour productivity post-acquisition rather than the absolute number of jobs. However, the lack of a rigorous study in this area makes it difficult to estimate the contribution of foreign investment to employment creation, as opposed to jobs that have merely been transferred into foreign-ownership via the acquisition of a local firm. Rosenberg (1998) argues that much of the foreign investment attracted to New Zealand has not resulted in comparable growth in employment, due to entry by acquisition, and subsequent downsizing and restructuring. This has been particularly evident in the case of privatised SOEs (Scott-Kennel, 1998a). Other case study evidence suggests that where employment declined as a result of restructuring post-investment, this had been necessary to keep the company in operation (Enderwick, 1995).

Other issues relating to employment are the wages offered by foreign investors versus those offered in local firms, and the employment of expatriates rather than local staff. Again, empirical evidence is scarce, particularly on the former issue where differences in industry sector tend to confound results. KPMG found that the major foreign contributors to employment were in the manufacturing, banking, and finance sectors. The average wage over these industries was NZ$40,760 compared to the New Zealand average of $31,670.

As to the number of expatriates employed, the same study found that overall, only 0.25 percent of staff were expatriates, although one third of the companies employed an expatriate as the CEO. Of the total 19,730 staff employed by the firms in Enderwick's study (1995) just 15 were expatriates. Appendix 4.1 also shows that

expatriates make up an extremely small proportion of the total number of employees.

Early survey evidence confirms the tendency to employ few expatriates. Deane (1970) found that out of 145 companies, only 70 employed overseas personnel, and this was on a small scale. Foreign staff were most required during the initiation of the enterprise, and contributed valuable skill and experience that was often unavailable in New Zealand. The larger firms also sent local personnel for international training. In most cases, this was held at the parent company, or another subsidiary (particulary in the case of Australia). However, specialised technical education, unavailable in New Zealand, was sought through overseas technical institutes and business colleges.

The contribution of foreign investors to upgrading local skills through staff training is also apparent in several more recent studies. In the KPMG survey 17 percent of the firms stated that their staff attend overseas training courses often, and 45 percent said occasionally (KPMG, 1995). All the U.S. companies in Enderwick's study (1995) were committed to training and development of their employees. This was implemented through the recruitment and subsequent training of graduates, apprenticeship schemes, overseas training and a focus on the development of intellectual capital in service firms .

The Japanese companies in Jaray's study (1998) also conduct extensive training, including overseas training at parent companies, the provision of scholarships and apprenticeships. This training is necessary to get local employees up to speed with unique processes and parent-imposed product specifications. The available evidence suggested that MNEs tend to operate in industries that are characterised by higher skill levels, productivity and rewards (Enderwick, 1998).

Technology

There is strong evidence that foreign-owned affiliates introduce new technology to New Zealand. This may be introduced via the affiliate in the form of product or production technology or research and development output. More generally,

technology could also include innovation or knowledge in the areas of distribution, marketing, or human resources.

Enderwick (1995) found that the U.S. affiliates benefited considerably from access to technological resources that were complementary to technologies already being employed in New Zealand. Fifty percent of firms in the KPMG survey said that they use significant overseas technology that would otherwise be unavailable in New Zealand. Jaray confirmed this finding in her study of Japanese forestry firms (Jaray, 1998). Contrary to expectations of low levels of local value-added, the firms employed overseas technology (either from parent in Japan or from Europe) to undertake primary and/or secondary processing.

Other research has shown that the foreign owners of Telecom, TranzRail and the Bank of New Zealand have substantially improved technological infrastructure since privatisation. In all these cases existing infrastructure was outdated and government considered the cost of updating to be prohibitive (Scott-Kennel, 1998a). The implications for development were that these technologies contributed to the upgrading and improved competitiveness of local industry. The benefits of upgraded infrastructure, for example, were passed onto local business customers who benefited from increased variety, reliability and competitively priced products and services.

The foreign manufacturers in Deane's study (1970) were dependent on overseas research and technology, although some adaptation for the New Zealand market was undertaken locally. More recent evidence has also shown that the New Zealand affiliate is able to gain access to the R&D resources of the foreign parent (see Appendix 4.1). However, it is also apparent that local R&D by these firms is minimal, and frequently only conducted for the purpose of local adaptation. One of the accusations levelled at foreign investment is that foreign owners transfer local R&D activity offshore. Evidence appears to be mixed on this issue. Enderwick (1995) for instance, found no evidence of declining support for local R&D post-acquisition. In two of the cases given in Appendix 4.1, (Contec Developments and

Dynamic Controls) technology development was initiated in New Zealand and has remained in New Zealand (Duncan et al., 1997).

Organisational and managerial practices

Previous research has found that foreign investors introduced elements of 'best practice' management and organisational techniques, but typically did not introduce radically different practices to their New Zealand operations (Enderwick, 1995). However, there were some exceptions. The first was increased emphasis on financial management practices, accountability and precision by foreign owners (Enderwick, 1995; Jaray, 1998).

The second exception was Japanese-owned firms which tended to adapt their own unique management practices to the New Zealand environment. Harper's study (1994) of Japanese firms in New Zealand found that most had introduced new managerial practices. Individual case studies, such as Nissan (Williams, Owen, & Emerson, 1991) and Toyota also provided evidence of the introduction of a Japanese style of management. Kaizen and PHP (peace and happiness through prosperity) were core philosophies employed in two of the firms in Jaray's study (1998).

The literature strongly suggests that foreign-owned firms in New Zealand usually had autonomy in managerial decision-making on a day-to-day level. The firms in Appendix 4.1, for example, all had autonomy over day-to-day operations and considerable discretion as to how to meet pre-approved budgets and targets. Longer-term direction, and particularly decision-making relating to financial expenditure tended to come from (or must be approved by) parent or related affiliates (Duncan et al., 1997; Enderwick, 1995; Jaray, 1998). Fifty percent of the companies in the KPMG study (1995) said that they had a local board with authority to make major decisions, with most authority levels being under $100,000.

Access to markets, internal networks and inputs

A number of studies have indicated that the most valued contribution of FDI has been access to international markets via foreign parent company networks. This not only benefitted the affiliate in New Zealand, but also the country's ability to trade. Access to corporate production, distribution and marketing networks was the single most important factor in the companies' success in Enderwick's study (1995). These networks provided a conduit for the intra-firm flow of products (including intermediate products, and the use of brand names), technology, information and ideas, and capital. In addition, the corporate networks provided vital access to export markets for the majority of respondents.

The findings of Jaray's (1998) and Duncan's (1997) studies had strikingly similar results. The success of the Japanese forestry firms could be largely attributed to their integration into corporate business systems. This provided the advantages of access to Japanese end-user markets through the trading, marketing, and distribution arms of the body corporate in Japan. All but two of 19 firms in Appendix 4.1 indicated that their firm was integrated into a corporate network. These networks provided the firms with access to intermediate products and services, export markets, corporate expertise, marketing techniques, and distribution infrastructure.

SECOND ROUND EFFECTS

Indirect linkages

Arguably the most pervasive, yet elusive (in terms of measurement) impact of a foreign affiliate on a host economy is via competitive effects. These can range from pressure on local firms to upgrade their product or service quality, to forcing some competitors out of business or restricting entry to others. In Enderwick's study (1995) the majority of firms were operating under competitive or highly competitive conditions. This suggested that the affiliates were less likely to be operating in

conditions where they could extract monopolistic or oligopolistic profits or operate inefficiently. However, most of the other locally-owned competitors were also foreign-owned. This raises the concern that in certain sectors locally owned firms may be squeezed out by foreign firms that have the added advantages of belonging to a multinational corporate network.

In contrast, the telecommunications firms in the review of FDI by Duncan et. al. (1997) had considerably increased competition, and the supply of competitively priced telecommunications products and services, when they entered the market following deregulation. The advantages to customers came in the form of leading-edge technologies, new services and dramatic reductions in the price of existing services.

In the forestry sector, competition was more oligopolistic in nature, with a few large firms having the most influence. However, most competition tended to be played out in international markets due to the limited potential of the domestic market. Jaray (1998) concluded that despite these industry characteristics, Japanese investment had favourable demonstration effects on local firms who have sought to emulate unique processes. Thus, not only did the Japanese firms cement vital links in what is a highly competitive global industry, they also encouraged upgrading of value-adding activities of local firms.

Direct linkages

The extent and pattern of diffusion of assets and skills to local firms through direct linkages are difficult to determine given the existing empirical evidence in New Zealand. However, it is possible to demonstrate the extent of local sourcing by specific firms drawing on case study evidence, although this is limited for the purposes of our analysis for two reasons. First, there is lack of information as to the proportion of all inputs sourced locally; and second, the nature (e.g. standardised or specialised) of inputs sourced locally is not known.

However, there was evidence of considerable local sourcing in Duncan's (1997) survey. The 20 firms in Appendix 4.1 purchased approximately $1 billion worth of goods and services from other firms in New Zealand. The firms in Enderwick's study (1995) sourced a wide range of inputs from hundreds or thousands of New Zealand suppliers. This study also found a low propensity to import product and input requirements from overseas. This demand for locally-produced goods or business services has significantly contributed to the development of local communities and other businesses.

However, despite contributing in some areas, some types of FDI form few local linkages. Jaray found that forestry investments that had been made to secure access to resources as inputs for highly integrated Japanese MNEs formed few backward or forward linkages, other than demand for local contractors and transport services. In one case, there were no local linkages at all, while others purchased timber from local suppliers, and another sold to the domestic market.

CONCLUSION

Despite New Zealand's historical and present reliance on FDI (Akoorie, 1998b) as a source of capital, technology, expertise and ultimately, economic growth, a systematic analysis of the nature and extent of its effects has not been attempted for more than thirty years (Deane, 1970). In particular, there is scant evidence of the impact of foreign-owned affiliates at the industry, or second round, level.

Since Deane's study in 1970, there has been a major shift in government policy orientation from IS-IL to EO-OL, coupled with a staunch market orientation driven by industry deregulation and policy liberalisation. The policy environment since the mid-1990s has lacked direction, and created uncertainties in the business environment in New Zealand. Coupled with international events, such as the Asian Crisis, this has only served to detract New Zealand's L-advantages as a location for investment. These shifts in economic systems and policy have significantly altered the receptor

conditions for FDI, and consequently, the nature of FDI attracted to New Zealand (Akoorie, 1998a). Hence, there is a pressing need for research that addresses changes to FDI and the impact of FDI as a consequence.

Official statistics show that New Zealand continues to rely on foreign investment to supplement domestic capital. The relative value of this investment is high in comparison to other OECD/developed countries. The majority of investment originates from Australia, the United States and the United Kingdom. The stock of Asian investment is minimal (particularly investment from Japan), but has been increasing in recent years.

Empirical research on foreign investment in New Zealand can be summarised as follows. First, the principal objectives of the studies are were to investigate the extent and pattern of the investment in different sectors or different countries (Chung, 1994; Duncan et al., 1994; Jaray, 1998); or to address current issues surrounding foreign investment in New Zealand. These issues related to the impact or contribution of foreign investment (Deane, 1970; Enderwick, 1995; KPMG, 1995; Loh, 1994), rising levels of Asian investment (Cremer & Ramasamy, 1996; Jaray, 1998), and privatisation of key state-owned assets (Scott-Kennel, 1998a).

The majority of these studies show that FDI has a positive effect on the economy. Foreign affiliates in New Zealand generally have a long-term commitment to New Zealand and reinvest earnings into infrastructure and human capital. (KPMG, 1995). Case studies of foreign affiliates from specific countries or regions, such as the United States (Enderwick, 1995), Japan (Harper, 1994; Jaray, 1998), and Asia (Cremer & Ramasamy, 1996) found that foreign affiliates made positive contributions at the first round level in terms of capital, technology transfer, local employment, management practices, and market access.

The exceptions to these studies have been those advanced by anti-foreign investment authors, who claim that foreign investment erodes sovereignty and control over New Zealand's future are largely unsubstantiated. Individual cases are used as evidence of

redundancies resulting from a change to foreign ownership, excessive foreign control in certain industries (such as tourism in Queenstown), excessive monopoly and profits (Telecom) (see Rosenberg, 1998).

For the purpose of evaluating the impact of FDI on the New Zealand economy, there are several caveats that should be raised regarding existing New Zealand data and research. First, convenience survey and case study approaches do not generate results that can be considered to be representative of the population of foreign investors in New Zealand, or even in individual sectors. For instance, surveys have been limited to large, client firms (KPMG, 1995), specific nationalities (Harper, 1994) or specific sectors (Jaray, 1998). Any analysis or interpretation of the results, therefore, must be tempered by the fact that these firms are examples of possible, rather than probable, overall effects.

Second, and in direct contrast to the first point, research on the impact of FDI in New Zealand suffers from inadequacies in official data that prohibit firm-level analysis. Longitudinal data on employment, number of foreign-owned enterprises, level of foreign ownership, and financial performance are only available at an aggregated, industry sector level. Confidentiality assurances to participants in official data collection surveys prevents any disaggregation of data to the firm level, and often leads to omission of data in published statistics.

Therefore, the foreign investment data which is available tends towards either the detailed and in-depth study of individual firms, or aggregate figures of investment flows. Small-scale surveys of investors, and the investment approval information available from OIC is useful but less precise. One exception to this was Deane's 1967 survey which provided comprehensive evidence of the impact of FDI in manufacturing (Deane, 1970). The fact that a comprehensive study has not been undertaken since the late 1960s leaves a substantial gap in the current data and literature in New Zealand.

Third, there is no comprehensive database of foreign-owned firms in New Zealand, a fact that has not gone unnoticed by the research community (Enderwick, 1998). Information in existing directories and databases is limited by:

- voluntary admission of foreign ownership by the affiliates themselves[2] (Business Who's Who),
- the inability to separate foreign from non-foreign owned firms (New Zealand Registrar of Companies); or
- confidentiality which prevents SNZ publishing data for firms where three or fewer firms exist in a particular industry sector.

Therefore, studies to-date are all restricted by the lack of access to a list of the population of individual companies operating under foreign ownership in New Zealand.

Fourth, the literature focuses on first round effects on the economy or the foreign affiliate. Second round effects at the level of industry tend to be marginalised by comparison. The measurement of these effects is frequently limited to the quantity of local sourcing, rather than considering a wider range of indirect, backward, forward and collaborative linkages.

Fifth, few existing studies make an attempt to assess the longer term impact of FDI on industry via such linkages with local firms (although see Duncan et al., 1997; Enderwick, 1995 #335). Perhaps the most significant contribution is Akoorie's doctoral thesis (1996a), which investigated the process of local upgrading at the micro- or firm-level. However, relating to our earlier point, such case studies fall short of definitive or even representative evidence, and are merely indicative of the types and extent of linkages for a single firm or group of firms.

[2] Also, the affiliate must pay extra to have foreign ownership details included in the directory. This must discourage the practice of including such details.

In conclusion, the literature suggests that FDI accounts for a significant proportion of output and employment in New Zealand. Case study research has elucidated many key areas of impact relating to FDI and the activities of the MNE, including many areas of positive contribution toward the New Zealand economy. However, existing research is limited by:

- a lack of recent research that takes the changes to the investment environment in New Zealand into account;
- an absence of representative research at the firm-level, that is based on a sample drawn from the population of foreign-owned firms in New Zealand; and
- a focus on the first round effects of FDI and a lack of research on the second round effects due to indirect and direct linkages with local firms.

In the following chapter, the research model is presented along with the research questions and propositions that attempt to address the limitations of the existing literature.

CHAPTER FIVE
RESEARCH MODEL

INTRODUCTION

The central research issue of this thesis can be stated as: 'What impact does MNE activity have on local industry in New Zealand?'. This chapter presents a model that seeks to address this issue, and which acts as a guide to the remainder of the thesis. The chapter then sets out a number of research questions and propositions that examine the impact of FDI in more detail.

To recap, the aim of this thesis is to investigate, in the context of a host country which is highly reliant on FDI, the impact MNE activity has on the development of local industry. The theoretical framework for the research is the IDP, which suggests that inward FDI may, over time, facilitate the upgrading of local firms subsequently enabling them to undertake outward FDI. Upgrading occurs as a result of the interplay between host-country characteristics (L), the 'bundle' of resources introduced by the foreign affiliate (O), and the way those resources are organised and used (I) in the host country.

We are most interested in the effects that arise as a result of the uniqueness of the MNE relative to indigenous firms. Hence, we are concerned with first and second round effects that arise from the bundle of skills, resources and firm-specific O-advantages that are transferred to the foreign affiliate after it has been established or acquired by the MNE. This bundle may include technology (Barrell & Pain, 1997), innovative management practices, exclusive marketing channels or brands, new products or services, production techniques, or any other accumulated knowledge, information or skills within the firm. As noted in earlier chapters, transfer of O-advantages not only improves the foreign affiliate's performance relative to local competitors (Aitken & Harrison, 1999) at the first round level, but also presents the

potential of diffusion of these advantages to local firms via indirect or direct linkages (Brown, 1998; Rodriguez-Clare, 1996) at the second round level.

To briefly recap the thesis thus far, Chapter Two developed the theoretical framework for this research, Chapter Three reviewed empirical findings in the area of local upgrading via FDI, while Chapter Four set the study in the New Zealand context. In this chapter, we develop the research questions by operationalising the theory presented in Chapter Two. We start by proposing a process of local asset augmentation (upgrading) that might occur as a result of MNE activity. We then go on to state our research questions and propositions. Then in Chapter Six we discuss the methods employed to test these propositions, including the sample, questionnaire design, variable selection, and refinement and data-analysis techniques.

OWNERSHIP-ADVANTAGE AUGMENTATION PROCESS

Up until now the IDP framework has focussed on economic impact at the macro-level. In other words, it maps a relationship between net aggregate stocks of investment and a country's GDP. The objective of this section is to narrow this focus to a micro-level. In doing so, we can examine the process of firm-level upgrading that prompt the wider impacts to economic development. In the following discussion we suggest a typical process of upgrading through O-advantage augmentation. This process can be likened to a micro-level version of the IDP.

The process of O-advantage (asset) augmentation consists of four distinct stages. Each of these stages represents a step towards the upgrading of O-advantages of local firms and/or the affiliate. Progression through these stages is by no means guaranteed or continuous. As discussed in Chapter Two, the extent and pace of progression is determined by the specific OLI configuration, and in particular, the L-advantages of the host country.

Stage One: Entry of the Affiliate

The foreign affiliate enters New Zealand and brings a set number of O-specific advantages (OF) which are unique to the firm and/or are not available to local, uninational firms. It operates under a set of L-specific advantages (L), defined by the New Zealand and industry context. It functions under a given set of firm rules or strategy, determined autonomously or at the parent firm level that guide its use of inter- versus intra- firm trade, production and internalisation (I) of O-advantages. Affiliation with the MNE will give rise to first round effects on the affiliate, such as improved competitiveness relative to local firms. In order to assess these effects, a profile of the affiliate's unique characteristics needs to be constructed.

Stage Two: Linkage Formation

Depending on the conditions above, certain relationships or linkages with the local economy will occur. These conditions moderate the extent (quantity) and type (quality) of linkages between the affiliate and local firms. We consider five key types of linkage in this study:

- indirect linkages with local competitors;
- direct forward linkages with local agents and/or customers;
- direct backward linkages with local suppliers and/or subcontractors;
- direct knowledge agreement linkages with local licencees and/or franchisees; and
- direct collaborative linkages with local collaborative partners.

These linkages give rise to second round effects on local industry, which occur at Stages Three and Four. In order to assess this stage, the types of linkages between foreign affiliate and local firms, and determinants of those linkages are examined.

Stage Three: Diffusion and Transfer of Ownership-advantages

Stage Three involves the direct transfer and/or indirect diffusion of O-advantages by either/both foreign and local firm. The extent of diffusion or transfer is expected to be associated with the degree of linkage (DOL) of the affiliate with local industry.

It is expected that potential for this diffusion/transfer increases as the affiliate increases its local DOL. The linkages described above can be grouped into three categories based on their potential for local upgrading. Therefore, the DOL of the affiliate can be:

- LOW: Indirect linkages with competitors are an example of low quality linkage as there is only potential for diffusion (rather than transfer) of O-advantages. For instance, the gradual diffusion of O-advantages through agglomeration or demonstration effects may give rise to changes to technology, managerial practices, and the availability and cost of goods and services.

- MODERATE: Direct linkages with agents or suppliers can be described as moderate linkages, as there is potential for the transfer of knowledge and assistance from the affiliate to local firms.

- HIGH: Knowledge agreements and collaborative linkages, (e.g. an alliance) represent high quality linkages, because of the potential for a two-way transfer of O-advantages between the affiliate and the local firm, and vice versa.

If the quality of linkages is higher, the author proposes that the affiliate is more integrated with the local economy and the DOL is higher. The greater the DOL, the greater the potential for quasi-internalisation of O-advantages by the affiliate. If quasi-internalisation (as opposed to full internalisation) of any O-advantages occurs then there is more of a chance these advantages will diffuse or be transferred to other firms. Hence, in summary, the DOL of the affiliate is expected to be positively associated with the likelihood of asset augmentation or upgrading by local firms.

Stage Four: Ownership-Advantage Augmentation

The final key stage of the process is when the local (and/or the foreign affiliate) firm is able to augment its O-advantages as a result of indirect or direct linkages with foreign affiliates. Note that the outcome of this process may be mutually beneficial to both local and foreign firms; one firm may upgrade with negligible impact on the other, or one firm may upgrade at the expense of the other. The overall outcome on specific firms and industries is expected to be a function of local firm capability, as well as the complementarity of their activities with the activities of the affiliate.

RESEARCH QUESTIONS

Hence, in order to determine whether the process of O-advantage augmentation is occurring we need to investigate the first- and second round effects at the level of the affiliate and other local firms. This is done in three stages; the affiliate profile, the extent and determinants of linkage formation, and the overall degree of linkage.

Affiliate Profile. A profile of the affiliates is constructed, including their country of origin, main activity, age, entry mode/ownership form, degree of autonomy and motive for investment, and the unique O-advantages that have been internalised within the affiliate via the corporate network. This addresses the key elements of the affiliate's OLI configuration, namely: to what extent their decision-making is directed by the parent company (I); their main reason for operating in New Zealand as opposed to an alternate location (L); and the unique advantages they gain from being part of a MNE (O and I) versus local firms. The main purpose of constructing an affiliate profile is to consider the first round impact of FDI at the level of the affiliate.

Linkage formation and determinants. The extent of different linkages that the affiliates form with local firms; including competitors, agents, customers, suppliers/subcontractors, licencees/franchisees and collaborative partners is assessed. In order to understand the conditions (O and L) under which these types of linkages

occur, we also examine the determinants of these linkages. This provides evidence as to the second round impact of FDI on other local firms.

Degree of linkage (DOL). By determining the overall DOL, we are better able to estimate the extent of quasi-internalisation of O-advantages (O and I), then extrapolate as to the impact on the upgrading of local firms (O and L) and/or the affiliate. Finally, by investigating the determinants of the DOL, we can say which types of investment activity are most beneficial to New Zealand. This illustrates the overall impact of FDI at the level of industry.

The following research questions (RQ) and propositions (RP) address these three areas of investigation and the results are presented in Chapter Seven.

AFFILIATE PROFILE

RQ1 Country of Origin. *Does the country of origin of the surveyed affiliates reflect estimates for the population of affiliates in New Zealand?*

RQ2 Main Activity. *Does the main area of activity of the surveyed affiliates reflect estimates for the population of affiliates in New Zealand?*

RQ3 Age/Entry Mode/Ownership Form. *How long have the affiliates operated in New Zealand, and were they established or acquired by their current foreign owners?*

RQ4 Autonomy. *To what extent do the affiliates have autonomy over short- and long-term decision-making?*

RQ5 Motive for Investment. *Why do MNEs invest and operate in New Zealand?*

RQ6 Ownership-advantages. *To what extent do MNEs transfer internalised O-advantages and resources via the FDI medium to the affiliates in New Zealand?*

RQ7 Innovation. *Are the affiliates responsible for introducing unique innovations to New Zealand, and where do these innovations originate (the parent company, the affiliate, or through joint development)?*

RQ8 *Do MNEs internalise local innovation via acquisition of local firms?*

RQ9 Competitive Advantages. *What are the key sources of competitive advantage for affiliates in New Zealand?*

It is expected that O-advantages, resources, and innovations from the parent company will be used as a source of competitive advantage by the affiliate in New Zealand. Two testable research propositions are presented to evaluate the O and I advantages of the affiliates in New Zealand:

RP1 Affiliates rely on internalised MNE O-advantages and resources transferred from the foreign parent as sources of competitive advantage in New Zealand.

RP2 Affiliates rely on internalised innovations introduced to New Zealand via the foreign parent as sources of competitive advantage.

LINKAGE FORMATION

Indirect Competitive Linkages

We assume that O-specific advantages will not be transferred to local competitors in the absence of any exceptional circumstances, (e.g. government intervention), or unless the firms form a co-operative agreement. However, there is scope for

diffusion of these advantages through emulation, demonstration effects, distribution of new products and services even without direct linkages between the firms.

This thesis is unable to assess the impact on competitors directly because the survey was sent to foreign affiliates rather than their competitors. Instead we can make inferences about the extent of indirect linkages in three ways.

First, the capability gap can be evaluated based on the strength of foreign affiliate versus other local competitors. Empirical evidence presented in Chapter Three suggested that the larger the capability gap between the affiliate and local competitors the larger the impact on the latter. The rationale for this is that either:

- the indigenous firm is lacking capability vis-à-vis the foreign competitor and is squeezed out of the market; or
- the indigenous firm's capabilities exceed that of the foreign affiliate, and it stands to lose these existing competencies via the hollowing out effect .

If, on the other hand, the combination of OLI advantages gives rise to similar levels of capability and a small capability gap between the firms, then the local firm is more likely to be able to upgrade its O-specific assets to meet the competitive challenge of the affiliate, hence having a positive influence on its development. Therefore, in order to assess the indirect competitive effect of the affiliates the following research question is asked:

RQ10 Competitive Position. *Do the affiliates occupy strong competitive positions relative to their New Zealand counterparts?*

Secondly, in order to assess the competitive effects on local firms, we investigate whether the affiliates' activities have changed the competitive environment. The competitive environment is proxied by changes to the number of competitors and the competitiveness of firms overall. We ask:

RQ11 Competitive Environment. *Do the affiliates influence the competitive environment in their industries in New Zealand? Specifically;*

RQ11a *To what extent do the affiliates' activities influence competition between firms?*

RQ11b *To what extent do the affiliates' activities influence the competitiveness of other firms in their industries?*

RQ11c *To what extent do the affiliates' activities influence the number of major competitors?*

RQ11d *To what extent do the affiliates' activities influence the number of smaller competitors?*

Third, we investigate the degree to which foreign firms may have invested in New Zealand to take advantage of agglomeration or clusters of firms in specific industries, or to locate in close proximity to competitors or other firms with complementary capabilities.

RQ12 Clusters. *Is there any evidence of competitive clusters where the affiliates gain access to local innovation?*

Direct Forward, Backward, Knowledge and Collaborative Linkages

The analysis is limited to direct linkages that involve specialised (rather than standardised) products and services. This is intended to better capture the quality of local linkages, in other words, those that are associated with the transfer of resources or quasi-internalisation by the affiliate.

Forward Linkages. The affiliate may form forward linkages with local firms acting as agents for distribution, marketing and services (Wright, 1990) or it may form forward linkages with industrial customers. In the first instance, the affiliate may draw on the New Zealand firm's experience in the local market or established distribution networks. These linkages offer the potential for transfer of assistance with marketing, selling or after-sale service. In the second instance, the affiliate may

sell its product/service to local firms and offer assistance related to its use. In both instances, it is expected that there will be a low level of co-operation and information sharing between the firms. The research questions are posed as follows:

RQ13 Forward Linkages. *To what extent do the affiliates form forward linkages with New Zealand agents for the marketing or distribution of products and/or services?*

RQ14 *To what extent do the affiliates form forward linkages with New Zealand customers for the supply of specialised inputs?*

RQ15 *What types of assistance do the affiliates provide to New Zealand agents and customers for the purpose of improving their products and/or services?*

Backward linkages with a local economy occur through local sourcing or ongoing relationships formed with suppliers and subcontractors. The local supplier might assist the affiliate by providing inputs, such as raw materials, components, finished goods and services. Through linkages with suppliers or subcontractors, there is the potential for the transfer of technical assistance, financial support, or organisational techniques from the affiliate to the local firm. The following research questions examine these issues:

RQ16 Backward Linkages. *To what extent do the affiliates source specialised products and services from other New Zealand firms?*

RQ17 *To what extent do the affiliates form backward linkages with New Zealand suppliers or subcontractors for the purchase of specialised inputs?*

RQ18 *What types of assistance do the affiliates provide to New Zealand suppliers, and subcontractors for the purpose of improving their products and/or services?*

Knowledge agreement linkages. Knowledge agreement partners include local firms that undertake licencing or franchising contracts with the foreign affiliate. These agreements typically involve the transfer of intermediate assets in the form of standardised and codifiable company resources, such as product or process technology, marketing practices and brands, as well as business practices and procedures. These linkages are explored in the following research questions:

RQ19 Knowledge Agreement Linkages. *To what extent do the affiliates form knowledge agreements with New Zealand licencees and/or franchisees for the production or marketing of products/components or services?*

RQ20 *What types of assistance do the affiliates provide to New Zealand licencees and/or franchisees for the purpose of improving their products/components or services?*

Collaborative Linkages. In the case of collaborative agreements, it is proposed that the local firm possesses a high level of competency in complementary value-added activities and is attractive to the affiliate as a potential alliance partner. The firms may seek to collaborate in the design of technology suited to the local market, or the local firm may have an innovative product that needs financial or marketing support from a larger company. There might be an exchange of product or process technology, and/or managerial or labour practices to assist a joint project. There is the potential for mutual gain by both firms, although this is not always the case if one firm is able to gain more from the relationship than the other. The following research questions relate to such collaborative linkages:

RQ21 Collaborative Linkages. *To what extent do the affiliates form collaborative agreements (e.g. strategic alliances, technology agreements or management contracts) with New Zealand firms?*

RQ22 *What types of resources (O-advantages) do the affiliates provide to New Zealand collaborative partners (and vice versa)?*

RQ23 *Are resources (O-advantages) developed (in either firm) as a result of the collaborative agreement?*

DETERMINANTS OF DIRECT LINKAGE FORMATION

This section investigates the determinants of direct linkage formation and presents a number of relevant research propositions. Due to measurement difficulties, this analysis is limited to direct linkages (thus excluding competitive linkages), although indirect linkages are revisited in the DOL section. We begin by examining the nature of industry related L-specific factors (e.g. local firm capability) and posing relevant research questions, which is considered independently, as the other determinants were addressed earlier in this chapter.

Local firm capability

Empirical evidence (refer to Chapter Three) suggests that forward and backward linkages by the affiliate are dependent on local firm capability. The extent to which the O-advantages of the affiliate and those of the local firms are similar or dissimilar in nature and sophistication will determine the impact on the local firm. If local firms possess complementary assets then linkages are more likely to occur. For example, the local firm might have specific competencies that are suitably sophisticated to lend support to the affiliate's activities. In sum, greater local capability and/or a smaller technology gap facilitates the use of a voice strategy (linkage) by the affiliate. Hence, we pose the following research questions:

RQ24 Local Firm Capability. *How do the affiliates rate the capability (availability, price, quality, reliability and technical sophistication) of other New Zealand firms?*

RQ25 *To what extent do the affiliates perceive that other New Zealand firms are able to supply standardised/specialised products/services they require?*

Table 5.1 sets out a summary of the expected outcome for upgrading by the local firm (or the affiliate) given certain OLI configurations. Table 5.1 shows that the type of linkage that occurs is influenced by:

- the O-advantages of the affiliate (OF) and of local firms (OH);
- the degree to which the affiliate (or the local firm) engages in either full- or quasi-internalisation (IF) of O-advantages; and
- whether the L-advantages (LH) in the host-country (New Zealand) can support such linkages.

Table 5.1
Linkage Type, OLI Configuration and Expected Outcome

Local Linkage	OLI	Expected outcome
No Linkages (enclave) *Low*	•O_H weak •Full I_F - no transfer •L_H unsupportive of local linkages	•Diffusion of O_F possible via emulation or demonstration effects •Changes to market/industry structure over time
Competitor *Low*	•If O_F and O_H similar •Full I_F - no transfer •L_H supportive of local development *Quasi-I_F – transfer*	•May force upgrading by local firm and/or affiliate •May prompt hostile action by affiliate (ie. acquisition) •Changes to industry structure, market competition •Diffusion probable given strong O_H (capability) *May encourage alliances/partnerships (refer below)*
	•If O_F and O_H dissimilar (O_H weak) •Full I_F - no transfer •L_H unsupportive of local development	•Local competitors either do not exist or are insufficiently developed to compete with the affiliate •Increase in market concentration, decrease in competition if local firms are squeezed out •Diffusion less likely given weak O_H (capability)
Agent/ Customer *Moderate*	•O_H sufficient for linkages to occur •Full or quasi-I_F - transfer of non-core O_F possible •L_H supportive of local development	•Some transfer of non-core O-advantages possible through products, marketing specifications, after-sales service etc •O_F and O_H may lead to asset augmentation by local firm •O_F may allow lower prices to customers
Supplier/ Subcontractor *Moderate*	•O_H sufficient for linkages •Full I_F if inputs standardised •Quasi- I_F if inputs specialised •L_H supportive of local development	•O_F- transfer unlikely •O_F (non-core) transfer likely in areas of product/process technology, design specifications, quality control etc. •O_F and O_H may lead to asset augmentation by local firm
Knowledge Agreements with Licencee/ Franchisee *High*	•O_H complementary •Quasi-I_F – core/non-core O_F •L_H supportive of local development, possibly not supportive of foreign activity	•O_F (non-core or core) transfer of standardised O_F, unique to the foreign firm but given to all licencees/franchises, such as product/process technology, design specifications, brands, etc. •O_F coupled with existing O_H may lead to asset augmentation by local firm.
Collaborative Agreements *High*	•O_F and O_H strong and complementary •Quasi-I_F – transfer •Possible O_H - transfer •L_H supportive of local development	•Two-way exchange of o-advantages •O-advantages may be core or non-core •Relationship likely to prompt asset augmentation via innovation in both firms

These specific OLI configurations will then influence the outcome for industry upgrading through O-advantage augmentation. In this section we attempt to operationalise the OLI paradigm. Specifically, the O-advantages of the affiliate and the L-advantages of New Zealand are evaluated as determinants of the linkage formation of the affiliate (I). The motive, autonomy and activity of the affiliate addresses its role and strategy in New Zealand, its use of parent resources and innovations (O) explains the unique impact it could have relative to uninational firms, and the capability of local firms (L) assesses the extent of L-advantage in New Zealand. These form the independent variables (the determinants of linkage formation) in the results presented in Chapter Seven.

First, we need to raise several caveats regarding the variables. One, government policy-related variables were excluded from the analysis. L-advantages relating to government policy are less likely to be applicable as determinants given that: the sample of affiliates come from such a broad range of industries; and in very few cases would policy in New Zealand directly encourage (or prohibit) linkage formation. For these reasons, government policy was not included as a predictor variable.

Two, country of origin is included as a control variable (along with age and size) because the direction of the relationships between the variables was unclear, i.e. whether different countries could be expected to have different influences on the direct linkage formation.

Linkage formation serves as the dependent variable and comprises both the quantity and quality of linkages. The quantity of linkage formation is measured by the extent of local sourcing of specialised products and services. However, our focus is on the quality of linkage formation as this is the best indication of the contribution of FDI to the upgrading of local industry. The quality of linkage formation is measured by:

- forward assistance linkages with agents and/or customers;
- backward assistance linkages with suppliers and/or subcontractors; and
- collaborative linkages with collaborative partners.

A full list of these variables is given in the variable measurement section of the following chapter. The research propositions that attempt to evaluate the influence of specific determinants on linkage formation are presented below:

RP3 Motive for investment. The motive for investment will influence linkage formation. Specifically, investment for resource-seeking or trade/support reasons is less likely to result in linkages than investments made for efficiency-seeking, market-seeking or strategic asset-seeking reasons.

RP4 Autonomy. Greater influence of the foreign parent company/shareholder over the affiliate's short- and long-term decision-making will have a negative influence on linkage formation.

RP5 Main activity. The affiliate's main activity will influence linkage formation, specifically, manufacturing and service affiliates will form more linkages than trading firms.

RP6 O-advantages (resources). Intra-firm transfer of resources from the foreign parent company/shareholder to the affiliate will have a positive influence on linkage formation.

RP7 Innovation. The introduction by the affiliate of innovation that originates from the foreign parent company/shareholder will have a negative influence on linkage formation.

RP8 Innovation. The introduction of innovation by the New Zealand affiliate or jointly with the foreign parent company will have a positive influence on linkage formation.

The rationale for these last two propositions is that if innovation is introduced by the parent company, then there will be more incentive to continue to internalise such unique assets developed offshore. In contrast, local development of an innovation

by the affiliate is more likely to involve local firms either directly in the process via linkages, or indirectly via demonstration or competitive effects.

RP9 Local firm capability. Greater capability of local firms (in terms of relative availability, price, quality, reliability and technical sophistication) will have a positive influence on linkage formation.

RP10 Local firm capability. Greater ability of local firms to supply standardised/specialised inputs will have a positive influence on linkage formation.

DEGREE OF LINKAGE

Model Development

We now propose a diagrammatic model which illustrates the degree of linkage (DOL) of the foreign affiliate into the local economy. The model, shown in Figure 5.1, illustrates the degree of linkage via a continuum; with enclave FDI at one end and developmental FDI at the other. Under enclave conditions, there are no direct linkages with local firms and total internalisation of O-specific advantages is assumed.

As one moves along the continuum, the degree of linkage (and hence the quality) of linkages increases. Direct linkages with local firms might be formed to acquire factors of production or marketing expertise and to transfer non-core O-advantages between firms.

At the developmental end of the continuum, the affiliate is integrated into the local economy and linkages such as alliances often involve a two-way transfer of O-advantages and partial internalisation. The degree of linkage reflects the potential

for quasi-internalisation (I), or in other words, the extent of internalisation is associated with the degree of linkage of the affiliate. In turn, the DOL is expected to depend on the factors discussed in the previous section.

According to the process of O-advantage augmentation, linkages between the foreign affiliate and local firms are expected to occur post-FDI. The affiliate becomes more integrated into the local economy as it forms more complex linkages with local firms. For example, we observed that an affiliate that engages in a local alliance is considered to have a higher degree of linkage, than one that just sources locally. Let us then group the potential indirect and direct linkages discussed in the previous section of this chapter into the three possible scenarios of low, moderate or high degrees of linkage:

- If the degree of linkage is LOW, full internalisation of O-advantages is apparent and only indirect linkages through competitive and agglomeration effects will result. Limited diffusion of O-advantages might occur over time.

- If the degree of linkage is MODERATE, there is evidence of direct, forward, and backward linkages such as the use of local agents and customers; and local sourcing and relationships with suppliers and subcontractors . Partial internalisation might occur, but is expected to involve only a transfer of non-core, codifiable knowledge to assist these ancillary firms.

- If the degree of linkage is HIGH, partial internalisation might occur in both local and foreign firms that engage in a mutual transfer of O-advantages through knowledge agreements or collaboration. These may or may not be core advantages.

Figure 5.1 Degree of Linkage and Linkage Type

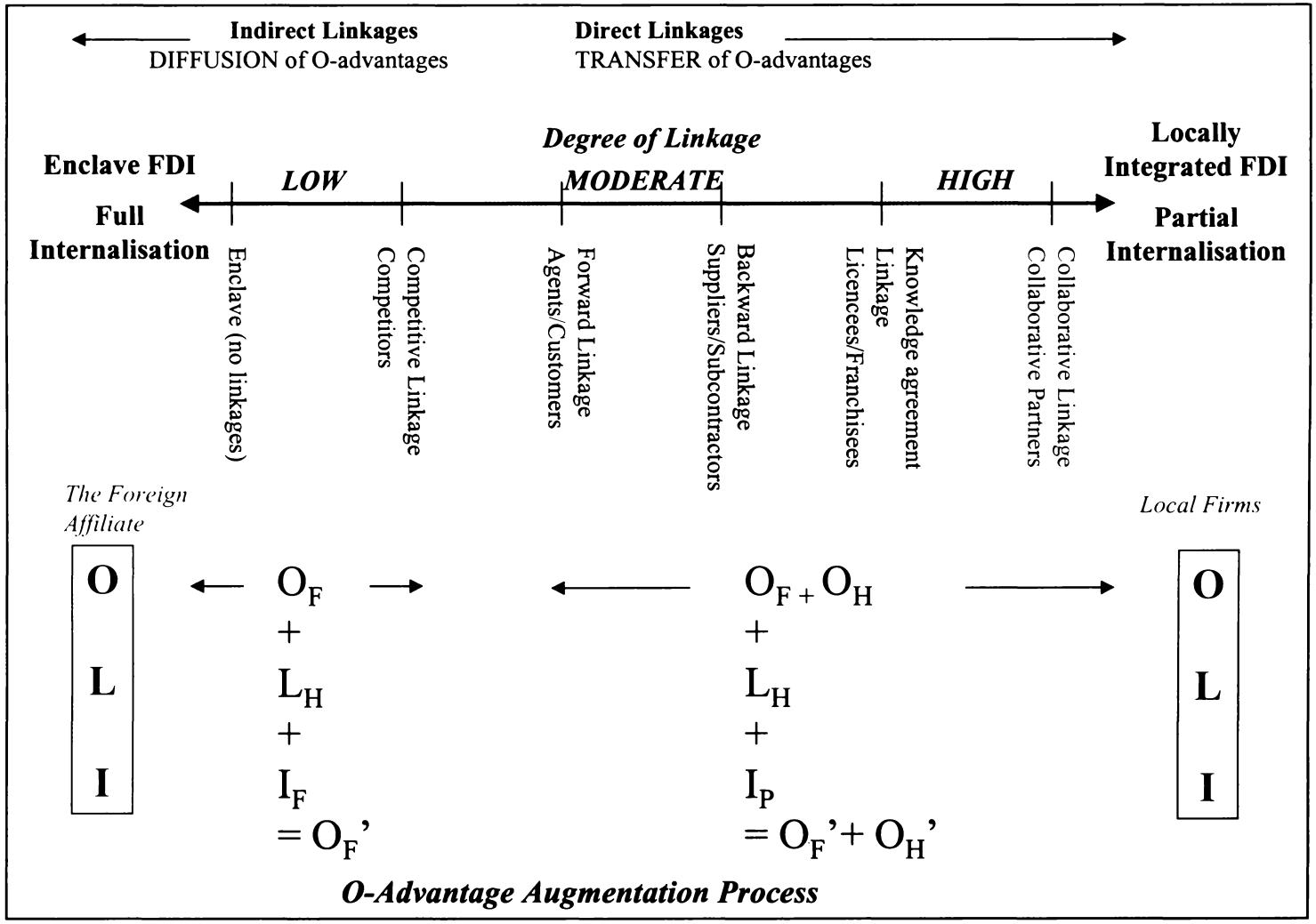

Figure 5.1 shows the relationships along the DOL continuum with enclave FDI and full internalisation of O-advantages at one end and locally integrated FDI and partial internalisation at the other. Table 5.1 also shows the relationships between the OLI configurations of the affiliate and of the local firms, and how each type of linkage with local firms can represent each of the three categories of DOL, namely; low, moderate and high. We now go on to state our research questions relating to the affiliates' DOL:

RQ26 DOL. *Are the affiliates able to be categorised as to their degree of linkage with the local New Zealand economy?*

If the affiliates are able to be categorised into different DOL, then the unique characteristics of low, moderate and high degree of linkage need further investigation as follows:

RQ27 DOL Characteristics. *How do the following characteristics of the affiliates differ between the low, moderate and high degree of linkage categories?*

RQ27a Motive for investment

RQ27b Competitive position

RQ27c Autonomy

RQ27d Access to technology from foreign parent/shareholder

RQ27e Number of years of operation in New Zealand; and ownership by current foreign investor.

RQ27f Ownership form

RQ27g Main activity

CONCLUSION

The purpose of this chapter was to present a model that would enable the researcher to investigate the phenomena of FDI in a host country, and thus, address the research question central to this thesis: What is the impact of MNE activity on local industry in New Zealand?' In order to construct such a model, this chapter drew on, and extended the existing literature put forward in Chapters Two, Three and Four.

The first contribution to the process of model building made by this chapter was to explain how the augmentation or upgrading of O-specific advantage might occur over time. This process would differ according to the OLI configuration of the foreign entrants, but typically would be initiated by entry by the affiliate into New Zealand after which its strategy (including ownership form), and firm-specific assets would shape the nature of its impact on the affiliate and the host economy at the first round level.

The second stage would involve linkage formation between foreign and indigenous firms, followed by the gradual diffusion and transfer of O-advantages in the third stage. We proposed that the extent of such diffusion/transfer would depend on the DOL of the affiliate, either at a low, moderate or high level. The final stage of the process involved the upgrading of indigenous O-advantages. We noted that this process could apply equally to both foreign affiliates operating locally, and indigenous firms.

The chapter then went on to present appropriate research questions and propositions that sought to examine whether this process was occurring. In particular, the focus was on the second stage of the O-advantage augmentation process, that of linkage formation. Based on previous empirical research, the chapter presented a number of research propositions relating to the determinants of linkage formation.

In summary, this chapter has formulated a model that attempts to operationalise the IDP by illustrating the mechanisms by which local upgrading might occur as a result of the interaction between foreign and local firms. The following chapter presents the methodology used in this research, and explains how the model might be operationalised for the purpose of addressing the research questions and propositions put forward in this chapter.

CHAPTER SIX
RESEARCH METHODOLOGY

> [F]oreign subsidiaries are generally regarded as important forces in raising the technological capabilities of local suppliers, local customers, and local competitors. Is it possible to document, describe, and measure these effects in particular cases? Can we say anything about the circumstance under which foreign subsidiaries have a large impact, and the circumstances under which they have a small impact? (Mansfield, 1974).

INTRODUCTION

Chapter Five presented the central research issue of this thesis as: 'What is the impact of MNE activity on local industry in New Zealand?', and then went on to formulate a model and research questions that would address this issue in the context of the impact on both the affiliate and on other local firms.

This chapter presents the methodology followed in this thesis, and attempts to operationalise the research questions and propositions given in Chapter Five. Our aim is to formulate specific measures and explain the techniques employed to carry out the research, and ultimately address the issue of MNE impact on New Zealand industry. This chapter lays the foundation for the empirical research component of the thesis.

The chapter begins by outlining the research design, including the methods used for data collection, the sampling frame, and the development and pre-testing of the questionnaire. It then turns to discussing the research measurement in some detail, and specifically outlines how each of the variables in the study will be evaluated.

In sum, the purpose of this study is to test the propositions of the IDP which link the OLI configuration of the affiliate with indigenous upgrading. The independent

variables can be defined generally as the determinants of local linkage (OLI), while the dependent variable can be defined generally as the degree of linkage with the local economy. The units of analysis in the study are:

- the head offices of firms operating in New Zealand that are 25 percent or more foreign owned (henceforth *the affiliate*); and
- their relationships with other (unrelated by ownership) New Zealand-based competitors, suppliers, subcontractors, agents, customers, licencees, franchisees and collaborative partners.

RESEARCH DESIGN

Data collection

Survey methodology is widely adopted in social science and business-related research (Emory & Cooper, 1991). A postal survey was used for this thesis because it allowed the researcher to collect comparable data from a large representative sample while meeting both time and cost restraints.

Surveys require respondents to give information, either verbally or written in response to set questions. Questionnaires and interviews are the two most common instruments for carrying out a survey. A questionnaire is a pre-formulated and pre-tested set of closed- and open-ended questions to which respondents record their answers. Questionnaires have the advantage of being able to collect the required data efficiently, when the researcher knows what information is required and how the variables of interest are to be measured. Mail questionnaires were chosen in this study due to their ability to reach a geographically dispersed and large sample simultaneously at a relatively low cost (Zikmund, 1991).

Other advantages of the mail survey method include convenience, versatility and a high degree of reliability and accuracy as respondents have longer to consider their

answers than under interviewing or telephone survey techniques. The postal survey used in this thesis was designed to make answering as easy as possible, however, respondents might have had to find answers from others while completing the questionnaire. A formal questionnaire also could be passed on to the appropriate respondent should the receiver not be suitable, or available to complete it. Also, there is much more anonymity for respondents in answering a questionnaire than participating in an interview. These were important considerations for this thesis, as many of the respondents did not wish to have their firm's identity, its foreign-ownership, nor the details about its operations remain anything but totally confidential.

Disadvantages include a lower response rate than more personal methods, and an inability to clarify respondents' answers or respond to their queries. The survey used in this study attempted to address these problems by personalising the cover letters included with the survey, and using two follow-up mailings to people who had not responded. Four rounds of pre-testing eliminated most of the common mis-interpretations made by those filling in the questionnaire (see later in this chapter). In addition, the survey included spaces and open-ended questions to give respondents the chance to clarify their answers, which they did.

Another disadvantage is that respondents who return the questionnaire may not be representative of the population, or even the sample. Nor may intended respondents be the ones who actually complete and return the questionnaire. In addition, questionnaires are only able to gather a limited amount of information because of the need to keep the questionnaire short and manageable.

The research addressed these issues by constructing a comprehensive database of all (known) foreign-owned firms in New Zealand and then sending the survey to all of them (see previous discussion on sample size). This was expected to minimise the effects of non-representation in the sample. The survey did not need to be completed by a specific person, save that that person was senior enough to be able to answer the questions. The questionnaire guidelines invited response from the chief executive

officer, managing director or other senior executive in the firm's head office. Finally, adherence to the principles of the Total Design Method (see questionnaire design section later in this chapter) meant that data could be gathered on all aspects relevant to the thesis. Care was taken not to include questions that were not directly relevant.

Personal or telephone interviews, although overcoming some of the problems of non-response and response bias associated with postal questionnaires, were not used in this research. Locating and gaining sufficient time to question respondents over the telephone was prohibitive for collecting the extent of data required. The interviewing technique was rejected on the basis that the number of interviews required to formulate a representative view of the population of foreign-owned firms in New Zealand would have incurred prohibitive costs and taken too long to conduct.

In addition, interviews, particularly over the telephone, have the disadvantage of not allowing respondents the opportunity to recall or retrieve information or events. One of the principal objectives of the survey was to provide comprehensive confirmation of previous studies that had provided an in-depth and detailed account of selected foreign-owned firms via interviews or case study methodology.

Sampling Frame

The target population of the study was significantly foreign-owned firms operating in New Zealand. A significantly foreign-owned enterprise is defined as one where 25 percent or more of the voting shares or control of the company is held by non-New Zealand residents, and includes subsidiaries, branches, joint ventures, publicly listed and, privately held companies. A complete, or even comprehensive list of these companies was unavailable (because of confidentiality reasons) to use as a sampling frame for the study.

To overcome this difficulty, construction of the sampling frame took place prior to the survey. This involved gathering all possible sources of information about foreign-owned firms, such as business directories, or through contacts with industry

associations and government departments. Initial contacts were made in February 1997, and more up-to-date lists were received prior to the survey in 1999. Eventually, mailing lists were acquired from the following sources (in order of usefulness) shown in Table 6.1:

Table 6.1
Information Sources used to construct FDI Database

Source	Details
Business Who's Who	40th edition.
Gameplan database	Now obsolete.
Industry/trade associations or chambers of commerce	The American Chamber of Commerce, Austrade (Australian Trade Commission), Australia New Zealand Business Council, JETRO (Japan External Trade Organization), Swedish Trade Council Australia & New Zealand, Denmark and Netherlands New Zealand Business Association, New Zealand German Business Association, French Trade Commission, Japan New Zealand Business Council, British Trade Commission, Canadian High Commission, Taiwanese, Korea Trade Commission (KOTRA), Korea New Zealand Business Council, Taiwanese Business Association of New Zealand, The Consulate General of the People's Republic of China in Auckland. (Note: Business associations for all countries were contacted, however some were unable to provide the required information).
Who Owns Whom	Business ownership directory for the Asia-Pacific Region.
Bancorp Holdings Ltd	List of foreign acquisitions in New Zealand since 1990.
NZ Business 500	List of the top 500 businesses, published in New Zealand Business (July 1999).
Overseas Investment Commission	The OIC provides six monthly reports to Parliament which include information on applications to undertake significant foreign investment in New Zealand.
Kompass New Zealand	Directory of New Zealand businesses. This was a potentially excellent source of information about the nationality of the ultimate owner (parent company), but the on-line version was unable to be searched by country of origin. Its coverage is also limited to 8 industry sectors and the top four percent of companies, either by staff or turnover. Hence, this source was used primarily as a means of checking or adding to existing information.
UBD	Universal Business Directories (on-line).
Telecom New Zealand	Telecom White Pages (on-line). These last two sources were used to provide up-to-date contact information for the head offices of the affiliates.
New Zealand Companies Office	Thoroughly explored as a source of information, but although data on foreign owned firms in New Zealand was collected by the Office, it was unable to be extracted from data for non-foreign firms.

To the best of all publicly, and some privately held knowledge available, the database included all the foreign-owned firms operating in New Zealand at the time the questionnaire was sent out, November 1999. Whether the database included the majority of these firms in reality, is impossible to determine. The entries were limited to the head office of the company in New Zealand. This was to avoid

multiple questionnaires being sent to different regional branches, production sites, or outlets. It also ensured that the respondent was more likely to be able to answer questions on the behalf of the entire New Zealand operation, rather than a single site.

In terms of validating the compiled list of companies, the only comparison available is that from the Statistics New Zealand Business Activity publications (1999) which surveys business enterprises in New Zealand. The key criteria for inclusion of enterprises in SNZ's Business Frame is $30,000 sales or GST expenses per annum, and more than two employees (refer to Chapter Four for a full list of criteria).

Consequently, the Business Frame includes a wide range of corporate, government, non-corporate, not-for-profit, and household enterprises as well as multiple sites or outlets associated with the same firm or group of companies. The businesses maintained on the Business Frame represent the target population from which SNZ samples are selected.

In contrast, the sample used in this study focuses on the head offices of registered companies. The use of certain data sources in the construction of the database has also influenced the sample. For instance, firms that are affiliated with business associations are more likely to be included, whereas smaller firms, non-corporates, and certain service sectors (i.e. household, non-profit) are less likely to be included in the database.

Sample size

Given that the size of the known population in the database was relatively small, it was decided that the validity of the results would be improved through a larger and potentially more representative sample. The sample consisted of the entire sampling frame, or known population. Initial research produced a database of some 2500 firms.

If current contact information (such as postal address or telephone number) was unavailable, then these firms were withdrawn from the database. Contact information was sought from four up-to-date, online databases, namely; the Telecom White Pages, The New Zealand Business Who's Who, Kompass Directories, and Universal Business Directories (UBD). This revision left 1800 firms in the sampling frame. Hence the sample size, or known population size, consisted of the 1800 head offices of significantly (25 percent or more) foreign-owned firms in New Zealand.

Pre-testing of the questionnaire

The questionnaire pre-testing was done in four stages, with revisions being made between each stage. This section briefly reviews each stage of the pre-testing. The final stage was conducted as a pilot test of the survey.

- Stage One: Screening by Waikato Management School (WMS) academic staff;
- Stage Two: Pre-testing by managers studying at the W.M.S.;
- Stage Three: Comment on the survey by government officials in the Ministry of Commerce; John Dunning, Professor of International Business at Rutgers University; and Peter Enderwick, Professor of International Business at WMS;
- Stage Four: Pre-testing by managing directors of affiliates included in the sample.

The draft questionnaire was initially screened by eleven colleagues at the Waikato Management School. These included senior staff from the disciplines of International Management, Marketing, Management Communication, and Accounting.

Their insightful comments helped improve the content, consistency, clarity and construction of the questionnaire. In particular, some questions and instructions were re-worded, some questions were given scales in place of open-ended or check-box

questions, and those relating to financial data were also reworked. A list of those staff who screened the draft questionnaire and their comments is given in Appendix 6.1.

The second stage of pre-testing was undertaken after the questionnaire had been revised. The main purpose of this round was to see if the questionnaire was sufficiently adapted to suit industry respondents. In this stage, seven managers/senior executives who were participating in the WMS.'s Masters of Business Administration (MBA) or doctoral programmes were contacted. While all but one of those that could be reached agreed to pre-test the questionnaire, one manager was later unable to find the time to do so. This resulted in five pre-tests in the following industries: financial services (2 firms); accommodation & restaurants; manufacturing; and meat processing.

The pre-test respondents were sent a copy of the questionnaire and given instructions *not* to read it before the author contacted them at a pre-determined time. This was to ensure that respondents gave their immediate reaction to, and impressions of, the questionnaire, in a similar manner to which respondents would react/respond. They were asked to comment on any questions that they did not understand, could not easily complete, or felt there was more than one answer to. They were encouraged to give any feedback about the questionnaire that came to mind while they were completing it. The pre-test was conducted by telephone so that respondents would not have to write all their comments down. Comments were recorded by the author. The questionnaires completed by these respondents were then posted or faxed back to the author and compared with their telephone comments.

The outcome of the pre-tests was that the value-added and local sourcing questions needed revision because the pre-test respondents were either unable to understand what information was being requested, or were unable to retrieve that information. Those from service firms noted that the survey was biased towards manufacturing and consequently they were unable to respond to some questions satisfactorily. As a result, the survey was modified to include service offerings as well as products.

Some respondents also had difficulty interpreting the 'set-up' versus 'acquired' ownership options, so this question was re-worked. For a list of pre-test respondents and their comments see Appendix 6.1.

The third stage of the pre-testing involved inviting comments on the content of the questionnaire from both government officials and other leading academics. Stephen Knuckey of the Ministry of Commerce (Business Enterprise Division) circulated the questionnaire to other government staff and provided his own very insightful comments about the content and wording. The division had recently completed a nationwide survey of manufacturing firms.

Professor John H. Dunning of Rutgers University (New Jersey) kindly offered many comments on the inclusion of certain topics in the questionnaire, the interpretation of some terms and the ambiguity of some questions. This stage of the pre-testing enabled the final questionnaire to be more in-line with both previous academic and government research.

The final pre-test was conducted using executives from the actual sample of foreign-owned affiliates. Ten potential respondents from a range of industries were selected. Two of these were unable to be contacted during the pre-test period, four expressed interest but were eventually unable to respond to the request, and four participated. While the pre-testing was conducted in the same manner as stage two, two of the respondents opted to independently complete the questionnaire rather than conduct the pre-test over the telephone.

As a result of this final pre-testing the value-added question had to be scrapped in light of no respondents being able to interpret and answer it correctly. The questions on local sourcing were made less specific, using ranges of values rather than requiring respondents to give specific figures. Additional filtering questions, instructions, and definitions were added to facilitate answering. Details about those who responded and their comments are included in Appendix 6.1.

Questionnaire design

The questionnaire was constructed following the principles of Dillman's Total Design Method (TDM) (1978), which has been used extensively in social science research. The TDM attempts to address many of the problems often associated with survey research instruments, including low response rates, poor quality and design of questions, and insufficient depth of answers.

The philosophy behind the TDM is "the identification of each aspect of the survey process (even the minute ones) that may affect response quantity or quality and shaping them in a way that will encourage good response" (Dillman, 1978, p.2). The author provides "a methodological 'recipe' that includes all the ingredients and the directions for combining them" (Dillman, 1978, p.5) based, in part on a review of over 200 articles that address the methodological issues of survey and telephone research.

The questionnaire consisted of eight pages containing 34 questions, plus a cover page and a guidelines page. Some of these were open-ended but most gave respondents a limited set of pre-formulated responses from which to choose an answer. Five-point Likert scales were used to facilitate both answering of the questions by respondents and coding of their answers. A copy of the questionnaire is in Appendix 6.2.

Some of the questions were adapted from other surveys especially Dunning's study of Japanese affiliates in British manufacturing (1986), and including those by Harper (1994), KPMG (1995) and Deane (1970). The main area of adaptation involved making the survey suitable for non-manufacturing firms. Other questions had to be designed especially for the survey but drew heavily on existing literature (see Chapter Three and Dunning (1993)). The layout of the questionnaire conformed to the guidelines set out by the TDM.

Exchange theory, as employed by the TDM, suggests that responses might be encouraged by a number of actions by the researcher including rewarding the respondent, reducing the costs to the respondent, and establishing trust with the respondent. In the survey used for this research the methods to maximise quality and quantity of response included:

- respondents were rewarded by being invited to receive a free copy of the research findings in return for their participation, as well as the researcher explaining the value of their contribution to the research, and expressing gratitude for their altruism.

- costs were reduced through the use of a pre-paid envelope, the use of predominantly tick-box questions, screening questions to re-direct respondents to the next appropriate question, and repeated styles of questioning (to reduce effort and time taken to complete the questionnaire).

- trust was established with the participants through identification of the researcher as a doctoral student at the University of Waikato (for legitimacy purposes), and by personally identifying each respondent. Usually this was the Managing Director located at the head office of the company concerned.

RESEARCH MEASUREMENT

This section presents the variables that are used to measure or analyse the research propositions put forward earlier in Chapter Five. Each of the research questions are also addressed in Chapters Seven and Eight (results and discussion), so are not presented individually in this section.

Affiliate Profile

RP1,2 Resources from parent and innovations as competitive advantage. In order to address the issue of whether affiliates internalise corporate O-advantages, resources and innovation that convey competitive advantage, the questionnaire asked:

- to what extent the affiliates gained specific resources (O-advantages) from their parent/related companies or foreign shareholders;
- if in the past three years, the respondent's firm had introduced specific innovations to New Zealand and if "yes", had the innovation originated from their parent/shareholder, their own firm in New Zealand or both; and
- the types of resources that they used as a source of competitive advantage relative to their competitors in New Zealand.

Multiple regression analysis is performed in Chapter Seven to assess to what degree the affiliates relied on internalised MNE resources/innovations for competitive advantage. The sources of competitive advantage of the affiliate served as the dependent variable, and resources from the parent and innovations formed the two sets of independent variables. A full list of these resources, innovations and competitive advantages is included in Table 6.2.

Table 6.2 RP 1, 2 Affiliate Profile: Variables for Resources, Innovation & Competitive Advantage

Q	Variable Name	Variable Components		Data Type and Coding
	Dependent variable			
7	**Competitive advantage** of affiliate in New Zealand	Product (service) technology	PRDTECH7	Discrete Interval 1=not at all 2=to a minor extent 3=to a moderate extent 4=to a major extent 5=completely
		Production (service delivery) technology	PTECH7	
		Management practices/culture	MGMTP7	
		Marketing systems	MKTING7	
		Distribution systems	DIST7	
		Human resources and skills	HR7	
		Economies of scale or scope	EOS7	
		Favoured access to inputs (eg. capital, raw materials, components, products, services)	INPUT7	
		Access to markets	MKTS7	
	Independent variables			
4	**Resources from parent**	Product (service) technology	PRDTECH	Discrete Interval 1=not at all 2=to a minor extent 3=to a moderate extent 4=to a major extent 5=completely
		Production (service delivery) technology	PTECH	
		Research and development	RESEARCH	
		Management practices/culture	MGMTP	
		Marketing systems	MKTING	
		Distribution systems	DIST	
		Employment practices	EMPLOY	
		Human resources and skills	HR	
		Training (or training systems)	TRAIN	
		Economies of scale or scope	EOS	
		Favoured access to inputs (eg. raw materials, products)	INPUTS	
		Access to markets	MKTS	
		Access to finance	FINANCE	
12	**Innovations introduced to New Zealand** and source of that innovation (see below)	Product (service) technology (P)	PRODUCTP	Categorical, dichotomous, dummy coded as 0=no 1=yes
		(NZ)	PRODCTNZ	
		(B)	PRODCTB	
		Production (serv. del.) technology (P)	PTECHP	
		(NZ)	PTECHNZ	
		(B)	PTECHB	
		Management practices/culture (P)	MGNTP	
		(NZ)	MGMTNZ	
		(B)	MGMTB	
		Marketing systems (P)	MKTINGP	
		(NZ)	MKTINGNZ	
		(B)	MKTINGB	
		Distribution systems (P)	DISTP	
		(NZ)	DISTNZ	
		(B)	DISTB	
		Employment practices (P)	EMPLYP	
		(NZ)	EMPLYNZ	
		(B)	EMPLYB	
		Human resources and skills (P)	HRP	
		(NZ)	HRNZ	
		(B)	HRB	
		Training (or training systems) (P)	TRAINP	
		(NZ)	TRAINNZ	
		(B)	TRAINB	

(P)=developed by/originated from **parent**/related affiliates or foreign shareholder
(NZ)=developed by/originated from **New Zealand-based affiliate**
(B)= (**both**) developed jointly by/originated from parent/related affiliates and New Zealand-based affiliate

Determinants of Direct Linkage Formation

The independent variables by research proposition are as follows and are shown in Table 6.3.

RP3 Motive for investment. The questionnaire asked the respondents to indicate the extent to which the following explained their foreign parent company/shareholder's main reason for operating in New Zealand (the author's notation is given in brackets):

- use of local resources such as natural resources, unskilled or skilled labour (resource-seeking);proximity to markets and customers, to sell products or provide services in New Zealand or Asia-Pacific (market-seeking);
- to raise efficiency or lower costs of production (efficiency-seeking);
- to protect parent/shareholder's competitive position or to acquire strategic assets or technology (strategic asset-seeking);
- for trade and supporting activities, such as importing, exporting, distribution or administration (trade/support activities).
- Other reasons, which respondents were asked to specify.

RP4 Autonomy. The respondents were asked to indicate the extent of influence of their foreign parent/shareholder over short-term and long-term decision-making.

RP5 Main Activity. The affiliates were asked to indicate which industry group their firm was best represented by (this question was based on the 16 ANZSIC divisions used by SNZ), and an open-ended question asked them to give their firm's main business activity. Their answers were then aggregated into three main areas: service providers, traders, manufacturers and primary processors.

RP6 O-advantages (resources). See RP1, 2 above. Six of the resource-related variables were condensed into two factors for the regression analyses (see factor analysis section in this chapter).

RP7,8 Innovation. See RP1, 2 above.

RP9 Capability of local firms. The respondents were asked to rate the standard of inputs relative to alternative sources of supply on the following criteria: availability; price; quality; reliability; and technical sophistication. Inputs were defined as any factors used in production or delivery of a service which were not made by the respondent's firm. These included products, services, raw materials, components, equipment, and outside contracting of labour. For the regression analysis four of these variables were able to be aggregated into a single factor (see factor analysis section).

RP10 Ability of local firms to supply standardised/specialised inputs. Respondents were asked to indicate the extent to which New Zealand firms were able to supply the following inputs required by their firm: standardised (generic) products such as raw materials; standardised services such as freight; specialised products that were customised to their firm's specifications such as technical equipment; and specialised or professional services such as legal services, or outside contracting of professional labour. For the logistic regression analysis, these variables were able to be condensed into a single factor (see factor analysis section).

In addition to these independent variables, the regression analyses controlled for age, size, and country of origin of the affiliate.

- ***Age*** was measured by the number of years since the respondent's firm was originally founded in New Zealand, and the number of years since the firm's current parent company or foreign shareholder first invested in, or set up the

firm. In some instances, where the foreign investor had undertaken greenfield investment or acquired and then reincorporated an existing firm, these were the same.

- *Size* was measured by the total sales for their firm's New Zealand operations in the last financial year, and the number of full-time equivalent (FTE) employees employed in New Zealand.

- ***Country of origin*** was the home country of the foreign parent or largest foreign shareholder. Responses were then put into six categories; USA/Canada, Australia, Japan, UK/Ireland, Other Europe and Other Asia/Pacific.

A summary of all these variables is included in Table 6.3.

Table 6.3
Determinants of Direct Linkages - Variables

Dependent variables: Direct Linkages

Q	Variable Group	Variable Name	Variable Code	Data Type/Code
17 18	**Local Sourcing** from other NZ firms	Specialised products Specialised services	PRODUCT SERVICE	Discrete Interval 1=not at all 2=to a minor extent 3=to a moderate extent 4=to a major extent 5=completely
20a 20b	**Assistance**	Assistance to NZ firms Assistance to Agents/customers^ Assistance to Suppliers/Subcontractors^ Low levels or no assistance to NZ firms^	ASSIST AGENT2 SUPPLIE2 NONE	Categorical, dichotomous 1=yes, 0=no
21	**Collaboration**	Collaborative agreements with NZ firms	CA	Categorical 1=yes, 0=no

^ See cluster analysis later in this chapter.

Table 6.3 continued
Determinants of Direct Linkages - Variables

Independent variables: Determinants of Direct Linkage Formation

Q	Variable Group	Variable Name	Variable Code	Data Type/Code
3	**Motive**	Resource-seeking Market-seeking Efficiency-seeking Strategic-asset seeking Trade/support activities	RESOURC3 MARKET3 EFFICIE3 STRATEG3 TRADE3	Discrete Interval 1=not at all 2=to a minor extent 3=to a moderate extent 4=to a major extent 5=completely
2	**Autonomy**	Influence over short-term decision-making Influence over long-term decision-making	STDEC LTDEC	Discrete Interval 1=none 2=minor influence 3=moderate influence 4=major influence 5=total influence
31	**Main Business Activity**	Service Provider Trader Manufacturer Primary Processor	SERVICE TRADE MANUF PROCESS	Categorical 1=service, 3=trader, 5=manufacturer, 6=primary processor
4	**Resources from parent**	Product (service) technology* Production (service delivery) technology* Research and development* Management practices/culture Marketing systems Distribution systems Employment practices* Human resources and skills* Training (or training systems)* Economies of scale or scope Favoured access to inputs Access to markets Access to finance * Technology Factor * Human Resources Factor	PRDTECH PTECH RESEARCH MGMTP MKTING DIST EMPLOY HR TRAIN EOS INPUTS MKTS FINANCE **TECHFAC** **HRFAC**	Discrete Interval 1=not at all 2=to a minor extent 3=to a moderate extent 4=to a major extent 5=completely **Factor Score**
12	**Innovations introduced to New Zealand** and source of that innovation (see below)	Product (service) technology (P) (NZ) (B) Production (serv. del.) technology (P) (NZ) (B) Management practices/culture (P) (NZ) (B) Marketing systems (P) (NZ) (B) Distribution systems (P) (NZ) (B) Employment practices (P) (NZ) (B) Human resources and skills (P) (NZ) (B) Training (or training systems) (P) (NZ) (B)	PRODUCTP PRODCTNZ PRODCTB PTECHP PTECHNZ PTECHB MGNTP MGMTNZ MGMTB MKTINGP MKTINGNZ MKTINGB DISTP DISTNZ DISTB EMPLYP EMPLYNZ EMPLYB HRP HRNZ HRB TRAINP TRAINNZ TRAINB	Categorical, dichotomous, dummy coded as 0=no 1=yes

Table 6.3 continued
Determinants of Direct Linkages - Variables

Independent variables: Determinants of Direct Linkage Formation

Q	Variable Group	Variable Name	Variable Code	Data Type/Code
15	**Capability of Local firms**	Price of local inputs	PRICE15	Discrete Interval
		Availability of local inputs*	AVAIL15	1=well below average
		Quality of local inputs*	QUAL15	2=below average
		Reliability of local inputs* (eg.delivery, after-sales service, continuity of supply)	REL15	3=average 4=above average
		Technical sophistication of local inputs*	TECH15	5=well above average
		* Capability Factor	**CAPABF**	**Factor Score**
		Ability of New Zealand firms to supply:		1=not at all
		Standardised (generic) products*	STPROD	2=to a minor extent
		Standardised (generic) services *	STSERV	3=to a moderate extent
		Specialised (customised) products*	SPPROD	4=to a major extent
		Specialised (customised) services*	SPSERV	5=completely
		* Ability to supply Factor	**ABILITYF**	**Factor Score**
27	**Age**	Years in New Zealand	ESTYR	Ratio
28		Years owned by current foreign investor(s)	FDIYR	Ratio
33	**Size**	Full-time equivalent staff	FTE	Ratio
32		Total sales last financial year	SALES	Ratio NZ$million
29	**Country of Origin**	USA/Canada	USA	Categorical
		Australia	AUST	1=USA
		Japan	JAPAN	2=Aust
		UK/Ireland	UK	3=Japan
		Other Europe	EUROPE	4=UK
		Other Asia/Pacific	ASIA	5=Europe 6=Asia

(P)=developed by/originated from **parent**/related affiliates or foreign shareholder
(NZ)=developed by/originated from **New Zealand-based affiliate**
(B)= (**both**) developed jointly by/originated from parent/related affiliates and New Zealand-based affiliate
* See factor analyses later in this chapter.

DATA ANALYSIS TECHNIQUES

The raw data were entered into the Microsoft Excel spreadsheet program. Each completed questionnaire was assigned a code number for identification. After initial screening for outliers and entry errors, descriptive statistical analysis (e.g. frequencies and averages) was performed. For more sophisticated data analyses, data were entered into the SPSS for Windows program, re-screened and transformed where necessary into the required variables. The key data analysis techniques used in this thesis are multiple linear regression and logistic regression. Factor analysis, and

cluster analysis were used to reduce the data into more appropriate constructs or groups of respondents.

Factor Analysis

In both multiple linear regression and logistic regression, the contribution of each independent variable toward the change in the dependent variable depends on the other variables included in the model. This allows variables, such as size, to be held constant or to be controlled for during the analysis. However, if independent variables are highly correlated, that is, they both explain the same changes in the dependent variable, then the effect of each may be difficult to determine (Bryman & Cramer, 1994). To avoid problems of such partial correlation between independent variables which may cause the model to become unstable, factor analysis was first conducted on the independent variables.

Factor analysis is a data reduction technique that identifies underlying constructs (factors) from a number of interrelated variables. These constructs form new variables that summarise the information contained in the original variables. Factor analysis may either be confirmatory, (i.e., seek to test a theory about the structure of a particular domain), or exploratory, where is it used to summarise the structure of a set of variables (Coakes & Steed, 1999). As indicated above, this has the advantage of avoiding problems due to correlation. It also serves to simplify the analysis and reduce the possibility of finding significant results by chance, by reducing the number of variables under consideration (Bryman & Cramer, 1994). This thesis employs exploratory factor analysis, using the 'maximum likelihood' and 'principal components' methods of factor extraction, with varimax rotation of the factors.

Maximum likelihood is a method of estimation which seeks to identify the population parameters with a maximum likelihood of generating the observed sample distribution and/or obtaining an initial factor solution. Principal components describes the linear combinations of observed variables that are orthogonal to each other, with the first principal component representing the largest amount of variance

in the data, the second representing the second largest, through to the last principal component (Kim & Mueller, 1982).

Rotation makes the factor structure more interpretable, particularly where the variables are complex and may relate to more than one factor. Varimax rotation is the most frequently chosen method when orthogonal rotation is appropriate (when the factors are uncorrelated with one another), and involves keeping the factor axes at right angles to each other (Coakes & Steed, 1999).

Factor analysis can employ continuous or discrete interval data, such as the 5-point Likert scales employed in this study. It requires a minimum of five cases per variable, and 200+ samples are preferable, so the number of cases in this study (516) is more than adequate. It is robust to assumptions of normality, although normally distributed variables enhance the output (Norusis & Inc., 1990). Because factor analysis is based on correlation of variables, linearity is an important assumption. This was confirmed through analysis of the correlation matrix for each analysis.

The factorability of the variables is determined by considering the correlation matrix, which should include correlations that exceed 0.3. In addition, the Kaiser-Meyer-Olkin (KMO) measure should be greater than 0.6 and Bartlett's test of sphericity (BTS) should be large and significant to proceed with factor analysis (Coakes & Steed, 1999). These are shown in Table 6.4.

Factors are selected on the basis of Kaiser's criterion, that is, those that generate eigenvalues over one and result in a clear and distinct 'elbow' in the scree plot (Bryman & Cramer, 1994). The rotated factor matrix shows which variables load on to which factors. Pure variables should have loadings (correlations) of 0.3 or greater on only one factor. Once factors are determined, the factor scores are saved as a new variable and given an appropriate name that reflects the original variables.

Table 6.4
Factor Analysis - Resources from parent, Capability of local firms

Independent variables	Rotated Factor Matrix		Cronbach's Alpha		Factor Name
	Factor 1	Factor 2	if item deleted	Scale	
Resources from parent					
Product (service) technology	.875	.178	.7757	**.8648**	Technology Factor
Production (serv.del.) technology	.739	.210	.8445		TECHFAC
Research & development	.807	.162	.8105		
Employment practices	.152	.757	.7488	**.8212**	Humanresources/
Human resources/skills	.110	.901	.6881		training Factor
Training	.356	.622	.8198		HRFAC
Initial Eigenvalues (summary)	3.213	1.410			
KMO	.776				
Bartlett's Test	1462.88***				
Capability of local firms					
Availability of NZ inputs	.607	.000	.8048	**.8110**	Capability Factor
Quality of NZ inputs	.791	.191	.7371		CAPABF
Reliability of NZ inputs	.804	.000	.7295		
Technical sophistication of NZ inputs	.649	.145	.7766		
Ability of NZ firms to supply:					
Standardised (generic) products	.196	.557	.6609	**.7192**	Ability to supply
Standardised (generic) services	.000	.671	.6618		Factor
Specialised (customised) products	.164	.548	.6575		ABILITYF
Specialised (customised) services	.000	.695	.6504		
Initial Eigenvalues (summary)	3.001	1.780			
KMO	.766				
Bartlett's Test	1003.99***				

Extraction method: Maximum likelihood
Rotation method: Varimax with Kaiser Normalisation

Finally, the reliability or internal consistency of the new constructs is tested. This is to ensure that all the variables are explained by the factor. Cronbach's Alpha coefficient is the most frequently used test of internal consistency (Coakes & Steed, 1999). It takes a value between 0 and 1, and although 0.5 is an adequate measure of reliability, 0.7 is more appropriate (Nunally, 1978). Alternatively, the size of the correlations between the dependent and independent variables may be compared to assess the ability of the factor to explain the variables. This is particularly appropriate where there are few items included in the factor.

After several factor analyses of the independent variables in this study, the following in Table 6.4 were combined into constructs.

Degree of linkage factor analysis. The objective of this factor analysis was to construct suitable factors that would measure the degree to which the affiliate was linked with or integrated into the local economy. All appropriate variables were included initially; that is, they included both the quantity of linkages formed (measured by the number of relationships with agents, customers, suppliers/subcontractors and collaborative partners), and the quality of those linkages (measured by the extent of assistance given via forward and backward linkages and the transfer of resources to local collaborative partners). In addition to these direct linkages, indirect linkages via competitive effects were also included in the analysis[1].

A summary of the final output for the factor analysis is shown in Table 6.5. Five factors were extracted from the analysis. The results of the factor analysis provided one factor to explain each type of linkage the firms have in the local economy. These were named competitive linkage, forward linkage, backward linkage, knowledge agreement linkage and collaborative linkage factors. Revisiting our degree of linkage model, the factors can be assigned as follows:

- Low degree of linkage - competitive factor;
- Moderate degree of linkage - forward and backward linkage factors;
- High degree of linkage - knowledge and collaborative linkage factors.

Table 6.5 shows that almost all of the variables load very clearly onto a single factor, with the exception of supplier relationships which also loads onto the forward linkage factor. However, it was decided to retain this variable as it loads more strongly on the backward linkage factor and contributes to the well-roundedness of the factor overall.

[1] The limited number of firms that had invested to be close to innovative clusters in New Zealand (see Chapter Seven) excluded the consideration of agglomeration and/or demonstration effects from the analysis.

Table 6.5
Degree of Linkage Factor Analysis

Independent variables	Rotated Factor Matrix					Factor Name
	Factor 1	Factor 2	Factor3	Factor 4	Factor 5	CODE
Influence over:						
competition between firms	.752	.096	.082	.069	.069	Competitive
number of major competitors	.859	-.056	-.025	-.011	-.022	Linkage
number of smaller competitors	.795	-.096	-.053	.091	-.017	COMP
competitiveness of other firms - in your industry	.846	.044	.038	.007	-.009	
Reliance on other NZ firms for:						
specialised products	-.009	.851	.097	-.026	-.122	Backward Linkage
specialised services	.000	.786	.067	-.016	.089	BACK
Supplier relationships	.004	.550	-.073	.403	.126	
Agent relationships	.020	.023	.062	.604	.103	Forward Linkage
Customer relationships	.039	.168	-.013	.773	.053	FORW
Assistance to agents/customers	.085	-.127	.252	.600	-.107	
Licencee relationships	.021	.043	.286	.121	.431	Knowledge
Franchisee relationships	.026	.080	.001	-.054	.812	Agreement Linkage
Assistance to Licencee/Franch.	-.023	-.059	.054	.064	.746	KNOWL
Total collaborative agreements	.015	.101	.873	.093	.065	Collaborative
Resource transfer to local firm via collaborative agreement	.009	.018	.887	.109	.148	Linkage COLLA
Initial Eigenvalues (summary)	2.661	2.307	1.593	1.311	1.207	
Total variance explained %	18.31	15.38	10.62	8.74	8.05	

Extraction method: Principal Component Analysis
Rotation method: Varimax with Kaiser Normalisation

Only two variables were dropped from the analysis on the basis that they did not load onto any of the factors. The first was the affiliate's competitive position in New Zealand, and the second was assistance given to suppliers/subcontractors (SUPSCORE). Given that there were four other variables that made up the competitive linkage factor and three in the backward linkage factor, the absence of these two variables from the analysis was not considered to detract from the results.

Logistic Regression

Logistic Regression is employed where the dependent variable (e.g. assistance to agents/customers) is dichotomous, and the independent variables include both categorical and interval data. The technique predicts the 'odds' or probability of whether an event will occur or not, or whether a particular case can be classified into

one of two populations (Afifi & Clark, 1984). It is also used for identifying the most useful variables for making these predictions (Norusis & Inc., 1990). Use of logistic regression in this thesis was primarily for the latter purpose, that is, identifying the determinants of direct (assistance) linkages between affiliate and local firm. The logistic regression model for multiple independent variables can be written as:

$$\text{Prob(event)} = \frac{1}{1 + e^{-z}}$$

Where Prob(event) is the probability of the event (eg. assistance being given to local firms) occurring; and
e is the base of the natural logarithms (approximately 2.718),
Z is the linear combination, $Z = B_0 + B_1X_1 + B_2+X_2 + ... + B_pX_p$;
B_0 = the constant,
$B_1 ... B_p$ = the coefficient estimated from the data (the log odds of the event occurring), and
$X_1 ... X_p$ = are the independent variables.

The parameters of the logistic regression model are estimated using the maximum-likelihood method. In other words, coefficients are selected on the basis that they make the event more likely to occur (Norusis & Inc., 1990). Logistic regression is particularly suited to situations where the researcher wants to estimate the effect of the independent variable on the occurrence (or not) of the dependent variable. In other words, it is appropriate for assessing the likelihood of group membership or an event occurring based on a set of independent variables (Hosmer & Lemeshow, 1989).

In addition, logistic regression is appropriate when the dependent variable is binary, there are a mix of both qualitative (nominal/categorical or discrete) and quantitative (interval/ratio or continuous) independent variables. Logistic regression does not assume a linear relationship between the variables, that is, the assumptions of multivariate normality do not have to be met. This is of particular concern when employing dummy (categorical or binary) variables into the analysis, and where alternative techniques, such as discriminant analysis and multiple (linear) regression

may give misleading results (Norusis & Inc., 1990). Logistic regression has been found to be more robust in these circumstances than alternative techniques (Afifi & Clark, 1984).

The results of logistic regression may be interpreted through:

- the significance of the Wald statistic (chi-square distribution) which shows if the coefficients for the independent variables are significantly different from zero, and thus the null hypothesis may be rejected.
- the R statistic, which ranges between 1 and -1 and shows the partial correlation between the dependent and each of the independent variables. A positive correlation, for example, shows that as the independent variable increases in value so does the likelihood of the event occurring.
- the odds of the event occurring, given a one unit change in the independent variable (other variables held constant) is given by the equation above, and in the output as Exp(B). For instance if Exp(B) equalled 2.14, then the odds of the event occurring increase (or decrease) by a factor 2.14 for a unit change in the independent variable (X). Alternatively, this could be read that a one unit change in X increases the odds of the event occurring by114 percent.

The goodness-of-fit of the model can be assessed by:

- Comparing predictions made by the model on the basis of the variables included, with the actual or observed outcomes (presented in the classification table).

- The 'likelihood' or probability of the observed results given the parameter estimates. The measure of -2 times the log of the likelihood (-2LL) is used to assess how well the estimated model fits the data. A good fitting model has a small value for -2LL. A more indicative measure is the chi-square value for the model that includes both constant and predictor variables. A large, significant value indicates that it is a useful model for classification.
- Finally, the Hosmer and Lemeshow goodness-of-fit test tests the null

hypothesis that the model fits the data, so the the chi-square statistic should be small and the level of significance at least 0.10, in order to accept this hypothesis.

There are several methods of selecting predictor variables that form a model to best explain the sample under consideration. All the independent variables may be entered into the model at once through the default logistic regression procedure. However, for the purposes of this thesis this presented two limitations.

First, the literature review (Chapter Three) only suggested possible determinants of local sourcing and local linkages, rather than presenting established model of such relationships. For that reason the analyses in this thesis can be thought of as exploratory rather than confirmatory. For this reason we are more interested in determining which variables affect which types of linkages, rather than confirming a more firmly established model.

Second, although the sample size is large, the number of possible predictor variables is also large. Forcing all variables into the model increases the chances of a Type I error, or the observation of significant relationships that do not exist. It is reasonable, therefore, to try and reduce these variables as much as possible through an alternative selection procedure.

Stepwise logistic regression is a widely used technique that starts with the constant and then places the variables with the largest score statistics (equivalent to the Wald statistic) significant at the 0.05 level, one by one, into the model. At each step, the Wald statistics of the coefficients of each variable are assessed to see whether they should then be removed to produce a better fitting model (default criteria for removal is at the 0.1 level). This continues until all variables have been considered for both entry and removal into the model.

Cluster Analysis

Cluster analysis is a technique that assigns large numbers of cases to groups or clusters based on the members' characteristics. Similarities or proximity between cases are the basis for the clustering technique. These are derived from the rankings of each case on a variety of variables, and then similar cases are grouped together. The most common technique for computing this is the squared euclidean distance (SED), which requires that different measurement scales be standardised (Coakes & Steed, 1999).

There are two principal methods of performing a cluster analysis: hierarchical clustering and K-means/quick clustering. Hierarchical cluster analysis was not considered appropriate for this study as it is very difficult to compute for large sample sizes.

The objective of the K-means cluster is to group a large number of cases into a small number of similar clusters. This facilitates interpretation of the sample, based on relevant variables. During the analysis the researcher must suggest the number of clusters that would be appropriate to describe the cases. This requires arriving at a balance between a sufficient number of clusters to explain the differences between firms adequately, but not so many as to make results unnecessarily difficult to interpret. For this reason, multiple K-means clusters were performed, and the results compared until the most appropriate split was found.

Two sets of cluster analyses were performed in this thesis. The objective of the first, shown below, was to group the affiliates according to the level of assistance they provided to local firms through linkages. This provided a more detailed measure of the assistance variable. The objective of the second, given in the results in Chapter Seven, was to group the affiliates according to their overall DOL.

The respondents were asked to indicate what types (13 possible types were listed) of assistance were given to local licencees, franchisees, suppliers, subcontractors, agents

and customers by their firm over the past 12 months. This formed the basis of the dichotomous ASSIST variable (see Table 6.5). However, a review of the responses made it clear that: very few firms offered assistance to licencees and franchisees; a large number offered mainly assistance to agents/customers; some offered assistance to suppliers/subcontractors; while some offered assistance to both these latter types of local firm.

In order to capture the different approaches to assistance linkages taken by the affiliates, a cluster analysis was performed. Assistance to licencees and franchisees was dropped from the analysis due to the low frequency of affirmative response. The cluster analysis was based on two scores: the number of different types of assistance given to agents/customers; and the number of different types of assistance given to suppliers/subcontractors. The minimum score was zero, indicating no assistance was given, and the maximum score was 13 indicating that all the types of assistance had been given. A summary of the results is shown in Table 6.6.

Table 6.6
Assistance Linkages Cluster Analysis

	Cluster Number			
Type of Local Firm	1	2	3	4
Agent/customer	Low	High	High	Low
Supplier/subcontractor	High	Low	Moderate	Low
Number of Affiliates in each cluster	39	127	29	319

Low = 3 or fewer types of assistance given
Moderate = more than three but fewer than 8 types of assistance given
High = 8 or more types of assistance given

The results of the cluster analysis showed that the affiliates could be grouped into four key clusters, namely those that had given: 1) high levels of assistance to local suppliers/subcontractors; 2) high levels of assistance to agents/customers; 3) high levels of assistance to agents/customers and moderate levels to suppliers/ subcontractors; and 4) low levels of assistance. As indicated in Table 6.6, high levels of assistance meant the affiliate had given more than three types of assistance, and low levels of assistance indicated fewer than three types of assistance.

The largest group included those affiliates which gave fewer than three types of assistance to each type of local firm. This cluster was coded as NONE for the analysis (see Table 6.5). Due to the low frequencies in clusters 1 and 3, it was decided to combine clusters 1 and 3 into a single 'supplier' cluster (SUPPLIE2), and clusters 2 and 3 into a single 'agent/customer' cluster (AGENT2). This provided sufficient numbers to perform the logistic regression analyses presented in Chapter Seven.

Analysis of variance

Analysis of variance, or ANOVA, tests the null hypothesis that two or more different samples come from populations with equal means. The One-Way ANOVA procedure produces a one-way analysis of variance for a quantitative dependent variable by a single factor (independent) variable. In this study it was used to test whether the means of the different groups or clusters of firms for certain variables were significantly different from one another. The F-ratio is the statistic generated by the ANOVA technique and is the ratio of between-groups variance to within-groups variance. A significant F-value indicates that the population means are probably not all equal. The assumptions of ANOVA are that the populations from which the samples have been drawn are normal, and the scores in each group should have homogeneous variances.

In order to determine which means are significantly different from each other, post-hoc analysis is required. Unlike planned comparisons, this technique minimises the chances of a Type I error by making all possible comparisons together (Coakes & Steed, 1999). This study employs Scheffe's test which is considered to be the most stringent of all post-hoc tests, minimising the chances of a Type I error. In instances where the Scheffe's test proves too stringent, Tukey's honestly significant difference (HSD) post-hoc test is used instead.

Cross-tabulations, chi-square and measures of association

Cross-tabulations (cross-tabs) are employed to better display, and hence interpret, frequency distributions for data that is nominal or categorical. They may include both actual and expected frequencies for each combination of the two variables (cell), as well as percentages for the row and column totals. This output allows the observed and expected frequencies to be compared to assess the extent of actual difference between the two.

The chi-square statistic (χ^2) is used to ascertain that these differences are significant and do not just arise as a result of random variation. In other words, χ^2 indicates the probability that an observed relationship between two variables in the sample has arisen by chance, rather than actually being a significant relationship that exists in the population. Observed frequencies are compared with those that would have occurred if there was no relationship between the variables, or in other words, what frequencies would be expected through chance alone. When the chi-square statistic equals zero, the sample result conforms exactly to the expected result. However, if the value of χ^2 is large and significant, we can reject the null hypothesis that there is no difference between the observed and expected frequencies for a certain set of variables.

Measures of association attempt to quantify the relationship between the variables, in other words, they assess the strength of the relationship. Typically, they indicate the extent to which a change in the value of one variable is related to a change in the value of another variable (Argyrous, 1996).

Measures of association also complement the chi-square statistic. As the chi-square is sensitive to sample size, interpretation of measures of association ensure that there is in fact a relationship between the variables. For nominal data in this study, we employed Cramer's V. Cramer's V adjusts for the sample size, which when large, may make the chi-square statistic significant when there is no relationship. Cramer's V ranges between zero (no association) and one (perfect association). Although

direct interpretation of the statistic is not possible, it can be used for relative comparisions. Generally, any result under 0.1 is considered evidence of a very weak relationship (Argyrous, 1996).

Note that neither the chi-square statistic nor measures of association are evidence of an relationship between the variables, but do not necessarily indicate causation between the variables.

Limitations of research methodology

The main limitations of the research methodology employed in this thesis are:

- the survey was unable to collect performance data due to its sensitive nature it was thought that these types of questions would adversely affect the response rate. Performance data would only be available for public companies which would exclude most respondents from the survey;
- the survey relied on self-reported data by the respondents, although given the previous point, there was no easy solution to this problem; and
- due to the difficulties presented to respondents, the survey could not differentiate between 'local' (i.e. locally-based) firms that were uninational or multinational, or if they were owned by New Zealanders or owned by foreigners. This means that measurements such as local sourcing include sourcing from all New Zealand-based firms that were not related to the affiliate by ownership, for example.

CONCLUSION

This chapter has sought to operationalise the model of O-advantage augmentation via linkage formation that was developed in Chapter Five. As part of the research design this chapter presented measurement variables, and techniques for questionnaire design and data analysis following the examples set by previous literature. It also explained the methods used for data collection, definition of the sample and pre-testing procedures for the questionnaire.

The most significant contribution of this phase of the thesis was to construct a comprehensive database of foreign-owned firms operating in New Zealand. To-date research in New Zealand has been constrained by the lack of such a database. This thesis is the first research to address the issue of defining and identifying the population of foreign-owned firms in New Zealand.

The following chapter presents the results from the survey. The results are ordering according to the research questions and propositions given in Chapter Five. The reader may wish to refer back to the research measurement section of this chapter for fuller explanations of each of the variables and analyses used.

CHAPTER SEVEN
RESULTS

INTRODUCTION

This chapter presents the results from the survey in the following three sections, designed to correspond to the research questions posed in Chapter Five:

- Affiliate Profile: The impact of foreign ownership on the foreign-owned affiliate operating in New Zealand;

- Linkage Formation and the Determinants of Linkage Formation: The extent and determinants of linkages formed with local New Zealand firms, such as those between competitors, agents and customers; suppliers and subcontractors; licencees and franchisees; and collaborative partners; and

- Degree of Linkage: The overall degree of linkage of the foreign-owned affiliate.

The survey results are presented in this chapter and then discussed in Chapter Eight in the context of the empirical literature reviewed in Chapters Three and Four.

The survey yielded a 33 percent usable response rate. Although the questionnaire was initially sent out to all 1800 head offices of foreign-owned affiliates in the database, this sample size was later revised. This was because some firms indicated that they were not 25 percent or more foreign-owned; or the mail was returned on the basis that the company no longer operated at the given address. Databases, directories and communication with the company were all used to find a current address for these latter responses. However, it was apparent that a good proportion of these had, in fact, gone out of business in New Zealand. Therefore, the final sample size totalled 1554 head offices of foreign-owned firms operating in New Zealand. The total number of useable responses was 516.

AFFILIATE PROFILE

Country of Origin

The investors were based in more than 27 countries, but were most frequently from either the USA (26.7 percent) or Australia (25.5 percent). Japan and the UK each accounted for approximately 10 percent of the sample, and investors from other European countries made up 18.9 percent.

Table 7.1
Country of Origin

	Survey Responses					SNZ* Data 1999	
Country of Origin Group	Group total	Group % of totals	Country of Origin	Number of firms	% of total - selected countries	FDI Stock $NZ million	% of total- selected countries
USA/Canada	152	29.6%	USA	141	27.4%	12,631	20.2%
			Canada	11	2.1%	1,446	2.3%
Australia	131	25.5%	Australia	131	25.5%	22,504	36.0%
Japan	52	10.1%	Japan	52	10.1%	2,347	3.8%
UK/Ireland	52	10.1%	UK	50	9.7%	8,357	13.4%
			Ireland	2			
Other Europe	97	18.9%	Germany	28	5.4%	298	0.5%
			France	19			
			Sweden	13			
			Switzerland	11	2.1%	297	0.5%
			Netherlands	10	1.9%	3,109	5.0%
			Denmark	9			
			Other	7			
Other Asia/Pacific (including South Africa)	30	5.8%	Singapore	8	1.6%	1,163	1.9%
			Korea	6			
			Malaysia	3			
			Taiwan	3			
			Hong Kong	3	0.6%	1,109	1.8%
			China	2			
			New Caledonia	2			
			South Africa	3			
TOTAL	514	100.00%		**514**		$62,500	

*Statistics New Zealand.

A comparison with the stock of FDI in New Zealand according to data from Statistics New Zealand (SNZ) for selected countries in Table 7.1, shows that the survey figures were similar. Australia and the USA had the highest levels of FDI stock in New

Zealand, followed by the UK, the Netherlands and Japan[1]. Due to the availability of information from certain international business associations and not others, the survey might have received higher responses from Japanese and German firms. Despite this limitation, the survey approximated the actual population of firms, and each major country of origin was represented.

Main Activity

The principal area of activity of the respondent firms was manufacturing (30.6 percent), followed by wholesale trade (26.7 percent), and property and business services (10.3 percent). According to figures from SNZ for 1999, FDI was most dominant in property and business services (27 percent), followed by wholesale trade (25 percent). The survey, therefore, might be biased towards manufacturing firms.

Table 7.2
Main Activity

	Survey Responses		SNZ* Data 1999	
Industry	Number of firms	% of total	Number of enterprises with 25% or more foreign equity	% of total
Accommodation, cafes & restaurants	8	1.55%	100	1.8%
Agriculture, forestry & fishing	11	2.13%	89	1.6%
Communication Services	9	1.74%	41	0.7%
Construction	15	2.91%	77	1.4%
Cultural & recreational services	9	1.74%	97	1.7%
Education	3	0.58%	30	0.5%
Electricity, gas & water supply	5	0.97%	9	0.2%
Finance & insurance	39	7.56%	1035	18.4%
Health & community services	2	0.39%	23	0.4%
Manufacturing	158	30.62%	610	10.9%
Mining	6	1.16%	45	0.8%
Personal & other services	1	0.19%	40	0.7%
Property & business services	53	10.27%	1560	27.8%
Retail trade	25	4.84%	225	4.0%
Transport & storage	34	6.59%	215	3.8%
Wholesale trade	138	26.74%	1425	25.4%
TOTAL	**516**	**100.00%**	5621	100.00%

* Statistics New Zealand

1

Note that the survey and SNZ figures represent different data. The survey gives the number of enterprises, while the SNZ data gives the estimated dollar value of the stock of investment.

Age, Mode of Entry/Ownership Form

On average the firms in the sample had been operating in New Zealand for 27.6 years, and had been owned by their current foreign investors for 16.7 years. Table 7.3 shows the founding date of the firm in New Zealand and the date of investment by the firms' current foreign owners.

Table 7.3
Dates of Founding and Foreign Investment Pre-1900 - 1999

Period	Number of firms founded during period	%	Number of firms invested in by current foreign owners	%
Pre-1900	20	3.91	5	0.98
1901-1940	44	8.61	18	3.53
1941-1960	60	11.74	30	5.88
1961-1980	108	21.14	79	15.49
1981-1999	279	54.60	378	74.12
TOTAL	**511**	**100**	**510**	**100**

These results show that over the past two decades existing firms had often been acquired by their current owners rather than established by them. More than half of the firms (55 percent) were founded from 1981 onwards, reflecting the rise of foreign investment into New Zealand after the 1984 reforms. However, an even higher proportion of the firms in the sample had been owned by their current foreign investors since 1981 (74 percent). Over the entire sample, the proportion of firms established by their current foreign owners (i.e. the founding and foreign investment dates were the same) was 64 percent, indicating that approximately 36 percent had been acquired since being established.

Table 7.4 (see over) shows that since 1981 the proportion of acquisitions to establishments has increased. The first column of Table 7.4, above, shows the number of firms that were either acquired by, or set up by their current foreign investors for each five year period since 1981. The number of investments was highest over the late 1980s and early 1990s.

Table 7.4
Original Founding Date & (subsequent) Acquisition Date 1981-1999

	1 Number of firms set up/acquired by foreign investors	2 Proportion of these firms acquired by foreign investors after date of first establishment		3 Proportion of these firms acquired by a foreign company that formerly were NZ-owned firms	
Year	Number	Number	%	Number	%
1996-1999	80	52	65%	30	38%
1991-1995	120	49	41%	33	28%
1986-1990	134	48	36%	43	32%
1981-1985	44	11	25%	6	14%
TOTAL	**378**	**160**	% for entire sample: **36%**	**112**	% for entire sample: **25%**

The second column gives the number and proportion of these firms that were acquired, and hence, already in existence prior to being bought by their current foreign owners. Since 1981, the proportion of firms being acquired post-establishment (founding) has risen considerably. The figure peaked at 65 percent of firms being acquired in the 1996-1999 period, in comparison to 36 percent overall.

The last column in the table gives the number of firms that identified themselves as New Zealand firms that have since been acquired by a foreign company for each five year period. Again, the figure peaked in the 1996-1999 period at 38 percent. Both these measures of acquisition reflect the rise in acquisition activity, rather than greenfield activity since the early 1980s.

Table 7.5
Ownership Form

	No of firms 1*	**No of firms 2***	**% of total (516)#**
NZ branch/subsidiary of a foreign company	327	0	63.4%
NZ firm acquired by a foreign company	100	28	24.8%
Joint venture	27	3	5.8%
NZ firm owned by foreign individuals	59	10	13.4%
Other	3	0	0.6%
Total number of respondents	**516**		

*refers to first (1) and second (2) choice of ownership form by a single firm.
#does not sum to 100 percent as some firms fell into more than one category.

Table 7.5 shows that the majority of the firms classified themselves as either a New Zealand branch or subsidiary of a multinational company (63.4 percent). One quarter

indicated that they were New Zealand firms which had since been acquired by a foreign company. Others classified themselves as New Zealand firms owned by foreign individuals, rather than a foreign company (13.4 percent), while relatively few of the firms were joint ventures with both New Zealand and foreign participation (5.8 percent).

Autonomy

The foreign investors had a moderate to major influence on the strategic decision making of the New Zealand firms in the survey. The majority (93 percent) of foreign parent companies (or shareholders) exerted a moderate, major or total influence over long-term decision-making in the respondent firms. This result was not surprising given the high proportion of branch/subsidiary firms in the sample. Greater autonomy existed in short-term decision-making, where 78 percent of firms said that their foreign owners exerted either a moderate, a minor, or no influence.

Table 7.6
Influence of Foreign Parent over Decision-Making

Extent of influence over:		No influence 1	Minor influence 2	Moderate influence 3	Major influence 4	Total influence 5	Mean
Short-term decision-making	Count	40	199	157	89	24	**2.7**
n=509	%	7.9%	39.1%	30.8%	17.5%	4.7%	
Long-term decision-making	Count	1	33	112	283	8	**3.8**
n=511	%	0.2%	6.5%	21.9%	55.4%	16.0%	

n=number of responses to each question.
%=valid percent, ie. the proportion of those that answered, including any 'don't knows'.

Motive for investment

The survey asked respondents to indicate the extent to which the following best explained the main reason their parent company/foreign shareholder(s) was operating in New Zealand. Respondents were given five main motives:

- Resource-seeking - use of local resources, such as natural resources, un/skilled labour;

- Market-seeking - proximity to markets and customers in order to sell products or provide services in New Zealand or Asia-Pacific;
- Efficiency-seeking - to raise efficiency or lower costs of production,
- Strategic asset-seeking - to protect parent/shareholder's competitive position (or to acquire strategic assets/technology); and
- Trade and support activities - such as importing/exporting, distribution and/or administration[2].

Table 7.7
Reasons for Operating in New Zealand

n=514		not at all 1	minor extent 2	moderate extent 3	major extent 4	completely 5	Mean
Resource-seeking	Count	258	91	66	65	34	**2.01**
	%	50.2%	17.7%	12.8%	12.6%	6.6%	
Market-seeking	Count	69	36	39	171	199	**3.77**
	%	13.4%	7.0%	7.6%	33.3%	38.7%	
Efficiency-seeking	Count	276	109	85	38	6	**1.81**
	%	53.7%	21.2%	16.5%	7.4%	1.2%	
Strategic asset-seeking	Count	157	75	112	134	36	**2.64**
	%	30.5%	14.6%	21.8%	26.1%	7.0%	
Trade/support activities	Count	166	95	82	107	64	**2.63**
	%	32.3%	18.5%	16.0%	20.8%	12.5%	

n=number of respondents to each question.
% = valid percent, ie. the proportion of those that answered, including any 'don't knows'.

The survey showed that the primary reason for operating in New Zealand was to gain proximity to markets and customers in New Zealand and the Asia-Pacific. Seventy-two percent of respondents indicated that this was the major or only reason they were operating in New Zealand.

Strategic asset-seeking, and undertaking trade and/or support activities were also major or sole reasons for investing in New Zealand for one third of the respondents.

2

Respondents were also given the option of stating other reasons, but the majority of these could be included in the five categories. A varimax rotated factor analysis confirmed that these five classifications were unique and worthy of individual analysis.

Use of New Zealand as a base to access local resources was given as the major or only reason for 19 percent of the firms. The desire to improve efficiency or lower costs of production was the least popular reason, with only 8.5 percent of firms giving this as a major or only motive for investment.

A comparison of the means confirms this pattern[3]. Market seeking reasons were highest at a mean value of 3.7, followed by strategic asset seeking and trade/support activities both at 2.6, then resource seeking at 2.0, and finally, efficiency seeking with a mean value of 1.8. All the means can be said to be significantly different at a 95 percent confidence level, except for strategic asset seeking and trade/support activities.

Ownership Advantages

In order to assess the types of ownership-specific advantages that accompany the foreign investment, respondents were asked to what extent their firm in New Zealand had gained certain types of resources from their foreign parent and/or related companies (or foreign shareholders).

The frequencies of responses are shown in Table 7.8 (see over), along with the mean response for each type of resource. Overall, the average reliance on parent company resources was 2.80, or just under a moderate reliance (3). A comparison of mean scores at the 95 percent confidence interval reveals that the types of resources cluster into three groups about this mean.

The first group includes those resources which were sourced from parent companies to a significantly higher extent than resources overall (95 percent confidence). These include finance (3.39), product (service) technology (3.37), and information and expertise (3.35). These were the resources most frequently obtained from the respondent's foreign parent company or shareholder. Research and development

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[3] The means were calculated on the basis of the responses where; 1 = not at all ...and 5 = completely.

(3.21), management practices (3.03) and production (service delivery) technology (2.95) also fell above the overall mean of reliance on parent/shareholder resources of 2.80.

Table 7.8
Resources gained from Foreign Parent/related Companies

n=515		not at all 1	minor extent 2	moderate extent 3	major extent 4	completely 5	Mean
Product (service) technology	Count	55	84	96	175	105	**3.37**
	%	10.68%	16.31%	18.64%	33.98%	20.39%	
Production (service delivery) technology	Count	104	108	90	138	75	**2.95**
	%	20.19%	20.97%	17.48%	26.80%	14.56%	
Research & Development	Count	81	90	95	139	110	**3.21**
	%	15.73%	17.48%	18.45%	26.99%	21.36%	
Management practices/culture	Count	36	114	183	163	19	**3.03**
	%	6.99%	22.14%	35.53%	31.65%	3.69%	
Marketing systems	Count	76	138	173	102	26	**2.74**
	%	14.76%	26.80%	33.59%	19.81%	5.05%	
Distribution systems	Count	149	158	118	66	24	**2.34**
	%	28.93%	30.68%	22.91%	12.82%	4.66%	
Employment practices	Count	121	190	118	65	21	**2.37**
	%	23.50%	36.89%	22.91%	12.62%	4.08%	
Human resources & skills	Count	111	224	110	60	10	**2.29**
	%	21.55%	43.50%	21.36%	11.65%	1.94%	
Training	Count	110	171	147	78	9	**2.43**
	%	21.36%	33.20%	28.54%	15.15%	1.75%	
Economies of scale or scope	Count	108	102	137	144	24	**2.76**
	%	20.97%	19.81%	26.60%	27.96%	4.66%	
Access to inputs	Count	192	87	105	93	38	**2.41**
	%	37.28%	16.89%	20.39%	18.06%	7.38%	
Info, experience, expertise	Count	24	62	169	232	28	**3.35**
	%	4.66%	12.04%	32.82%	45.05%	5.44%	
Access to markets	Count	134	127	118	102	34	**2.56**
	%	26.02%	24.66%	22.91%	19.81%	6.60%	
Access to finance	Count	63	74	86	182	110	**3.39**
	%	12.23%	14.37%	16.70%	35.34%	21.36%	
Mean reliance on foreign parent/shareholder resources overall							**2.80**

The second group of resources have averages that approximate the overall average of all responses (2.80) at the 95 percent confidence level. These resources include marketing systems (2.74) and economies of scale or scope (2.76). The ability to capitalise on these existing firm-wide economies has obviously benefited the affiliates operating in New Zealand. The transfer of marketing practices reflects the multinational nature of the firms and their need to standardise practices.

Finally, the third group consists of resources which were obtained from parent/shareholders the least, and whose averages fall below 2.80. These resources

tend to be more location-bound, and included access to markets (2.56), access to inputs such as raw materials or products (2.41); and distribution systems (2.34). Labour related resources such as training (2.43), employment practices (2.37), and human resources and skills (2.29) were also less likely to be sourced offshore by the affiliates in the survey.

However, it is also important to consider the frequencies of the responses to this question, not just the means. The first three categories of technology-related resources as well as finance, for example, exhibit similar percentages across all five levels of response, indicating that different firms take very different approaches to acquiring these assets. However the majority of affiliates (between 41.4 and 56.7 percent) still relied on their parent/shareholders for these types of resources to a major extent or completely.

In contrast, responses for the other resources (with the exception of management practices and access to information) were skewed to the left. The majority of firms here (50.7 to 65.1 percent) relied on parent companies either not at all, or to a minor extent. There appear to be very few affiliates that rely completely on their parent companies for these resources. This shows that while the firms in the sample were able to gain resources through their foreign owners, many of these resources were also obtained via alternate channels or developed here in New Zealand.

Innovation

For the purposes of the survey, innovation was defined as any service, product, process technology, or any aspect of management that the respondents considered to be a new development in their industry. The results revealed that 88 percent (413) of firms had introduced some form of innovation in the past three years.

Figure 7.1
Innovations Introduced to New Zealand in the Past Three Years and Source of Innovation

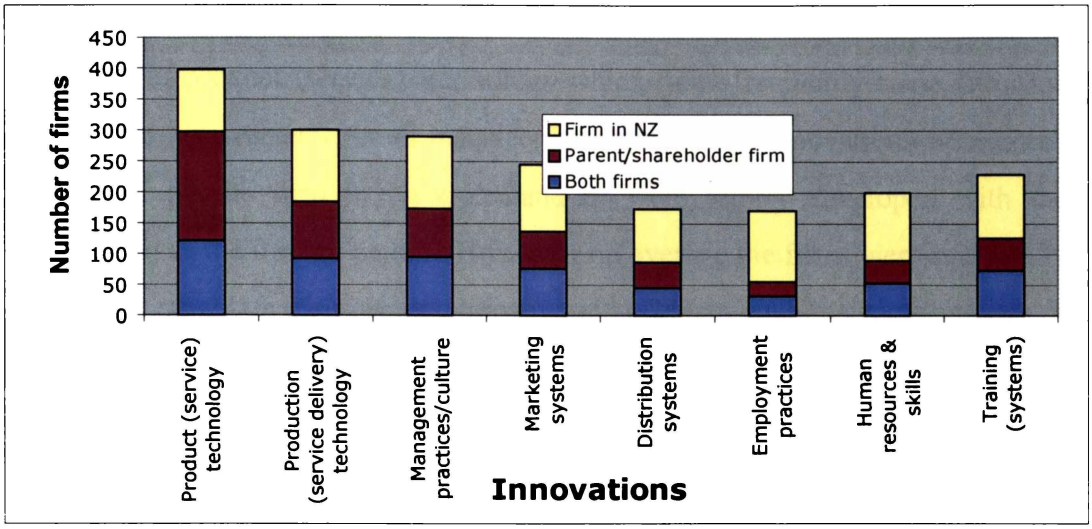

Figure 7.1 shows that these innovations were spread across a diverse range of business functions. The most commonly introduced innovation was product or service technology (77 percent of all firms), followed by production (or service delivery) technology (58 percent), management practices or culture (56 percent), marketing systems (48 percent), and training (44 percent of all firms).

Table 7.9
Innovations Introduced in the past Three Years and Source of Innovation

			Source of Innovation %		
Innovation	Number of firms	% of all firms n=516	Parent/ shareholder	Affiliate in NZ	Both
Product (service) technology	398	77%	44%	25%	31%
Production (service delivery) technology	300	58%	30%	39%	31%
Management practices/culture	290	56%	27%	40%	33%
Marketing systems	246	48%	25%	44%	31%
Distribution systems	175	34%	24%	50%	26%
Employment practices	171	33%	13%	69%	18%
Human resources & skills	200	39%	19%	55%	26%
Training (systems)	229	44%	23%	44%	33%

Firms were also asked to indicate the principal source of these innovations. The proportions of innovations that originated either from the foreign parent/

shareholders, the firm in New Zealand, or a combination of both are shown on the graph and in more detail in Table 7.9.

It is evident the innovations originated most often in New Zealand, with the exception of product (service) technology which more frequently came from the foreign owners overseas. In all instances, the majority of innovations were either introduced by the firm in New Zealand or were jointly developed with the cooperation of the foreign parent. However, on average the firms were still totally or partially reliant on their parent company for 31-75 percent of each of the types of innovation introduced. The more location-bound innovations, such as employment practices, human resources and skills, and distribution were less frequently introduced, and were more likely to originate from the firm in New Zealand rather than offshore.

The respondents were then asked to state what they considered to be their firm's two main innovations. Answers were classified into broad categories (shown in Table 7.10 below), and smaller sub-categories (see Appendix 7.1). In total, 413 (80 percent) of firms gave 763 innovations, 62 (12 percent) had no innovations, and 41 (8 percent) did not respond.

Table 7.10
Main Innovations Introduced to New Zealand

Main innovations	Number of responses	% of total responses n=763	Number of innovative firms	% of total innovative firms n=413
Product (service) offering	279	36.57%	249	60.29%
Marketing	93	12.22%	89	21.55%
Technology	84	11.04%	82	19.85%
Service delivery, quality & responsiveness	70	9.20%	66	15.98%
Training & human resources	69	9.07%	65	15.74%
Management	63	8.28%	63	15.25%
Production processes, technology	51	6.70%	51	12.35%
Distribution systems	39	5.12%	39	9.44%
Procurement practices	11	1.45%	11	2.66%

Products or services were the most common main innovations, given as a response by 60 percent of the firms. Of these, 151 said that the innovation consisted of a new product or service offering, and 61 said it was product or service technology. Other common areas of innovation included:

- marketing systems and techniques (21.6 percent of innovative firms);
- technology (19.9 percent) with 27 firms indicating that this technology innovation was related to the internet and e-commerce;
- service delivery, quality and responsiveness (16 percent); and
- training and human resources (15.7 percent of all innovative firms).

Overall, a high proportion of innovations related to the use or development of technology, whether it was related to their product, production, service delivery, or technology more generally.

Table 7.11
Investment to Gain or Develop Local Innovation

	Number of responses	% of total firms
Investment made to - **gain** existing innovation	66	12.79%
develop innovation	84	16.28%

The firms were asked if their foreign parent or shareholder had invested in (or established) the firm in New Zealand to gain or develop innovation. The results are shown in Table 7.11. Only 13 percent (66) of firms said they had gained existing innovation from the New Zealand firm at the time of investment. However, 16 percent (84) said that they had invested to develop innovation further. Products and technology were the innovations most frequently sought by investors. Innovations intended for further development in New Zealand were varied, but a good proportion were products that were being adapted to the local market.

Competitive Advantages

The ability to use ownership-specific advantages to overcome the additional difficulties of operating in a foreign location is an essential ingredient to competing successfully against domestic competitors. Respondents were asked to give details about their competitive advantages relative to other firms in New Zealand. First, they

were asked to what extent their firm relied on specific resources (or ownership (O)-specific advantages) as a source of competitive advantage, shown in Table 7.12.

Table 7.12
Sources of Competitive Advantage Relative to Local Competitors

Competitive advantage		not at all 1	minor extent 2	moderate extent 3	major extent 4	completely 5	Mean
Product (service) technology	Count	25	48	109	280	45	**3.54**
n=507	%	4.93%	9.47%	21.50%	55.23%	8.88%	
Production (service del.) technology	Count	44	83	141	216	23	**3.18**
n=507	%	8.68%	16.37%	27.81%	42.60%	4.54%	
Management practices/culture	Count	21	101	174	193	17	**3.17**
n=506	%	4.15%	19.96%	34.39%	38.14%	3.36%	
Marketing systems	Count	31	103	180	176	15	**3.08**
n=505	%	6.14%	20.40%	35.64%	34.85%	2.97%	
Distribution systems	Count	69	124	127	161	22	**2.89**
n=503	%	13.72%	24.65%	25.25%	32.01%	4.37%	
Human resources/skills	Count	26	94	145	219	24	**3.24**
n=508	%	5.12%	18.50%	28.54%	43.11%	4.72%	
Economies of scale/scope	Count	72	89	144	179	17	**2.96**
n=501	%	14.37%	17.76%	28.74%	35.73%	3.39%	
Access to inputs	Count	119	121	125	113	19	**2.58**
n=497	%	23.94%	24.35%	25.15%	22.74%	3.82%	
Access to markets	Count	74	99	127	167	29	**2.96**
n=496	%	14.92%	19.96%	25.60%	33.67%	5.85%	
Overall mean							**3.07**

The overall mean for dependence on these O-advantages as competitive advantages was 3.07, which equates to a moderate reliance. Comparison with means for each individual category shows product/service technology clearly exceeds the mean at 3.54 and is the most common source of competitive advantage. In fact, only 14.4 percent of the respondents indicated that product technology offered a minor or no competitive advantage.

Human resources and skills was the second most commonly used type of competitive advantage (mean=3.24), followed by production (or service delivery) technology (3.18), and management practices/culture (3.17). Favoured access to inputs such as capital, raw materials, components, goods and services scored the lowest overall (2.58).

Respondents were also asked to state their firm's two main competitive advantages. Responses were classified into the following broad categories shown in Table 7.13.

There were 490 respondents who gave either one, two or sometimes even three competitive advantages, resulting in a total of 992 responses. Percentages are given for both the number of firms that gave the specific response by category, and the total number of responses.

Table 7.13
Main competitive advantages relative to New Zealand competitors

	Number of responses	% of total responses n=992	Number of Firms	% of total competitive firms n=490
Product (service) offering	236	23.79%	218	44.49%
Markets and customers	122	12.30%	116	23.67%
Technology	114	11.49%	111	22.65%
Favoured access to inputs	113	11.39%	99	20.20%
Marketing	87	8.77%	83	16.94%
Service quality & delivery	84	8.47%	83	16.94%
Experience, expertise & human resources	72	7.26%	71	14.49%
MNE affiliation	63	6.35%	62	12.65%
Production cost & economies of scale	58	5.85%	57	11.63%
Management practices	25	2.52%	24	4.90%
Distribution	18	1.81%	18	3.67%

The results show that 44.4 percent of foreign firms rely on their product or service offering as a main source of competitive advantage. Of these, 110 said that the quality or differentiation of their product/service from competitor's offerings was one of their main sources of advantage, and 73 said this was due to their range of product/service offerings. Other frequently cited sources of advantage related to:

- markets and customers (23.67 percent of firms), where being part of a national (or global) network was the main advantage for 44 respondents, and being locally based was a key source of advantage for 34 of the firms;
- technology and R&D (22.65 percent of firms);
- access to inputs (20.20 percent of firms), especially finance;
- service quality and delivery (16.94 percent of firms); and
- marketing (16.94 percent), where 49 firms gave brand strength as one of their two main competitive advantages.

Overall, the responses to this question were quite varied and a more detailed list of the firms' competitive advantages is given in Appendix 7.2.

Ownership-advantages as a source of competitive advantage

The impact of foreign-owned firms on New Zealand industry is influenced by the multinational nature of those firms. The previous section found that the affiliates in the sample brought firm-specific O-advantages to New Zealand. As expected, the affiliates rely on their foreign parent/shareholders for input into decision-making, resources and innovation.

Parent company input not only influences the strategies they employ in New Zealand, but also their bases of competitive advantage relative to local firms. It also expands the stock of technology and knowledge in New Zealand beyond that which would be available from local sources alone.

This raises two key areas for further examination at the level of the foreign affiliate (first round). In order to estimate the effects of multinationality on the competitiveness of foreign-owned affiliate (and hence, the industry in which it operates), the following section investigates:

- the degree to which resources sourced from the foreign parent/shareholder such as technology, management and marketing practices, human resources and skills, economies of scale, and access to inputs and markets, were being used by the foreign-owned affiliates as competitive advantages; and

- the extent to which innovations (in the areas mentioned above) that originated from foreign parent/shareholders were introduced to New Zealand by the affiliates and subsequently contributed towards competitive advantage.

Table 7.14
Parent Resources and Innovations as Sources of Competitive Advantage

	Competitive Advantages (dependent variable)								
Predictors (independent variables)	Product (service) technology	Production (service delivery) technology	Management practices/ culture	Marketing systems	Distribution systems	Human resources and skills	Economies of scale or scope	Favoured access to inputs	Access to markets
n=516, df=38									
Constant	*1.927*	*1.629*	*2.100*	*2.093*	*1.912*	*2.287*	*1.164*	*1.355*	*1.859*
Resources from foreign parent/shareholders	Beta	Beta	Beta	Beta	Beta	Beta	Beta	Beta	Beta
Product (service) technology	0.389****	0.025	-0.026	-0.013	-0.076	-0.151*	0.107	-0.012	-0.074
Production (service del) tech.	0.015	0.274****	0.064	0.011	0.129*	0.097	0.122*	-0.025	-0.015
Research & Development	-0.005	-0.044	-0.105	0.037	-0.030	0.026	-0.081	-0.116	0.038
Management practices/culture	0.037	0.029	0.161**	0.028	-0.004	0.010	0.138*	-0.043	-0.015
Marketing systems	0.056	0.045	-0.018	0.254****	-0.038	-0.058	-0.002	0.050	-0.014
Distribution systems	-0.068	-0.060	-0.088	-0.029	0.282****	-0.071	-0.068	-0.031	-0.002
Employment practices	0.048	0.015	-0.009	-0.055	-0.035	0.068	-0.092	0.029	0.016
Human resources & skills	-0.140*	-0.030	-0.014	0.057	0.019	0.092	-0.054	-0.016	0.031
Training	0.053	-0.023	0.086	-0.036	0.033	0.053	0.013	-0.015	0.135*
Economies of scale or scope	-0.045	0.055	0.029	-0.028	0.044	0.056	0.271****	0.008	-0.002
Access to inputs	0.071	0.037	-0.120**	-0.072	0.063	-0.092*	0.106*	0.449****	0.014
Info, experience, expertise	0.024	0.019	0.068	-0.023	-0.064	0.090	-0.093	0.013	-0.115*
Access to markets	0.004	0.004	0.043	0.023	0.009	0.006	0.084	0.164***	0.373****
Access to finance	-0.043	0.071	0.144**	0.117*	0.074	0.090*	0.125**	0.109*	0.110*
Innovations (Introduced from P=parent, NZ=Foreign affiliate in NZ, B=jointly introduced by both parent and affiliate)									
Product (service) technology (P)	0.249****	0.112	-0.075	0.004	-0.033	0.066	0.025	-0.079	-0.024
Product (service) technology (NZ)	0.317****	0.186**	0.026	0.045	-0.005	0.135*	0.163**	-0.020	-0.043
Product (service) technology (B)	0.272****	0.171**	-0.019	0.057	0.061	0.136*	0.055	-0.024	0.031
Production (service del.) tech (P)	0.081	0.155**	0.038	0.003	0.009	-0.025	0.110*	0.088	0.018
Production (service del.) tech (NZ)	0.005	0.144**	-0.016	0.020	0.049	0.015	0.011	0.007	0.008
Production (service del.) tech (B)	-0.020	0.000	-0.009	-0.013	-0.029	0.002	-0.013	-0.046	-0.012
Management practices/culture (P)	0.017	-0.068	0.151**	-0.027	-0.070	0.008	-0.063	0.009	0.067
Management practices/culture (NZ)	0.084	0.033	0.214***	0.058	-0.041	0.083	-0.001	-0.062	0.060
Management practices/culture (B)	0.037	0.012	0.151**	0.012	-0.020	-0.038	0.137*	0.012	0.094
Marketing systems (P)	-0.031	0.017	0.004	0.091	0.098	0.019	0.040	0.035	0.052
Marketing systems (NZ)	-0.036	0.042	0.061	0.208***	0.035	-0.026	0.055	0.133**	0.031
Marketing systems (B)	0.003	0.062	0.030	0.143*	0.103	0.027	0.001	0.044	0.053
Distribution systems (P)	0.070	-0.011	-0.022	0.040	0.074	-0.079	0.042	-0.008	-0.035
Distribution systems (NZ)	-0.015	0.000	-0.010	0.024	0.207****	-0.070	0.089	0.028	0.095
Distribution systems (B)	-0.026	-0.047	-0.010	0.069	0.063	-0.034	-0.033	-0.063	-0.010
Employment practices (P)	0.090	0.109*	0.068	0.017	0.018	0.030	0.070	0.052	-0.018
Employment practices (NZ)	0.006	0.050	0.107	-0.075	-0.071	0.072	-0.064	0.010	-0.046
Employment practices (B)	0.058	0.023	-0.005	0.018	-0.058	-0.018	0.015	0.057	0.020
Human resources & skills (P)	-0.069	-0.089	-0.038	-0.026	0.018	0.084	0.029	-0.068	-0.045
Human resources & skills (NZ)	-0.046	-0.039	0.034	0.005	0.114	0.205**	0.065	-0.013	0.042
Human resources & skills (B)	-0.024	0.029	0.064	0.003	-0.054	0.173**	0.035	-0.034	-0.088
Training (systems) (P)	-0.014	0.044	-0.036	-0.057	-0.059	-0.028	-0.042	0.010	-0.058
Training (systems) (NZ)	0.131*	0.002	0.022	0.046	-0.025	-0.025	-0.009	-0.012	0.002
Training (systems) (B)	0.016	0.035	0.051	0.009	0.017	-0.032	-0.033	0.000	-0.026
F-statistic	6.346****	3.777****	3.789****	2.245****	3.433****	3.254****	4.932****	5.085****	3.387****
r^2	0.336	0.231	0.232	0.152	0.215	0.206	0.282	0.288	0.212
adjusted r^2	0.283	0.17	0.171	0.084	0.152	0.143	0.225	0.232	0.15

*p<0.05, **p<0.01, ***p<0.001, ****p<0.0001.

Table 7.14 shows the results of a multiple regression analysis performed with the foreign-owned firms' sources of competitive advantage acting as the dependent variables. The two sets of independent variables were resources gained from foreign parent/shareholders, and the introduction of innovations to New Zealand (in the past three years). The latter set of variables was further broken down according to whether those innovations were sourced from the parent/shareholder, from the foreign-owned affiliate in New Zealand, or were jointly developed by both firms[4].

The multiple coefficient of determination (R^2) shows that the percentage of variance in the dependent variable explained by the independent variables peaks at just 33.6 percent (product technology). However, given that there is a range of factors that could determine competitive advantage, the explanatory power of the two sets of variables used here can be considered reasonable.

It is evident from Table 7.14 that the competitive advantage of the affiliates relative to their New Zealand competitors was reliant on resources sourced from foreign parent/shareholders. With the exception of human resource-related competitive advantages, parent resources accounted for the most change in the competitiveness of the foreign-owned firms. The contribution of foreign parent resources was particularly strong in the areas of access to inputs, product (service) technology and access to markets.

Innovations also contributed significantly to the competitive advantage of the foreign-owned affiliates in New Zealand. The results show that these innovations were developed by the affiliate itself here in New Zealand, the foreign parent, and jointly. Looking at the areas of competitive advantage individually, we can see the significant contribution that was made by the affiliate in New Zealand. Product/service technology was affected by product innovation from all three sources, particularly joint development. Competitive advantage in production/ service delivery technology

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As the 'innovation' variables are nominal (yes/no) these have been entered as dummy variables in the regression analysis.

was influenced by both product and production innovations - most involving New Zealand input.

Management practices and human resources are unique in that they were most affected by the introduction of innovation by the foreign-owned firm in New Zealand, rather than resources from their parent companies. Competitiveness in human resources did not arise from gaining these resources from overseas at all, and was, in fact, depleted by gaining product technology and inputs from the foreign parent.

Competitive advantage in distribution and marketing systems were also significantly influenced by innovation originating from the foreign-firm in New Zealand, although resources from the parent had a more important role in determining competitive advantage in these areas. This suggests that marketing and distribution systems (including standard techniques, brands, procedures etc.) from the foreign parent are adapted and developed by the firms in New Zealand.

Finally, it seems that financial support by the foreign parent was also a significant contributor to competitive advantage in all areas except products, production, and distribution.

The following section of this chapter focusses on the extent and pattern of linkage formation by the affiliates in New Zealand. Our objective in this section is to cover a broad spectrum of linkages, from indirect competitive effects, through to backward and forward linkages with suppliers, agents and customers, linkages involving knowledge agreements, and even collaborative linkages with local partners. We also attempt to assess the quality of these linkages in terms of their capacity to foster upgrading by local firms, through sourcing specialised inputs, providing assistance and mutual transfer of resources, skills and competencies.

LINKAGE FORMATION

Indirect Competitive Linkages

Competitive Position

Respondents were asked to indicate the competitive position of their firm relative to their competitors here in New Zealand and internationally (see Table 7.15). An overwhelming proportion of respondents (67.4 percent) considered their firm to be a major competitor in New Zealand. Sixteen firms enjoyed a monopolistic position, while a small number (19) also stated that they did not compete here at all.

Table 7.15
Competitive Position

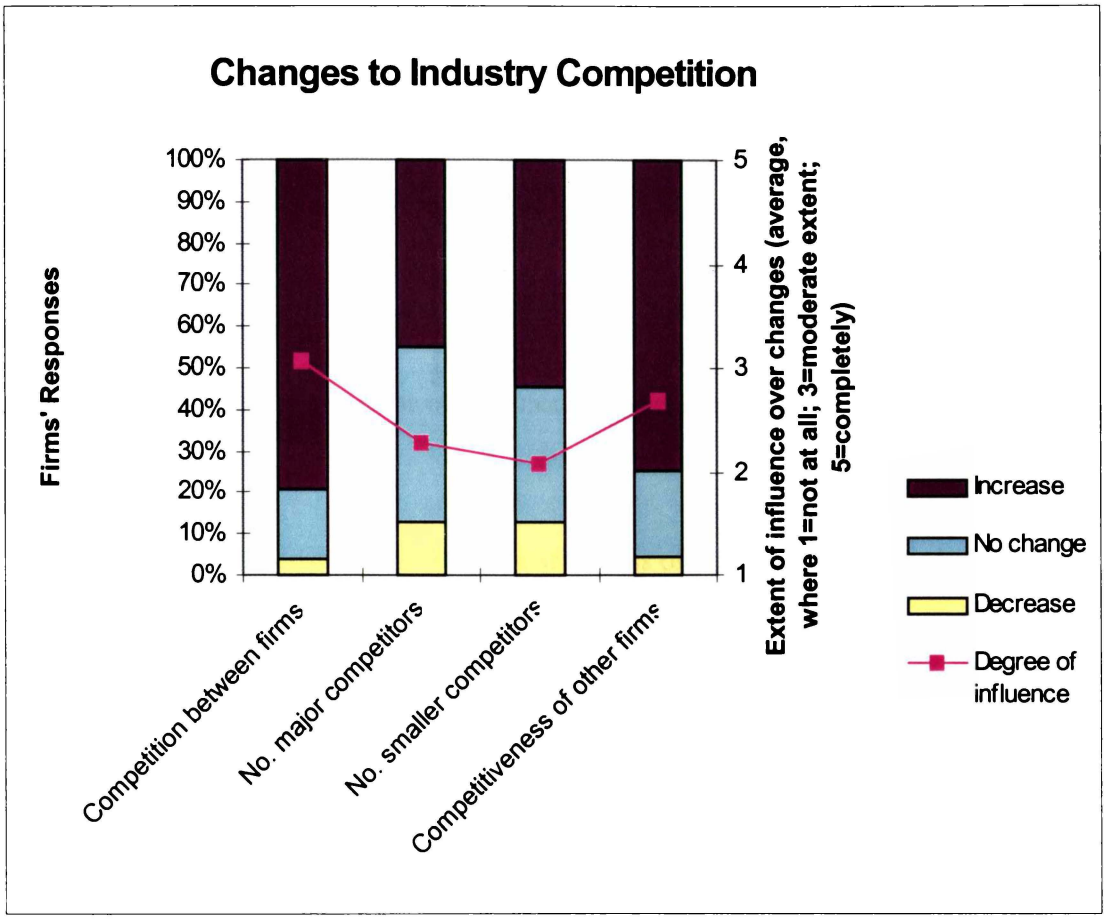
Competitive position		do not compete here 1	small competitor 2	average sized competitor 3	major competitor 4	only competitor 5	Mean
In New Zealand	Count	19	38	94	347	16	**3.6**
n=515	%	3.7%	7.4%	18.3%	67.4%	3.1%	
Internationally	Count	51	102	79	273	2	**3.1**
n=511	%	10%	20.0%	15.5%	53.4%	0.4%	

In the international environment 53.4 percent of the respondents stated that their firm was a major competitor, while a further 20 percent gave "small competitor" as their response. The responses to this latter part of the question should be interpreted with caution, as some firms may have referred to their parent companies as international competitors rather than the New Zealand affiliate.

Competitive Environment

Respondents were then asked about the changes to the competitive environment in New Zealand over the past three years, and how their firm's operations had influenced those changes. The findings are displayed in Figure 7.2 below.

Figure 7.2
Changes to, and Influence on, the Competitive Environment



Overall, the majority of firms agreed that there had been an increase in competition between firms in their respective industries, as well as an increase in the level of competitiveness of firms generally. Only 3.8 percent of respondents said that competition had decreased over this period. Approximately half the firms indicated there had been an increase in the number of firms in their industry.

The line running through the bar graph indicates the average level of influence that the foreign firms felt they had on these competitive changes. Overall, they had only a moderate influence over the level of competition between firms in their industry. This is an interesting result given that just over 70 percent of the firms consider themselves to be major or only competitors. A closer look at the actual frequencies to this question (see table 7.16 below) reveals that 359 firms (72 percent) felt they

exerted a moderate or a major influence over the level of competition between firms in their industry.

Table 7.16
Influence on Competitive Changes

		not at all 1	minor 2	moderate 3	major 4	completely 5	Mean
Competition between firms	Count	43	79	184	175	9	**3.06**
n=499	%	8.6%	15.8%	36.9%	35.1%	1.8%	
Competitiveness of other firms	Count	77	123	171	112	3	**2.68**
n=497	%	15.5%	24.7%	34.4%	22.5%	0.6%	

%=valid percent, ie. the proportion of those that answered, including 'don't knows'.

The extent of influence over the competitiveness of other firms in their industry was lower, with a mean value of 2.68. Fifty-seven percent of the firms indicated that they had a moderate or major influence over the competitiveness of other firms. The results suggest that their influence increased the level of competition between firms, which prompted local competitors to upgrade their efficiency and performance.

Table 7.17
Influence on the Number of Competitors

		not at all 1	minor 2	moderate 3	major 4	completely 5	Mean
Number of major competitors	Count	163	116	133	74	5	**2.28**
n=500	%	32.6%	23.2%	26.6%	14.8%	1.0%	
Number of smaller competitors	Count	176	157	110	47	0	**2.07**
n=499	%	35.3%	31.5%	22.0%	9.4%	0%	

Table 7.17 shows that the affiliates had a minor influence on the number of competitors in their industries. Foreign investors could influence the number of firms in the industry in three ways: by entering or exiting the industry themselves (as a large, or smaller player); by exerting competitive pressure on weaker firms who subsequently exit; or by indirectly encouraging other firms to enter. However, the respondents indicated that their firm's influence over the number of major and smaller competitors was minor (Table 7.17). This suggests that in most industries the firms are not a significant force for encouraging other firms to entry or forcing

existing firms to exit, and that other factors might be more significant in determining the number of competing firms[1]. We consider this in more detail in the discussion of the results in Chapter Eight.

Table 7.18
Local Innovation Clusters

Investment to access local innovation		Number of responses	% of total firms
Investment made to **be close to** local innovation:		42	8.14%
Sources of local innovation	-(Collaborating) competitors	*11*	
	-Independent competitors	*9*	
	-Local customers/agents	*10*	
	-Local suppliers/subcontractors	*17*	
	-Research institutes/universities	*12*	
	-Other	*1*	

The affiliates might also have an indirect impact on local firms through involvement in industry clusters. As discussed in Chapter Two, this would involve the foreign affiliates locating close to an agglomeration or cluster of firms with complementary and specialised capabilities. The respondents were asked whether their firm had invested in New Zealand to be close to local sources of innovation. Only 8 percent (42) of the firms said "yes", and Table 7.18 shows these local sources of innovation and the frequency of responses. Local competitors as well as suppliers were the most commonly cited sources of local market knowledge, raw materials, and production technology.

Direct Linkages

The remainder of the survey investigated the types, extent and quality of linkages between the foreign-owned affiliates and other New Zealand firms (those that were not related by ownership). Four main types of linkage were examined, namely:

- backward linkages with suppliers or subcontractors for specialised inputs;

1

The number of firms in the industry may be affected by a range of factors other than foreign presence, including the type of industry (entry, exit costs, attractiveness etc.); existing and potential competitive pressure both in New Zealand and from imports; opportunities for servicing niche segments; and the state of international markets.

- forward linkages with either agents for wholesale or retail trade, marketing and/or distribution; or customers for specialised or customised inputs from the respondent firm;
- knowledge agreements with licencees or franchisees; and
- collaborative agreements such as alliances, technology share/development agreements, and management contracts.

For ease of presentation, the results for forward and backward linkages are given first, and then knowledge and collaborative agreements are discussed later in this chapter.

Forward and backward linkages

The objective of this part of the survey was to achieve a balance between assessing the quantity as well as the quality of linkages. In order to assess the quantity or the extent of linkages, the respondents were asked to indicate the number of relationships that their firm had formed with local agents (for marketing or distribution); local customers for their firm's specialised products; and local suppliers and/or subcontractors for specialised inputs. In addition, the respondents were also asked to indicate the extent of sourcing of specialised goods and services from New Zealand and offshore.

In order to assess the quality of forward and backward linkages, respondents were asked what types of assistance had been given to local agents/customers and suppliers/subcontractors. The results for both foward and backward linkages are presented together to facilitate comparisons.

To assess the extent of forward and backward linkage formation, the respondents were asked how many other New Zealand firms had acted in each particular capacity in the past twelve months. The results are shown in Table 7.19.

Table 7.19
Forward and Backward Linkages with other New Zealand firms*

New Zealand Firm as an:		Number of relationships: None	2 or less	5 or less	10 or less	more than 10	more than 50	Number of firms with relationships	don't know
Agent for marketing, distribution	n=513	208	92	57	33	50	69	**301**	4
	%	40.5%	17.9%	11.1%	6.4%	9.7%	13.5%	**58.7%**	
Customer for specialised inputs	n=490	250	60	59	19	38	51	**227**	13
	%	51.0%	12.2%	12.0%	3.9%	7.8%	10.4%	**46.3%**	
Supplier/subcontractor for specialised inputs	n=510	186	87	97	39	60	34	**317**	7
	%	36.5%	17.1%	19.0%	7.6%	11.8%	6.7%	**62.2%**	

*not related by ownership to the respondent firm.

Table 7.19 shows that 59 percent of the affiliates had formed at least one relationship with an agent for marketing or distribution etc., 46 percent with local customers requiring specialised inputs from their firm, and 62 had formed relationships with local suppliers or subcontractors for specialised inputs. Approximately half of these firms had formed five or fewer relationships; specifically, 50 percent (149) with agents, 52 percent (119) with customers, and 58 percent (184 firms) with suppliers.

However, a significant number of the affiliates had not formed relationships with local firm to buy or supply specialised inputs or for agency reasons. This suggests that the affiliates in the survey are relying more heavily on alternative sources of specialised inputs, over 50 percent do not supply customers with specialised products, and just under 41 percent do not rely on local agents. The following section attempts to assess the reliance on overseas sources of specialised inputs as an alternative to local inputs.

Local sourcing

This section focusses on the firms' sourcing of inputs and the creation of downstream benefits for New Zealand suppliers and contractors. The extent or quantity of backward linkage formation can be assessed by examining the reliance by foreign firms on alternative sources of specialised products and services. The affiliates were

asked to what extent they sourced specialised products and services from:

- related New Zealand firms - those related to the respondent firm by ownership;
- other New Zealand firms - local firms that are not related by ownership;
- parent or related companies overseas; and
- other firms overseas - those not related by ownership.

These four main sources of inputs differentiate between the 'make or buy' decision, and the 'buy locally or import' decision.

Table 7.20
Specialised Product Sourcing

Reliance on different sources of specialised products		not at all 1	minor 2	moderate 3	major 4	completely 5	**Mean**
Related NZ firms	n=510	342	82	43	36	6	**1.59**
Other* NZ firms	n=509	107	161	121	107	12	**2.51**
Parent/related companies overseas	n=509	91	82	90	181	64	**3.09**
Other* firms overseas	n=505	140	129	110	107	16	**2.44**

*not related by ownership to the affiliate

Table 7.20 shows the reliance on other (unrelated) New Zealand firms versus parent/related firms overseas for specialised products. The affiliates were most reliant on their parent/related companies overseas for specialised products (mean of 3.09). Clearly, the most frequent response (36 percent of firms) was a "major" reliance on this source. In contrast, the reliance by foreign firms on other New Zealand firms for specialised products was lower (mean=2.51). Just over half (53 percent) of the affiliates in the sample did not rely on local sources at all, or only to a minor extent, and a further 45 percent had a moderate or major reliance on local sources.

The extent of sourcing from other (unrelated) firms either in New Zealand or overseas was similar (means = 2.51, 2.44), while sourcing from related firms in New Zealand was very low (mean = 1.59). If these means were translated into proportions,

the affiliates in the survey sourced approximately one third from parent companies, and one quarter each from other local firms and other firms overseas.

Table 7.21
Specialised Services Sourcing

Reliance on different sources of specialised services		not at all 1	minor 2	moderate 3	major 4	completely 5	Mean
Related NZ firms	n=511	335	88	51	32	3	**1.58**
Other* NZ firms	n=510	53	130	164	141	20	**2.88**
Parent/related companies overseas	n=512	79	112	146	148	25	**2.85**
Other* firms overseas	n=508	186	167	103	47	2	**2.02**

*not related by ownership to the affiliate

Table 7.21 shows the extent of reliance on parent/related companies for specialised services is similar to the reliance on other (unrelated) New Zealand firms. A comparison of figures reveals near equal frequencies for these two sources of specialised services, at mean values of 2.88 for other New Zealand firms and 2.85 for parent companies overseas.

Sourcing of specialised services from related firms in New Zealand, and from other firms overseas was minor. As with specialised products, the majority (66 percent) of affiliates did not source from firms in New Zealand that are related by ownership. If the means were translated into proportions, then other New Zealand firms and parent companies would each account for 31 percent of specialised services, and other firms overseas for 22 percent.

Assistance Linkages

The quality of backward and forward linkages was assessed by asking firms if, over the past twelve months, they had assisted other New Zealand firms to improve their products or services. Fifty-two percent of all respondents said "yes". Approximately 67 percent of this assistance went to local firms that were acting as agents or customers, and 25 percent went to suppliers and subcontractors. In other words, forward assistance linkages were more frequent than backward linkages.

Figure 7.3
Types of Assistance given to Local Firms

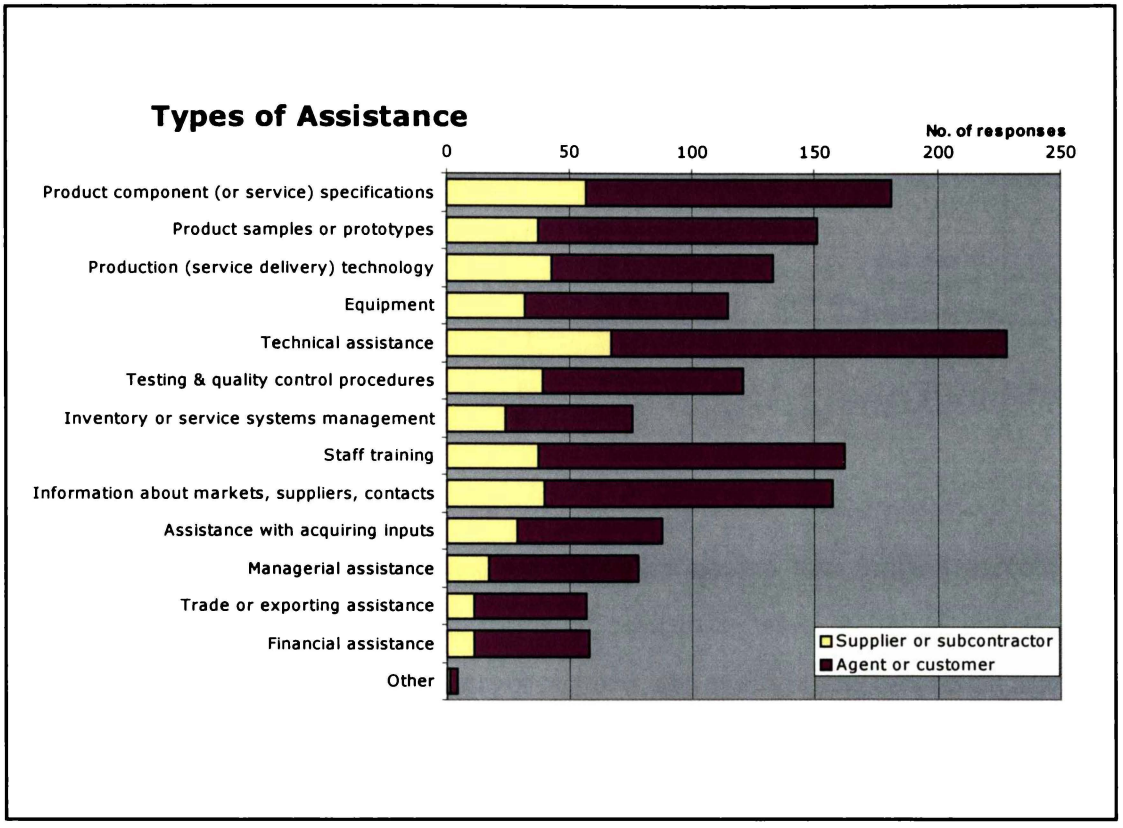


Figure 7.3 shows the types of assistance given to each type of firm (actual figures are given in Appendix 7.3). Technical assistance was the most common type of assistance given to agents by 161 affiliates and to suppliers/subcontractors by 67 affiliates. The affiliates also assisted local firms by supplying product component (or service) specifications, staff training, and information about markets, suppliers and contacts. The least frequently given types of assistance were related to trade or exporting, and finance.

Knowledge Agreements

The survey asked firms about two types of knowledge agreements formed with local firms, namely licencing and franchise agreements. As expected, these types of linkage were not common, as FDI tends to substitute for licencing/franchising. Forty-four of the respondents had formed at least one licence agreement with another New

Zealand firm, and 37 had formed a franchise agreement. Of these, 70 percent had five or fewer licencing agreements, and 49 percent had five or fewer franchise agreements (Table 7.22).

Table 7.22
Knowledge agreements with other New Zealand firms

		Number of relationships							
		None	2 or less	5 or less	10 or less	more than 10	more than 50	Number of firms with relationships	don't know
Licencee	n=510	466	20	11	5	4	4	**44**	4
	%	91.4%	3.9%	2.2%	1.0%	0.8%	0.8%	**8.6%**	
Franchisee	n=511	474	10	8	4	10	5	**37**	2
	%	92.8%	2.0%	1.6%	0.8%	2.0%	1.0%	**7.2%**	

Assistance given to licencees and franchisees was also low (only 8 percent of responses). The most frequent forms of assistance were technical assistance, information about markets, suppliers or contacts, and staff training (see actual figures in Appendix 7.3).

Collaborative Linkages

It is already evident from the results on local sourcing that the foreign affiliates in the survey benefit from a close relationship with their parent company or foreign shareholders overseas. In this section of the survey, the firms were asked if they had also formed collaborative agreements with other firms. The extent of collaborative linkage formation is considered first, then the qualitative aspects of these agreements (e.g. the transfer and development of O-advantages) are examined.

Table 7.23
Collaborative Agreements formed by the Foreign-owned Affiliates

Collaborative Agreements	Number of firms	% of total where n=516
- with a unrelated* firm overseas	58	11.2%
- with a related firm in New Zealand	37	7.2%
- with a unrelated* firm in New Zealand	148	28.7%

*unrelated by ownership.

The number of collaborative agreements formed with unrelated New Zealand firms was higher than expected. One hundred and forty-eight of the affiliates in the sample (29 percent) had formed collaborative agreements with other New Zealand firms over the past three years. In contrast, just eleven percent of the firms had formed such an agreement with an unrelated firm overseas, and 7.2 percent with another New Zealand firm that was related by ownership (Table 7.23).

Table 7.24
Collaborative Agreements with Local Firms in the Past Three Years

Collaborative agreements n=148	Alliances	Technology share/development agreements	Management contracts	Others
Number of firms with one	35	36	16	8
Number of firms with two	24	15	8	0
Number of firms with three	10	9	6	3
Number of firms with more than three	28	7	6	10
Total number of firms	**98**	**67**	**37**	**21**

Many of the firms had formed more than one type of collaborative agreement, and on more than one occasion, over the past three years. Table 7.24 shows the number of firms that formed one, two, three, or more than three of the following types of collaborative agreement. The total number of agreements formed[2] is at least 477, which is an average of 3.2 agreements per firm. Alliances were the most common type of agreement, followed by technology sharing or development agreements, and then management contracts. "Other" agreements were for distribution, agency, marketing, and supply purposes. Firms were asked not to include equity agreements, such as joint ventures, as part of their answer.

In order to assess the qualitative aspect of these agreements, we asked firms what resources had been transferred or developed during the course of the agreement. In order to make the question easier to answer we asked firms to respond on the basis of their most significant collaborative agreement. The purpose of these agreements is shown in Table 7.25, under very general categories. Forty percent of firms formed

[2] Calculations based on firms in the 'more than three' category having four agreements.

their most significant agreement for distribution or marketing reasons, 20 percent for technology or product development, and 20 percent to access resources and supplies.

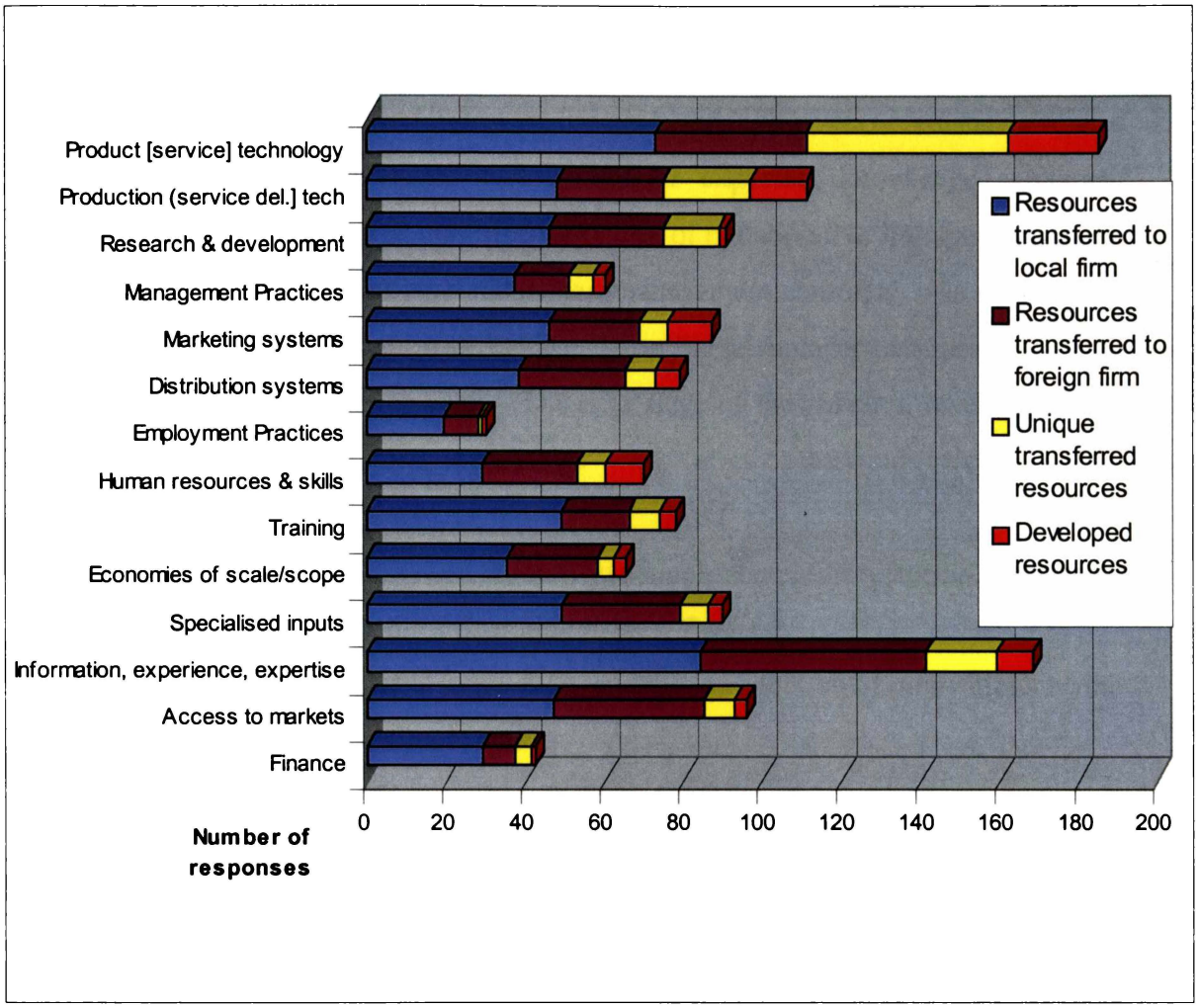
Table 7.25
Purpose of Most Significant Collaborative Agreement

Purpose	Number of firms		% of total (n=148)
Distribution/Agency	19		
Service & sales support	12		
Marketing of a product	12		
Market development/access	7		
Marketing strategy	5		
Customer benefits	5	60	40.5%
Technology development	24		
Product development	6	30	20.3%
Procurement of resources/supply contracts	20		
Sharing of information/resources, economies of scale	10	30	20.3%
Management contract		14	9.5%
Strategic alliance, competitive advantage		12	8.1%
Total number of firms		**146**	**98.6%**

Most of these agreements involved a two-way transfer of resources between parties. Eighty-four percent (125 affiliates) of the agreements involved a transfer of some resources from the foreign-owned firm to the New Zealand partner. The most commonly transferred resource was information, experience and expertise, followed by product or service technology. Employment practices and finance were the least frequently transferred resources.

Figure 7.4 shows the resources that were transferred from the foreign firm to the local partner, and vice versa. It appears the foreign firms transferred resources more frequently to the local firms, than local firms transferred resources to them. Local firms benefitted most from information, experience and expertise (13.4 percent of responses), and product/service technology (11.6 percent). These two resources were also transferred to the foreign firm (15.7 and 10.4 percent of responses respectively), as well as access to markets (10.4 percent).

Figure 7.4
Transfer and Development of Resources via Collaborative Agreements



The degree to which the firms believed that the transferred resources had been unique to either of the firms, prior to the agreement, is also shown in Figure 7.4. Only a small proportion of the resources overall were unique, suggesting that these firms are only occasionally sharing core advantages with their partners.

Finally, Figure 7.4 shows some resources were developed during the course of these agreements. Specifically, product/service technology, production or service delivery technology, marketing systems, and human resources were developed in New Zealand by the collaborating firms (see figures in Appendix 7.4).

DETERMINANTS OF DIRECT LINKAGE FORMATION

However, the primary concern of this thesis is in the indirect and direct effects on New Zealand industry via local firms (second round). The results indicated moderate levels of local sourcing and backward linkages, and high levels of assistance-related linkages with agents and/or customers. As expected, knowledge agreement formation was low, but in contrast, formation of collaborative linkages (alliances, technology development agreements and management contracts) was surprisingly high indicating that local firms do have O-specific advantages that are attractive to foreign investors and vice versa. The next stage of the research investigated the determinants of direct linkages, namely:

- local firm capability and the ability to supply standardised/specialised inputs;
- the MNE's reason for operating in New Zealand;
- the presence of local innovation, and the introduction of innovations by the foreign owned affiliate; and
- the size, age, industry and main area of activity of the affiliate.

Local firm capability

The extent of local sourcing is expected to be a function of the capability of local firms to supply the required inputs. For the purposes of the survey, inputs were defined as any factors used in production of products or delivery of a service, which are not made by the firm, such as products, services, raw materials, components, equipment, and outside contracting of labour. In this section we review the results that look at the ability of New Zealand suppliers to offer these inputs competitively.

The capability of local firms was assessed by asking the respondents to rate the standard of inputs from New Zealand firms relative to alternative sources of supply, on the following attributes: availability, price, quality, reliability (e.g. delivery, after-sales service, continuity of supply), and technical sophistication.

Table 7.26
Standard of local inputs

		well below average 1	below average 2	average 3	above average 4	well above average 5	Mean
Availability	n=489	12	38	259	127	20	**3.23**
Price	n=488	8	62	257	117	13	**3.14**
Quality	n=488	7	35	241	162	12	**3.30**
Reliability	n=489	8	62	237	135	13	**3.18**
Technical sophistication	n=484	7	71	246	114	16	**3.13**

Table 7.26 shows the frequencies for each response, and the mean for all responses, where 1=well below average and 5=well above average[3]. The results show that most answers clustered just above average (3) on all measures, with quality being the highest at 3.30. This would suggest that, all things being equal, foreign-owned firms would be just as likely to source from New Zealand suppliers as those elsewhere.

The survey then asked to what extent New Zealand firms were able to supply standardised products (such as raw materials) and services (such as freight) required by the foreign firms. Sourcing of standardised or generic products and services from New Zealand was anticipated to be fairly high, particularly as New Zealand is geographically isolated from most other countries.

Table 7.27
Ability of Local Firms to Supply Standardised Products/Services

Local firms' ability to supply-	not at all 1	minor extent 2	moderate extent 3	major extent 4	completely 5	Mean	don't know	n.a.
Standardised products n=484	97	93	111	114	38	**2.78**	31	30
Standardised services n=497	25	33	99	243	85	**3.68**	12	17

n.a.=some firms (typically service firms) felt the question was not applicable to their business.

However, the results given in Table 7.27 reveal that almost 40 percent of firms felt that New Zealand firms were only able to supply standardised products to a minor extent, if at all. On average, local firms could only supply the required products to a moderate extent (mean=2.78).

3

Note that approximately 10 percent of firms either did not know, or could not answer the question because they felt that it did not apply to their firm.

In contrast, two thirds of the respondents felt that New Zealand firms were able to supply the required standardised services to a major extent or completely (mean = 3.68). However, local sourcing of services is more common given that the nature of services makes them location-bound in most instances.

Table 7.28
Ability of Local Firms to Supply Specialised Products/Services

Local firms' ability to supply-	not at all 1	minor extent 2	moderate extent 3	major extent 4	completely 5	**Mean**	don't know	n.a.
Specialised products n=487	76	136	135	94	16	**2.64**	30	25
Specialised services n=498	28	52	139	206	64	**3.46**	9	15

n.a.=some firms (typically service firms) felt the question was not applicable to their business.

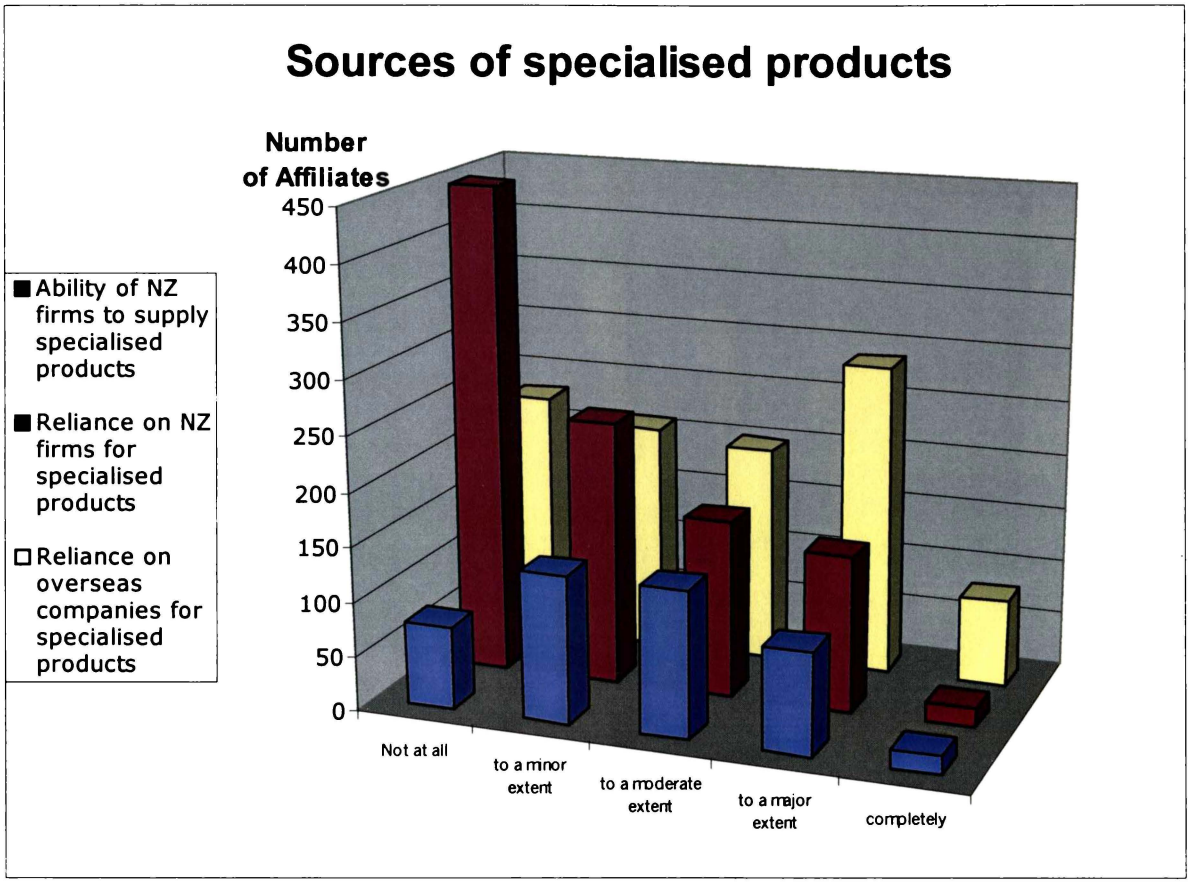
Table 7.28 shows that the ability of local firms to supply specialised products had a mean value of 2.64, and more than half the respondents indicated that local firms could supply these to a minor or moderate extent. The mean value for supply of specialised services was higher at 3.46, with 69 percent of respondents indicating that local firms were able to supply these to a moderate or major extent.

However, comparing the two preceding tables we find that contrary to expectations, the ability of New Zealand firms to supply standardised inputs was not much higher than the ability to supply specialised inputs. In the following section, we compare the ability of New Zealand firms to supply specialised products/services with the pattern of local versus offshore sourcing of these inputs by the affiliates in the survey.

Local firm capability and local sourcing

Figures 7.5 and 7.6 show that despite the fact that New Zealand firms are, to a moderate extent, able to supply specialised products and services, there is still a high reliance on offshore sources of supply, particularly for products.

Figure 7.5
Capability of New Zealand Firms and Sourcing of Specialised Products



The first row of columns in Figure 7.5 shows the ability of New Zealand firms to supply specialised products (these figures were also given in Table 7.28) with frequencies highest in the minor and moderate categories.

The middle row of columns shows the extent of reliance by the respondents on their parent/related companies overseas for specialised products. Clearly, the most frequent response (36 percent of firms) was a "major" reliance on this source.

The last row of columns shows the reliance by foreign firms on New Zealand firms (unrelated by ownership) for specialised products. The majority (53 percent) of firms in the sample did not rely on local sources at all, or only to a minor extent.

Figure 7.6
Capability of New Zealand Firms and Sourcing of Specialised Services

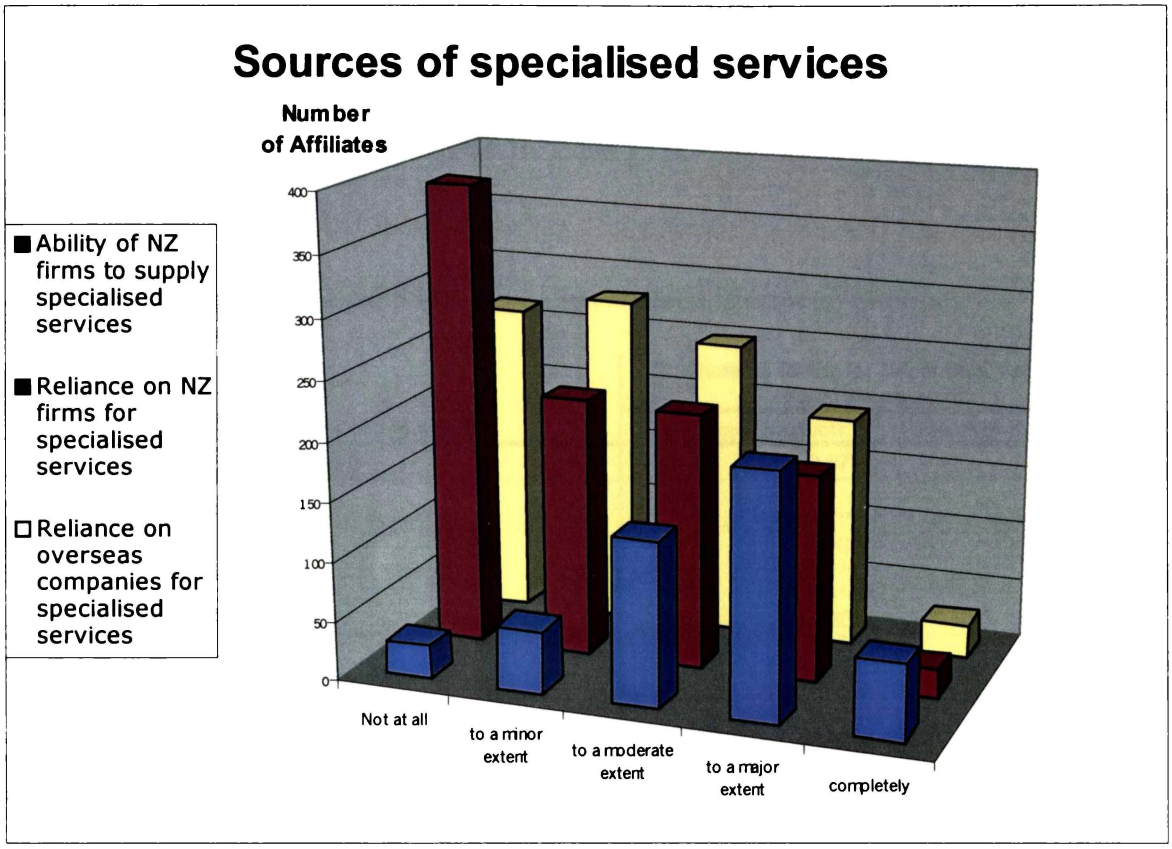


Figure 7.6 shows the majority of firms found that New Zealand firms could supply the required services to a moderate or major extent (front columns). The middle columns show the extent of reliance on parent/related companies was similar to the reliance on non-related New Zealand firms. A comparison of figures shows near equal frequencies for these two sources of specialised services, at mean values of 2.88 for other New Zealand firms and 2.85 for parent companies overseas.

In summary, although New Zealand firms were able to supply specialised products to a moderate extent on average, foreign firms relied more heavily on their parent firms overseas for these inputs. In contrast, the respondents indicated that New Zealand firms were more able to supply specialised services than products, and as a result, these services were more likely to be sourced locally. The results suggest a tendency to source specialised services both from parent companies and from able suppliers in New Zealand.

Determinants of local sourcing

In this section we are interested in analysing the variables that help determine the level of local sourcing undertaken by the foreign-owned affiliates in New Zealand. The relevant variables are shown in Table 7.29.

Table 7.29
Determinants of Local Sourcing of Specialised Products/Services

df=30, n=516	Coefficients (Beta) for Dependent Variables - Local Sourcing of:	
Independent Variables - Determinants	Specialised products	Specialised services
(Constant unstandardised B)	0.671	1.280
Motive		
Resource-seeking	0.162***	0.026
Market-seeking	-0.005	0.063
Efficiency-seeking	-0.015	-0.006
Strategic asset-seeking	0.018	-0.075
Trade/support activities	-0.085*	0.037
Autonomy		
Influence over short-term decision-making	-0.004	-0.030
Resources from Parent		
Access to inputs from parent	-0.066	-0.093*
Access to finance from parent	0.109**	0.065
Innovation introduced to NZ, source of innovation^		
Product (service) technology -NZ	0.041	0.050
Product (service) technology - B	0.010	-0.038
Production (service) technology - P	-0.001	-0.025
Management practices/culture - P	0.010	0.027
Management practices/culture - NZ	0.121*	0.102
Managment practices/culture - B	0.041	0.072
Marketing systems - P	-0.114**	-0.119**
Marketing systems - NZ	-0.027	-0.049
Marketing systems - B	-0.095*	-0.080
Training - P	-0.028	-0.045
Training - NZ	-0.012	-0.084
Training - B	0.003	0.025
Capability of local firms		
Capability Factor	-0.031	0.057
Price of NZ inputs	-0.025	-0.034
NZ's ability to supply standardised products	0.141**	-0.025
NZ's ability to supply standardised services	0.117*	0.249****
NZ's ability to supply specialised products	0.239****	0.095
NZ's ability to supply specialised services	0.032	0.147**
Size		
Total sales	-0.027	-0.022
Full-time equivalent staff	0.076	0.087
Age		
No of years in NZ	0.086	0.072
No of years owned by current foreign investor	-0.101*	-0.052
F-statistic	8.143****	5.034****
R^2	0.335	0.237
adjusted R^2	0.294	0.19

#p<0.10, *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001

^ P=innovation sourced from foreign parent/shareholder, NZ=developed by affiliate in New Zealand, B=joint development of innovation by both parent and NZ affiliate firms.

A regression analysis was used to identify significant predictors of local sourcing. Table 7.29 shows the standardised regression coefficients for the significant sets of independent variables. The two dependent variables are the extent of local sourcing by the foreign-owned firm of specialised products, and specialised services.

Specialised product sourcing. The results showed that the foreign parent/shareholders' reason for operating or investing in New Zealand, the ability of New Zealand firms to supply products and services, and certain innovations or resources from the parent, have a bearing on local sourcing of specialised products. The multiple coefficient of determination (R^2) gives the collective effect of the independent variables as 34 percent of the total effect on local sourcing of specialised products. This figure is reasonable since the variables included in the regression are limited primarily to those relating to the multinationality of the affiliate.

The most significant influence on specialised product sourcing was New Zealand's ability to supply specialised products. The second most significant influence was the resource-seeking reason for investment. Both these variables were positively related to local sourcing. Other positive influences were New Zealand's ability to supply standardised products and services, management practices innovation developed by the affiliate in New Zealand, and access to parent company finance.

In contrast, those firms who gained marketing innovations from their parent company (or jointly developed them with their parent company) were less likely to source specialised products locally. The number of years the firm had been owned by its current foreign investors had a negative effect on the extent of local sourcing of specialised products. Those firms that invested to undertake mainly trade or supporting activities and those that gained inputs from their foreign parent were also less likely to source specialised products locally.

Specialised services sourcing. Sourcing of specialised services was influenced the most by the ability of New Zealand firms to supply standardised services, and then specialised services (positive relationships). In contrast, marketing innovations

originating from the foreign parent was negatively related to the extent of local sourcing of specialised services. Access to inputs from the parent also had a weak, negative relationship. The multiple coefficient of determination suggests that these variables explain 24 percent of the variance in specialised services sourcing.

It is also useful to note that neither autonomy, size, nor country of origin (not shown) variables influenced the extent of local sourcing of specialised services and products.

Determinants of assistance and collaborative linkages

Forward stepwise logistic regression analysis was performed to identify the key determinants of assistance-related linkages and collaborative linkages. The dependent variables for each of the analyses were based on whether or not the affiliate had:

- provided any type of assistance to unrelated New Zealand firms (ASSIST) in the past 12 months;
- provided reasonable or high levels of assistance to New Zealand agents and/or customers (AGENT2) in the past 12 months;
- provided reasonable or high levels of assistance to suppliers and/or subcontractors (SUPPLIE2) in the past 12 months;
- provided low levels, or no assistance to agents/customers and suppliers/subcontractors (NONE). This group consisted of affiliates that did not fall into the previous two categories (ie. AGENT2, SUPPLIE2) and was included in the analysis for comparative purposes; and
- formed a collaborative agreement with an unrelated New Zealand firm in the past three years (CA).

Summaries of the models produced by the stepwise regression analysis are presented in the following tables. [1]. The analysis was performed on 502 cases, as 14 cases were

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[1] The full set of results showing the results of identical logistic regression analyses that force all the variables into the model (through the default ENTER command rather than the stepwise procedure) can be found in Appendix 7.5, and offer confirmation of the results given by the stepwise regression analysis.

rejected because of missing data. The variable 'ownership form' had to be removed from the analysis because the resulting coefficients were too large, and distorted the results. The variable 'distribution systems from the parent company' was also dropped from the analysis as there was evidence of overlap with 'marketing systems from the parent company'.

Logistic regression analysis was performed for each type of linkage. The objective of the stepwise procedure was to reduce the number of variables included in the model to just those that were significant determinants (predictors). The results for each type of linkage are presented here in two tables. The first is a classification table which shows the number of correct predictions made by the model, and the second table displays the significant determinants for each linkage.

The first analysis considered the determinants of ASSIST: whether affiliates gave any form of assistance to New Zealand firms for the purpose of improving their products or services. A summary of the output for this model is shown in Tables 7.30a, b.

Table 7.30a
Classification table and Goodness-of-Fit Tests for the Assistance to unrelated New Zealand Firms Model (ASSIST)

	Predicted		
Observed	0=no assistance	1=assistance	Percent Correct
0=no assistance	143	96	59.83%
1=assistance	84	179	68.06%
		Overall	**64.14%**

Goodness-of-fit	Chi-square	Degrees of Freedom	Significance level
Model	50.249	8	.0000
Hosmer & Lemeshow	8.3015	8	.4046
-2 Log Likelihood	644.523		

The classification table shows the numbers of firms that were correctly or incorrectly predicted to give assistance to local firms in the past 12 months. The top line shows that of all the affiliates that did not actually give local firms any assistance in the past 12 months, the model predicted nearly 60 percent percent did not give assistance. Of

all the firms that did actually give assistance, 68 percent were predicted to give assistance. Overall, 64 percent of the cases were correctly predicted by the model, suggesting that factors other than those in the model, need to be considered when attempting to determine the likelihood of assistance linkages occurring. However, the model is reasonably useful for classification, indicated by the large and significant model chi-square and the large significance level for the Hosmer and Lemeshow goodness-of-fit test.

A caveat should be presented at this point. Since the main purpose of the analysis in this thesis is to identify the significant determinants of assistance linkages, the individual variables included in the model (shown below) are of more interest than its predictive power (shown in the classification tables). Although it is useful to note the predictive power of the model, it is expected that overall this will not be good. This is because the thesis is limited to considering variables that relate to the OLI configuration of the affiliate, therefore other variables associated with such linkages may not be included as part of this study. Therefore, we now move on to considering the significant determinants of assistance linkages as identified by the stepwise procedure and presented in Table 7.30b.

Table 7.30b
Assistance to unrelated New Zealand firms (ASSIST)

Dependent variable: ASSIST

Degrees of Freedom=1

Independent Variables	Coefficient (B)	Standard Error	Wald statistic	Level of significance	R	Exp (B)	Odds Ratio
MANUF	.4675	.2132	1.8098	.0283	.0636	1.5960	.94:1
MGMTP	-.2231	.1065	4.3868	.0362	-.0586	.8000	.46:1
INFO	.3301	.1136	8.4512	.0036	.0964	1.3911	.82:1
DISTNZ	.9028	.2789	10.4755	.0012	.1104	2.4666	1.45:1
EMPLYNZ	-.7238	.3253	4.9517	.0261	-.0652	.4849	.28:1
HRNZ	.9563	.3357	8.1169	.0044	.0938	2.6021	1.53:1
HRB	1.0727	.3421	9.8333	.0017	.1062	2.9231	1.72:1
AUST	-.4408	.2192	4.0455	.0443	-.0543	.6435	.38:1
Constant	-.6391	.4195	2.3215	.1276			.59:1

The regression model showed the significant variables that determine the likelihood of the affiliate giving assistance to unrelated New Zealand firms in order to improve their products/services. The most significant variables exert a positive influence on assistance linkages. Distribution innovation introduced by the affiliate (DISTNZ) and human resource innovations jointly introduced by the affiliate and the foreign firm (HRB) were significant at the 0.0012 and 0.0017 levels respectively. The R statistic suggests that these variables might contribute the most to the model.

Access to information, expertise and experience (INFO) from parent companies, and human resource innovation from the affiliate (HRNZ) were both significant at the one percent level, and manufacturing (MANUF) was significant at the five percent level. All these variables increased the likelihood of assistance linkages occurring. Negative influences on assistance linkage formation were employment innovation originating from the affiliate in New Zealand (EMPLYNZ), management practices from the parent (MGMTP), and Australian ownership (AUST). All of these were significant at the five percent level.

The Exp (B) column of Table 7.30b shows the factor by which the odds of assistance being given changes due to a one-unit change in the independent variable. The odds have been calculated in the last column, with the base case characterised by the variables having their lowest values[2]. For instance, if the affiliate had introduced a jointly developed innovation in human resources (HRB) (i.e. a change from 0 to 1) the odds of the affiliate also giving assistance were increased by a factor of 2.92 or 192 percent, raising the odds from 59:100 (value of the constant) to 172:100 (roughly 0.5:1 to 2:1). Conversely, if the affiliate introduced an employment practice innovation (EMPLYNZ) the odds of assistance were decreased by a factor of 0.48 or 52 percent, or from 59:100 down to 28:100, making assistance linkages less likely.

2

The base case is characterised by scores of zero on the dichotomous variables, and one on the interval/scale variables (refer Chapter Six). The odds ratios have been calculated accordingly.

Overall, the results seem to suggest local development of innovation is associated with assistance linkages. The predominance of innovation introduced by the affiliate or jointly with the parent firm as determinants of assistance linkages suggests that if the affiliate is involved in developing innovations in New Zealand, assistance is more likely to flow through to local firms.

Determinants of forward assistance linkages

The second analysis used the stepwise regression procedure to identify significant determinants of forward assistance linkages between affiliates and local agents and/or customers. The results are shown in Tables 7.31a, b.

Table 7.31a
Classification table and Goodness-of-Fit Tests for the Assistance to Unrelated New Zealand Agents /Customers model (AGENT2)

	Predicted		
Observed	0=no assistance to agents/customers	1=assistance to agents/customers	Percent Correct
0=no assistance to agents/customers	321	28	91.98%
1=assistance to agents/customers	117	36	23.53%
		Overall	**71.12%**
Goodness-of-fit	Chi-square	Degrees of Freedom	Significance level
Model	58.456	8	.0000
Hosmer & Lemeshow	8.9819	8	.3438
-2 Log Likelihood	558.864		

The classification table shows that of all the affiliates that actually did not give local firms any assistance in the past 12 months, the model predicted 92 percent did not give assistance. Of all the firms that actually did give assistance, only 24 percent were predicted to give assistance. Although overall, 71 percent of the cases were correctly predicted by the model, and both goodness-of-fit tests were significant, the model was not good at predicting the affiliates that did provide assistance. The specific determinants of assistance linkages with agents/customers are considered in the model given below.

Table 7.31b
Assistance to Unrelated New Zealand Agents /Customers model

Dependent variable: AGENT2

Degrees of Freedom=1

Independent Variables	Coefficient (B)	Standard Error	Wald statistic	Level of significance	R	Exp (B)	Odds Ratio
MANUF	.4732	.2272	4.3359	.0373	.0615	1.6051	.30:1
EOS	.1725	.0914	3.5625	.0591	.0503	1.1883	.22:1
INPUTS	.1750	.0808	4.6934	.0303	.0661	1.1912	.22:1
DISTNZ	.9362	.2691	12.0980	.0005	.1279	2.5502	.46:1
HRNZ	.5943	.2631	5.1000	.0239	.0709	1.8117	.33:1
HRB	.7946	.3370	5.5616	.0184	.0760	2.2136	.41:1
FTE	-.0011	.0005	4.9968	.0254	-.0697	.9989	.19:1
AUST	-.6332	.2526	6.2810	.0122	-.0833	.5309	.10:1
Constant	-2.0219	.3252	38.6449	.0000			.19:1

Analysis of the determinants of assistance given to agents/customers (AGENT2) by foreign affiliates revealed similarities to the results for ASSIST. Distribution systems innovation from the New Zealand affiliate (DISTNZ) made the most significant contribution to the model (at the 0.001 level), increasing the odds of assistance by 155 percent. Australian-owned affiliates (AUST) were significantly less likely to assist local agents/customers (decreasing the odds by 47 percent). Those affiliates that introduced innovations in human resources either jointly (HRB), or solely by the affiliate (HRNZ), or were involved in manufacturing (MANUF), all had a significant and positive effect on the likelihood of forward assistance linkages.

In contrast to the results for ASSIST, the likelihood of assistance to agents/customers (AGENT2) was negatively affected by affiliate size (FTE), but the odds increased slightly if the affiliate had gained favoured access to inputs (INPUT), or economies of scale (EOS) from the parent (significant at the five percent level).

Determinants of backward assistance linkages

The third analysis used stepwise logistic regression to identify the likelihood of the affiliates' forming backward assistance linkages with suppliers and/or subcontractors for the purpose of improving their goods and services (Tables 7.32a, b).

Table 7.32a
Classification table and Goodness-of-Fit tests for the Assistance to Unrelated New Zealand Suppliers/Subcontractors Model (SUPPLIE2)

	Predicted		
Observed	0=no assistance to suppliers/subcontractors	1=assistance to suppliers/subcontractors	Percent Correct
0=no assistance to suppliers/subcontractors	434	1	99.77%
1=assistance to suppliers/subcontractors	67	0	.00%
		Overall	**86.45%**

Goodness-of-fit	Chi-square	Degrees of Freedom	Sign.
Model	26.737	4	.0000
Hosmer & Lemeshow	11.991	8	.1516
-2 Log Likelihood	367.758		

This model did not predict any of the affiliates that actually gave assistance to suppliers/subcontractors. The Hosmer and Lemeshow test also indicated a poor fitting model. One of the limitations of the analysis was that very few firms in the sample gave substantial (more than three types of) assistance to local suppliers/subcontractors. In fact, only 13 percent of the sample fell into the SUPPLIE2 cluster. Therefore, the following model showing the significant determinants of these linkages, must be interpreted with some caution.

Table 7.32b
Assistance to Unrelated New Zealand Suppliers/Subcontractors

Dependent variable: SUPPLIE2

Degrees of Freedom=1

Independent Variables	Coefficient (B)	Standard Error	Wald statistic	Level of significance	R	Exp (B)	Odds ratio
INPUTS	.2558	.0996	6.5978	.0102	.1080	1.2915	.09:1
DISTNZ	.7293	.3149	5.3646	.0205	.0924	2.0737	.15:1
HRB	1.1500	.3519	10.6786	.0011	.1483	3.1581	.23:1
ABILITYF	.3578	.1717	4.3410	.0372	.0770	1.4302	.10:1
Constant	-2.8842	.3259	78.3143	.0000			.07:1

The most significant influence on SUPPLIE2 was innovation in the area of human resources or skills that originated from both the affiliate in New Zealand and the foreign parent (HRB). This increased the odds of assistance being given to

suppliers/subcontractors from 7:100 to 23:100, or by 200 percent. These low odds values reflect the fact that assistance to suppliers/subcontractors occurred infrequently. Distribution innovation (DISTNZ) also increased the odds of assistance by 100 percent to 15:100. Again, this suggests that where local developments were occurring in conjunction with input from the foreign parent, there was more chance that these developments would benefit local suppliers or subcontractors. As with the AGENT2 variable, affiliates that relied on inputs from the parent (INPUTS) are more likely to engage in assistance linkages. The likelihood of affiliates giving assistance to suppliers, is also determined by the local firms' ability to supply standardised and specialised products or services.

Comparison: No assistance linkages

By way of a comparison with the last three sets of results, a stepwise logistic regression analysis was performed for those affiliates that had not formed assistance linkages with local firms in the past 12 months (i.e. were not included in AGENT2 or SUPPLIE2). The classification Table 7.33a shows that the overall predictive power was not good, but the significant determinants shown in Table 7.33b confirmed previous findings.

Table 7.33a
Classification table and Goodness-of-Fit Tests No Assistance to Local Firms (NONE)

	Predicted		
Observed	0=no assistance to suppliers/subcontractors	1=assistance to suppliers/subcontractors	Percent Correct
0=no assistance to suppliers/subcontractors	57	135	29.69%
1=assistance to suppliers/subcontractors	41	269	86.77%
		Overall	**64.94%**
Goodness-of-fit	Chi-square	Degrees of Freedom	Sign.
Model	47.567	4	.0000
Hosmer & Lemeshow	11.213	6	.0820
-2 Log Likelihood	620.355		

Table 7.33b
No Assistance to Local Firms

Dependent variable: NONE (no assistance linkages)

Degrees of Freedom=1

Independent Variables	Coefficient (B)	Standard Error	Wald statistic	Level of significance	R	Exp (B)
MANUF	-.5534	.2129	6.7578	.0093	-.0844	.5750
INPUTS	-.2314	.0722	10.2809	.0013	-.1113	.7934
DISTNZ	-1.0544	.2500	17.7814	.0000	-.1537	.3484
HRB	-.8691	.3143	7.6478	.0057	-.0920	.4193
Constant	1.4950	.2163	47.7824	.0000		

The results reveal negative relationships between the significant determinants and the likelihood of the affiliates not forming assistance linkages. The introduction of distribution (DISTNZ) or human resource (HRB) related innovations, for instance, decreased the likelihood of the affiliate being in the NONE group, or not giving assistance. Affiliates with lower reliance inputs from their parent companies were significantly less likely to have given any assistance to other local firms. Finally, the model showed that manufacturing firms were less likely to be included in the NONE group. These findings confirmed the most significant findings shown by the previous analyses.

Determinants of collaborative linkages

The last in this series of logistic regression analyses considered the determinants of linkage formation by affiliates with local collaborative partners.

The classification table (6.34a) indicates that the model was predicting correctly when affiliates were not forming collaborative agreements, but of those that actually do collaborate only 14.6 percent were predicted to collaborate. Overall, the model correctly classified 73 percent of the cases. The model chi-square and Hosmer and Lemeshow goodness-of-fit test were significant, indicating that the model is useful.

Table 7.34a
Classification table and Goodness-of-Fit tests for the Collaborative Agreements with Unrelated New Zealand Firms Model (CA)

	Predicted		
Observed	0=no collaborative agreement	1=collaborative agreement	Percent Correct
0=no collaborative agreement	343	14	96.08%
1=collaborative agreement	123	21	14.58%
		Overall	**72.65%**
Goodness-of-fit	Chi-square	Degrees of Freedom	Significance level
Model	32.284	6	.0000
Hosmer & Lemeshow	6.3395	7	.5007
-2 Log Likelihood	568.746		

Table 7.34b
Collaborative Agreements with Unrelated New Zealand Firms

Dependent variable: CA (Collaborative Agreement)

Degrees of Freedom=1

Independent Variables	Coefficient (B)	Standard Error	Wald statistic	Level of significance	R	Exp (B)	Odds Ratio
EFFICIE3	.2399	.0983	5.9611	.0146	.0812	1.2711	0.23
SERVICE	.5915	.2171	7.4204	.0064	.0950	1.8067	0.32
MGMTNZ	.5384	.2332	5.3316	.0209	.0745	1.7132	0.31
DISTB	.6929	.3380	4.2026	.0404	.0605	1.9996	0.36
EMPLYB	.7002	.3954	3.1352	.0766	.0435	2.0141	0.36
EUROPE	.7651	.2570	8.8611	.0029	.1068	2.1491	0.38
Constant	-1.9626	.2628	55.7907	.0000			0.18

A significant determinant of collaborative agreements is the OTHER EUROPE variable, which increased the odds of collaborative linkages by 115 percent. SERVICE affiliates were also more likely to engage in collaborative agreements with unrelated firms in New Zealand. These findings suggest that the need to overcome psychic or geographic distance might be a factor contributing to collaborative linkages and worthy of further investigation.

The efficiency-seeking motive for investment (EFFICIE3) also contributed significantly to the model, raising the odds of a collaborative agreement occurring by a factor of 1.27 or 27 percent for each one unit change. This indicates that affiliates

that operate in New Zealand for the purposes of raising the efficiency of their operations or to lower costs of production or service delivery are more likely to form collaborative agreements. As with assistance linkages, innovation in management practices originating from the New Zealand affiliate, or in the areas of distribution or employment practices (joint development), also contributed towards explaining the occurrence of collaborative linkages, raising the odds to 31:100, 36:100 and 36:100 respectively.

In conclusion, although the models have only moderate predictive power, they did show the significant determinants of assistance-related and collaborative linkages between foreign affiliates and other local firms in New Zealand. We return to discuss these determinants in more detail in Chapter Eight. The final section of the results presents the analyses which attempt to classify the affiliates according to their degree of linkage (DOL) with local industry.

DEGREE OF LINKAGE

The results thus far have shown the extent of local linkage of the foreign affiliates in terms of competitive effects; backward linkages in the form of local sourcing and relationships with suppliers and subcontractors; forward linkages with agents and customers; and finally knowledge and collaborative agreements. The purpose of this section is to determine the extent of integration of the affiliates, not at each level of linkage, but across the entire spectrum of linkages. The objective of this section is to provide a clearer picture of the affiliates' overall effect on local industry in New Zealand.

As was conceptualised in the model in Chapter Five, the degree of linkage (DOL) of the affiliate could range from an enclave position where very few indirect or direct linkages exist, to a highly developmental position where the affiliate engages in mutually beneficial collaborative agreements with local partners. To briefly recap, DOL was to be measured at three discreet stages:

- LOW where linkages were either negligible suggesting that affiliates operated in an enclave environment, or were limited to indirect competitive effects,
- MODERATE where the affiliates engaged in forward or backward linkages with local firms; or
- HIGH where affiliates formed closer relationships with local firms either through licencing or franchising (knowledge agreements) or collaborative agreements.

Relevant variables were included in a factor analysis (see Chapter Six), and five factors were extracted to represent the three degrees of linkage. Low DOL was measured by the scores of affiliates on the competitive factor; Moderate DOL was measured by the forward and backward linkage factors; and High DOL was measured by the knowledge and collaborative linkage factors.

Cluster analysis was employed to group the firms into similar clusters based on their degree of linkage. The results are shown in Table 7.35. Exploratory manual calculations using raw data suggested that the affiliates might cluster into 5-7 groups, which formed the basis for the K-means cluster analysis.

After a number of cluster analyses had been performed, a final cluster solution of 11 groups was found. The results are shown in Table 7.36.

Table 7.35
Degree of Linkage Final Cluster Centres

	Cluster Number										
Type of Linkage	1	2	3	4	5	6	7	8	9	10	11
Competitive Linkage	-0.921	0.332	-0.166	0.096	0.132	0.172	0.793	0.819	-0.976	0.599	-0.749
Forward Linkage	-0.128	2.445	-0.335	2.211	0.315	-1.021	-0.339	-0.257	-0.388	-0.704	3.304
Backward Linkage	-0.965	0.662	1.004	0.304	-0.150	-0.495	1.022	-0.753	0.588	0.200	-0.061
Knowledge Linkage	-0.054	5.350	3.890	-0.130	-0.430	5.687	-0.216	-0.077	-0.247	2.670	6.401
Collaborative Linkage	-0.216	3.492	-0.823	-0.490	2.156	0.080	-0.238	-0.369	-0.159	3.368	-2.059
Number of affiliates in each cluster	86	2	8	45	51	5	93	116	105	4	1

Five of these clusters (shown in italics, above) were combined on the basis of similarities in the knowledge agreement factor scores, and the fact that there were very few firms in each. The reasoning behind this decision is as follows. Because the cluster analysis operates on the basis of the selected variables, rather than the number of firms in the cluster, variables which affect very few firms might appear to exert a disproportionate effect on the number of clusters. The knowledge agreement linkage factor fell into this category, as only approximately 8 percent of the affiliates in the sample had knowledge agreement linkages. To counter this effect, clusters 2, 6, 10 and 11 which all scored highly on the knowledge agreement linkage factor, were grouped together with Cluster 3.

A weighted average of the final cluster centre for Cluster 3 was calculated for diagrammatic representation of the clusters in Figure 7.7, and is shown along with the other six cluster centres in Table 7.36.

Table 7.36
Degree of Linkage Revised Final Cluster Centres

	Cluster Number						
Type of Linkage	1	*3**	4	5	7	8	9
Competitive Linkage	-0.921	*0.092*	0.096	0.132	0.793	0.819	-0.976
Forward Linkage	-0.128	*-0.120*	2.211	0.315	-0.339	-0.257	-0.388
Backward Linkage	-0.965	*0.380*	0.304	-0.153	1.022	-0.753	0.588
Knowledge Linkage	-0.054	*4.366*	-0.134	-0.425	-0.216	-0.077	-0.247
Collaborate Linkage	-0.216	*0.610*	-0.486	2.156	-0.238	-0.369	-0.159
Number of affiliates in each cluster	86	*20*	45	51	93	116	105

*uses a weighted average to combine clusters 2, 3, 6, 10 and 11 into a single cluster.

Verification of these clusters was made by comparing the means for each cluster on the factor scales used in the analysis. The ANOVA table included with the cluster analysis output indicated that the F values were all significant at the .0001 level. However, in order to avoid problems associated with correlated variables when undertaking such multiple univariate comparisons, multiple discriminant analysis (MDA) was also employed to verify that significant differences exist (Norusis, 1990).

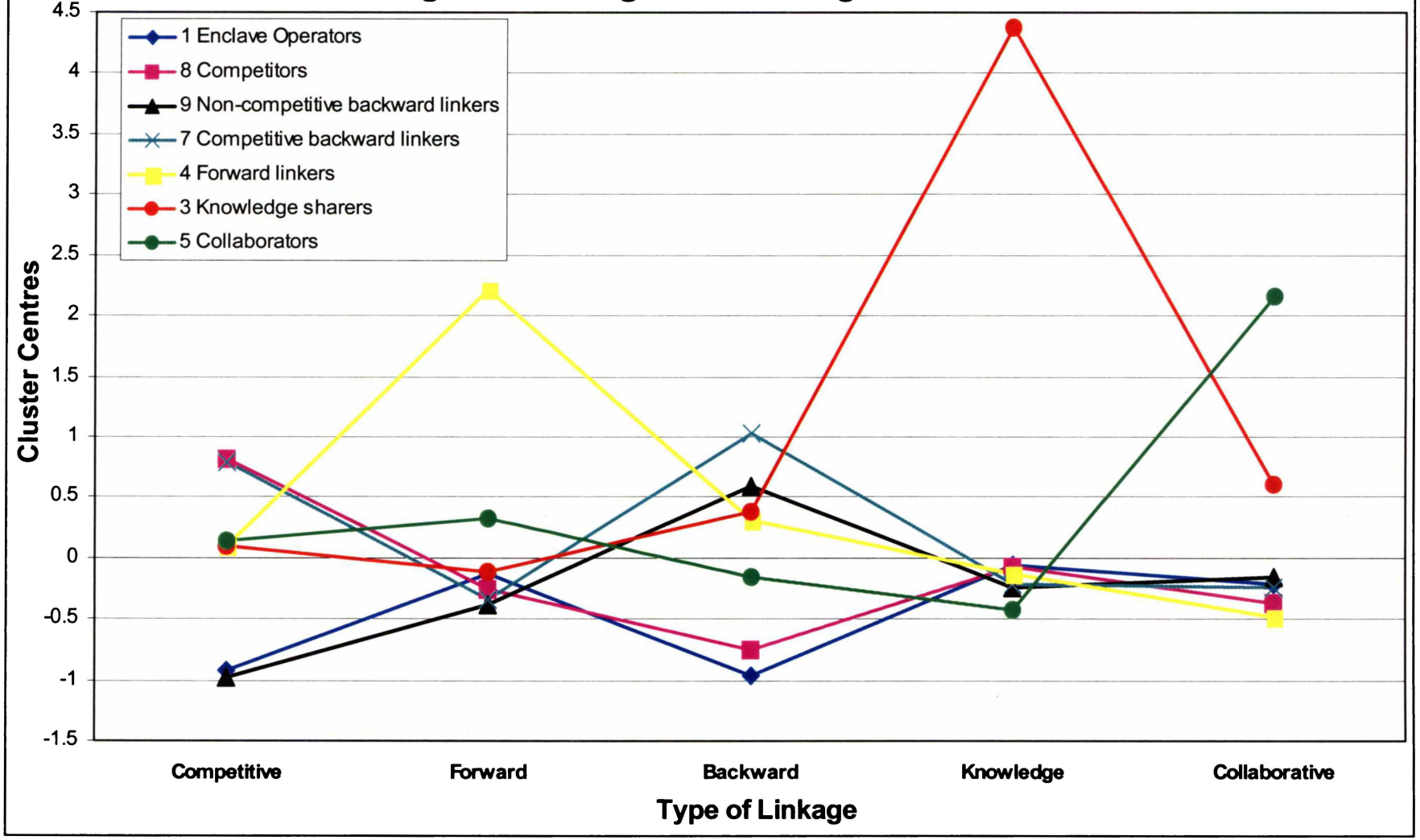
The results of the MDA indicate that the clusters are significantly discriminated by all predictor variables, as the F tests of equality of group means were all significant at the .0001 level. In addition, the classification results table shows that between 88.9 and 100 percent of cases were classified into their correct clusters, and overall, 96.5 percent of the original grouped cases were correctly classified. A summary of this output is included in Appendix 7.6.

Table 7.36 shows the revised final cluster centres for the seven clusters. The centres derive from the factor scores that are standardised about the mean at zero. In other words, a very small value indicates that the score for that type of linkage for a particular cluster is very close to the mean value for all cases. A positive value indicates that the cluster has an above average score on that linkage factor, while a negative value indicates the opposite. By comparing values for each type of linkage across clusters we were able to evaluate the relative strength of the clusters for each type of linkage, for instance, Cluster 5 had the highest level of collaborative activity of all the clusters.

Figure 7.7
Degree of Linkage Clusters (see over)

Each of the clusters is characterised by a unique position in terms of low, moderate and high linkages. Figure 7.7 graphs the final cluster centres for the seven groups. The figure shows that the most clearly distinct clusters were 3, 4 and 5, which score highly on knowledge agreements, forward linkages, and collaborative linkages respectively. Otherwise, the remainder of the clusters scored fairly close together for these factors. In contrast, the clusters were clearly separated into three groups for the competitive linkage factor; i.e. above the mean, at the mean level, or below the mean. Similarly, the clusters displayed a wide spread of centres for the backward linkage factor.

Figure 7.7 Degree of Linkage Clusters



We now move to examining the key characteristics of each of the clusters, and suggest possible names for each of the groups based on these characteristics, starting with those affiliates highest on the DOL continuum, the Collaborators.

Cluster 5 - Collaborators. Cluster 5 has a high degree of linkage with the local economy, and was characterised by high scores for the collaborative linkage factor relative to the other clusters. In addition, affiliates in this cluster also had above average forward linkage, and average levels of both competitive influence and backward linkage.

This cluster has the potential for the most beneficial development outcome on the local economy due to the collaboration with local firms and forward linkages. Both these types of linkage potentially involve the transfer or exchange of firm-specific resources. Unfortunately, only 51 (10 percent) of the affiliates were classified into this category, suggesting that the affiliates that make the most significant contribution to local upgrading through both quality and quantity of linkage tend to be special cases rather than the norm.

Cluster 3 - Knowledge Sharers. As previously discussed, Cluster 3 is distinguished by having very high numbers of relationships with local firms that act as licencees and franchisees for their products. Some members of this group also had collaborative agreements with local firms. On average, this group engaged in slightly above average numbers of backward linkages, and the scores for both forward linkage and competitive linkage were very close to the mean for all firms (shown as zero in Figure 7.7).

However, the membership of this group was limited to just 20 firms (4 percent) which suggests that a combination of FDI and licencing or franchising agreements in New Zealand is not a common strategy employed by foreign investors.

Cluster 4 - Forward Linkers. Cluster 4 shows that another group (45 affiliates) relied heavily on local agents for the marketing and distribution of their products,

and/or worked closely with local customers who bought their specialised inputs. These relationships frequently involved assistance given to the local firm to improve their capabilities.

This cluster also scored above average for backward linkages, indicating that they sourced specialised goods and/or services locally, and formed relationships with local suppliers/subcontractors. However, as the competitive influence of these firms was about average, and they formed the least number of collaborative agreements, their degree of linkage could be considered to be moderate.

Cluster 7 - Competitive Backward Linkers. Cluster 7 also displays a moderate degree of linkage. In contrast to Cluster 4 however, these firms scored highest for backward linkages with suppliers/subcontractors and through local sourcing of specialised goods and services, but scored below average on forward linkages. In other words, these affiliates were integrated into the local economy via their backward linkages with local firms.

The other distinguishing characteristic of this cluster is that they scored among the highest on the competitive factor; i.e. they had the greatest influence on the competitive changes in their respective industries. So not only were they actively engaged in sourcing locally, but they were active also in terms of competing in, and shaping the local marketplace.

Cluster 9 - Non-competitive Backward Linkers. Cluster 9 shows similarities with Cluster 7, namely, the second highest score on the backward linkage factor, and a propensity to form the least number of forward linkages. In contrast, however, this group is characterised by a low level of competitive influence in their industry, suggesting either that the affiliates are smaller players, they compete mainly in offshore markets; or that there are a number of other competitors in their industries which lessens their competitive influence.

The formation of collaborative linkages by some firms in this cluster might suggest an element of high DOL, but overall the DOL of these affiliates was moderate with minimal influence on the competitive environment.

Cluster 8 - Competitors. The largest cluster, Cluster 8 included 116 member affiliates. The firms in this cluster appear to exert a strong competitive influence over other firms in the industry, while engaging in relatively few direct linkages. Scores for forward, backward and collaborative linkages were all well below average, suggesting a high reliance on off-shore sources of inputs and technology, and a self-reliance for agency and distribution services.

Figure 7.7 suggests that any effects that the affiliates might have on local industry are due largely to their presence in the local market as competitors, rather than any direct developmental benefits. Of course, this competitive influence could encourage positive or negative outcomes for local firms, such as upgrading to meet the international standards encouraged by the entry of foreign firms, increasing productivity and efficiency in order to compete effectively, or alternatively, being forced to exit the industry.

Cluster 1 - Enclave Operators. Cluster 1 is the only group that had below average scores on all types of linkage. This group has the least influence competitively and forms the fewest backward linkages with suppliers and subcontractors in New Zealand. While there was evidence of some forward linkages, knowledge agreements, and collaborative agreements, in comparison with other clusters these were all at below average levels. It is possible that this fairly large group of 86 affiliates requires a local presence in New Zealand but is not actively involved in production or sourcing from firms in the local economy.

In summary, it is evident from these results that the foreign-owned affiliates not only engage in different linkages in New Zealand, but also have differing DOLs with the local economy. Consequently, different clusters will have different influences on the development of local industry. The cluster analysis has both helped to identify

clusters of firms based on their DOL, and has more clearly elucidated how different sets of firms might be locally integrated into the local economy via these linkages.

It now becomes easier to assess the extent to which FDI may be contributing to the development of local industry through indirect competitive effects, and via the development of individual firms through direct sourcing or supply of goods and services, the provision of assistance, and the formation of knowledge and collaborative agreements. These implications are discussed more fully in Chapter Eight. The analysis in the following section considers the characteristics of each of the seven clusters identified in this section.

DEGREE OF LINKAGE CLUSTER CHARACTERISTICS

Cluster analysis enabled seven different clusters to be identified on the basis of the affiliate's extent and pattern of linkages formed with New Zealand industry. In this section we examine each of these clusters on various characteristics. This will enable a better understanding of the types of firms which engage in different types of linkage activity. It will also provide insight as to whether the clusters are able to be differentiated on the basis of the determinants of linkages identified in the literature.

The variables of interest are: the motive for investment; the competitive position of the affiliate; the mode of entry (ownership form); the autonomy of the affiliate; its reliance on parent technology; the affiliate's industrial sector (main activity), nationality (country of origin); and age (number of years in New Zealand, and number of years owned by its current foreign investor).

In order to maintain the flow of the discussion, the results are divided according to the type of analysis technique employed. Analysis of variance was used to determine significant differences between cluster means for continuous and interval variables. Cross-tabulation was used for categorical variables.

Motive for investment

One-way analysis of variance (ANOVA) was conducted to ascertain whether there was any significant relationship between cluster membership and the motive for investment by the affiliate. The results found that the F-statistic for the motives of strategic asset-seeking and trade/support activities were both significant at the 0.01 level, indicating that there were differences between the means for these two variables among the clusters. In contrast, the means of the clusters for the remaining three motives (i.e. resource-seeking, market-seeking, and efficiency-seeking) were not significantly different at the 0.05 level. Table 7.37 shows a summary of the results.

Table 7.37
DOL Cluster by Motive for Investment - ANOVA Results

Motive for Investment		Sum of Squares	df	Mean Square	F	Sig.
Resource-seeking	Between Groups	19.31	6	3.22	1.88	.082
	Within Groups	867.57	507	1.71		
	Total	886.89	513			
Market-seeking	Between Groups	19.90	6	3.32	1.76	.105
	Within Groups	955.55	507	1.89		
	Total	975.45	513			
Efficiency-seeking	Between Groups	5.25	6	0.88	0.82	.557
	Within Groups	543.44	507	1.07		
	Total	548.70	513			
Strategic asset-seeking	Between Groups	31.26	6	5.21	2.99	.007
	Within Groups	884.58	507	1.75		
	Total	915.85	513			
Trade/support activities	Between Groups	46.12	6	7.69	3.88	.001
	Within Groups	1004.16	507	1.98		
	Total	1050.28	513			

A summary of the ANOVAs and post-hoc tests are given in the following tables. The output tables show the descriptive statistics (number of cases N, mean, standard deviation, standard error, and lower and upper bounds of a 95 percent confidence interval for the mean) for each cluster. The clusters are given in ascending order according to their mean value on the specified variable. The differences between individual cluster means were revealed by the post-hoc tests, and the results are displayed as homogenous subsets and in the DOL cluster matrix in Table 7.38.

The DOL matrix shows which means are significantly different from others at a specified level. Where possible Scheffe's post-hoc test was employed. This is the strictest post-hoc test available which minimises the chances of a Type I error. However, in instances where Scheffe's test failed to show significant relationships between specific variables when the overall F-statistic is significant, the less stringent Tukey's HSD test, was employed instead[1].

Table 7.38
Strategic asset-seeking motive for investment

ANOVA Descriptives, Tukey HSD Post-hoc Test

DOL Cluster	N	Means in Homogenous Subsets^		DOL Cluster Matrix							Std. Dev.	Std. Error	95% Confidence Interval for Mean Lower Bound	Upper Bound
				1	9	4	7	8	3	5				
1	86	2.31						#		**	1.29	0.14	2.04	2.59
9	104	2.48	2.48							.*	1.31	0.13	2.23	2.74
4	45	2.53	2.53								1.25	0.19	2.16	2.91
7	93	2.62	2.62								1.40	0.15	2.33	2.91
8	116	2.83	2.83	#							1.30	0.12	2.59	3.07
3	20	2.90	2.90								1.41	0.32	2.24	3.56
5	50		3.16	**	.*						1.31	0.19	2.79	3.53
Total	514	2.64									1.34	0.06	2.52	2.76

#p<0.10, *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001
^ Means for groups in homogenous subsets are displayed using Tukey HSD, alpha=.05.

The results of the post-hoc tests (Table 7.38) reveal that Clusters 1 and 9 are less likely to be operating in New Zealand for the purpose of acquiring strategic assets or defending their parent companies' strategic position. Clusters 1 (Enclave Operators) and 9 (Non-competitive Backward Linkers) both showed significantly lower means than Cluster 5 (collaborators). Cluster 5 had a mean value of 3.16 in contrast to Cluster 1's mean value of 2.31, and Cluster 9's mean of 2.48. The results indicate that these clusters have, on average, different motives for investment, with strategic

1

In most instances, both Scheffe's and Tukey's tests showed the same relationships as being significant. However, Scheffe's test sometimes gave a less significant result (ie. $p<0.1$ rather than $p<0.05$) than Tukey's test. For this reason, relationships significant at the 0.10 level have been included in the cluster matrices.

asset-seeking motives playing more of an important role for the Collaborators (5) cluster.

Table 7.39 shows a summary of the post-hoc tests for the trade/support activities motive for investment. Clusters 9 and 7, which are both distinguished by high levels of backward linkages, had significantly lower means on the trade/support activity motive for investment, than Cluster 8. Cluster 8 had low levels of backward linkage, but strong competitive influence in New Zealand. This shows that lower levels trade/support activity might be associated with clusters that have higher levels of backward linkage with local firms, and vice versa.

Table 7.39
Trade/support activities motive for investment

ANOVA Descriptives, Scheffe Post-hoc Test											95% Confidence Interval for Mean	
DOL Cluster	N	Mean Homogenous Subsets^	DOL Cluster Matrix 9	7	3	1	5	4	8	Std. Dev.	Std. Error	Lower Bound	Upper Bound
9	104	2.24							.*	1.38	0.14	1.97	2.51
7	93	2.30							.*	1.24	0.13	2.05	2.56
3	20	2.65								1.56	0.35	1.92	3.38
1	86	2.70								1.56	0.17	2.36	3.03
5	50	2.84								1.49	0.21	2.42	3.26
4	45	2.87								1.27	0.19	2.48	3.25
8	116	2.99	.*	.*						1.42	0.13	2.73	3.25
Total	514	2.63								1.43	0.06	2.50	2.75

#p<0.10, *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001

^ Means for groups in homogenous subsets are displayed using alpha=.05.

Competitive Position

The competitive position of the affiliate, here in New Zealand and internationally, was included in the analysis for two reasons. First, to clarify the competitive strength of the affiliates in each of the clusters in light of the extent of changes to competition in industry. Second, to better understand the role of the affiliate in the New Zealand marketplace.

Table 7.40
DOL Cluster by Competitive Position - ANOVA Results

ANOVA		Sum of Squares	df	Mean Square	F	Sig.
Competitive position of affiliate in New Zealand	Between Groups	20.81	6	3.47	5.37	.000
	Within Groups	328.10	508	0.65		
	Total	348.91	514			
Competitive position of affiliate internationally	Between Groups	17.92	6	2.99	2.67	.015
	Within Groups	558.57	500	1.12		
	Total	576.49	506			
Changes to competition between firms in affiliate's industry	Between Groups	15.22	6	2.54	4.33	.000
	Within Groups	291.78	498	0.59		
	Total	307.00	504			

The ANOVA presented in Table 7.40 showed that there was a significant difference between clusters on all three of the following variables: the affiliates' competitive position in New Zealand; their competitive position internationally; and the changes to competition in their respective industries over the past three years.

Table 7.41
Competitive Position of the Affiliate in New Zealand

ANOVA Descriptives, Scheffe Post-hoc Test

DOL Cluster	N	Mean Homogenous Subsets^		DOL Cluster Matrix 9	1	5	7	8	4	3	Std. Dev.	Std. Error	95% Confidence Interval for Mean Lower Bound	Upper Bound
9	105	3.26					.*	**	.*		1.08	0.11	3.05	3.66
1	86	3.45	3.45								0.85	0.09	3.27	3.64
5	50	3.66	3.66								0.77	0.11	3.44	3.88
7	93	3.69	3.69	.*							0.71	0.07	3.54	3.83
8	116	3.72	3.72	**							0.68	0.06	3.60	3.85
4	45		3.82	.*							0.58	0.09	3.65	3.99
3	20		3.90								0.31	0.07	3.76	4.04
Total	515	3.59									0.82	0.04	3.52	3.66

#p<0.10, *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001
^ Means for groups in homogenous subsets are displayed using alpha=.05.

The post-hoc tests (Table 7.41) showed that the means for all clusters were above three, signifying an average size competitor in New Zealand. However, three clusters (7, 8, 4) were, on average, significantly larger competitors here. These clusters are

all characterised by the affiliates having an average (Cluster 4) to above average (Clusters 7 and 8) influence on the competitive environment in their industries.

The competitive position of the affiliates in these clusters is likely to be a direct consequence of this influence. The findings also show that these three clusters were active players in the New Zealand market. In contrast, Cluster 9's 105 affiliates, on average were significantly smaller competitors in New Zealand, and characterised by having a low level of influence on competitive changes in their industries.

Table 7.42

Competitive Position of the Affiliate Internationally

ANOVA Descriptives, Tukey HSD Post-hoc Test

DOL Cluster	N	Mean Homogenous Subsets^		DOL Cluster Matrix 4	9	7	1	3	8	5	Std. Dev.	Std. Error	95% Confidence Interval for Mean Lower Bound	Upper Bound
4	45	2.82								.*	1.05	0.16	2.51	3.14
9	104	2.96	2.96							.*	1.11	0.11	2.74	3.18
7	92	3.10	3.10								1.16	0.12	2.86	3.34
1	85	3.14	3.14								1.04	0.11	2.92	3.36
3	19	3.21	3.21								1.13	0.26	2.66	3.76
8	112	3.31	3.31								0.97	0.09	3.13	3.49
5	50		3.50	.*	.*						0.93	0.13	3.24	3.76
Total	507	3.14									1.07	0.05	3.05	3.24

#p<0.10, *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001

^ Means for groups in homogenous subsets are displayed using Tukey HSD, alpha=.05.

There were also significant differences between some of the clusters on their competitive position internationally, shown in Table 7.42. Clusters 4 (Forward Linkers) and 9 (Non-competitive Backward Linkers) both showed significantly lower mean scores on the international competitive position variable. Coupled with the findings of the previous ANOVA, it is apparent that Cluster 4 firms were significant players in New Zealand, but not internationally. This suggests that this cluster relied on the New Zealand market more heavily than the international market. In contrast, Cluster 9 did not occupy a major position in either New Zealand or offshore markets. The Collaborators Cluster (5) consists of significantly more dominant competitors in international markets.

Table 7.43 shows the post-hoc tests for the extent of changes to the level of competition experienced in the affiliates' industries over the past three years. The results were reasonable, given what we know about each of the clusters already.

Table 7.43
Changes to Competition between Firms in Affiliate's Industry

ANOVA Descriptives, Tukey HSD Post-hoc Test

DOL Cluster	N	Mean Homogenous Subsets^		DOL Cluster Matrix 1	9	3	7	4	8	5	Std. Dev.	Std. Error	95% Confidence Interval for Mean Lower Bound	Upper Bound
1	85	3.76					#		.*	**	0.73	0.08	3.61	3.92
9	99	3.80							.*	.*	0.83	0.08	3.63	3.96
3	20	4.00	4.00								0.79	0.18	3.63	4.37
7	93	4.08	4.08	#							0.80	0.08	3.91	4.24
4	45	4.13	4.13								0.73	0.11	3.92	4.35
8	113	4.14	4.14	.*	.*						0.75	0.07	4.00	4.28
5	50		4.24	**	.*						0.66	0.09	4.05	4.43
Total	505	4.00									0.78	0.03	3.93	4.07

#p<0.10, *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001

^ Means for groups in homogenous subsets are displayed using Tukey HSD, alpha=.05.

Cluster 5 (Collaborators) emerged again as the cluster that, on average, has the highest amount of change in the level of competition, followed by the Competitors Cluster (8). In contrast the Enclave operator Cluster (1) and the Non-competitive Backward Linkers in Cluster 9 both had a significantly lower extent of competitive change in their industries. This may help explain why the firms in both these clusters have significantly less competitive influence than other clusters. In addition, referring to earlier discussion, the firms in Cluster 9 do not occupy dominant competitive positions in New Zealand.

Autonomy

The ANOVA results in Table 7.44 show that the clusters were not significantly different in terms of the autonomy from their foreign parents or shareholders. The mean values for influence over both short-term, and long-term decision-making showed not significant differences between clusters.

Table 7.44
DOL Cluster by Autonomy - ANOVA Results

ANOVA		Sum of Squares	df	Mean Square	F	Sig.
Influence over short-term decision- making	Between Groups	5.56	6	0.926	0.93	.472
	Within Groups	498.83	502	0.994		
	Total	504.39	508			
Influence over long-term decision-making	Between Groups	1.49	6	0.249	0.40	.880
	Within Groups	314.33	504	0.624		
	Total	315.82	510			

Age and Size

The number of years a foreign company has operated in the host economy is often linked to the extent of linkage formation (see Chapter Three). In this section, we compare clusters in terms of the number of years since the firm (whether foreign owned or otherwise) was established in New Zealand, and the number of years that the firm has been owned by its current foreign owners as well as its size as measured by full-time equivalent employees. Table 7.45 shows that all these variables were significant at the 0.001 level, indicating differences amongst the clusters in terms of age and size.

Table 7.45
DOL Cluster by Age, Size - ANOVA Results

ANOVA		Sum of Squares	df	Mean Square	F	Sig.
Number of years established in New Zealand	Between Groups	30150.36	6	5025.06	6.93	.000
	Within Groups	369135.34	509	725.22		
	Total	399285.70	515			
Number of years owned by current foreign investor(s)	Between Groups	10863.32	6	1810.55	5.23	.000
	Within Groups	176292.93	509	346.35		
	Total	187156.25	515			
Full-time equivalent staff	Between Groups	11230755.2	6	1871792.54	7.21	.000
	Within Groups	132136779	509	259600.75		
	Total	143367535	515			

Years in New Zealand. Table 7.46 shows the post-hoc tests for the number of years since the affiliates were first established in New Zealand. The overall mean for all cases was 27.6 years, and means for the clusters varied from 20.2 to 47.7 years.

Table 7.46
Number of Years Established in New Zealand

ANOVA Descriptives, Scheffe's Post-Hoc Test

DOL Cluster	N	Means Homogenous Subsets^			DOL Cluster Matrix 1	8	9	5	7	4	3	Std. Dev.	Std. Error	95% Confidence Interval for Mean Lower Bound	Upper Bound
1	86	20.16								**	.*	18.86	2.03	16.12	24.21
8	116	23.07								**	.*	24.71	2.29	18.52	27.61
9	105	24.52								.*	#	24.84	2.42	19.71	29.33
5	51	25.08	25.08									23.58	3.30	19.17	32.43
7	93	32.45	32.45	32.45								31.89	3.31	25.88	39.01
4	45		43.67	43.67	**	**	.*					32.72	4.88	33.84	53.50
3	20			47.65	.*	.*	#					43.59	9.75	27.25	68.05
Total	516	27.59										27.84	1.23	25.18	30.00

#p<0.10, *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001

^ Means for groups in homogenous subsets are displayed using alpha=.05.

The results suggest that affiliates that had fewer developmental linkages were younger than on average. Neither Cluster 1 (Enclave operators), nor Cluster 8 (Competitors) formed any significant number of direct linkages that could result in local upgrading via demand, supply or assistance. Cluster 9 (Non-competitive Backward Linkers) was also a younger cluster whose linkages were limited to backward integration.

There is weak evidence in Table 7.46 that the longer the affiliates have been established in New Zealand, the more linkages they create. Clusters 4 (Forward Linkers) and 3 (Knowledge Sharers) have been established in New Zealand for significantly longer than Clusters 1, 8, and 9. Cluster 4 was actively involved in forward and backward linkages, and Cluster 3 in knowledge agreements, collaborative agreements, and backward linkages. However, both these clusters were small, having just 45 and 20 members respectively. Hence, these results should be interpreted with some caution.

Table 7.47
Number of Years Owned by Current Foreign Investor(s)

ANOVA Descriptives, Scheffe's Post-Hoc Test														95% Confidence Interval for Mean	
DOL Cluster	N	Mean Homogenous Subsets^			DOL Cluster Matrix 9	7	5	1	8	4	3	Std. Dev.	Std. Error	Lower Bound	Upper Bound
9	105	12.17								.*	**	12.73	1.24	9.70	14.63
7	93	14.56	14.56							#	.*	15.98	1.66	11.26	17.85
5	51	14.76	14.76								#	13.74	1.92	10.90	18.63
1	86	15.91	15.91								#	14.46	1.56	12.81	19.01
8	116	17.49	17.49									20.92	1.94	13.64	21.33
4	45		25.81	25.81	.*	#						27.12	4.04	17.66	33.96
3	20			31.25	**	.*	#	#				37.01	8.27	13.93	48.57
Total	516		16.60									19.06	0.84	14.95	18.25

#p<0.10, *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001

^ Means for groups in homogenous subsets are displayed using alpha=.05.

Years owned by current foreign investors. Table 7.47 shows the differences between clusters in terms of the number of years the affiliates had been owned by their current foreign shareholders. The results were similar to the post-hoc tests above. Both Clusters 4 and 3 had been owned by their foreign shareholders significantly longer than other clusters. However, the clusters owned for fewer years include both Clusters 7, 5 and 9, and the Enclave Operators Cluster 1.

While the results do not give a clear picture as to the influence of foreign ownership over time on the extent of linkage formation, they do suggest more complex relationships between firm strategy, length of ownership, and linkages. In particular, the results cannot be interpreted in isolation and need to be viewed in light of other characteristics of the clusters. We return to this point in our discussion of the clusters in Chapter Eight.

Firm size. The post-hoc tests for firm size (proxied by the number of full-time equivalent employees) revealed that only Cluster 3 was significantly larger at the 0.05 to 0.0001 levels. As this is a small cluster, its score appeared to be inflated by some particularly large firms and the results are not shown here. However, it does show

that large affiliates rely on a wide range of linkages, especially licencing and franchising. Otherwise, the types of linkages formed were not significantly affected by firm size.

Degree of reliance on foreign parent/shareholder(s) technology

Table 7.48 shows that all three F-statistics were significant at the 0.01 level, allowing us to reject the null hypothesis that the clusters do not differ in terms of their member affiliates' reliance on foreign parent technology.

Table 7.48
DOL Cluster by Reliance on Foreign Parent for Technology - ANOVA Results

ANOVA		Sum of Squares	df	Mean Square	F	Sig.
Product (service) technology	Between Groups	42.00	6	7.00	4.52	.000
	Within Groups	786.16	508	1.55		
	Total	828.16	514			
Production (service delivery) technology	Between Groups	36.62	6	6.44	3.55	.002
	Within Groups	921.86	508	1.82		
	Total	960.48	514			
Research & Development	Between Groups	47.03	6	7.84	4.31	.000
	Within Groups	923.74	508	1.82		
	Total	970.77	514			

Table 7.49
Product (service) technology from parent

ANOVA Descriptives, Scheffe Post-Hoc Test											95% Confidence Interval for Mean	
DOL Cluster	N	Mean Homogenous Subsets^	DOL Cluster Matrix 9	7	4	3	1	5	8	Std. Dev.	Std. Error	Lower Bound	Upper Bound
9	105	3.04							**	1.25	0.12	2.80	3.28
7	93	3.06							.*	1.18	0.12	2.82	3.31
4	45	3.33								1.22	0.18	2.97	3.70
3	20	3.35								150	0.33	2.65	4.05
1	86	3.50								1.35	0.15	3.21	3.79
5	50	3.52								1.11	0.16	3.20	3.84
8	116	3.78	**	.*						1.22	0.11	3.55	4.00
Total	516	3.37								1.27	0.06	3.26	3.48

#p<0.10, *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001

^ Means for groups in homogenous subsets are displayed using alpha=.05.

The Scheffe post-hoc tests are shown in the DOL matrices of Tables 7.49, 7.50, and 7.51. The comparisons reveal that for all three types of technology, Clusters 9 and 7 have significantly lower mean values for reliance on foreign parents than cluster 8. These results are of particular significance as these are the three largest clusters. From our earlier discussion, we found that clusters 9 and 7 were both characterised by having the highest levels of backward linkages among the clusters. The two clusters differ in terms of their competitive influence, with Cluster 7 exerting an above average influence; and Cluster 9, exerting a below average influence on competitive change within their industries. The ANOVA shows that Cluster 7 in particular, was less likely to be competing in New Zealand on the basis of foreign technologies gained from the parent company.

Table 7.50
Production (service delivery) technology from parent

ANOVA Descriptives, Scheffe Post-Hoc Test

DOL Cluster	N	Means Homogenous Subsets^	DOL Cluster Matrix 9	7	4	1	5	3	8	Std. Dev.	Std. Error	95% Confidence Interval for Mean Lower Bound	Upper Bound
9	105	2.64							.*	1.29	0.13	2.39	2.89
7	93	2.71							#	1.24	0.13	2.45	2.96
4	45	2.84								1.33	0.20	2.44	3.24
1	86	2.92								1.44	0.16	2.61	3.23
5	50	3.10								1.30	0.18	2.73	3.47
3	20	3.15								1.27	0.28	2.56	3.74
8	116	3.37	.*	#						1.44	0.13	3.11	3.64
Total	516	2.95								1.37	0.06	2.83	3.06

#p<0.10, *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001

^ Means for groups in homogenous subsets are displayed using alpha=.05.

In contrast, Cluster 8 consisted of those firms characterised solely by their competitive influence over other firms in their industries. We referred to this cluster as the 'Competitors', because they scored highest on indirect competitive linkages, but below average on all direct linkages. This group has the highest mean score for reliance on parent technologies, at 3.8 (major reliance) for product technology, 3.4 (moderate/major) for production technology and 3.5 (moderate/major) for R&D (see Tables 7.49, 7.50 and 7.51 respectively). This finding suggests that these firms are

influential competitors in New Zealand, at least in part, on the basis of their reliance on foreign parent technology.

Table 7.51
Research and Development from parent

ANOVA Descriptives, Scheffe Post-Hoc Test												95% Confidence Interval for Mean	
DOL Cluster	N	Means Homogenous Subsets^	DOL Cluster Matrix 7	9	4	1	3	5	8	Std. Dev.	Std. Error	Lower Bound	Upper Bound
7	93	2.83							.*	1.17	0.12	2.59	3.07
9	105	2.84							.*	1.30	0.13	2.59	3.09
4	45	3.31								1.31	0.20	2.92	3.71
1	86	3.38								1.48	0.16	3.07	3.70
3	20	3.40								1.64	0.37	2.63	4.17
5	50	3.50								1.22	0.17	3.15	3.85
8	116	3.52	.*	.*						1.43	0.13	3.25	3.78
Total	516	3.21								1.37	0.06	3.09	3.33

#p<0.10, *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001

^ Means for groups in homogenous subsets are displayed using alpha=.05.

In summary, it appears that while the majority of firms rely on their foreign parents for technology to a moderate extent, a heavy reliance does not necessarily translate into more direct linkages with the local economy. In fact, it appears that the clusters that have a lower reliance on parent technology are forming more backward linkages with local suppliers and subcontractors for specialised products and services.

Ownership Form

Table 7.52 shows the cross-tabulations for the two principal ownership forms of the affiliates; either a New Zealand branch or subsidiary of a foreign company, or a New Zealand firm that had been acquired by a foreign company. Because these groups accounted for 83 percent of the sample and expected frequencies for the other groups included several less than five cases, the cross-tabulation was limited to the analysis of these two groups.

Table 7.52
DOL by Ownership Form

Degree of Linkage Cluster		Ownership Form: NZ branch/subsidiary	Ownership Form: Acquired NZ firm
1	Actual frequency	67	4
	(Expected frequency)	(54.5)	(16.7)
	% within Degree of Linkage Cluster	77.9%	4.7%
3		13	3
		(12.7)	(3.9)
		65.0%	15.0%
4		26	12
		(28.5)	(8.7)
		57.8%	26.7%
5		32	10
		(32.3)	(9.9)
		62.7%	19.6%
7		51	25
		(58.9)	(18)
		54.8%	26.9%
8		79	16
		(73.5)	(22.5)
		68.1%	13.8%
9		59	30
		(66.5)	(20.3)
		56.2%	28.6%
Total		**327**	**100**
		(327.0)	**(100.0)**
		63.4%	**19.4%**
Pearson Chi-square		14.84*	25.06***
Cramer's V		0.17*	0.22***
Lamda			
Degree of Linkage cluster dependent		0.02	0.04*

#p<0.10, *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001

The results show that in both cases the chi-square statistic was significant at the 0.05 level for the branches/subsidiaries, and at the 0.001 level for the acquired firms. This significance was confirmed by Cramer's V. This allows us to reject the null hypothesis that ownership form has no influence on cluster membership, or that there is no difference between the clusters in terms of ownership form. Cramer's V and Lamda also suggest that although the relationship between ownership form and cluster membership is weak, it is slightly stronger for the acquired firms.

NZ branch/subsidiary. Table 7.52 shows that branches/subsidiaries occur more frequently than expected in Cluster 1, where 78 percent of the firms were branches or subsidiaries, as opposed to the figure of 63 percent for the entire sample. Thus, it appears that the Enclave Operators Cluster (i.e. the cluster that has the lowest levels of linkages overall), is dominated by this type of firm. In contrast, there are fewer

branches/subsidiaries in Cluster 7, where they account for just 55 percent of the firms. Cluster 7 is characterised by competitive and backward linkages. Similarly, there are also fewer branches/subsidiaries in Cluster 9 (56 percent) which also has higher than average levels of backward linkages but less of a competitive influence.

NZ firm acquired by a foreign company. In comparison, the affiliates that were previously New Zealand firms and have since been acquired by their foreign owners, were much less likely to be in Cluster 1 (Enclave Operators). In fact, less than five percent of Cluster 1 was comprised of such acquired firms, compared to 19 percent for the sample. Acquired firms were more likely to be in Clusters 7, 4 and 9, which all had higher than average scores for backward/forward or both types of linkage.

These results suggest that the affiliates that are branches or subsidiaries of overseas companies are less likely to take an active role in the local economy through indirect and direct linkages. In contrast, former New Zealand firms that had been acquired by foreign owners are more likely to belong to clusters that contribute towards local upgrading through increasing supply and/or demand of specialised products/services, or giving assistance to local firms to improve their products and services.

Main business activity

Comparison of the actual, and expected frequencies (shown in brackets), show that there is evidence that the main business activity of the affiliates does have some influence on cluster membership. The Pearson chi-square of 81.44 was significant at the 0.001 level, indicating that there is a significant difference between the observed and expected frequencies, and allowing us to reject the null hypothesis that there is no difference between the clusters in terms of the main type of activity conducted by the affiliates. Cramer's V confirms that the results were significant, despite the large sample size, and showed a weak association between type of activity and cluster membership.

Table 7.53
DOL by Main Business Activity

Degree of Linkage Cluster		Main Business Activity: Service Provider	Trader	Manufacturer	Primary Processor	Total
1	Actual frequency	26	39	17	4	86
	(Expected frequency)	(27.8)	(28.7)	(24.7)	(4.8)	
	% within DOL Cluster	30.2%	45.3%	19.8%	4.7%	100%
3		6	12	2	0	
		(6.5)	(6.7)	(5.7)	(1.1)	
		30.0%	60.0%	10.0%	0.0%	
4		5	18	21	1	45
		(14.6)	(15.0)	(12.9)	(2.5)	
		11.1%	40.0%	46.7%	2.2%	100%
5		23	12	16	0	
		(16.5)	(17.0)	(14.6)	(2.9)	
		45.1%	23.5%	31.4%	0.0%	
7		42	12	33	6	93
		(30.1)	(31.0)	(26.7)	(5.2)	
		45.2%	12.9%	35.5%	6.5%	100%
8		24	55	33	4	116
		(37.5)	(38.7)	(33.3)	(6.5)	
		20.7%	47.4%	28.4%	3.4%	100%
9		41	24	26	14	105
		(34.0)	(35.0)	(30.1)	(5.9)	
		39.0%	22.9%	24.8%	13.3%	100%
Total		**167**	**172**	**148**	**29**	**516**
		(167.0)	**(172.0)**	**(148.0)**	**(29.0)**	**(516.0)**
		32.4%	**33.3%**	**28.7%**	**5.6%**	**100%**
Pearson Chi-square		29.62***	48.10***	16.95**		81.44***
Cramer's V		0.24***	0.31***	0.18**		0.23***
Degree of Linkage cluster dependent		0.05*	0.05#	0.00		0.07*

#p<0.10, *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001

Service Providers. The first column of Table 7.53 shows that service providers are over-represented in Clusters 5 and 7, and under-represented in Clusters 4 and 8. The percentage given in each cell represents the percent of service firms within each cluster. The table shows that 45 percent of the firms in Clusters 5 and 7 are service firms, in comparison to the total percent of service firms within the sample which was 32 percent.

In contrast, just 11 percent of firms in Cluster 4, and 21 percent of firms in Cluster 8 are service firms, compared with 32 percent of the firms in the sample. A cross-tab was performed using just service providers as the independent variable to assess whether this relationship was still significant. The results show that the chi-square

of 29.62 was significant at the 0.001 level, leading us to reject the null hypothesis that there is no difference between the cluster membership in terms of service-oriented affiliates. Cramer's V showed a weak association between these variables.

Traders. Firms that engage in trade as their main activity, as opposed to manufacturing or service provision, are shown in column two of Table 7.53. Trading firms accounted for 33 percent of all firms in the sample, and hence, were over-represented in Cluster 1 (45 percent of the firms in this cluster were traders), Cluster 3 (60 percent), and Cluster 8 (47 percent).

In contrast, traders were under-represented in Cluster 5 (24 percent of the firms in this cluster were traders), Cluster 7 (13 percent), and Cluster 9 (23 percent). A cross-tab of just Traders, rather than all types of activity showed a significant chi-square of 48.1 at the 0.001 level, confirming that this relationship does not just exist by chance. Cramer's V showed a slightly stronger association between the variables than for the other types of activity, indicating that affiliates that predominantly are engaged in trading activities tend to fall into certain clusters.

Manufacturers. The manufacturing firms accounted for 29 percent of the firms in the sample. There appears to be less variation between clusters for this group of firms, but there are higher numbers of manufacturers than expected in Cluster 4 (47 percent of the firms in this cluster were manufacturers), and Cluster 7 (36 percent). Cluster 1 (where just 20 percent of the firms were manufacturers), and Cluster 3 (10 percent) both showed lower than expected frequencies for manufacturing firms. The chi-square statistic and Cramer's V were both significant at the 0.01 level, but suggest that manufacturing exerts a slightly weaker influence on cluster membership than other forms of activity.

Primary Processors. Finally, the affiliates involved in extracting and processing raw materials accounted for just 6 percent of the sample, but were particularly dominant in Cluster 9, where 13 percent of the firms were primary processors. In contrast, there were no primary processors in Clusters 3 and 5, and they were under-

represented in Clusters 4 (2 percent) and 8 (3 percent). A separate chi-square analysis was not performed for this group as too many of the cells had frequencies less than five.

In summary, these results show distinct patterns for each type of affiliate and suggest how each may be having a different developmental effect. For instance, service firms are likely to have a positive development impact on local industry according to the cluster analysis. The clusters which have higher numbers of service providers are characterised by affiliates that collaborate with, source from, and engage in more relationships with local collaborative partners, suppliers and subcontractors. This finding is significant in that it confirms that service providers do, in fact, source locally via backward linkages, rather than relying on offshore sources. In addition, it shows that these service firms are forming collaborative agreements that actively involve local partners.

The low numbers of service providers in Cluster 4 (Forward Linkers), in contrast, might suggest that the majority of the foreign service providers are offering final, consumer-oriented services rather than industrial services. The lack of forward linkages shows that these services involve little assistance or few on-going relationships with customers in New Zealand.

In direct contrast to the service firms, traders are most frequently members of clusters that have few direct linkages with the local economy, and in particular, limited backward linkages. Traders occur most frequently in Clusters 1 (Enclave Operators), and 8 (Competitors). Both these clusters have slightly below average scores on forward and knowledge linkages, and low scores on backward linkages. There are fewer traders in clusters with more backward or collaborative linkages (5, 7, 9).

In contrast, traders dominate cluster 3 which is characterised by high levels of knowledge agreement (licencing or franchising) formation. This cluster has significant potential to contribute toward local development, but consists of just 20

firms in the sample. Hence, overall, the trading firms which constitute one third of the sample, have the fewest direct linkages and therefore, the least potential for local development. The impact of many traders could be limited to indirect, competitive effects on industry (Cluster 8), although it is difficult to ascertain whether or not these effects are beneficial to the upgrading of other local firms.

While the clustering of manufacturing firms is less distinct, they make up 47 percent of Cluster 4, which is characterised by high levels of forward linkages and moderate levels of backward linkages. They also are slightly more evident in Cluster 7 which has high levels of backward linkages. These results show that manufacturing firms are actively involved in local 'buy and supply' linkages. Because of the scope of direct linkages, the potential for local upgrading via these manufacturers is considerable. This is likely to eventuate both through the purchase and provision of specialised goods and services, and by giving assistance to other local suppliers, subcontractors, agents and customers.

Country of origin

Table 7.54 shows the cross-tab of the clusters and the country of origin of the affiliates. The Pearson's chi-square statistic showed that there is no significant difference between the expected and observed frequencies for the clusters. Hence, the clusters are not significantly different in terms of the nationality of the affiliates.

Looking at the raw scores, however, there seems to be a disproportionately higher number of US/Canadian firms in Cluster 8 (Competitors), Japanese firms in Cluster 3 (Knowledge Sharers), and British firms in Cluster 4 (Forward Linkers). In contrast, US/Canadian firms are fewer than expected in cluster 9 (Non-competitive Backward Linkers), while British and European firms are fewer in Cluster 3.

Table 7.54
DOL by Country of Origin

Degree of Linkage Cluster	Country of Origin						
	USA/ Canada	Australia	Japan	UK/ Ireland	Other Europe	Other Asia/ Pacific	Total
1 Actual frequency	25	22	7	7	18	7	86
(Expected frequency)	(25.7)	(21.8)	(8.7)	(8.7)	(16.2)	(5.0)	
% within DOL Cluster	29.1%	25.6%	8.1%	8.1%	20.9%	8.1%	100%
3	7	2	5	1	2	1	
	(6.0)	(5.1)	(2.0)	(2.0)	(3.8)	(1.2)	
	35.0%	20.0%	25.0%	5.0%	10.0%	5.0%	
4	13	9	3	8	11	1	45
	(13.4)	(11.4)	(4.5)	(4.5)	(8.5)	(2.6)	
	28.9%	20.0%	6.7%	17.8%	24.4%	2.2%	100%
5	17	12	4	5	11	2	
	(15.2)	(12.9)	(5.1)	(5.1)	(8.5)	(3.0)	
	33.3%	23.5%	7.8%	9.8%	21.6%	3.9%	
7	26	26	10	10	16	5	93
	(27.8)	(23.6)	(9.4)	(9.4)	(9.6)	(5.4)	
	28.0%	28.0%	10.8%	10.8%	17.2%	5.4%	100%
8	42	34	8	8	17	7	116
	(34.6)	(29.4)	(11.7)	(11.7)	(21.8)	(6.7)	
	36.2%	29.3%	6.9%	6.9%	14.7%	6.0%	100%
9	24	24	15	13	22	7	105
	(31.3)	(26.7)	(10.6)	(10.6)	(19.7)	(6.1)	
	22.9%	22.9%	14.3%	12.4%	21.0%	6.7%	100%
Total	**154**	**131**	**52**	**52**	**97**	**30**	**516**
	(154.0)	**(131.0)**	**(52.0)**	**(52.0)**	**(97.0)**	**(30.0)**	**(516.0)**
	29.8%	**25.4%**	**10.1%**	**10.1%**	**18.8%**	**5.8%**	**100%**
Pearson Chi-square							25.40
Cramer's V							0.10
Lamda							
DOL cluster dependent							0.04#

#p<0.10, *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001

CONCLUSION

The main purpose of this chapter was to present the analyses and results pertaining to each of the research questions and propositions given in Chapter Five. In the next chapter, these results are discussed more fully in light of these questions, and the research objectives more generally.

This chapter has revealed a number of significant findings from the survey. The first is that the overwhelming reason for investment in New Zealand was for market-seeking reasons. The survey also revealed that foreign-owned affiliates actively rely on their foreign parent companies or shareholders for resources, innovation and input into their New Zealand operations, particularly in the areas of technology, and

expertise. The analyses found that these resources contributed to the affiliate's competitive advantages in New Zealand relative to domestic competitors.

This chapter also highlighted the fact that the affiliates were responsible for introducing and developing a wide range of innovations. Yet, only a small proportion of the respondents indicated that foreign investment into their firm had been made to gain existing innovation.

In terms of indirect competitive linkages, the survey also revealed that 70 percent of the affiliates held a major or even monopolistic market position in New Zealand. These firms had a moderate influence over the levels of competitive behaviour between firms as well as the overall competitiveness of firms in their industries.

The section on direct linkage formation showed that approximately half of the affiliates were also involved with backward and/or forward linkages with local suppliers of specialised inputs, agents or customers for specialised inputs from the affiliate. Local sourcing of specialised inputs was undertaken at a moderate level, on average, with local services rather than local products being more in demand. However, just over half the affiliates had given assistance to local firms in order to help them improve their products or services.

Relatively few firms engaged in knowledge agreements with local licencees or franchisees. In contrast, almost 30 percent of the affiliates had formed a collaborative agreement (for example, a strategic alliance) with another New Zealand based firm. These agreements were primarily for distribution, sales support, marketing, technology development and the procurement of resources. A significant finding was that these firms actively transfer a wide range of resources to local firms and vice versa, and in particular, product (or service) technology, information and expertise.

From the analyses, it was apparent that there were a number of variables that were associated with the foreign affiliates' propensity to form direct linkages. The ability of New Zealand firms to supply products and services were the most significant

predictors of local sourcing. Resource-seeking affiliates, but not those primarily engaged in trading activity, were also more likely to source locally. Innovation developed by the affiliate in New Zealand in the areas of management was linked to more local sourcing, but inputs sourced from the parent such as finance and marketing innovation were not.

Similarly, affiliates' that had developed innovations in New Zealand or jointly developed with the parent (in the areas of distribution, and human resources but not employment practices), or were involved in manufacturing were also more likely to have given assistance to other local firms to help them improve their products or service offerings. Australian firms were less likely to give assistance, as were affiliates who relied on parents for management practices. These predictors varied slightly for assistance to agents/customers, where access to inputs and economies of scale and scope from parents were positively related to assistance, and size negatively related; and assistance to suppliers/subcontractors where access to inputs and the ability of local firms were positive predictors.

In terms of collaborative agreements with local firms, affiliates from European countries other than the UK, as well as service affiliates and efficiency-seeking affiliates were more likely to undertake such linkages. As with assistance linkages, affiliates that had introduced innovations, such as management or employment practices, and/or distribution systems in New Zealand (independently or jointly with the parent) were more likely to have formed collaborative linkages.

The final section of the results involved analyses relating to the overall extent or degree of linkage of each affiliate with local industry in New Zealand. Seven clusters of affiliates, each differentiated by their DOL and specific pattern of linkages, were identified. The largest cluster was characterised by the affiliates having a stronger than average competitive position and influence over other firms in New Zealand (8=Competitors). Two other large clusters were distinguished by their higher than average scores on the backward linkage factor, although one cluster was distinguished by a below average competitive linkages (9=Non-competitive backward

linkers) and the other, above average (7=Competitive backward linkers). The fourth largest cluster, comprising 17 percent of the respondents, was distinguished by having below average scores on all linkages, suggestive of an enclave operation (1=Enclave operators). The three smallest clusters, were also the most easily distinguished by particular linkage, namely; forward linkages (4=Forward linkers) , knowledge agreement linkages (3=Knowledge sharers) and collaborative linkages (5=Collaborators).

Further analysis revealed that these clusters showed certain characteristics according to their DOL. Cluster 5 were more likely to be strategic-asset seekers in highly competitive industries than Clusters 1 and 9 for instance, while Cluster 8 was more likely to be involved in competitive areas of trade in New Zealand. Clusters 4 and 3 were the oldest clusters and which had also the longest histories with their current foreign owners, whereas Clusters 1, 8, and 9 had been established for fewer years than average. Cluster 8 (the 'Competitors') was particularly notable for its major reliance on technologies from its foreign parent/shareholders, while Cluster 1 (Enclave operators) were far more likely to be local branches or subsidiaries of MNEs. In contrast the forward/backward linkers in Clusters 4, 7 and 9 were more likely to formerly have been a New Zealand company since acquired by foreign interests. The results also revealed that service and manufacturing affiliates were more likely to have a higher DOL than trading affiliates.

The purpose of the following chapter is to discuss these results, in particular, the possible explanations of these outcomes and some implications for this research in general. The results of this study are compared and contrasted with previous literature, in an attempt to better understand the implications within the New Zealand context. The chapter also draws on less formal data from the survey, such as responses to open-ended questions, to better illuminate these results. Finally, the chapter provides a more detailed synopsis of the DOL analyses in order to bind these results with other key findings presented in this chapter.

CHAPTER EIGHT
DISCUSSION OF THE RESULTS

INTRODUCTION

The purpose of this chapter is to discuss the findings for each of the research questions and propositions presented in Chapter Five and analysed in Chapter Seven. Summary and discussion of these results are given within the context of these questions, as well as the theoretical and empirical literature examined in Chapters Two, Three and Four. This chapter provides the basis for the conclusions and implications for policy presented in Chapter Nine.

AFFILIATE PROFILE

Our first set of results relate to the impact of FDI at the first round level of the affiliate. The profile of the respondents in the sample that was constructed in Chapter Seven, focussed on those characteristics of the foreign-owned affiliate that made it unique relative to uninational firms in New Zealand. The OLI paradigm was used as a framework for this profile. In particular, the literature suggested that the intra-firm transfer of O-advantages from parent to affiliate would confer advantages on the affiliate that were not available to other local firms.

Country of origin (RQ1)

Half the affiliates in the sample were either from the US, or from Australia. Another 20 percent were from Japan or the UK. This result is in line with previous literature that also found that the majority of investment in New Zealand originates from the traditional sources of Australia, the UK, and the US (Deane, 1970; KPMG, 1995).

However, there is evidence in the sample, as well as in official statistics (given in Chapter Four), of a gradual shift toward more investment from the US rather than the UK, along with growing investment from non-traditional sources including Germany, the Netherlands, and Japan.

In terms of country of origin of the investors, the results show that the respondent profile is comparable to official statistics from Statistics New Zealand (SNZ). Although there are difficulties associated with making such comparisons when units of analysis differ, the sample contained fewer Australian affiliates than would be suggested by official figures. This might be due to a lack of differentiation of Australian-owned firms in New Zealand publications, perhaps as a result of such close economic and cultural ties between the two countries.

In contrast, the sample seems to have proportionally more cases from Japan and Germany. This might arise from the fact that many of the investments from these countries have been made more recently than those from traditional investing countries. As a result, the affiliates involved are more likely to be featured in media or OIC reports, or be more diligent in publishing and/or supplying their details to industry associations. Therefore, they are more likely to be included in the database constructed for this survey.

The main implications of these findings are that New Zealand should recognise the growing contributions of FDI from non-traditional source countries. These investments have considerable potential for the transfer of unique O-advantages from the parent company, including location-specific technologies, different managerial practices and access to new markets.

Main activity (RQ2)

More than half the sample consisted of affiliates involved in manufacturing (31 percent of the sample) or wholesale trade (27 percent). On the whole, all ANZSIC divisions were represented in the sample, with the exception of government

administration and defence. For analysis purposes the ANZSIC divisions were aggregated into three main areas of activity: service providers (32 percent of the sample); manufacturers including primary processors (34 percent); and traders (33 percent).

By ANZSIC division, the survey captured proportionally more manufacturing firms than official figures from SNZ suggest should have been in the sample. The probable reason for this is that manufacturing firms are typically larger and more visible enterprises, and more likely to be included in research-related or publicly available data sources. This assertion is supported by the focus of previous empirical studies of FDI in New Zealand on the manufacturing sector (see table 4.12 in Chapter Four). This thesis attempts to overcome these limitations by including service firms, trading firms (i.e. firms that neither manufacture nor provide a service), primary processors, as well as manufacturing firms. These categories incorporate the complete range of industry sectors in the analysis, with the exception of government-dominated sectors where foreign investment is negligible.

The other sectors where the sample showed a significant deviance from official statistics are property and business services, and finance and insurance. In these sectors there are proportionally fewer affiliates in the sample than the proportion of enterprises suggested by SNZ. However, because of the restrictions of data availability discussed in Chapter Six, the survey failed to capture many smaller, privately owned firms. These would include business partnerships between accountants or lawyers, and property development companies for example. These firms would be included in the SNZ Business Frame, but are less likely to be included in the database used for this study.

Age/Mode of Entry/Ownership Form and Autonomy (RQ3, 4)

On average the affiliates in the sample were well established in New Zealand. Slightly less than half the affiliates had been operating in New Zealand before1981, and overall the firms had been established in New Zealand for an average of almost

28 years. The majority of firms were either a New Zealand-based branch or subsidiary (63 percent), or were New Zealand firms acquired by a foreign company (25 percent).

A key issue addressed by the survey was that of foreign ownership, and specifically the number of years the affiliates had been owned by their current foreign investors. The analysis revealed that just one quarter of the affiliates were owned by their current foreign investors prior to 1981. Three quarters of the surveyed affiliates were founded by their current foreign owners in the last twenty years, and just under 40 percent in the last 10 years.

This finding is significant because there is scant evidence in the available literature that indicates the extent of foreign investors' commitment to New Zealand. The results of the survey showed that more than 60 percent of the affiliates have been owned by their current foreign investors for at least a decade. The implications are that while New Zealand continues to benefit from new foreign investment, existing foreign investors are maintaining their commitments to their New Zealand affiliates. The conclusion that we can draw from this finding is that foreign-owned affiliates operating in New Zealand are not fly-by-nighters but firms that are committed to maintaining a local presence.

Another major finding was that the rate of acquisition of existing firms by foreign investors had increased rapidly over the past two decades. Although the survey did not ask for a detailed ownership history of the firms, it was established that of the affiliates founded in the 1996-99 period, 65 percent were existing firms acquired by their current foreign investors, up from 25 percent in 1981-85.

The proportion of formerly New Zealand-owned firms that had been acquired by a foreign company also rose over the 1980s and 1990s. Over the entire sample, one quarter of the firms indicated that they had formerly been New Zealand-owned. This rising rate of acquisition is supported by OIC reports that show many foreign investments seek to acquire existing assets (including those already owned by

foreigners) rather than establishing greenfield sites (OIC, 1998). However, there are no recent studies that consider this for individual firms in New Zealand.

All other things being equal, acquisitions hold less potential for employment and economic output than greenfield investments. However, at the first round level there is potential for an existing New Zealand-owned firm to benefit from the advantages of affiliation with a MNE or foreign shareholder. The acquired firm is likely to maintain its New Zealand staff who are then able to draw on resources, training, experience and market access from the foreign parent. It is also possible that New Zealand's innovative assets may be drawn off by the parent company. However, there was little evidence in the survey to suggest this was occurring (see RQ8).

The second point of particular relevance to this thesis and to New Zealand, is the fact that FDI by acquisition, rather than by greenfield investment, may have less impact at the first round level, but more impact at the second round level. Chapter Seven showed that affiliates that were former New Zealand firms subject to acquisition by foreign interests were more likely to have stronger linkages with the local economy than foreign subsidiaries or branches.

This finding has major implications for both the research of FDI in New Zealand and for other developed countries that have also experienced far more acquisition rather than greenfield activity over the past decade (UNCTAD, 2000). This means that FDI is not being employed to establish new business ventures, but is taking over existing ones. Assuming that the majority of these enterprises are continued, this trend strongly suggests that the first round effects of FDI, such as capital, employment and output that have captured more attention in the literature to-date might not be as important to host country welfare, as the second round impact on local firms.

This finding is especially relevant because many of the concerns over FDI relate to the first round impacts on employment, capital and technology. However, where acquisition occurs the net effect on these first round factors is likely to be less than where greenfield investment is concerned. The evidence in this thesis suggests that

FDI has become a complex phenomena that can no longer be taken at face-value from simply a first-round level perspectives. This point is discussed further in the following chapter.

Foreign affiliates in New Zealand operate with considerable autonomy in day-to-day operations and short-term decision making, but have much less autonomy in long-term decision making. Thus, managerial issues (e.g. strategic direction, product mandate, and financial expenditure) are likely to rely on approval by the foreign parent company. This finding is very much in line with previous case study research (Duncan et al., 1997). However, to find that a representative sample of foreign-owned firms from a number of different sectors all rely on their parent companies for strategic decision making contributes significantly to our understanding of the foreign affiliate in New Zealand. We discuss the issue of autonomy and integration with the parent company later in this chapter.

Motive for investment (RQ5)

The results strongly suggest that foreign investors are operating in New Zealand for market-seeking reasons. Almost three quarters of all the affiliates in the sample indicated that the market-seeking motive was either the major or only reason for operating in New Zealand. Other studies have also shown that market-seeking reasons for investment are important in New Zealand (Enderwick, 1995; KPMG, 1995).

The literature suggested that there are a number of reasons why market proximity is important. First, locating near customers allows the firm to monitor their needs and adapt offerings accordingly. A firm with a local presence can make a more timely response to changes in the operating environment. Several affiliates in the survey indicated that their firm needed a "local presence" in New Zealand to better understand the needs of local customers.

Second, due to the inseparability and perishability of service offerings, service providers need to locate close to their customers. Approximately one third of the sample consisted of service providers, and some of the firms specifically stated that the need to offer services in New Zealand was a principal reason for investing here. New Zealand also offers a convenient, stable, and English-speaking base for American and European companies to service adjacent Asian markets, or a single base for both Australasian markets.

Given the small size of New Zealand's domestic market, it was expected that New Zealand would also be used as a base for exporting to third country markets such as Australia and the Asia-Pacific. The survey found that of those affiliates that had given market-seeking as a major or only reason for operating in New Zealand, one half focussed solely on servicing the domestic market. The other half of these affiliates undertook exporting to third-country markets. Exports as a percentage of sales were less than one percent for 51 percent of these market-seeking affiliates, between one and 50 percent for a further 40 percent, and greater than 50 percent for the remaining 10 percent of this group. These findings were supported by comments of affiliates from the strongly market-seeking group who said the reasons behind their investment in New Zealand included global (see below) or regional market coverage.

Previous studies have also shown that investors come to New Zealand for market-seeking reasons (Chung, 1994; Duncan et al., 1997; Enderwick, 1995; KPMG, 1995). Historically, government barriers to market entry via imports encouraged inward FDI, particularly in manufacturing. For the some 230 affiliates in the survey that were established before the mid-1980s, it could be expected that some of these investments would be driven by the need to access markets and operate behind protectionist barriers as suggested by Deane, (1970). There was some evidence given in the qualitative responses to this question that the affiliates established prior to 1984 had done so to avoid market entry barriers.

Manufacturing affiliates had a high mean score on the market-seeking reason (3.7) and the trade/support reason (2.6), suggesting that the majority of manufactured

products are intended for local New Zealand markets, or adjacent markets such as Australia and parts of Asia. In fact, the primary processors in the sample (29 firms) are the only firms that show a low score for the market-seeking variable (see Appendix 8.1 for a cross-tabulation of motive and main activity). This suggests that local markets are not the sole target of present (or future) sales. It also reflects the nature of many primary industry sectors that produce for international markets due to the limited domestic market in New Zealand. This is confirmed by a comparison of the percentage of sales exported by primary processors at 54 percent, with just 19 percent for all firms in the sample.

Trade and supporting activities for the parent MNE were a major or only reason for investing in New Zealand for one third of the affiliates. Main activities falling into this category are importing and exporting; distribution of company products; or administration; for example operating an agency; or overseeing supply agreements in the host country. Twenty percent of this group were heavily involved in exporting (more than 30 percent of sales as exports), and some exported all their sales. However 70 percent were involved in very little exporting (5 percent or less of total sales), operating in New Zealand for the purpose of servicing the local market.

We can conclude, therefore, that affiliates undertake trade and supporting activities to establish a local presence for the MNE's operations. The main implication of this type of investment for New Zealand is that while it might encourage more competitive pricing and wider consumer choice, it generates little actual output through activities such as manufacture and R&D. Linkages are also likely to be limited to some downstream linkages for distributors and agents.

A disturbing implication of this finding is that, given the on-going liberalisation of the trading environment in New Zealand, non-service MNEs in the future could direct more of their affiliates in New Zealand into a trading/supporting role to service local (or regional) markets, rather than a manufacturing role. This might undermine the supportive structure offered by other local service providers and suppliers, as has been the case in the clothing industry, and vehicle assembly sectors.

One third of the affiliates also indicated that strategic asset-seeking was the major or only reason for their investment in New Zealand. Strategic asset-seeking investment is motivated by a global or regional perspective which sees the role of the affiliate as a cog in the integrated machinery of the MNE. In other words, strategic asset-seeking investment comes from the need to:

- act as part of global company (either acting for part, or most of the value-chain); and/or
- protect the parent/shareholder's competitive position by acquiring strategic assets or technology, or pre-empting competitor moves.

The possible implications of such investment depend on the affiliate's strategy and role in New Zealand. If the affiliate acts as one part of a global MNE, and thus has a global rather than a local perspective, the implications are that New Zealand may be attracting investments aimed at a singular function in the value-chain (i.e. marketing or processing), rather than more autonomous investments that involve more of the value-chain.

Such globally oriented investments could mean that although the affiliate might benefit from intra-firm transfer of competencies and resources, the potential for backward, forward, and collaborative linkages is diminished. However, returning to the results presented in Chapter Seven that look at the influence of motive for investment on linkage formation there is no evidence that strategic asset-seeking affiliates form fewer linkages than other affiliates. In fact, the DOL cluster characteristics results suggest that affiliates in the collaborator cluster (5) are more likely to be strategic asset seekers.

Another possible indicative measure of a global strategy is the proportion of intra-firm exports (i.e. exports from the affiliate to the parent company) to total exports. Of those 170 affiliates that gave strategic asset-seeking as the major or only reason for investing 19 percent exported 90 percent or more of their exports to the parent corporation, in comparison to just 10 percent for the remaining 344 firms. This can

be considered as tentative evidence that at least one fifth of the strategic asset-seekers are closely integrated with the parent company.

The results are more indicative of the affiliate's role being one of a local branch or division of an MNE, servicing the local market. As discussed previously, one third of the respondents were service-oriented affiliates, a sector which does not lend itself to the geographic division of the value-chain as well as manufacturing. Service firms score high on both the strategic asset-seeking and the market-seeking variables. These scores reflect their need to be close to markets and customers in New Zealand, Australia, and the Asia-Pacific, and their need to meet both domestic and international competition in industries which have experienced rapid and recent global consolidation and restructuring (see Appendix 8.1).

Not surprisingly, traders also scored very highly on the market-seeking (4.0) and trade/support activities (3.1) reasons, reflecting the need to provide a local 'spoke' in a worldwide network of affiliates. Their mean value for strategic asset-seeking activity (2.4) also lends support to the idea that traders are operating as one part of a global company and defending the company's position against competitors.

The qualitative reponses to the motive for investment question also suggest a "glocalisation" rather than global strategy. More than half of these 66 responses related to the affiliate's role as part of the MNE in the global marketplace. Frequently given reasons for investment included:

- "a global presence", "to service global accounts (or) customers", "to leverage know-how and knowledge between the New Zealand business and other businesses owned by the parent", "international expansion or diversification", "to protect current investments" and "(intra-firm) reorganisation of global responsibilities".

These responses clearly show that a number of firms are acting as a division of a globally-oriented company. These firms are not operating in New Zealand solely to

service domestic markets, nor are they limited to performing a singular business function as part of an integrated MNE network.

The results suggest that the majority of affiliates are acting as a local or regional representative in an MNE's global network. The implication of this finding is that if an affiliate acts as the local 'spoke' in a global MNE network (in more of a multi-domestic sense) then the potential for positive externalities is far greater than in the case of global strategy where the affiliate has responsibility over a narrow value-chain. In other words, one could expect greater linkage formation and consequent integration with the local economy in the former scenario.

Just 44 affiliates indicated that their major or only reason for investment in New Zealand was to raise efficiency or lower costs of production. Breakdown of the results by main activity (see Appendix 8.1 for figures) shows that traders and service firms are least likely to be seeking resources (such as labour), but even manufacturers and primary processors only rate this as a minor reason for investment. These findings indicate that relative to other locations, New Zealand could be underperforming in terms of efficiency-related L-advantages. These might include the availability, quality and cost of labour and other inputs; geographical distance to major markets; or access to centres of development that might encourage efficiency-seeking investment.

Another concern is that while New Zealand has abundant natural resources and skilled labour we are not attracting many foreign investors that are able to use, process, and add value to these resources. The results show that 68 percent of the affiliates indicated that resource-seeking was not a reason, or was a minor reason for their investment in New Zealand. On average the manufacturing firms in the sample rated resources as only being a minor motive for investment (see Appendix 8.1). (Note that the 29 primary processors in New Zealand rated resources as a major reason for investment).

Ownership-advantages (RQ6)

The results indicate that the affiliates in the sample gained resources from their foreign parent/shareholders to a moderate extent. This shows that MNEs transfer internalised O-advantages via the FDI to the affiliate in New Zealand, and that the affiliate is able to benefit from such advantages.

Affiliates gain finance from their parent/shareholder more than any other resource. Although this appears to be a sensible finding, it suggests that affiliates might be able to benefit from both an initial injection of capital as well as ongoing access to finance. This finding also suggests that overseas sources of capital are being used in conjunction with those in New Zealand. This can be viewed as a positive finding in light of New Zealand's obvious need for overseas capital to supplement domestic capital. It also invalidates the idea that capital is being raised in New Zealand and crowding out other potential investors.

The affiliates also benefit considerably from internalised resources that are related to ownership of technology and tacit knowledge. Product technology, and research and development (R&D), and to a lesser extent production (or service delivery) technology were all sourced from parent companies. Almost three quarters of the affiliates relied on their foreign parent/related affiliates for product/service technology to a moderate, major or complete extent. The figure for R&D stood at nearly 70 percent, and for product technology at 59 percent.

There was also strong evidence to suggest that affiliates drew on the tacit knowledge of their foreign shareholders. More than 80 percent of the affilites, for instance, gained information, experience and expertise from their parent or related affiliate companies to a moderate, major extent or completely; more than 70 percent for management practices and business culture; and nearly 60 percent for marketing systems. There were very few firms that did not gain some form of tacit knowledge from their parent companies.

Theory suggests that technology and tacit knowledge are the types of O-specific resources that are most likely to be internalised through foreign investment to appropriate the maximum rents from existing technology. Take product technology and R&D for example. If the majority of investors are operating in New Zealand to be close to markets and customers, then capitalising on products developed overseas by adapting them to New Zealand conditions means the initial research and development costs and risks borne by the MNE are spread over more markets. It makes no sense to redevelop products or production technology for a single, small market, and it is understandable that product technology and R&D are internalised via the FDI medium rather than being developed independently in New Zealand.

The transfer of information and expertise, including management and marketing practices, to the affiliate also reflects the difficulties of appropriating rents for tacit knowledge and the capacity to use such resources as catalysts; in other words they may be re-used for further profits without extra cost or loss. Internalisation of such O-advantages suggests that there is considerable evidence of advantages of common governance of activities through the MNE network. Another indication of this was that 60 percent of the affiliates gained access to economies of scale or scope (to a moderate/major extent, or completely) through being affiliated with the MNE. The implications are that New Zealand industry benefits through the introduction of such technology and expertise.

However, the results also reveal that resources that are more location-bound are less likely to be gained from the foreign parent. Access to inputs, distribution systems, labour-related resources including training, employment practices and human resources and skills, were less likely to be internalised via the FDI medium and more likely to be developed in New Zealand.

Significantly, more than half the affiliates indicated that they did not gain access to markets, or gained access to markets to a minor extent via the MNE. In light of the previous results that show the majority of affiliates focus on the domestic market, this suggests that rather than not being able to gain access to international markets, this

group of affiliates does not require access to offshore markets as part of their role in New Zealand.

Innovation (RQ7, 8)

The introduction of innovation is closely linked to the transfer of resources, discussed above. Innovation is a firm-specific or O-advantage that is not available to other firms because it has been developed and internalised within the MME. Introduction of the innovation to the host country via the FDI medium, therefore, suggests that these assets would not have been able available through alternative mediums. The potential for upgrading local industry, and in particular, for raising domestic industry to international standards through the affiliates' activities is considerably higher than in the absence of FDI.

According to the results, the affiliates were responsible for introducing hundreds of innovations over the past three years. These innovations were considered to be new developments in their industries at the time of their introduction. The most commonly introduced innovations were in the areas of product or service technology (77 percent of all firms); production or service delivery technology (58 percent); management practices and culture (56 percent); marketing systems (48 percent); and training (44 percent).

The affiliates' two most significant innovations related to their product or service offering/technology (60 percent of all innovative firms); their marketing systems and techniques (22 percent); technology (20 percent); service delivery (16 percent); and training and human resources (16 percent). This implies that many of the innovations relate to the introduction of a new product/service or the differentiation of offerings from those of local competitors. However, it is encouraging that the affiliates are also introducing new technology and organisational practices to New Zealand industry.

The origin of these innovations varied according to the type of innovation. Product (or service) technology originated most often from the foreign parent/shareholder. However, other types of innovation were most often developed by the affiliate in New Zealand. This was particularly evident for employment practices, and human resources, as well as distribution systems innovations. However, in approximately one fifth to one third of all cases the innovations were jointly developed by both the foreign parent and the affiliate in New Zealand.

In summary, therefore, while it appears that the majority of employment practices and human resource innovations were developed independently by the affiliate, the parent company is involved in the introduction (either solely or jointly with the affiliate) of the majority of other types of innovation. These findings echo those of the previous section on O-advantages, which also found that affiliates gain product or service technology and tacit knowledge from their foreign parent, more frequently than resources that are more location-bound.

The implications of these findings are that 80 percent of affiliates are actively engaged in the introduction of innovations to New Zealand. This not only benefits the affiliates' through improved performance (i.e. output, efficiency and profitability) but also their industries where there is potential for emulation of these practices by other firms. With the exception of employment/HR-related innovations, foreign parents are involved with the development or introduction of at least half to three quarters of all other innovations. This finding provides strong support for the proposition that affiliates, and in the longer-term New Zealand industry, are benefiting from the O-advantages of the MNE. The fact that these innovations are unique to industry in New Zealand also suggests that the MNE is responsible for positive contributions that would be unavailable to local firms in the absence of FDI.

Finally, the survey investigated the possibility of hollowing out of local innovatory capability, but found little evidence to suggest this was occurring. Only 66 firms (13 percent) indicated that their foreign owners had invested to gain innovation already existing in New Zealand. Closer scrutiny of these investments revealed that 45

involved product- or process-related technologies. There is a risk that such innovations will be taken offshore for further development. However, in all but five cases, these firms were continuing to conduct R&D in New Zealand. In fact, two firms reinvested 100 percent of their sales revenue into R&D in New Zealand, 51 firms averaged 5.4 percent of sales, and the remaining13 spent just one percent of total sales. In comparison, R&D spending over the whole sample was 2.3 percent of total sales.

These findings provide strong support for the argument that the most acquisitionary investment is not being made into New Zealand to internalised local sources of innovations. Where this was the case, almost all foreign investors continued the development of innovations through R&D in New Zealand. However, a caveat to this finding is that the survey did not take into account the levels of R&D spending pre- and post-acquisition.

Competitive Advantage (RQ9, RP 1, 2)

Theory suggests that O-advantages enable the MNE to overcome the additional difficulties of operating in foreign locations and competing against indigenous competitors that are more familiar with the domestic business environment. The key source of competitive advantage for the affiliates in New Zealand is their product or service technology. Sixty-four percent of respondents indicated that their firm relied on this to a major extent or completely as a source of competitive advantage. Almost half of the firms indicated that human resources and accumulated skills, and production or service delivery technology contributed to a major extent or completely to their competitive advantage in New Zealand. Management practices/business culture also was a key source of competitive advantage.

The two main sources of competitive advantage identified by the firms were varied, but the most frequently given response was that of product or service offering. Markets and customers, access to a regional or global network, technology, and R&D were also key sources of advantage for almost one quarter of the affiliates.

A cursory glance at these sources of advantage indicate that, with the exception of human resources which are likely to be developed more independently by the affiliate, the remaining sources of advantage are associated with the O-advantages of the MNE. This suggests that foreign affiliates gain competitive advantage through their affiliation with a foreign parent, related affiliate, or foreign shareholder. In order to test this proposition more rigorously, the thesis evaluated the relationships between the affiliate's resources and innovations and its competitive advantages in New Zealand.

The results of the regression analysis presented in Chapter Seven reveal a positive relationship between reliance on the foreign parent for resources and innovation and the affiliate's source of competitive advantage in New Zealand. Thus, research propositions 1 and 2 are supported by the analysis: affiliates rely on internalised O-advantages, resources and innovations from the MNE as sources of competitive advantage in New Zealand.

To recap, the key sources of competitive advantage of the affiliates were product/ service technology, human resources/skills, production/service delivery technology, and management practices/culture. The results in Chapter Seven reveal that product/service technology from the parent accounts for the most change in this source of competitive advantage for the affiliates, followed by product innovations introduced by the affiliate.

The most significant influence on competitive advantage in production technology is also gained from the transfer of such resources from the parent, although innovations from the parent, development by the affiliate, and jointly developed innovations also contribute. In the area of human resources, the greatest influence on competitive advantage is innovations developed by the affiliate in New Zealand, followed by joint development of such innovations. Finally, in the area of management practices, the most significant influence is innovations introduced by the affiliate, although management-related resources and innovations from the parent also contribute.

The implications of the results are that in the areas of product and process technology, marketing and access to markets, economies of scale or scope and (to a lesser extent) distribution systems, affiliates gain competitive advantage in New Zealand as a result of the intra-firm transfer of internalised O-advantages via the MNE. These O-advantages are complemented by the innovatory activities of the affiliate both independently and jointly with the MNE. This is particularly evident for product technology, marketing, and distribution.

In contrast, in the areas of human resources and management practices, the innovatory activities of the affiliate in New Zealand contribute most toward the affiliate's competitive advantage. Joint and parent innovatory activities and resources increase the affiliate's competitive advantage, in the case of management practices. However, in the case of human resources the affiliates appear to gain no significant competitive advantage from the transfer of parent human resources at all.

LINKAGE FORMATION

Indirect competitive linkages

RQ10 Competitive position The results found that on average, the affiliates occupied strong competitive positions relative to other firms in their industries. More than 70 percent of the affiliates stated that they were a major competitor or the only competitor in their industry in New Zealand. More than half the affiliates said they were also major competitors internationally.

This suggests that there may be a capability gap between foreign-owned and locally-owned firms. However, a caveat must be raised with regard to this point. Many of the affiliates were operating in industries that were dominated by large, foreign-owned affiliates (see foreign ownership statistics in Chapter Four). Therefore, many of their competitors will also be foreign-owned. The thesis is unable to make a distinction between foreign-owned and locally-owned competitors.

RQ11 Competitive environment The results in Chapter Seven show that in the past three years, competition increased in almost all industries, and half the affiliates indicated that the number of firms competing in their industries had also increased. In the majority of cases the affiliates had some influence on these changes. On average, they exerted a moderate influence over the level of competition, as well as the competitiveness of other firms in their industries, and a minor influence over the numbers of small and major players in the industry. These results indicate that foreign-owned companies are driving competition in many industries, and having a certain amount of influence over the entry and/or exit of other players.

In order to get a better idea of the impact of FDI on the competitive environment, it is useful to consider each area of industry individually. Figure 8.1a below shows the competitive changes by industry (where the number of respondents was greater than ten). The figures plotted are the mean values of the responses for each industry group, which are also included in Appendix 8.2. We also include the main comments of the firms to this question, which give valuable insights as to the other factors driving competitive change in their industries. Figure 8.1b shows the extent of influence of the respondents over these competitive changes.

The most obvious trend is that almost all the means indicate that competition has increased in every industry. In addition, the number of competitors has increased moderately all industries. Most industries have experienced a slightly higher increase in the number of smaller, rather than major competitors. This is particularly evident in the construction industry, where the affiliates also exerted more influence over the competitive environment than in other industries.

Figure 8.1a Competitive Changes by Industry (Mean values)

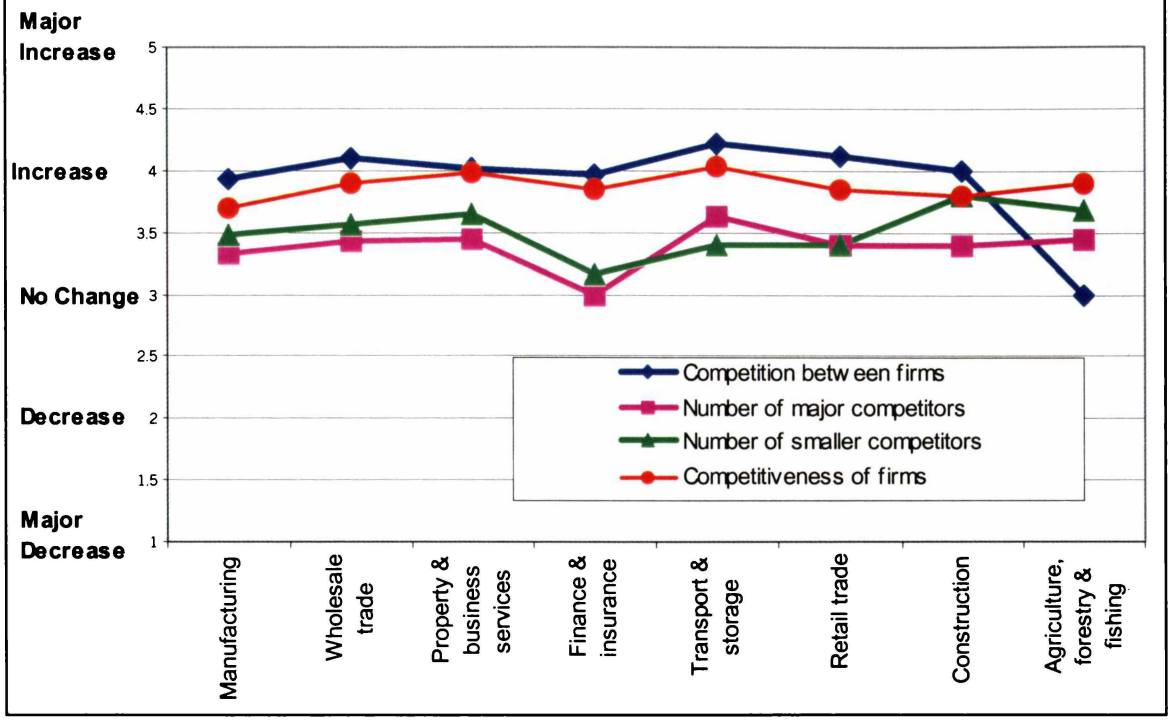
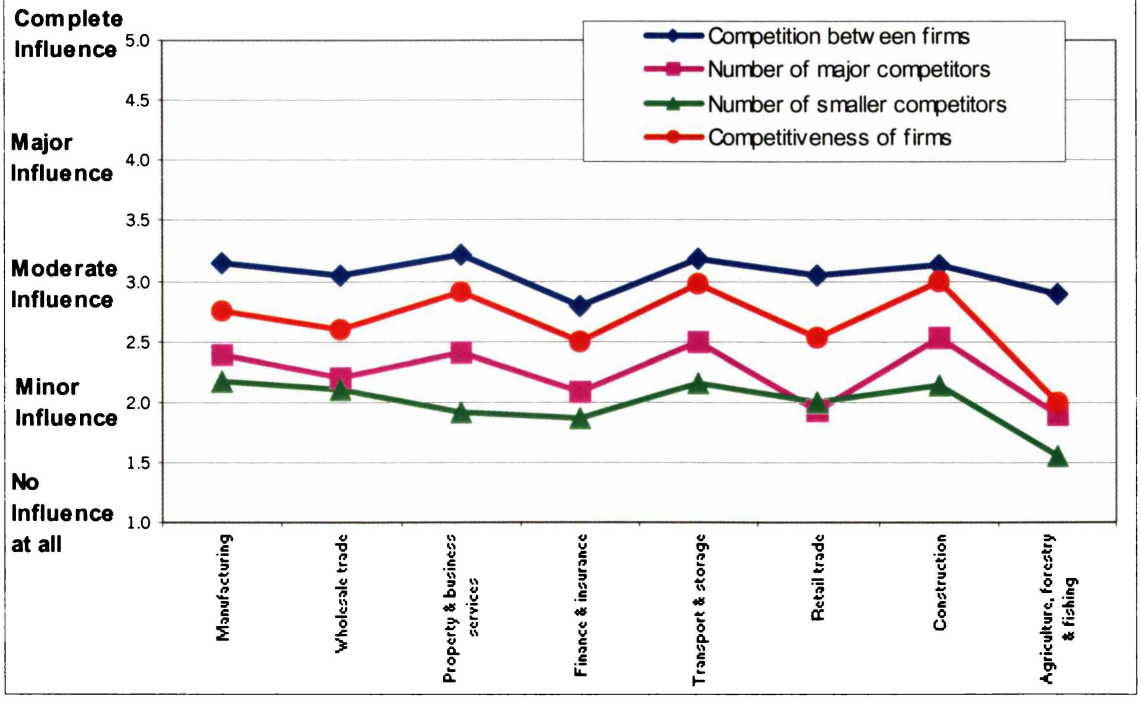


Figure 8.1b Influence on Competitive Changes (Mean Values)



The only industry in which competition remained constant over the past three years, is agriculture, forestry and fishing. This industry has a relatively low proportion of foreign-ownership (see Chapter Four), due to high barriers to entry and prohibitions on foreign ownership. The affiliates in the survey were mainly of forestry firms, some of whom are still in the planting/growing stage, and others who are exporting 50-100 percent of their output, and thus not competing against each other in the New Zealand market. However, both the number of major and smaller competitors has increased in this industry over the past three years. Figure 8.1b shows that the affiliates in the survey felt that they only had a minor influence over these changes. Their comments suggest the main influences were the formation of Wood New Zealand which encouraged foreign investment into forestry; increased competition from foreign imports, as well as fluctuating demand in export markets.

The transport and storage industry experienced the greatest increases in competition, competitiveness, and the number of competitors. Influence over these changes by the foreign-owned firms is significantly greater than for all industries combined. The largest firm in this group, a public transport company, stated that it had a significant influence on competition: "[we] bought out the major competitor, reduced competition between major players and encouraged new entrants". Other firms commented on the international factors influencing competition, such as the economic situation in Asia and Japan, international competition, and prices. Particularly in the shipping industry, the focus is on competitive pricing as supply capacity exceeds demand.

The property and business services sector also appears to have experienced higher than average rises in the number of smaller competitors. The affiliates had only a minor influence over this change, stating that the changes in the competitive environment were due to "the acquisition of smaller companies by larger offshore based companies" (security firm), a "flat, no growth market"or "soft, mature market" (advertising and staff recruitment firms, real estate) and the "Asian crisis" (consultant engineers, laboratory services). Technology development, product awareness and

branding were some of the influences driving competitive changes for computer software firms in the survey.

Changes in the finance and insurance industry were attributed to factors other than the affiliates' activities. The insurance companies felt unanimously that 'growth by acquisition' had contributed to these changes, stating that: "enterprise numbers have decreased, but takeovers have increased the size and resources of competitors". Other finance/banking firms noted that competition had increased, and firms were looking to competitors to gain ideas for products and new areas of business. One credit card company commented: "opportunities in the marketplace are identified by competitors, and global strategy by our major competitors is an influence on these changes". An investment banking company said that there is an increasing "tendency for New Zealand firms to seek international alliances". These comments reflect the international and competitive nature of this industry.

Changes to tariffs and the openness of the New Zealand market were frequently cited influences on the competitive environment for industrial goods manufacturers (electrical cables, ceiling systems, industrial energy). Another factor was expanding consumer choice, partly due to parallel importing (golf supplies), cheaper imports from Asia (industrial tools), or a maturing market (electrical consumables) for some consumer goods. In agricultural manufacturing (wool and dairy equipment) demand was decreasing due to worsening market conditions here in New Zealand or overseas.

In contrast, some firms had experienced growth in their market (printing, winemaking), or had benefited from a strong New Zealand dollar (hydraulics, pneumatic components, electrical products). In some cases individual events had shaped the competitive environment, such as the demise of the motor industry (moulded polyurethane), the purchase of a major competitor (adhesive/sealants), and closure of the only other competitor (textiles).

In wholesale trade, the most common influence on the competitive environment was government policy. The changes to the Health Funding Authority (HFA) and

government-driven pricing through the "monopsony purchaser, Pharmac" had seriously affected the medical/pharmaceutical suppliers in the survey. Similar to the manufacturing industry, the most frequently cited influences on the wholesale trade sector were lowering of tariffs, parallel importing laws, and the ease of importing cheaper products (photographical, optical, medical and construction supplies, sportswear, pneumatics, lighting).

Chemical companies, in particular, noted the "declining manufacturing in New Zealand, but increased competition", and cited a "cost cutting drive by [chemical] manufacturers to avoid decimation by imports". A firm involved in crop protection technology stated that "poor rural sector returns, low business confidence, poor government leadership, MMP and ERMA [Environmental Risk Management Authority] were responsible for competitive changes". Non-government influences included mergers and acquisitions, globalisation of markets and customers and technology.

In summary, therefore, despite being major competitors in New Zealand, the affiliates were only one factor driving competitive changes in their industries. Market demand, changes to the international business environment, government policies and the actions of other competitors all exert an influence over the extent of competition in the industry, along with the competitiveness of other firms, and the number of players. However, given their size and strength, foreign affiliates will have a greater influence in many industries than uninational firms.

RQ12 Competitive clusters There was some evidence to suggest that foreign investments have been made to locate close to local agglomerations or clusters of firms with specific innovations. Eight percent of the firms indicated the investment was made to locate in close proximity to such clusters. The sources of local innovation included competitors, local suppliers, research institutes or universities, and local customers or agents.

Direct Linkages

RQ13, 14, 15 Forward Linkages The results in Chapter Seven revealed the affiliates had formed a considerable number of forward linkages with local industry in New Zealand over the past 12 months. Almost 60 percent of the affiliates formed relationships with local agents in New Zealand for wholesale/retail sales, marketing or distribution. Forty-six percent also formed relationships with their customers in New Zealand that purchased specialised inputs.

Many of these relationships involved a transfer of assistance to the local firm. Assistance was given to local agents and customers for the purpose of improving their products or services by 38 percent (198) of all the affiliates. A wide range of assistance was given to local firms relating to products, practices, and processes. The most common forms of assistance were technical assistance, product component (or service) specifications, staff training, information about markets, suppliers and contacts, and product samples and prototypes.

RQ16, 17, 18 Backward Linkages Local sourcing linkages create downstream benefits for local suppliers and subcontractors through increased demand for locally-produced inputs such as raw materials, semi-finished goods, products, and services. This thesis focussed on sourcing of specialised inputs, for reasons outlined in the methodology chapter.

The results in Chapter Seven showed that the most significant source of specialised products was the affiliates' parent/related companies overseas which were relied on to a moderate extent. Affiliates relied less on sourcing specialised products from other New Zealand firms, and other firms overseas (i.e. not related by ownership). Just over half the affiliates only relied on local sources to a minor extent, or not at all. However, there was evidence of higher levels of local sourcing of specialised services. On average, affiliates relied on both local New Zealand firms and parent companies to a moderate extent, and other firms overseas to a minor extent.

The implications are that foreign-owned affiliates draw heavily on their parent and related affiliate companies for sourcing of specialised inputs, and particularly specialised products. This suggests that there may be potential to improve the capability of local firms or their ability to provide the required inputs to increase the extent of local sourcing. This is particularly the case where affiliates are sourcing from unrelated companies offshore (i.e. importing) rather than purchasing locally. The results also provide evidence of the integrated nature of the MNE which encourages intra- rather than inter-firm trade. Regardless of local firm capability, it is probable that intra-firm sourcing will remain a part of the MNE's operations. This proposition is addressed more fully in the section on local firm capability presented later in this chapter.

The results also showed that 62 percent of the affiliates had formed relationships with local suppliers or subcontractors for the purchase of specialised inputs over the past 12 months. However, 70 percent of the firms had formed 10 or fewer of these relationships. These findings echo the previous discussion, suggesting a considerable reliance on offshore sourcing by many of the affiliates. It may also be evidence that some affiliates do not purchase specialised inputs.

The results revealed that local suppliers and subcontractors also benefit from assistance given by the affiliates. Just over 20 percent of all affiliates gave some form of assistance to local suppliers or subcontractors in the past 12 months. The most common form of assistance was technical assistance and product component specifications. The least common types of assistance were related to trade and exporting, and finance. Overall, less assistance was given via backward linkages than forward linkages. Of all the assistance given by affiliates, over 70 percent went to agents or customers.

The implications of these results are that local firms have the opportunity, and indeed are benefiting from linkages with foreign-owned affiliates operating in New Zealand. In the first instance, foreign affiliates create demand for locally-produced inputs, particularly services. In the second instance, assistance given to local firms is

directly helping them to improve their products and services. In particular, local firms acting as agents or customers to the affiliates are benefiting considerably from assistance linkages. However, there is less evidence of backward linkages occurring, particularly local sourcing of specialised products, and assistance to local suppliers and subcontractors, and this suggests less potential for local firm upgrading.

In terms of previous research, the findings confirm that affiliates create demand through backward linkages and may contribute to the development of local firms. However, this thesis makes two important contributions to existing literature. First, the assessment of linkages is not limited to the extent of local sourcing as has been the case in previous studies, but also includes assistance linkages and forward linkages. Second, our findings suggest that linkages created by affiliates with local industry, are considerably underestimated by omitting to consider linkages other than local sourcing.

RQ19, 20 Knowledge agreement linkages These linkages were formed by the affiliates very rarely over the past 12 months. Only nine percent had formed licencing agreements with local firms, and only 7 percent had formed franchisee agreements. Overall, there were few types of assistance given to these firms, although relative to backward and forward linkages the affiliates gave more managerial assistance, inventory or service systems management assistance and equipment.

This is not to say that MNEs do not form these agreements in New Zealand, however, it confirms that MNEs that engage in FDI in New Zealand are unlikely to have formed these agreements. These results confirm that licencing and franchising is typically used as a substitute for FDI, rather than a complement for FDI (Kumar, 1990). This is because, by definition, FDI includes an equity component while most licencing and franchise agreements are financed by the local licencee or franchisee, thus not being counted as FDI.

RQ21, 22, 23 Collaborative linkages The survey results showed that almost 30 percent of the affiliates had formed some type of collaborative agreement with another local firm in the past three years. In fact, these firms had been involved in multiple collaborative linkages over that time. The most frequent form of agreement was an alliance, followed by a technology-sharing or development agreement.

Considering each of the affiliates' most significant agreements (see Chapter Seven), 40 percent were for distribution, agency, sales or marketing related purposes. Twenty percent were for technology development and a further 20 percent for sharing or procurement of resources/supplies/information. Just 10 percent involved management contracts, and eight percent were for strategic or competitive leverage.

These findings suggest that foreign affiliates rely on local knowledge and experience to assist the distribution, sale and market development of their products in New Zealand. They are also involved in the joint development of technology (most likely product technology), and share resources and information for mutual benefit. The nature of these agreements suggests that foreign and local firms are actively exchanging assets such as resources, and competencies, as well as collaborating to develop these assets.

In fact, the results in Chapter Seven show that this is the case. From 148 agreements, there was evidence of transfer of all 14 different types of resources (see Chapter Seven), and in total 629 'resources' were transferred. Of these, over a quarter (particularly product and production or service technology) were considered by the affiliate to have been unique to the firms prior to the agreement.

In addition, transfer of resources such as information, experience and expertise, product/service technology, training, specialised inputs, production technology, access to markets, R&D, and marketing systems, from foreign affiliate to the local firm occurred more frequently than transfer from local to foreign firm. A total of 94 resources were developed as a result of the agreements, namely: product/service

technology, production/service delivery technology, marketing systems, and human resources or skills.

The implications of these findings are that foreign-owned affiliates are having a direct impact on the upgrading of local firm capability and competitiveness through collaborative linkages.

DETERMINANTS OF DIRECT LINKAGE FORMATION

Table 8.1 shows a full summary of the results of the regression analyses that evaluated the determinants of direct linkages between the affiliates and other local firms in New Zealand[1]. The table shows a number of common influences on local sourcing, forward and backward assistance linkages, and collaborative linkages with other (unrelated) New Zealand firms.

Motive for investment RP3 As a determinant of direct linkages the motive for investment is only significant for local sourcing and collaborative agreements. Our review of the empirical literature in Chapter Three suggested that resource-seeking investments might be less well integrated into the local economy due to limited backward linkages. However, Table 8.1 shows that resource-seeking investments in New Zealand are positively related to sourcing of specialised products. This suggests that resource-seekers are forming backward sourcing linkages, perhaps to access complementary resources.

1

It should be noted that the coefficients for local sourcing are produced through multiple regression and those for other linkages by logistic regression, thus a direct comparison is not appropriate. Also, the individual elements of the ABILITYF factor (i.e. ability to supply standardised/specialised products/services) were used in the multiple regression analysis due to these significant results not being shown when the factor scores were used.

Table 8.1
Determinants of Direct Linkage Formation

Independent Variables - Determinants		Coefficients (B) for Dependent Variables - Types of Linkage						
		Local Sourcing^		Assistance Linkages with:				
		Specialised Products	Specialised Services	All Local Firms	Agents or Customers	Suppliers/ Subcont.	No Local Firms	Collaborative Linkages
		SPPROD	SPSERV	ASSIST	AGENT2	SUPPLI2	NONE	CA
Motive								
Resource-seeking		.162***						
Market-seeking								
Efficiency-seeking								.2399*
Strategic asset-seeking								
Trade/support activities		-.085*						
Autonomy		*not significant*						
Main Business Activity								
Service Provider								.5915**
Trader								
Manufacturer				.4675*	.4732*		-.5534**	
Resources from Parent								
Technology Factor								
Human Resources Factor								
Management practices/culture				-.2231*				
Marketing systems								
Distribution systems					.1725#			
Economies of scale or scope			-.093*		.1750*	.2558*	-.2314**	
Access to inputs				.3301**				
Access to info, expertise								
Access to markets		.109**						
Finance								
Innovations								
Product (service) technology	P							
	NZ							
	B							
Production (serv.del.) technology	P							
	NZ							
	B							
Management practices	P							
	NZ	.121*						.5384*
	B							
Marketing systems	P	-.114**	-.119**					
	NZ							
	B	-.095*						
Distribution systems	P							
	NZ			.9028**	.9362***	.7293*	-1.0544****	
	B							.6929*
Employment practices	P							
	NZ			-.7238*				
	B							.7002#
Human Resources/skills	P							
	NZ			.9563**	.5943*			
	B			1.0727**	.7946*	1.1500**	-.8691**	
Capability of Local firms								
Capability Factor								
Price								
Ability to supply Factor						.3578*		
Ability to supply st.products		.141**						
Ability to supply st.services		.117*	.249****					
Ability to supply sp.products		.239****						
Ability to supply sp.services			.147**					
Age								
Years in NZ		*not significant*						
Years owned by current FI		-.101*						
Size								
Full-time equivalent staff					-.0011*			

Table 8.1
Determinants of Direct Linkage Formation continued

	Coefficients (B) for Dependent Variables - Types of Linkage						
	Local Sourcing^		Assistance Linkages with:				
Independent Variables - Determinants	Specialised Products	Specialised Services	All Local Firms	Agents or Customers	Suppliers/ Subcont.	No Local Firms	Collaborative Linkages
	SPPROD	SPSERV	ASSIST	AGENT2	SUPPLI2	NONE	CA
Country of Origin							
USA/Canada							
Australia			-.4408*	-.6332*			
Japan							
UK/Ireland							
Other Europe							.7651**
(Other Asia/Pacific)							

^Multiple regression analysis, co-efficient values not comparable with other results for linkages (logistic regression). #p<0.10, *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001

In contrast, the results do confirm our earlier proposition that investment related to trade/support activity will engage in less local sourcing. The probable reason for this is that these firms rely more heavily on parent resources and do not engage in local production.

Efficiency-seeking investment is positively related to the formation of collaborative linkages, confirming our proposition that affiliates will seek to form relationships with local firms in the interests of reducing the costs or improving the efficiency of their local operations. The fact that it is the collaborating firms that form linkages for efficiency-seeking reasons has positive implications for local industry. The review of the literature given in Chapters Two and Three suggested that collaborative agreements offer the most potential for local firm upgrading due to a two-way transfer of resources and competencies between the affiliate and the local partner.

The results in Chapter Seven confirm that this two-way transfer was occurring and that both firms had benefited from the collaborative relationship. Hence, a tentative conclusion would be that although efficiency-seeking firms might not invest in New Zealand for cheap supplies of labour or other resources that would lower the costs of production, they could be investing in New Zealand to share and exchange competencies with established firms. The results in Chapter Seven indicated that these competencies are most likely to relate to marketing, sales or distribution,

technology development, and procurement or sharing of resources and information. It is also possible that these firms engage in market servicing on a regional basis, and the efficiency-seeking motive becomes blurred with their primary motive of market-seeking.

The motive for investment did not have a significant influence on any other direct linkages, suggesting that regardless of motive for investment, affiliates may or may not form forward and backward assistance linkages.

Autonomy RP4 Looking at the results as a whole, it is evident that the degree of autonomy of the affiliates does not have a significant impact on the formation of direct linkages by the affiliate. The implications of this finding are that linkage formation is not significantly different for affiliates that have a greater or lesser degree of autonomy over decision-making.

There are several possible reasons for this finding. One, linkage formation is determined by other factors rather than autonomy. Regardless of the level of autonomy given to the affiliate, some inputs are purchased locally, others offshore, and some firms are more likely to give assistance or collaborate with other firms.

Two, influence over decision-making by the parent firm might not extend to the operations of the affiliate in terms of linkage formation. In other words, the foreign parent is not requiring the affiliate to form intra-firm rather than inter-firm linkages. This may also reflect the market-seeking motive for the investment primarily as a base from which to service the domestic market, rather than a narrower role associated with the globally-integrated affiliate.

Three, the influence of the parent over the affiliate's decision making might not be a useful measure of its ability to make choices over where it sources its inputs, the agencies it chooses, or the firms it collaborates with.

However, when we look at these possible reasons in light of other results, it seems that the concept of autonomy (ie. over decision-making) and the concept of integration into the corporate network may be two quite different concepts. Previous research has often associated integration into the corporate network as an indication of low autonomy by the affiliate. However, our results suggest otherwise.

The extent of integration into corporate networks was evidenced by the high reliance by the affiliates on these networks for O-advantages and resources. Reliance on parent companies for strategic (long-term) decision-making was also apparent. Therefore, we can assume that the affiliates are quite strongly integrated into the strategy of the MNE. However, in contrast to this, affiliates have autonomy over short-term or day-to-day operations and decision-making. In other words they have the autonomy to source from local or foreign suppliers, and/or form other linkages as appropriate to the local and international requirements of the company.

This suggests that many affiliates may be integrated on a regional basis, but run fairly autonomously to service local markets. The affiliate remains integrated into the corporate network in terms of strategic position, direction and key resources such as technology, but at the operational level remains fairly autonomous. As discussed in a previous section, where (former) New Zealand firms were acquired by their current foreign owners, the level of local integration is higher. However, this interplay between foreign influence and local autonomy is a complex issue, and one which may need to be addressed by future research.

Main activity RP5 The main area of activity of the affiliates did not influence significantly the extent of local sourcing, but was found to influence their propensity to form assistance linkages. The results confirm our hypothesis that firms engaged in manufacturing are significantly more likely to establish both forward linkages with agents and customers, and backward linkages with suppliers and subcontractors. The significant but negative relationship between manufacturing and affiliates which did *not* give assistance confirms this finding.

Although there is no evidence to suggest that service firms form more sourcing or assistance linkages, they were significantly more likely to have formed a collaborative agreement with another New Zealand firm.

The implications of these findings are quite straightforward. They suggest that service providers and manufacturers are more likely to form linkages that have a higher potential for local upgrading (ie. direct assistance or collaboration). This finding makes a considerable contribution to our understanding of the way in which MNEs in different sectors might impact on local development via linkage formation. In constrast to previous studies that are limited to investigating singular sectors, or the impact of a foreign presence in general, this thesis attempts to understand how local integration might differ between affiliates involved in manufacturing, those involved in the tertiary sector, and those primarily involved in trading, support or administration activities (i.e. non-manufacturing).

O-advantages RP6 Resources gained from the foreign parent or shareholder(s) also impacted on the formation of local linkages. The most significant of these was favoured access to inputs (such as raw materials, and products) which was positively related to assistance linkages with both agents and/or customers, and suppliers and/or subcontractors. Affiliates were also significantly more likely to give assistance overall when they relied more heavily on their foreign parent for information, experience, and expertise.

These findings indicate that the more the affiliate gains access to inputs from the foreign parent the more likely they will give assistance to local firms through backward and forward linkages. Although the affiliates only gain inputs from their foreign parents to a minor/moderate extent, this does not mean that this inhibits local linkage formation. In fact, a tentative conclusion is that inputs, information and expertise transferred via FDI from the MNE to the affiliate have positive externalities for local firms in the form of assistance to help improve their goods and services.

In contrast, reliance by the affiliate on inputs from the foreign parent was negatively but weakly associated with local sourcing of specialised services. It is not clear why this is the case, but it may be that where the affiliate is able to rely on the parent for such inputs they are less likely to be purchased in New Zealand. Management practices and business culture from the parent also had a negative relationship with assistance given to local firms to improve their products and/or services. The results show that the affiliates have a moderate reliance on their foreign parent for management practices, and this influence appears to lessen the likelihood of assistance. The possible reasons and implications of this are discussed in the following section on innovation.

Innovation RP 7, 8 The results reveal that the introduction by the affiliates of innovations that are considered unique to their respective industries in New Zealand, influences linkage formation between the affiliate and local firms.

Location-bound innovations have more impact on the propensity of the affiliates to form linkages. In particular, innovations in distribution systems that originate from the affiliate in New Zealand have a strong and positive influence on the likelihood of giving assistance to both agents/customers and suppliers/ subcontractors. Affiliates that have not introduced such innovation are not likely to give assistance to unrelated New Zealand firms. Very similar findings are apparent for innovations in human resources/skills that originate through joint development by both the affiliate and their foreign parent. In addition, affiliates are more likely to give assistance (particularly to agents/customers), when they have introduced human resource and employment practice innovations, independently.

In the case of collaborative agreements, the introduction of management practices by the affiliate, and jointly developed distribution systems and employment practice innovations increase the likelihood of such linkages occurring.

The implications of these results are that involvement of the New Zealand-based affiliate in the introduction of innovation increases the likelihood of assistance

linkages. There is no significant evidence, however, that innovations introduced by the parent company (and internalised by the affiliate) decrease the likelihood of linkage formation.

Local firm capability RP 9, 10 The results reveal that the capability of local firms does not significantly influence the extent or type of linkages. Neither local sourcing of specialised inputs, assistance linkages with local firms, nor collaborative agreements are influenced by the capability of local firms.

Capability was a measure of the standard of New Zealand inputs relative to alternate sources of supply used by the affiliates. A review of the results on the standard of local inputs reveals that the affiliates rated the availability, price, quality, reliability and technical sophistication of local inputs to be average to above average in comparison to other sources of inputs. The fact that firm capability does not influence direct linkage formation, therefore, strongly suggests that inputs that are available in New Zealand are equivalent to those available elsewhere.

In contrast, the ability of local firms to supply standardised and specialised products and services has a significant positive influence on local sourcing, and assistance linkages with suppliers/subcontractors[2]. This is a reasonable finding since the variable is more applicable to local sourcing rather than forward linkages or collaborative agreements.

The most significant influences on the extent of local sourcing of specialised products and services are the ability of New Zealand firms to supply specialised products, and their ability to supply specialised services. Affiliates that indicated that New Zealand firms were able to supply the products and services required by their firm (ability factor), were more likely to have given assistance to local suppliers or subcontractors.

2

Note that the factor score (ABILITYF) was used for the logistic regression analysis, while the individual variables were used in the multiple regression. This was to elucidate the relationships between supply and sourcing of specialised products and services in the latter case.

The implications of these findings are that where local inputs can be supplied locally, local sourcing and backward assistance linkages are far more likely to occur. The results in Chapter Seven suggested that local firms' ability to supply standardised/specialised services was better than their ability to supply products. This suggests that local sourcing might be checked by the inability of local firms to supply some of the required products.

Overall, the low levels of local sourcing in Chapter Seven combined with these findings strongly suggest that:

- locally available inputs are of a similar standard to those sourced offshore; however
- New Zealand firms are unable in some instances to supply the specialised inputs (particularly products) required by the affiliates; and in addition
- the affiliates are choosing to source from their parent or related affiliates, and offshore from other overseas companies, for strategic reasons rather than just a response to the standard and supply of local inputs.

Age The age of the affiliate, in terms of the number of years ownership by current foreign investors, is only significant for local sourcing of specialised products. A negative relationship suggests that the longer the affiliates have been owned by their current investors, the lower the extent of local sourcing of products.

Firm size The size of the affiliate (FTE employees) is a significant factor only for assistance linkages with agents/customers. A negative relationship between the two variables suggests that larger firms might be less likely to give assistance to agents or customers. This could be because they tend to have control over their own marketing and selling and rely on fewer local agents; and/or because they sell non-specialised products that do not require a working relationship to be established with customers. A less obvious conclusion to this finding is that, regardless of size, affiliates might still engage in assistance with suppliers/subcontractors and collaborative agreements.

Country of origin Australian affiliates were significantly less likely to have given assistance to local firms, and particularly with agents/customers. A probable reason for this finding is that Australian affiliates are more likely to be familiar with the New Zealand business and cultural environment. This means these affiliates rely less on local agents for marketing and distribution, and are more able to act in an agency capacity themselves.

In contrast, affiliates from the OTHER EUROPE group were significantly more likely to engage in collaborative agreements with local firms. This country-of-origin group consists of the European but non-English speaking countries. These results might be indicative of psychic distance effects, which encourage firms from countries with very different cultures to New Zealand (Anglo) to link up with other local firms already operating in New Zealand. The results in Chapter Seven showed that 40 percent of the affiliates' most significant agreements were for market development, distribution and sales arrangements, in other words, the types of activity that require a good understanding of local customers and culture.

DEGREE OF LINKAGE CLUSTER CHARACTERISTICS

Our model developed in Chapter Five proposed that foreign affiliates could have a number of linkages in a local economy and combined, these could suggest a Degree of Linkage (DOL) of the affiliates overall. These linkages range from low level indirect competitive linkages, to moderate level backward and forward linkages and finally, to high level knowledge or collaborative agreements.

RQ26 Degree of Linkage The cluster analysis in Chapter Seven identified seven clusters of firms based on their DOL. It is evident, therefore, that foreign-owned affiliates not only engage in different linkages with local firms in New Zealand, but different groups of affiliates can be distinguished by different DOL. This finding contributes to our understanding of how different sets of firms can be locally integrated into the local economy via indirect and direct linkages. In addition,

different DOL clusters are expected to have different influences on the development of local industry.

RQ27 Degree of Linkage Characteristics However, our purpose was not only to assess the sample in terms of each individual type of linkage but to determine whether patterns existed among firms across the entire range of linkages. The objective of the cluster analysis was to make such an assessment, and the results reveal seven clusters of firms that are similar to others in their cluster, but different to those in other clusters. Chapter Seven then presented results that looked at the differences between these clusters on important characteristics relating to the affiliates' profile. These results show that the affiliates in each cluster, and each DOL are able to be distinguished by their motive for investment, competitive position, the extent of technology from their parents, as well as their age, ownership form and main activity.

By considering each cluster in terms of its DOL and other characteristics, it is easier to assess the extent to which FDI may be contributing to the development of local industry through:

- indirect competitive effects;
- direct sourcing or supply of goods and services;
- the provision of assistance; and
- the formation of knowledge and collaborative agreements.

A review of the key characteristics of the seven DOL clusters, and the possible implications for local upgrading is discussed in this section.

Table 8.2 presents the seven clusters according to their position on the DOL continuum (i.e. low, moderate and high). Both the cluster number and name is given for each cluster, along with the number of affiliates (cases) by cluster and by DOL. Where significant differences between the mean values exist at the 0.05 level (as shown on the DOL matrices in Chapter Seven), this is indicated on the table. The clusters that had significantly lower means than other clusters are shown by 'Low' and

the clusters that had significantly higher means are shown by 'High' for each specific variable. A blank cell indicates the cluster mean for that specific variable was not significantly different from the other clusters, which could be considered as 'average'.

Low Degree of Linkage

Table 8.2 reveals that the impact of the largest group of firms, comprising almost 40 percent of the sample is largely restricted to competitive influence on other firms in their industries. It is difficult to assess whether this impact would be positive or negative without examining each industry separately.

The affiliates in cluster 1 do not even have a competitive influence over other firms in their industry in New Zealand which suggests these firms are operating in a near enclave environment. Both clusters 1 and 8 limit their direct linkages to a few forward and knowledge agreement linkages. We review the characteristics of each of these clusters in the following discussion.

Enclave operators The 86 affiliates in cluster 1 are characterised by below average levels of all types of linkage. This cluster has more affiliates engaged in trading activities in New Zealand rather than manufacturing, and they are more likely to be branches or subsidiaries of an overseas firm than former New Zealand firms. In comparison to other clusters these affiliates have not been established here for as long, have experienced fewer changes to the level of competition in their industries and are less likely to be operating in New Zealand for the purposes of strategic asset development or acquisition.

The overall picture of this cluster suggests that these firms are primarily in New Zealand for the purposes of maintaining a local presence in fairly stable markets, without actively being involved in local production or linkages with other local firms.

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Table 8.2
Degree of Linkage Clusters and Cluster Characteristics

Degree of Linkage	**LOW**		**MODERATE**			**HIGH**	
Cluster Number	1	8	4	7	9	3	5
Cluster Name	Enclave operators	Competitors	Forward linkers	Backward competitive linkers	Backward non-competitive linkers	Knowledge sharers	Collaborators
Number of cases in cluster	86	116	45	93	105	20	51
Total cases for each DOL	202		243			71	
Motive for Investment							
Strategic asset-seeking	Low				Low		High
Trade/support activities		High		Low	Low		
Competitive Position							
Competitive position in NZ		High	High	High	Low		
Competitive position internationally			Low		Low		High
Changes to competition in industry	Low	High			Low		High
Technology from foreign parent		High		Low	Low		
Age							
Years in NZ	Low	Low	High		Low	High	
Years owned by current foreign investor			High	Low	Low	High	
Ownership Form							
Branch/subsidiary	High			Low	Low		
Acquired NZ firm	Low		High	High	High		
Main Activity							
Service provider		Low	Low	High			High
Trader	High	High		Low	Low	High	Low
Manufacturer	Low		High	High		Low	

Competitors Cluster 8 includes 116 affiliates or 22.5 percent of the sample. This cluster is primarily characterised by having a high level of influence over the competitive environment in the affiliates' industries. Similarly to Cluster 1, the Competitor cluster shows a high membership of traders, indicated by both the motive for investment and the main activity. There are fewer service firms in this cluster, and the affiliates have not been in New Zealand for as long. The main differences from cluster 1, are that cluster 8 is:

- a larger competitor in New Zealand and has experienced more change in the competitive environment, and
- relies more heavily on technology from the foreign parent/ related affiliate companies or shareholders.

This cluster appears to be maintaining a much more competitive local presence based on the ability of the affiliates to source technology via the corporate network. In terms of development, this cluster will have the most impact via indirect competitive effects on local industry.

Moderate Degree of Linkage

Table 8.2 shows that there are three clusters that are having a positive impact on local development through increasing demand or supply of goods/services and through providing assistance. Cluster 4 (45 firms) has above average levels of both forward and backward linkage, especially the former. Cluster 7 (93 firms) has predominantly backward linkages, and so does Cluster 9 (105 firms), indicating that primary impact of the 243 affiliates in these three clusters is at a moderate level. That is, these firms may contribute to local upgrading by either buying locally produced specialised services and/or products, or by establishing relationships with or providing assistance to local suppliers, agents and customers. In addition, Cluster 7 also has a strong competitive influence. We consider the characteristics and possible implications for local upgrading of each of these clusters in the following discussion.

Forward linkers Cluster 4 is characterised by having very high levels of forward linkage, as well as moderate levels of backward and competitive linkage. From the characteristics of Cluster 4, it would appear that the affiliates in this cluster are well integrated into the local economy and are committed players in the New Zealand market. Table 8.2 shows that these firms are large competitors in New Zealand, but not in the international marketplace. They also have been established in New Zealand, and owned by their current foreign shareholders for significantly longer than other clusters, although there is a high number of acquired (former) New Zealand

firms in the cluster. Finally, this cluster has relatively more manufacturing firms, further confirming the active role these firms play in local industry.

In terms of development, there is considerable potential for increases in supply and demand of specialised goods/services, assistance linkages and competitive influence to prompt upgrading by local firms. Unfortunately, there are just 45 affiliates in this cluster which suggests the positive effects of such a broad array of linkages may be limited. It also reinforces the assertion that although affiliates form linkages in New Zealand, they are not all formed at the moderate (backward and forward) level, but instead are concentrated on select forms of linkage.

Backward competitive linkers Cluster 7 contains 93 firms and is characterised by the highest levels of backward and competitive linkages. The affiliates in this cluster rely on local sources of specialised products and services more heavily than other clusters, and therefore create more demand for these products. There are several key characteristics of this cluster that suggest a higher level of local linkage will be apparent.

First, relative to clusters 1 and 8, in this cluster there are fewer firms engaged solely in trading and/or support activities and more service providers or manufacturers. Earlier results suggest that manufacturers and service providers form more direct linkages that traders.

Second, this cluster is also significantly less reliant on their foreign parents for technology, suggesting a higher level of local development than other clusters. Local development is likely to involve local firms, although this is just a tentative conclusion given that the thesis does not directly address this issue.

Third, there are significantly higher numbers of acquired (former) New Zealand firms. This is true of all the clusters in the Moderate DOL category, and suggests that acquired New Zealand firms have higher levels of backward linkage than branches or subsidiaries. Locally owned firms are expected to have a higher reliance on local

sources of inputs than foreign subsidiaries, and it appears that this local buying behaviour continues post-acquisition.

Fourth, Cluster 7 affiliates are strong competitors in New Zealand, and exert an above average influence on other firms in their industries. These findings explain why the affiliates in Cluster 7 have higher backward integration with the local economy, despite having been owned by their current foreign investors for fewer years than other clusters.

Backward non-competitive linkers Although Cluster 9 shows many similarities to cluster 7, these firms do not exert competitive influence in their industries, limiting their linkages to backward linkages with local suppliers and subcontractors. Table 8.2 shows that this cluster scores significantly lower than other clusters on almost all variables, with the main exception being the 'acquired New Zealand firm' ownership form.

The overall picture suggests that for market-seeking reasons these affiliates maintain a local presence. In many cases, this presence is achieved through the acquisition of a small, locally experienced New Zealand firm. The means for this cluster show they are average sized competitors, with a moderate reliance on parent technology. However, relative to other clusters, these affiliates are the smallest competitors with the least reliance on parent technology. This suggests that this cluster may operate more autonomously (in a multi-domestic sense) in the New Zealand market for the purposes of maintaining local presence. Alternatively, the affiliates could use New Zealand as a base for reaching other markets or supplying parent/affiliate companies with locally sourced and processed inputs, rather than competing against New Zealand firms.

High Degree of Linkage

Table 8.2 (first four rows) shows that a large proportion of the affiliates in the sample do not form a significant number of high-quality linkages. Just two small clusters are

characterised by high levels of linkage via knowledge or collaborative agreements with local firms. Other clusters have firms that conduct these agreements to a more limited extent. These agreements hold the most potential for local upgrading via the transfer of both core and non-core assets, resources and experience.

Collaborative linkages have the most potential for local upgrading through a two-way transfer of resources and O-advantages. However, only 51 affiliates (Cluster 5) score above average on this factor and are included in the Collaborators cluster. Contrast this with the earlier results that found that 125 affiliates had formed at least one collaborative agreement where resources were transferred to local partners. Clearly this cluster is evidence that certain affiliates form more collaborative agreements and transfer more resources than others who engage in such linkages less frequently.

Similarly, very few affiliates engage in knowledge agreements with local firms. Approximately eight percent of the sample indicated they had formed knowledge agreements (see Chapter Seven) and of those, half (20) were included in the knowledge sharers cluster. That gives a total of 70 affiliates that are engaging in a high degree of linkage. These firms also have approximately average, or above average scores for both the moderate and low levels of linkage.

Knowledge sharers Cluster 3, consisting of just 20 cases, includes those firms that engage in knowledge agreements and the transfer of assistance to licencees and franchisees. In addition, these firms also undertake collaborative agreements and backward linkages. The results suggest that these firms are significantly older and have been owned by their current investors for longer. There is a higher proportion of traders in this cluster, and fewer manufacturers. This finding suggests that licencing and franchising agreements are undertaken in place of local manufacture or even marketing by the affiliate. However, due to the small numbers in this cluster, as well as the initial pooling of several small clusters that all had knowledge agreements, it is necessary to interpret these findings with some caution, particularly when making such generalisations.

Collaborators Cluster 5 includes 51 affiliates that are very active in forming collaborative agreements with local firms as well as transferring resources. This cluster also engages in forward linkages, has a moderate level of competitive influence, and slightly below average levels of backward linkage. Here again, these firms offer considerable potential for local upgrading via a range of linkages.

The cluster is distinguished by having a higher than average strategic asset-seeking motive for investment, and is competitive internationally. Although this may be evidence that these firms are looking to acquire New Zealand-based competencies, they are also bringing international competencies to New Zealand and operating in dynamically competitive industries. Chapter Seven also showed that these firms were actively transferring resources to local firms via collaborative agreements that were primarily undertaken for either marketing, distribution, resource acquisition or technology development purposes. In addition, the firms in this cluster are more likely to be service providers, rather than traders.

CONCLUSION

In summary the results related to the affiliates' profile in New Zealand show that:

- the country of origin and main activity of the affiliates in the sample is comparable to the data available from official sources;
- almost all of the firms are not only foreign-owned, but are affiliated with a MNE rather than with foreign individuals (such as shareholders);
- these MNEs, on average, take a long-term perspective of their investments in New Zealand as evidenced by on-going ownership;
- there is strong evidence to support the proposition that the MNE plays an influencing role in the operations and decision making of the affiliate.

There are several major implications of these findings. The first relates to the underlying assumptions set out in Chapters Two and Three. The justification for

examining the impact of FDI (rather than domestic investment) is that the OLI configuration of the MNE is expected to result in a different outcome to that of an uninational firm. The affiliate does not operate in the same manner as an uninational firm, as it is able to draw on the multinational, if not global, cumulative strengths and experiences of the MNE.

This section of the results has confirmed that the operations of affiliates in New Zealand are significantly influenced by the intra-firm internalisation of the MNE's O-advantages, as well as the MNE's strategic and operational decision-making.

The survey makes an original contribution to existing literature by providing evidence over a representative sample that the nature and role of the affiliate in New Zealand is shaped by the MNE. Thus the findings lend credence to the assumption of the differential impact of foreign-owned versus locally-owned firms on economic development.

Second, the results showed an overwhelming response by the affiliates in favour of market- seeking investment. A third of the affiliates operate in New Zealand for trade/support purposes or in a strategic asset-seeking role to protect the wider interests of the MNE. The main implications of this finding are that MNEs are choosing to invest here to establish a local market presence. This raises several concerns regarding the future development of New Zealand industry.

The results suggest that New Zealand and regional markets are sufficiently large to require a local presence by the MNE. However, the concern is that New Zealand is not equally attractive as a site for research and development, efficient or low-cost manufacturing, processing of primary products, or for its workforce. These, albeit tentative, conclusions are based on the large numbers of affiliates that did not invest in New Zealand for efficiency (54 percent of the sample) or resource related reasons (50 percent).

Third, the contribution of the findings relating to parent resources and innovations as sources of competitive advantage make four significant contributions to existing knowledge in the following ways:

- by showing that the transfer of resources from the foreign parent is the key influence on the most important area of the affiliates' competitive advantage (i.e. product technology);
- by providing evidence that parent resources and innovations have a major influence on all other main areas of competitive advantage (with the exception of human resources and skills);
- by making a distinction between parent versus affiliate-generated competitive advantage, for example, human resources and skills which is developed by the affiliate in New Zealand, with very little outside influence by the foreign parent;
- by revealing that in all areas of competitive advantage the innovatory activities of the affiliate in New Zealand also make a significant contribution toward competitive advantage.

In conclusion, linking these results back to the O-advantage augmentation process, it is evident that foreign-owned affiliates are drawing on parent resources and innovation as sources of competitive advantage relative to other New Zealand competitors. This suggests that they are introducing unique assets that otherwise would not be available in New Zealand. These assets not only contribute to:

- the foreign-owned firm's competitiveness; but also
- to the overall competitiveness of the industry in New Zealand as a consequence of the affiliate's improved performance in the first instance, and through competitive, demonstration and agglomeration effects in the second instance.

Fourth, the findings show that foreign-owned affiliates are having a direct impact on the upgrading of local firm capability and competitiveness through linkages, especially competitive influence, forward linkages, and collaborative linkages. In fact, there is evidence of inter-firm transfer of both core and non-core firm-specific assets by the affiliates. This finding is indicative of quasi-internalisation of O-advantages suggested in Chapter Two, whereby foreign firms may choose to externalise certain O-advantages where the net value of doing so is greater than internalising these within the firm.

The results suggest that such quasi-internalisation of O-advantage is complementing, rather than substituting for FDI. Previous literature that considers the formation of collaborative agreements has not clearly made this distinction. While the benefits of alliances and technology sharing agreements are widely recognised, the role of the MNE in local development is not the focus of these studies. This thesis provides clear evidence that FDI (i.e. investment involving foreign equity) in New Zealand is associated with beneficial collaborative linkages (that do not involve equity). This is the first study that has revealed this potential for upgrading via FDI *and* collaborative linkages in New Zealand - although this link has not been widely considered in international literature either.

Fifth, the key determinants of direct linkage formation were the motive for investment, the main activity of the affiliate, reliance on certain resources from the foreign parent, the introduction of certain innovations, the capability of local firms, and to a lessor extent, country of origin and the size of the firm. In particular, manufacturing affiliates were more likely to form linkages with local firms, as were those that gained economies of scale or scope from their foreign parents.

Perhaps the most significant determinant was the local development and introduction of innovation (either independently by the affiliate, or jointly with the parent) particularly in the areas of distribution and human resources. Where this local innovation was occurring, there was a greater extent of linkage formation suggesting that local firms are more likely to become party to this process. The ability of local

firms to supply products and services also was associated with the extent of local sourcing by the affiliates. In contrast, the autonomy and age of the affiliates was not significantly related to local linkage formation.

Lastly, the DOL cluster characteristics confirmed these findings and also revealed other important determinants of linkage formation. The affiliates included in the collaborators cluster, for instance, were more likely to be service providers who operated in highly competitive international industries. They were also more likely to be strategic asset-seekers in New Zealand, but all of these firms are actively involved sharing company resources and competencies with local firms through collaborative agreements.

The DOL cluster analyses also revealed that acquired firms, rather than foreign branches/subsidiaries, formed higher quality linkages (i.e. backward and forward linkages). Affiliates that were classified as having a low DOL were more likely to be operating in New Zealand for the purposes of trade and supporting activities, and highly reliance on their foreign parent for technology rather than developing it within New Zealand. They were also younger on average than the affiliates in other clusters, suggesting that these firms may increase their DOL overtime as they become more familiarised with the New Zealand environment. We discuss some of the implications of these DOL profiles in the following chapter.

The final chapter of this thesis serves as a review of the key objectives of the thesis, while highlighting the existing literature that provided the foundations upon which to begin the current investigation. It also explains how the thesis has sought to address the limitations of previous studies, while conceding that the thesis itself has raised further issues for future research. The focus of Chapter Nine, however, is to elucidate the primary contributions of the thesis both to existing knowledge of FDI in the New Zealand context, as well as to the development of theory in the wider domain of foreign investment and host country welfare. It also makes some broad recommendations for government policy in New Zealand based on the key findings discussed in this chapter.

CHAPTER NINE
CONCLUSION

INTRODUCTION

This thesis has sought to evaluate the impact of FDI on New Zealand industry. The motivation for the research arose from a pressing need to better understand the role of FDI in the New Zealand economy. In particular, while aggregate statistics measured the extent of FDI at a macro-level, and case studies and survey evidence examined some of the impacts of FDI at a micro- (firm) level, there remained a distinct gap in the existing literature regarding the wider impact of foreign-owned affiliates on local industry.

Through the second half of the 1990s, New Zealand was one of the most heavily dependent (developed) countries on FDI as a source of gross fixed capital formation (UNCTAD, 1999). This is evidence that New Zealand's economy relies on FDI as a source of investment capital to supplement capital available domestically. However, limiting the consideration of the impact of FDI to first round effects such as capital investment and capital flows, output, and employment for instance, would severely underestimate the contribution of such direct investment in the economy.

To address the limitations inherent in the existing literature, this thesis concerned itself with determining the impact of the MNE's activities in New Zealand, via the FDI vehicle, on the competitiveness and capabilities developed in local industry. Consideration of these second round effects not only provides a fuller explanation of the potential and actual contributions of FDI in a host country, but offers evidence of the long-term effects arising from foreign-owned business activities. The state of research to date suggests that FDI does make a significant contribution to industry via second round effects. However, prior to the author's current research the extent and nature of this contribution over the population of foreign investors in New Zealand was unknown.

The purpose of this chapter is to bind all the elements of the thesis together to address our research question, 'What is the impact of FDI on New Zealand industry?' In particular, this chapter illustrates how the thesis makes a significant contribution to our existing knowledge of FDI in New Zealand, as well as the way in which the impact of FDI on industry upgrading might be examined by future researchers. It begins by reviewing the key points of early chapters that sought to explain the state of current research and theory, and the limitations of this research in terms of addressing our research problem. The chapter then goes on to highlight the main findings of this study that attempt to address some of these limitations, and the implications of these findings for our understanding of the role of FDI in New Zealand industry. The discussion then turns to examining the main contributions of this thesis to theory development and existing research in New Zealand industry, and the implications for policy. Finally, we discuss areas for future research that have been raised, but not addressed by this thesis.

REVIEW OF THE THESIS

In Chapter One we formulated some very simple questions to guide the thesis. These related to the impact of FDI on industry, at the first round level through the effects on the affiliate as a result of its multinationality and its ability to access parent and related affiliate resources, and at the second round level through the effects on local firms that interacted with the affiliates as either competitors, or suppliers, agents, customers or partners. We also sought to determine the main influences on the formation and extent of relationships (linkages) in the New Zealand-specific context.

The discussion in Chapter Two moved on to consider how the impact of FDI on a host economy can be elucidated by existing theories and paradigms that seek to explain the unique nature of the MNE and the reasons for conducting FDI in an foreign location. The thesis argued that these theories could also be used to understand the reasons why FDI exerted differential impacts on a host economy

relative to domestic investment. In particular, the investment development path (IDP) proposed by Dunning, suggests that FDI might facilitate the upgrading of indigenous firms in the wider process of a country's economic development.

The IDP provides a dynamic framework with which to examine the relationship between economic growth and FDI activity, where government acts as a catalyst to change (Dunning & Narula, 1996). Chapter Two noted that prior to the IDP no definite connection had been made between inward FDI, outward FDI, and the economic development of a country. The underlying value of the IDP, therefore, is its recognition of the developmental link between FDI and the upgrading of O-advantages by indigenous firms. The framework suggests that given appropriate receptor conditions, FDI provides the impetus for augmentation of host-country industry through the introduction of new technologies, critical skills and knowledge, competition, and local linkages.

However, one of the limitations of the IDP as a framework for assessing the impact of MNE activity on local industry is its focus on changes in FDI and economic growth at the aggregate level. The translation of changes to the competencies of firms at the micro-level to changes in economic development at the macro-level is not made explicit by this theory. Therefore the process by which local upgrading occurs as a result of FDI activity, coupled with exogenous factors (i.e. government policy) becomes very difficult to assess. This process may be likened to the *black box* of the IDP, in that the IDP explains *what* happens, but does not explain *how* it happens. In order to address this gap, this thesis incorporates a complementary paradigm, namely; the eclectic (OLI) paradigm which explains the *why*, *how* and *where* of international production, in other words, the internalisation (I) ownership-specific (O) advantages in a foreign location (L).

The OLI paradigm asserts that the role of MNEs in the global economy is dependent on an interrelated set of variables: namely the competitive or ownership-specific advantages of firms; the competitive or location-specific advantages of countries; and

the ways in which these advantages are organised either internally via internalisation (i.e. within the firm), or externally via arm's length transactions. Influencing these variables are managerial strategies, including the motive for investment, government policy, and the transactional relationships that occur between firms (see following discussion). The value of the eclectic paradigm in this thesis is that it offers a means of assessing the extent to which inward FDI might contribute to the eventual internationalisation of indigenous firms through gradual improvement of their own O-advantages. In other words, the eclectic paradigm is employed in the thesis to operationalize the macro-level IDP concept in terms of the micro-level phenomenon of local industry development facilitated by FDI.

Combining both the IDP and OLI frameworks suggests that the MNE represents a distinct enterprise with a specific set of characteristics that are pivotal when analysing the impact of FDI on the economic growth of a host country. These characteristics are defined by the MNE's unique configuration of O, I, and L specific advantages, which at a micro-level, influence the activities of both the affiliate and the set of local firms operating in the host-country. At a macro-level, changes to the activities of firms in local industry (including the affiliate) have implications for economic development. This is the underlying assertion of the IDP, that inward investment by foreign firms, coupled with appropriate government policy and outward investment by indigenous firms provide the impetus for such development.

The extent to which existing empirical research has sought to assess the impact of the MNE on local development was the subject of Chapter Three, which is briefly reviewed here as evidence of the lack of firm-level (micro) analysis and the need to fill this gap. Specifically, inadequate attention has been given to the role of the affiliate (i.e. the MNE) in the process of upgrading of ancillary firms. The literature is deficient in several respects.

First, the focus of current empirical research remains on the strategy of the MNE as it seeks to acquire and exploit resources or locate in a specific area, rather than the

effects of this on linked local firms. In contrast, studies that consider the impact of the MNE on development do not typically draw on the IDP or theories of the firm, and are usually orientated toward the measurement and assessment of impact at an aggregate level (rather than at a firm-level), such as industry productivity.

Second, much of the existing literature focuses on the first round effects of FDI on a host economy through changes to capital, employment and technology, without a corresponding emphasis on the longer-term, second round effects on local industry that occur through linkages. A complete assessment of the impact on development must recognise the contribution of both first and second round effects. However, due to the difficulties of measuring such longer term effects of FDI, research to date has been limited and narrow in scope. Studies that do consider second round effects frequently limit their analysis in one of two ways.

- First, the analysis draws on aggregate-level data to explain a specific outcome associated with FDI (i.e. changes to productivity, market structure or demand) without adequately assessing the reasons behind these changes. In other words, they do not consider the process of how the affiliate's unique characteristics might enable (or inhibit) the process of upgrading of local firm O-advantages. Nor could many of these studies directly attribute these changes to local upgrading to direct or indirect linkages.

- Alternatively, the analysis is limited to the consideration of backward linkages (particularly local sourcing), and occasionally forward linkages. The impact of the MNE must, therefore, be underestimated by these studies if the broad spectrum of possible linkages is ignored. In addition, emphasis in much of the previous research has been on the quantity, rather than the *quality* of local linkages, a factor that has a more significant influence on the process of upgrading.

Third, because of the nature of FDI (as an equity-based activity) much empirical work has tended to dichotomize the organisational routes of the MNE into either hierarchical internalisation or pure market forms of transaction. This dichotomy effectively omits consideration of alternate forms of organisation that have, in fact, been the subject of considerable research, particularly in the strategic management literature, relating to networks or clusters of interconnected firms, and alliances. The need to incorporate alliance capitalism (in addition to hierarchical capitalism) into the OLI paradigm is addressed conceptually by Dunning (1995). However, again due to the difficulty of capturing such relationships, the empirical evidence in this area is limited.

Fourth, where collaborative or knowledge agreements are the subject of International Business research, frequently they have been treated as a substitute for FDI, or in isolation from FDI activity, rather than as a complement to FDI. For instance, the MNE chooses to undertake say, an alliance or franchising agreement to service a foreign location instead of undertaking FDI. This thesis has provided evidence that collaborative organisational routes are being employed in conjunction with FDI by a significant proportion of foreign affiliates.

Fifth, the majority of literature fails to make explicit the fact that an affiliate may address market failure through a 'voice' strategy over an 'exit' strategy via internalisation. This, in turn, suggests opportunities for local firms to be integrated into the MNE network - as well as the affiliate being integrated into the local economy. Such integration takes the form of direct linkages with local suppliers, agents, customers and collaborative partners. The empirical evidence given in Chapter Three suggested that a 'voice' strategy may engender either a developmental or dependent scenario whereby affiliates contributed to local upgrading through assistance and collaborative linkages; or failed to contribute by simply creating inconsistent demand for local products through short-term, 'spot' relationships. We concluded that the *quality* and longevity, rather than the *quantity* of linkages were more important determinants of local development.

This thesis argued that such 'voice' strategies and quality linkages could also engender a partial or quasi-internalisation of O-advantages by the affiliate. A distinction made between firm-specific core advantages and more generic resources and competences, explains how firms might be able to maintain core competitive advantages within the firm via internalisation, while simultaneously sharing other competencies through the quasi-internalisation required for collaborative agreements. This thesis provided the only available evidence in the New Zealand context that this is a common occurrence, and that local firms benefit directly through their relationships with foreign affiliates.

Chapter Three also considered the determinants of linkage formation, and revealed that the extent to which the affiliate formed local linkages is dependent on both endogenous factors (corporate strategy, motive for, and type of investment), and exogenous factors (government policy, extent of natural and created assets, existing O-advantages embodied in local firms).

Chapter Four considered the current research in New Zealand, and revealed a number of limitations in terms of assessing the impact of FDI on local industry upgrading. One of the most obvious limitations of the data available in New Zealand, was the absence of basic information about the foreign affiliates themselves - there were no publically available lists of foreign-owned companies, let alone information on their activities. This made it very difficult to assess the impact of FDI, particularly at the second round level. We explain how this study attempted to address these limitations in a later section.

In Chapter Five, we explained how the IDP could be operationalised by drawing on the OLI paradigm. This chapter proposed a process of O-advantage augmentation driven by the extent and pattern of FDI, and the quantity and quality of linkages formed with local firms. It was posited that these linkages subsequently determined the degree of linkage of the affiliate with the local economy and the extent to which quasi-internalisation of O-advantages by the MNE might occur. In the longer term,

and given appropriate government policy and local firm capability, we suggested that the diffusion and transfer of resources such as skills, knowledge and technology, from the foreign-owned affiliate to local industry would contribute to the ability of local firms to upgrade their own O-advantages.

A number of research questions and propositions were put forward in Chapter Five to evaluate the extent to which this process of O-advantage augmentation was occurring in New Zealand. Specifically, the thesis considered:

- the unique characteristics of the MNE (the affiliate) that would differentiate its impact on local industry from uninational firms;
- the extent and type of linkage formation of the affiliate with other locally-based firms, and the determinants of those linkages; and
- the degree of linkage of the affiliate with the local economy and the characteristics of groups of affiliates that had a low, moderate, or high degree of linkage.

If local upgrading is to occur, we argued that there must be linkages between the foreign affiliate and local firms. Despite the eclectic paradigm's usefulness as a conceptual framework by which the impact of the activities of the MNE can be assessed, the paradigm does not extend to testable theory. One of the major limitations that this study had to overcome was the difficulty of formulating, operationalising, and testing propositions about the nature and form of linkages between foreign and local firms and their expected outcomes. The research methodology was presented in Chapter Six.

Chapter Seven presented the results of the survey, and in Chapter Eight these results were discussed in light of our research propositions and research questions given in Chapter Five. We present the key findings of the study and their implications in the New Zealand context in the following section.

MAIN FINDINGS AND IMPLICATIONS FOR NEW ZEALAND INDUSTRY

Affiliate Profile

The results began by presenting a profile of the affiliate in order to help determine its main characteristics that might make it different from the uninational firm.

In terms of the more general profile of the investors, the survey found that although the level of acquisitionary investment had increased quite dramatically since the early 1980s, the majority of investors in the survey exhibited a long-term commitment to the affiliate in New Zealand. There was little evidence to suggest foreign investment may be subjecting local firms to the difficulties typically associated with rapid turnover of ownership.

An increased rate of acquisition rather than greenfield investment does have implications for economic development in New Zealand. Because acquisitions involve taking over an existing enterprise, rather than establishing a new enterprise the potential for employment creation, new venture capital (as opposed to capital transfer), demand, supply and output, and the introduction of technology is somewhat diminished. In other words, fewer greenfield investments indicate a smaller contribution by foreign investors to employment, output and the overall growth of the economy. As a consequence, the rise in acquisition-related foreign investment has caused some concern among policy-makers and the public alike who appreciate that greenfield investment is more likely to foster economic development and growth.

However, this concern is primarily based on the analysis of first round impacts. Consideration of the longer-term, or second round impacts of FDI (see Chapter Seven) suggests that firms that have been acquired, as opposed to being established as subsidiaries/branches of foreign MNEs, are more likely to be well-integrated into the local economy. These results show that local firms acquired by their foreign

owners have higher levels of backward and forward linkages with other local firms, while subsidiaries and branches have lower levels of such linkages. The implications of this finding are that acquired firms remain well-integrated within the local economy, while simultaneously benefiting from their affiliation with the foreign corporate. The benefits include the inter-firm transfer of resources, the advantages of multinationality, and common governance of activities. Hence, the results suggest that post-acquisition, the local firm appears to become integrated in selected areas within the foreign corporate network, but in its local operations remains fairly autonomous.

The outcome of this organisational strategy for local industry is likely to be positive. That is because, generally, the potential for quasi-internalisation of O-advantages and resources is higher where the affiliate is able to access such corporate resources, and where the extent of direct linkage formation is high. To return to our earlier point, this suggests that concern over the first round impacts of FDI is less relevant in an investment environment where acquisition, rather than greenfield investment, is the norm. Where acquisition has occurred, the consideration of second round impacts may be more important to our understanding of the impact of that foreign investment overall. In particular, the link between the unique characteristics of the foreign MNE (over the indigenous firm) and subsequent upgrading of the affiliate, and possibly local industry, is vital to a more rigorous assessment of the impact of FDI on a host economy over time.

Therefore, the thesis focussed on impacts that might occur as a result of the uniqueness of the MNE relative to indigenous firms, namely the first and second-round effects that arise from the bundle of skills, resources, and firm-specific O-advantages. Consideration of these unique characteristics formed an important part of the construction of the affiliate profile. The results revealed that in addition to finance, the affiliates in the survey were highly reliant on their foreign parents for technology in the form of products, R&D, and production technology, as well as knowledge embodied in the information and expertise of the parent (and related

affiliate) companies. Parents also provided management and marketing practices, and economies of scale/scope.

The survey found that affiliates were responsible for introducing hundreds of innovations that were considered to be new to their industry in New Zealand at the time of their introduction, and 80 percent had introduced some form of innovation over the past three years. The most commonly introduced innovations related to product/service technology, production/service delivery technology, management practices and culture, marketing, and human resources. The thesis found that with the exception of human resources, many of these resources and innovations had wholly or partially originated from the parent company or related affiliates.

Location-bound resources and innovations, including those involving human resources and distribution systems, for example, were less likely to originate from the parent company. The survey also found that few (13 percent) affiliates invested in New Zealand to gain existing innovation, providing little evidence to suggest that foreign investors might seek to 'hollow out' innovatory capacity.

The implications of these results are that foreign investors contribute significantly to the innovation base of New Zealand through:

- the introduction of innovation originating from the parent, or jointly developed by the parent and the affiliate;
- independent introduction of innovation by the affiliate;
- and to a lessor extent, conducting R&D in New Zealand.

Where investors have sought local innovation, in most cases they have maintained R&D activity in New Zealand.

The affiliates were also reliant on their parent companies for strategic decision making, implying that local strategy is influenced by the global (or regional)

strategies of the MNE. However, the majority of affiliates had autonomy over short-term decision-making, including day-to-day, operational decisions.

One third of the affiliates indicated that their operation filled a strategic asset-seeking role in New Zealand, acting as part of a global corporate body. The results suggested that many of the affiliates provided a local presence for the MNE's global activities. In fact, the majority of foreign investors had invested in New Zealand for market-seeking reasons, and of these approximately half serviced third-country markets from their New Zealand base. One third of the affiliates indicated that they were operating in New Zealand for trade and supporting activities, and the majority of these were only involved in servicing the local market. By main activity, two thirds of the firms were classified as primarily engaged in trading or service activities, and only one third as manufacturers (including primary processors). Official statistics (see Chapter Four) also show that foreign investment in manufacturing is declining.

Collectively, these results suggest that affiliates are integrated into foreign corporate networks and rely on them for strategic decision-making, as well as financial and technology-related resources and other firm-specific assets. However, the affiliates have greater autonomy on an operational level, and many are focussed primarily on servicing local markets. This mix of local autonomy combined with foreign company integration suggests that the strategies employed by affiliates are complex, and consequently the extent of their linkage with local industry is dependent on a number of variables. The extent to which affiliates are able to engage in quasi-internalisation at a local level in combination with their links into the MNE network may be a more complex and largely unresolved issue than suggested by previous literature.

The main implications of these findings for local upgrading are that foreign firms require a local presence in New Zealand which means that they, for the most part, are actively integrated within the local economy through both indirect and direct linkages. However, this presence does not necessarily translate into local production,

which offers the most potential for quality linkages with local firms. Very few of the firms indicated that they operated in New Zealand for efficiency- or resource-seeking reasons, suggesting that New Zealand does not offer an ideal location for manufacturing despite its abundance of natural resources. Instead, production might be located offshore if other locations are able to offer more competitive labour rates or skill levels. This strategy will only be encouraged by freer trade which removes the disincentives to importing finished goods to New Zealand.

If the trend towards declining investment in manufacturing continues, it will mean that there are fewer opportunities for local firms to participate as suppliers of locally-produced goods and to benefit through direct linkages. On the other hand, demand for local services is likely to remain constant or increase. However, without a corresponding rise in created resources, such as the skill level of the New Zealand workforce, this demand may be limited to support services (such as transport, hospitality and professional services) rather than more innovative services (research, design, and development).

Linkage Formation

The results then considered the extent and type of second round impact of the affiliates' activities in New Zealand. Specifically, we looked at the types and determinants of linkages formed with local firms.

Given the assertion that foreign-owned affiliates gain competitive strength through access to corporate O-advantages, the thesis sought to assess the extent of competitive influence of the affiliates on local firms. The survey revealed that more than 70 percent of the foreign-owned affiliates considered themselves to be major (or the only) competitors in New Zealand. Almost three quarters of the surveyed affiliates had a moderate or greater influence on the level of competition between firms in their industry in New Zealand. Average influence on the competitiveness of other firms in their industry was also moderate.

The implications of these results for New Zealand industry are that foreign-owned firms are driving competition in many industries and are having a significant influence on the operations of other firms in their industries. Chapter Four revealed that almost three quarters of all employment in the finance and insurance sector was accounted for by foreign-owned enterprises; and similarly, 46 percent in the communications sector; and approximately one third in the mining, transport/storage, wholesale trade and manufacturing sectors. In terms of size, large foreign-owned affiliates account for at least one third of all large enterprises in most sectors, and dominate the mining, communications, accommodation/cafes/restaurants, and finance/insurance sectors. However, Chapter Seven also showed that there were a number of L-specific factors (i.e. demand, government policy and other players) also contributing to the competitive changes in industry. There is a need for further research in this area to clarify the extent of competitive pressure of the affiliate versus other factors.

The thesis revealed that most foreign-owned affiliates in New Zealand are engaged in some direct linkages with local firms who acted as agents for marketing/distribution, customers for specialised inputs from the affiliate or suppliers of specialised goods and services. The questions on local sourcing revealed that the affiliates were more likely to rely on parent or related affiliates as sources of specialised products, while specialised services were sourced from both local New Zealand firms and parents overseas.

In addition to purely transaction-based local sourcing and supply relationships, many linkages involved a transfer of assistance to local firms for the purposes of upgrading their products and services. More than half the affiliates had offered assistance to local firms in the past twelve months, and assistance was given mainly to those acting as agents and customers.

The implications of these findings suggest that foreign affiliates in New Zealand are still heavily dependent on offshore resources, particularly parent company resources.

Specialised products are frequently sourced from the parent as well as unrelated overseas companies. This may indicate that there is scope for New Zealand companies to upgrade their capabilities as suppliers of specialised inputs in particular. However, there are opportunities for local firms to form linkages and gain assistance from foreign-owned affiliates.

Results confirm that few affiliates engage in knowledge agreements as a complement to FDI. This means that most firms internalise knowledge and activities such as manufacturing processes or retailing that would typically be passed on to local firms via such an agreement. The fact that maintaining a local presence is so crucial to foreign investors in New Zealand might also contribute to the low level of knowledge agreement linkages.

In contrast, local firms are benefiting considerably through collaborative linkages (i.e. alliances, technology agreements, and marketing agreements) with foreign-owned affiliates. Almost 30 percent of the affiliates had formed such an agreement in the past three years, and many had formed multiple agreements. These linkages involved a two-way transfer of resources, including some core O-advantages between affiliate and local firm.

The implications of these findings are that certain New Zealand-based firms can benefit from collaborative agreements through mutual sharing of competencies. The local firms are able to offer complementary resources, such as technology, local experience, and marketing channels, and in return are able to access the O-advantages (such as information, product or process technology, training, and specialised inputs) of the foreign firm.

Collaborative linkages have a favourable impact on the upgrading of industry in New Zealand in several ways. First, the local firm has the opportunity to benefit from the quasi-internalisation of resources and competences from the affiliate. Some of these resources are unique competencies previously internalised within the MNE and thus

unavailable to other firms. Others may incorporate offshore technologies, or draw on the knowledge and expertise accumulated by the MNE's worldwide operations. It is very likely that these competencies contribute to the local firm's ability to compete. It the longer term, they may even facilitate an indigenous firm's entry into international markets.

Second, the affiliate benefits from O-specific advantages and resources transferred from local firms, which are expected to enhance its performance and/or competitiveness in New Zealand, and perhaps even internationally. This will create operating efficiencies which may be passed on to the wider community through increases in employment, exporting, tax revenue, lower prices and/or wider range of products and services available to consumers, local R&D and innovation, further capital investment etc.

Third, both firms benefit through the development of resources, such as product and process technology, marketing systems and human resources. This is also beneficial for New Zealand industry which benefits from local (as opposed to offshore) development and innovation. Finally, there was little evidence to suggest that firms were undertaking such agreements for collusive or anti-competitive reasons, although some strategic alliances or exclusive marketing agreements might have this effect.

The thesis also attempted to examine the key determinants of linkage formation. The results showed that certain unique characteristics of the affiliates and of the local firms were associated with the extent and pattern of linkage formation by the affiliate, including:

- the motive for investment in New Zealand;
- the main activity of the affiliate (manufacturers in particular were more likely to form linkages with local firms);
- resources obtained via the foreign parent/shareholder (inputs, information and expertise were associated with linkage formation, but management practices

and marketing innovation from the foreign parent were not);

- the introduction of innovation by the affiliate in New Zealand or innovation which was jointly developed by parent and affiliate (for example in the areas of distribution systems, human resources/skills and management practices this showed a positive relationship with local linkage formation);
- the capability of local firms (was positively associated with higher levels of local sourcing); and
- the country of origin (Australian firms were less likely to engage in assistance-related linkages, and European firms more likely to engage in collaborative linkages).

Overall, the results suggest that affiliates that were reliant on parent networks for certain inputs, but were also actively engaged in the local economy (in terms of production, introducing innovation in the areas of human resources and distribution, formulating their own local management and marketing practices, or seeking resources or strategic assets) were more likely to engage in local sourcing, assistance or collaborative linkages.

Degree of Linkage

Finally, the thesis attempted to assess the overall extent of diffusion and transfer of O-advantages by measuring the Degree of Linkage (DOL) of the affiliates. We proposed that the greater the DOL of the affiliate, the greater the opportunity for diffusion or transfer of such advantages to other firms. Subsequently, the extent of local O-advantage augmentation as a result of these linkages would also be greater. Chapter Five presented a model that displayed possible linkages on a continuum, showing that these linkages could either have a low, moderate or high impact on local industry upgrading.

Chapter Seven found that the affiliates could be grouped into seven DOL clusters based on the types of linkages formed. These seven clusters were grouped along the continuum according to their DOL. Of the affiliates in the survey, almost half had

a moderate DOL, that is, their main area of impact was centred on relationships formed with agents, customers and suppliers. Of the remaining affiliates, almost 40 percent were assigned to clusters that had a low DOL with the local economy, either through competitive influence, or by engaging in a low level of linkage formation. Just 14 percent of the affiliates belonged to clusters that had a high DOL.

The implications of these findings for local development are that a large proportion of the foreign-owned affiliates in New Zealand are not, with the exception of competitive influence, actively integrated into the local economy. There is also a large group of affiliates that create demand and supply and assist local firms to improve their own products and services. Unfortunately, there are considerably fewer affiliates that are actively involved in collaborative linkages - which, because of a two-way transfer of firm-specific advantage, presents the most potential for local upgrading.

These clusters exhibited certain characteristics that supported our conclusions that not all foreign investments are the same in terms of their impact on local upgrading. There is a detailed discussion of these characteristics in Chapter Eight. However, we raise several key points here in order to illustrate the nature of the type of firm that is more likely to exert a positive impact on local industry. The results suggested that a well-integrated firm with a high or moderate DOL, was more likely a manufacturer or service provider, rather than a firm engaged in solely trading activities.

In addition, firms that were less reliant on resources from their foreign parent/shareholder and more involved with local development of innovation, firm-specific resources, organisational practices and other skills were more likely to be well-integrated into the local economy via backward and forward (moderate) linkages. Similarly, former New Zealand firms that had been acquired by foreign investors, and consequently had existing networks of linkages in place locally, were much more likely to form moderate level linkages than their foreign subsidiary/branch plant counterparts. Affiliates in the collaborative cluster (high

DOL) were more likely to be strategic asset-seeking firms in highly competitive industries that were also competitive internationally. We discuss some of the implications of these findings in the following section of this chapter.

CONTRIBUTIONS OF THE RESEARCH

Contributions to research in New Zealand

One of the principal contributions of the thesis is the finding that foreign-owned affiliates in New Zealand draw on parent company resources and innovation as a source of competitive advantage. The thesis provided evidence that the 'bundle' of skills, resources and knowledge transferred by the foreign parent contributed towards the affiliates' ability to compete in New Zealand against other locally-based firms.

A high reliance on parent company resources (i.e. product/service/process technology, marketing and market access, and economies of scale/scope), as a source of advantage, supports the proposition that internalised O-advantages enable the MNE to overcome the additional difficulties of operating in foreign locations and competing against indigenous competitors. These advantages are coupled with locally developed O-advantages (i.e. human resources and distribution systems) to further their competitiveness relative to other local firms.

However, it should be noted that in some sectors such as finance, the main local competitors are likely to be other foreign-owned firms. This implies that global corporate strengths are being pitted against one another in a highly competitive market. It also suggests that in the face of such competition, uninational firms may struggle to maintain a presence other than in niche markets.

These findings confirm previous case study analyses that have identified unique contributions made by foreign investors to affiliates in New Zealand. However, this thesis provides more conclusive evidence that almost all foreign-owned firms in

New Zealand gain access to resources that would otherwise be unavailable to that firm, or unavailable in New Zealand more generally.

The thesis also makes a considerable contribution to our understanding of the second round impact of foreign investment on local industry. Existing literature focuses on the more immediate, or first round effects of FDI on capital, employment, technology, and changes at the level of the affiliate. Where previous research has addressed the impact on industry, this has frequently been limited to certain sectors (particularly manufacturing), or to demand and supply effects.

In contrast, the thesis has attempted to assess the extent of linkage formation and the quality of linkage formation by considering a broad range of linkages, and the outcome of those linkages in terms of local upgrading. As discussed in the previous section, the results suggest that the longer term impacts of foreign investment, particularly in the case of acquisitionary investment, may equal or in fact, outweigh, those incurred in the short term.

Overall, the results confirm the central proposition of the IDP, that is, the unique OLI configuration of the MNE, combined with appropriate receptor conditions, contributes to local upgrading. The implications of this for New Zealand are that foreign-owned firms are not only responsible for increased economic output through their own operations but are also facilitating the upgrading and economic output of other local firms.

One of the principal contributions of this research relevant to New Zealand, and indeed to other developed countries, is the distinction between affiliates in terms of their degree of linkage with the local economy. Previous research has often treated FDI as a homogenous entity, that as a whole exerts influence on a local economy. Alternatively, research has focussed solely on the impact of the foreign-owned manufacturing affiliate. The drawback of these approaches is that there is a lack of consideration of the differences that might exist within and between the affiliates

themselves. In other words, all FDI is not the same and consequently cannot be assumed to have the same impact on local upgrading.

The value of this research is that affiliates are distinguished according to their DOL with local industry. The results in Chapter Six suggested that the affiliates in the survey could be grouped into seven clusters with distinct DOL patterns. To briefly recap, the DOL was determined by the affiliate's linkages with competitors, agents and customers, suppliers and subcontractors, licencees and franchisees, and collaborative partners. Further analysis found that affiliates with different DOLs also exhibited different characteristics, such as their main business activity, their motive for investment, etc. The findings suggested that although all foreign-owned firms tend to encourage the intra-firm transfer of corporate resources, some are more likely than others to encourage the inter-firm transfer of these resources.

The implications for industry development, and for future policy are that different types of FDI will have different impacts. Some affiliates, due to the nature of their activities and degree of integration with the parent company, had a very low DOL with the local economy. In fact, with the exception of local sourcing of non-specialised inputs, some firms operated from near enclave conditions with negligible interaction with local firms. In contrast, smaller groups of affiliates were actively involved in linkages with local firms, which engendered the transfer of assistance and resources to encourage local upgrading.

This thesis has enabled a clearer picture to be drawn as to the types of affiliates that are more likely to create beneficial, high DOL versus those that have low DOL. This study provides a means by which future FDI promotion policies might be made more effective when targeting specific investors or certain types of investment. The results certainly suggest that laissez-faire policy toward foreign investment may not optimise potential returns, particularly at the second round level.

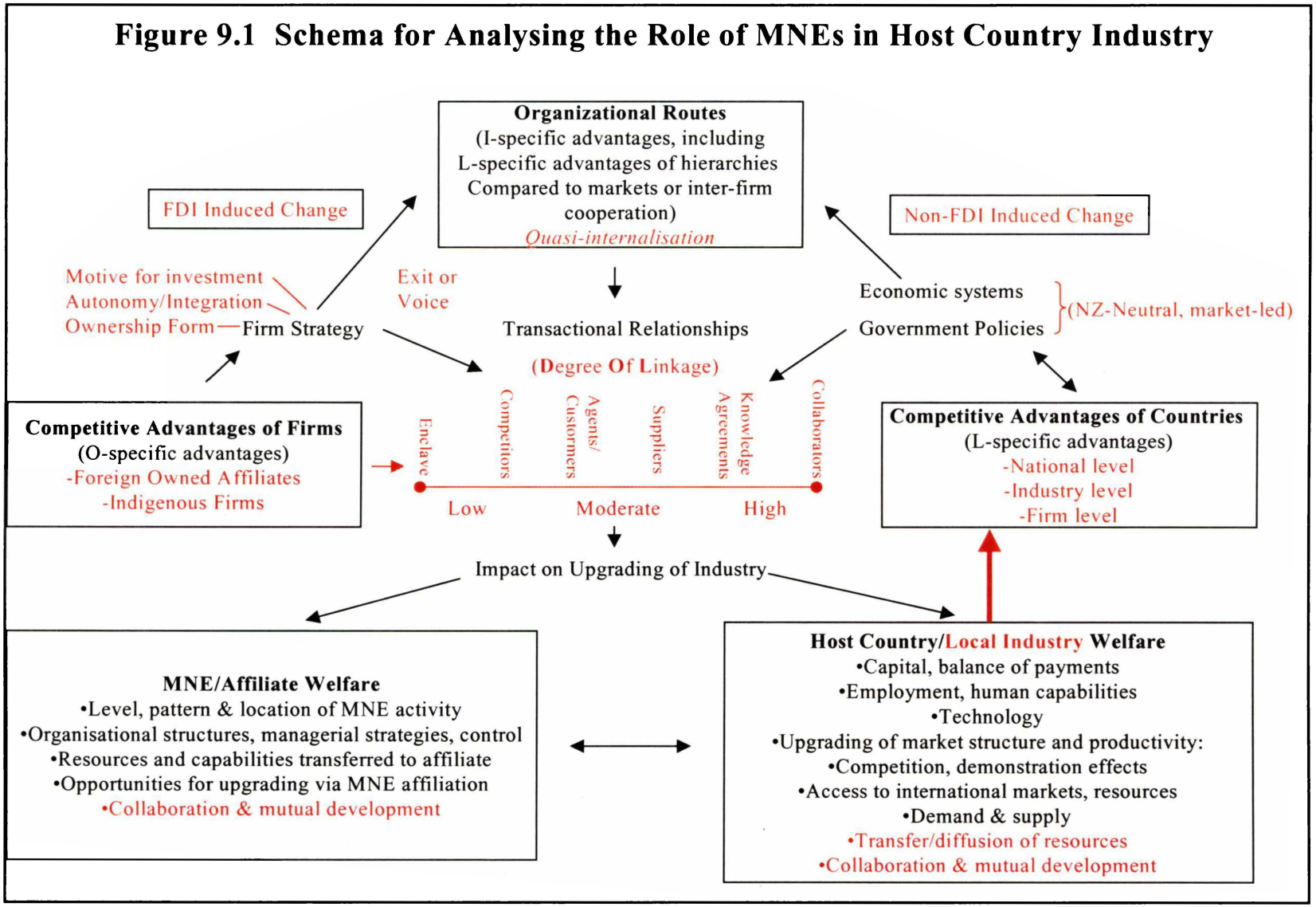
Another key contribution to existing research in New Zealand is that the thesis provides findings that can be considered representative of the population of foreign investors in New Zealand. The survey sought responses from a database of all foreign-owned firms in New Zealand constructed specifically for this research, which included all industry sectors, and firms involved in services, manufacturing, trade, and primary processing. As a result, the survey is the most representative firm-level study to-date in this area (perhaps with the exception of official surveys which do not release firm-level data) and has enabled more reliable conclusions to be drawn as to the impact of FDI.

Contributions to theory development

The thesis took a rather different approach to assessing the impact of FDI by considering specific impacts at a firm-level. Much previous research has evaluated the effects of FDI using more abstract proxies (such as the impact of foreign presence on local labour productivity) which fail to capture the process, or *how* upgrading in local firms might occur. In contrast, the thesis sought to identify the occurrence of linkages that might induce such upgrading. These linkages included local sourcing of specialised inputs, those involving specific types of assistance or transfer of firm-specific advantages, and competitive effects. The thesis attempted to examine evidence of quasi-internalisation of the affiliates' O-advantages (or non-core resources more generally); and whether as a consequence, there was evidence of either diffusion or transfer of these advantages to New Zealand firms via inter-firm linkages.

The schema presented in Chapter Two as Figure 2.1 "Analysing the role of the MNE in host country industry" is shown in a revised form in Figure 9.1. This schema provided a framework for the thesis by attempting to illustrate the relationship between the MNE, the host country, and economic welfare. This research has given us insights into the process of local upgrading, and allows us to build on the schema presented in Chapter Two.

Figure 9.1 Schema for Analysing the Role of MNEs in Host Country Industry



This broad schema complements the IDP trajectory (Figure 2.3) and builds on the stages of development via FDI induced change and non-FDI induced change (Figure 2.2). On the left are the FDI induced change agents, namely, the MNE, and its competitive (O) advantages combined with its strategy. On the right are the non-FDI induced change agents: the competitive (L) advantages of the host country, coupled with the key drivers of government policy and economic systems.

Figure 9.1 shows the main elements of the schema that have provided the focus for this thesis and in this section we explain how these might be expanded to better illustrate the process of local upgrading.

First, the survey established that foreign-owned affiliates operating in New Zealand benefit from the transfer of O-specific (competitive) advantages from their foreign shareholders. These advantages are frequently derived from the fact that the firm is part of a multinational company, and not only gains access to company-wide resources such as technology and finance, but also to the advantages arising from common governance of multinational activities. Affiliates in New Zealand are especially reliant on their parent companies for finance, technology, and expertise.

In terms of the welfare of the affiliate at the first round level, the thesis considered the impact of foreign ownership on the affiliate. Affiliation with the MNE suggests that the nature of the firm's activities will change, particularly where the affiliate was formerly an indigenous firm. The results showed that all affiliates benefited from access to the resources of their foreign shareholders, who also had considerable influence over strategic decision-making in the firm.

The role of the affiliate in these activities is determined by the global firm strategy as well as the local firm strategy employed by the affiliate. The motive for the investment and autonomy of the affiliates were expected to influence the extent of local involvement. The results showed that the affiliates in New Zealand were integrated within the MNE network in areas such as strategy, finance and technology,

but also locally autonomous in other areas such as short-term decision-making, human resource development, and distribution systems.

More emphasis in future research could be given to the influence of these different layers of strategy on the organisational routes taken by the affiliate in the host country market. In particular, the internal variables which influence the decision to follow hierarchical (intra-firm), market-oriented (inter-firm) or a combination of strategies when operating in a foreign country need further analysis.

The survey found that the affiliates took a number of different approaches to the organisational routes employed. Some remain very insular in the New Zealand environment, depending heavily on the intra-firm transfer of inputs from foreign parents and/or related affiliates. The majority relied on intra-firm sources for a major portion of their inputs, and sourced various inputs locally where this was more appropriate. Approximately one third of the affiliates, however, had actively engaged in what might be termed semi-enduring relationships with other local firms. During these relationships a two-way flow of resources (including firm-specific advantages) were transferred from affiliate to local partner, and vice versa.

We can draw important conclusions for theory building from this finding. It provides significant evidence that alternative organisational routes (to markets or hierarchies) that involve quasi-internalisation of O-specific advantages by the MNE are employed as a complementary strategy to FDI. In terms of the implications for the local upgrading of industry (our primary focus in this thesis), such complementary, flexible organisational forms present far greater potential for development than FDI alone.

Therefore, the organisational route taken by the affiliate to structure and arrange its activities in a foreign market is not just an important consideration for the MNE, but also for the host country. This is because the choice of organisational route will directly impact on the extent of internalisation by the MNE in the first instance, and the extent of (quasi-) internalisation by the affiliate in the second instance.

Internalisation, in turn, is linked to the extent of transfer and/or diffusion of O-specific advantages. Recognition of this in the theoretical literature could further considerably the investigation of the relationship between foreign firm, extent of linkage, and the subsequent impact of these factors on local capability.

We also argue that the organisational routes taken by the affiliates surveyed in this research, as with affiliates worldwide, are becoming less well defined, and more liquid. In essence, the once distinct MNE form and its activities, cannot be adequately captured by the FDI measure, nor can the impact of its activities be adequately captured by measuring the changes in output, demand or changes to labour productivity.

While previous research has tended to consider the impact on capital, employment, and local demand and supply on the upgrading of local industry, this thesis is unique in that it also takes account of collaborative activity by the affiliate and the quality of the linkages formed rather than just the changes to output, demand and supply. Thus, schema needs to recognise that transactional relationships are highly diversified in form and consequently exert very different impacts on the firms involved.

We argued in Chapter Three that firms could choose an exit or a voice strategy when dealing with local firms. What we found in this thesis was that even these strategies have different outcomes in terms of the extent of interaction between the firms. Some firms exist with minimal integration within the local economy, others seem to be making a conscious effort to assist local firms to improve the quality of their outputs. Still others are actively collaborating to share, develop, and exchange complementary capabilities for the mutual benefit of both firms.

In addition, the assessment of linkages was not limited to the demand created through local sourcing, nor to relationships with local agents and/or customers. Instead, the thesis incorporated a much fuller range of both indirect and direct linkages, including collaborative linkages, as a complementary strategy to FDI. Our findings suggest that

the impact of foreign presence via such linkages would be considerably underestimated by narrowing this scope.

The thesis also attempted to evaluate the influence of the MNE's characteristics and L-specific factors on the types of linkages formed. By analysing these linkages and their determinants, we can see how the process of upgrading might occur rather than simply observing a certain outcome (ie. increases to labour productivity) that can be associated with foreign presence. We can start to identify the precise actions (whether by affiliate, local firm or government) that might contribute to this change, and hence, better understand why upgrading occurs. For example, we have identified the competitive influence of foreign players, or their unique characteristics relative to local firms, the interaction between foreign and local firm, and the subsequent impact on industry.

Of particular significance in this thesis is the finding that the impact of the affiliate is by no means limited to competitive effects or demand/supply related effects, but also through collaborative activity. This implies are that not only do the affiliates' activities impact on the welfare of the host country, but the interaction of their activities with those of local firms impact upon the O-advantages of local firms, which in turn, build on the L-specific advantage in the host-country. Ultimately, the upgrading of local capability also enables indigenous firms to undertake outward FDI independently, although an examination of the occurrence of this phenomenon was beyond the scope of this thesis.

Hence, the schema presented in Chapter Two is limited by the fact that these 'transactional relationships' between firms are clearly linked to the impact on upgrading, but are not clearly defined as to how that relationship manifests itself. As proposed in Chapter Two, this lack of theoretical grounding for such relationships is a distinct gap in the existing knowledge of the impact of MNE activity on local upgrading.

The thesis has sought to address the gaps of this schema; primarily the nature of interaction between the elements that, over time, is expected to result in upgrading of local industry capability. This research has gone some way to identifying and attempting to examine the various transactional relationships (both indirect and direct) employed by the foreign affiliate in the New Zealand context. We proposed that these relationships fell, albeit rather imprecisely, on a continuum with indirect, poor quality linkages that would result in minimal impact on local industry at one end, and direct, high quality linkages at the other. By their nature, these high quality linkages hold far more potential for local upgrading. In other words, this thesis has shown that both the quality as well as the quantity of transactional relationships are important influences on the eventual outcome for local firms. In addition, the classification of the affiliates into similar clusters according to their DOL forms an integrated approach to considering the second round impact of FDI.

Another point that should be raised regarding the focus of current theory centres on the role of the local firm in determining the extent and pattern of linkage formation, and subsequent upgrading. Previous research, oriented toward the perspective of the MNE, has tended to include the capabilities of local firms as part of the L-specific context that the MNE encounters by operating in the host country. However, an alternative argument would be to consider local firm capability, including local O-specific advantages, innovation etc. as a much more important influence on the types of transactional relationships formed, the extent of quasi-internalisation by the affiliate and, as a consequence, the nature and extent of the impact on local industry.

Hence, we propose that particularly in the case of a developed host country such as New Zealand, local O-advantages (including created assets embodied in domestic firms, for example) are a crucial determinant of the types of linkage formation occurring. In fact, this research has shown that the ability of local firms to supply the required inputs, and to offer complementary competencies in collaborative agreements has a bearing on linkage formation.

It is evident, therefore, that the O-advantages of local firms are a crucial element of the process of upgrading. These O-advantages need to be complementary to the affiliate's, and the technology or capability gap between the two not too wide. Evidence of alliance formation and other collaborative activities in this study, suggests that in many cases these two requirements are satisfied in New Zealand.

Another related point is that local O-advantages, when embodied in clustered firms shape the L-specific competencies associated with certain industries. This is not only attractive to FDI, but also represents an area for future growth. There is the possibility, for instance, for encouraging cluster development through appropriate policy initiatives, which we consider further in the following section. The survey suggested that clusters based around innovation, at least from the affiliate's point of view, had not played a significant role in attracting FDI to New Zealand. However, the existence of clusters and their role in the upgrading of local capability represents a definite area for future research.

Hence, the key contributions of this research to theory are its attempts to distinguish between groups of foreign-owned firms, the linkages they form, and subsequent impact on local firm upgrading. Although this research could be considered exploratory, it clearly shows that foreign investors do not take a uniform approach to their degree of integration within a local economy. New Zealand provides a very interesting context for the study, because of the absence of government incentives or intervention that might encourage linkage formation between foreign and indigenous firms in other countries. The thesis revealed that under a neutral policy toward the activities of MNEs, there are a number of different strategies which emerge as regards linkage formation, as well as a number of determinants of such linkage formation.

IMPLICATIONS FOR POLICY

The New Zealand Government takes a neutral stance toward FDI. There are very few restrictions on foreign-ownership of assets in New Zealand, or on the operations of foreign-owned businesses. With some exceptions, foreign investors are afforded national treatment, that is, they are subject to the same regulation as domestically-owned firms. New Zealand takes an equally neutral stance on the encouragement of foreign enterprise. Although there have been some attempts at presenting New Zealand as an attractive investment location, the Government has hesitated to engage in direct targeting of potential investments, or to offer any form of incentive to specific investors considering New Zealand as a potential location for their activities.

The results suggest that given the absence of local content or participation requirements, low levels of tariffs on importing, and a lack of directive industry policy (that may provide certain incentives for businesses), foreign-owned firms will draw heavily on offshore sources of inputs, including finished products to sell in the domestic market. The implications of this finding, in line with free market philosophy, are that efficiency will be maximised under such a strategy. However, the implications for local development are less positive. Essentially, in light of the extent of trade and FDI policy liberalisation coupled with direct targeting and incentives offered by other countries, New Zealand's policy may actually discourage foreign investment - and particularly investment in manufacturing.

Therefore, in the absence of more directive policy, the extent of investment, as with subsequent linkage formation, depends on the strength of other L-advantages available in New Zealand (such as workforce capability, local firm O-advantages, natural resources etc.) relative to other L-advantages available elsewhere.

As a resource-based economy, New Zealand could be described as leaving Stage Three and entering Stage Four of the IDP. The O-specific advantages of local firms are

sufficient for the formation of direct linkages, including collaborative agreements with the affiliates, giving local firms the opportunity to benefit from diffusion and/or transfer of foreign O-advantages. Equally, outward FDI will also add to the stock of O-advantages available.

However, New Zealand's trajectory toward Stage Four will be facilitated by a number of factors. The type of inward investment needs to be accompanied by O-advantages that are complementary to those in New Zealand, or are lacking in New Zealand. In this way, New Zealand industry is continually upgraded, and ultimately may be able to progress into new areas of activity that require more highly skilled labour, and add more value to outputs. In many ways, parts of New Zealand industry (i.e. winemaking, sailing, and other successful industry 'clusters') have initiated the transition from investment-led to innovation-led growth. The extent to which New Zealand progresses is also expected to depend heavily on both government policy and firm strategy, that determine the use and development of local resources, and the accumulation of assets and competences in developing areas of industry.

The ability of government policy to augment created resources, as well as the ability of local firms to manage, organise, and upgrade such resources will be a decisive factor in the MNE's decision to invest, the extent and quality of linkages formed and the eventual upgrading of wider industry. This thesis has found that foreign-owned affiliates are fulfilling some of their potential in terms of local industry upgrading. However, the numbers of market-seeking firms (as opposed to strategic asset- or even efficiency-seeking firms) suggests that the majority of the affiliates are unlikely to perform the role of leading New Zealand business into new fields.

The implications for policy are that New Zealand requires more investment that is associated with leading-edge technologies and other innovations, and less investment that is solely for the purpose of trade, marketing, or distribution. However, without a concentrated effort to develop local competencies, it seems unlikely that the current composition of investment will change. In particular, evidence from countries such as

Singapore suggests that foreign-firms are looking for skilled labour and complementary supporting industries. They are looking for a stable investment environment as well as an integrated, yet consistent, approach to policy.

There are several areas worthy of investigation for future policy that have arisen as a result of this research. In particular, there may ways of speeding up the process of local development. Given that the government is a crucial element in the progression of a country through the IDP trajectory, the laissez-faire polices in place in New Zealand over the past decade may diminish the potential benefits from FDI.

In the area of industry cluster development, there may be an argument for government-funded bridging initiatives to encourage local linkage formation. These funds might act as an incentive to foreign affiliates, particularly those that are newly established in New Zealand, to work with local firms as suppliers, agents and collaborators. There is some evidence of policies implemented in New Zealand that have stifled existing local clusters, for example, the vehicle assembly industry which closed down nationwide following the accelerated removal of tariffs.

There also needs to be consideration of the technology gap when devising industry policy or targeting specific foreign investment. There is no sense in encouraging investment where the capability gap between potential foreign investor and the local support network of firms is too wide. According to this study, there is an increased chance that such disparity in the levels of capability will encourage intra- (rather than inter-) firm transactions and discourage local linkages.

There also needs to be further examination of the trickle-down effect via linkage formation. Some thought should be given to removing the obstacles and restrictions to this occurring, and incorporating this into industry policy in the future. It seems sensible that government should assume some responsibility for this, whether it be directly through industry policy, or less directly through, for instance, education policy that contributes to created asset formation and the ability of local firms to absorb new

technologies and knowledge.

As the global economy becomes more developed and integrated, MNEs increasingly base the configuration of their operations on the knowledge and infrastructure base of the host economy, rather than the supply of unexploited natural resources (Dunning 1993). It is important, therefore, that as a host country New Zealand seeks to develop infrastructure, human resources and to maintain a stable operating environment in order to attract the investment which is most likely to bring relevant resources and capabilities.

LIMITATIONS AND FUTURE RESEARCH

There were several areas of future research that were raised by the thesis. The first addresses the need to make a clearer distinction between local and indigenous firms to gain a better understanding of the extent of indigenous firm upgrading. The survey did not distinguish between different sources of local linkages; namely whether these linkages were formed with indigenous New Zealand firms, or with other foreign-owned firms based in New Zealand.

The reason that this distinction could not be made is that it would have been too onerous on respondents to have them differentiate between New Zealand-owned and foreign-owned suppliers. However, the survey did distinguish between local sourcing from firms that were related by ownership to the affiliate, in order to assess if intra-firm purchasing within New Zealand was occurring and to what extent this contributed to local sourcing overall. Nonetheless, this limitation suggests that there is a need for future research to consider the real role of indigenous firms (both uninational and multinational firms), particularly in industries dominated by foreign-owned enterprises.

The second relates to the tendency of foreign affiliates to take local innovatory activities offshore post-acquisition. The survey found little evidence to suggest that MNE activity is 'hollowing out' local capabilities through linkages with local firms, or through

acquisition of local companies whose innovative activities were subsequently downsized. However, due to the difficulties of tracing specific firms, particularly those that no longer operate in New Zealand, the survey did not consider cases were foreign investors had acquired a local innovatory firm and subsequently moved its (innovatory) operations offshore. Given that FDI dominates certain sectors in New Zealand, closer examination of its effect on the operations and entry of other firms into these industries might also be warranted.

Third, in order to build on the DOL analyses presented in Chapter Seven, an in-depth analysis of the reasons and strategy behind the differing approaches to linkage formation (and DOL) taken by the affiliates would be a very useful area of future research. The literature suggested that the quasi-internalisation route of organisation O-advantages might be taken for a number of strategic, rather than L-specific reasons. For example, it may enable the affiliate to focus on core activities and transfer non-core activities to local firms; to take advantage of complementary L-specific industry competences (i.e. innovation) within spatially clustered firms; to draw on local knowledge and experience; or even to achieve economies of scale while decreasing the cost of internalising activities (see Chapters Two and Three). Future research could develop the initial cluster framework given in this thesis by investigating the impact of firm strategy on local linkages and firm upgrading. This would serve to facilitate the creation of an operating environment where the benefits of FDI can be maximised and the disadvantages minimised.

Finally, an extension of this thesis would be to verify the link between local firm upgrading via linkages and subsequent outward FDI and to evaluate the impact of outward FDI by New Zealand firms on upgrading. The focus of the thesis has been limited to assessing the role of inward FDI in the process of local firm upgrading, whereas the IDP shows that both inward FDI by foreign firms, and outward FDI by indigenous firms, have the potential to contribute to economic development. Hence, there is clearly a need for an up-to-date analysis of the impact of the activities of New Zealand MNEs on the upgrading of local firms.

CONCLUSION

To conclude, this thesis provides evidence from a representative sample that foreign MNEs have a significant impact on the upgrading of local industry. Upon closer analysis, this impact manifests itself in several ways.

First, the affiliates' exert considerable competitive influence over other firms in their industries in New Zealand. This is due to the affiliates' size and dominance in many sectors, as well as their ability to draw on the resources, competencies and advantages associated with their affiliation with a foreign MNE. Competitive pressure helps raise local industry to international standards, either through upgrading or by eliminating weaker competitors. By competing locally, but relying on international resources, the affiliate directly contributes to the level of competition and eventual competitiveness of local industry.

Second, affiliates also affect local industry through the supply of specialised products/services to the local market, and by creating demand for such local inputs. However, the results suggest that this demand, particularly for specialised products, has the potential to be increased. Currently, affiliates rely on offshore sources of specialised products to a greater extent than local sources, suggesting that there is some sort of supply gap existing between local and offshore suppliers. This is an area which could be addressed by industry, and by industry policy, which should seek to lessen this gap in the future.

Third, a key finding of the thesis relates to the direct role taken by foreign affiliates in the upgrading of local industry. In addition to local sourcing, half of the affiliates also gave assistance to local suppliers, agents and/or customers. This assistance helped these local firms to upgrade their own product/service offerings. Another area where approximately 30 percent of the affiliates took a direct role in the upgrading of local firms was through collaborative agreements. A mutual transfer of physical resources such as technology and

intangible resources such as knowledge and expertise enabled both foreign and local partner to upgrade their competencies. These findings are particularly significant in light of previous research that has limited the assessment of the impact of FDI at the second round level to backward and forward (buy and supply) linkages.

Fourth, the thesis has laid foundations for future research by identifying distinct 'clusters' of affiliates distinguished by their approaches to linkage formation. This analysis allowed us to construct a profile of the affiliates that were more likely to be engaged in a variety of local linkages, including high-order linkages such collaborative agreements, and another profile of those that were less likely to be so well integrated with the local economy. A number of very significant findings emerged from this analysis, which suggested that New Zealand needs to target the types of MNEs that are internationally and locally competitive, innovative (and prepared to undertake innovative activity locally), and active in manufacturing and/or service provision.

The results also show that, contrary to concerns raised over foreign ownership, acquired firms not only maintain their linkages in New Zealand, but also benefit through affiliation with the foreign MNE. In fact, they become ideally placed to form the sorts of linkages that encourage local upgrading. Via quasi-internalisation, these affiliates act as channels for the intra-firm transfer of resources from offshore, and then the inter-firm transfer of some of these resources to local industry.

The objective for future policy makers, therefore, should be to encourage more FDI that may be expected to form a high DOL with the local economy. This thesis has allowed us to determine the likelihood of this occurring based on the characteristics of the affiliates. Essentially, the thesis is evidence of a need to differentiate between types of FDI when considering its impact on a host economy, rather than starting from an assumption that FDI is relatively homogenous.

The contributions of, as well as the questions raised by this thesis are all the more important as New Zealand enters the new millennium. This millennium will be

characterised by the use, exploitation, and creation of knowledge. Success in this 'knowledge economy' will depend on rapid and flexible upgrading processes, incorporating business activities with research, innovation, and the development of created assets in particular. Throughout the last century, New Zealand witnessed a global deterioration in returns for the commodity-based products that have traditionally formed the backbone of an economy heavily reliant on offshore trade for survival.

Although a shift toward more value-added products, services, and niche markets has been occurring gradually over the past fifty or so years, it is critical that New Zealand now consolidates its past successes in these areas and thinks about its economic future. A wider New Zealand public needs to recognise that stoic independence has become an anomaly in a globalising world, and that New Zealand is more reliant on this global economy than most other developed countries.

Up to now, freer trade has epitomised New Zealand's approach to integrating with global markets. However, in order to progress, New Zealand must integrate other aspects of policy into the overall development policy, develop its L-advantages (particularly created assets such as labour), as well as gain public support for these changes. The findings in this thesis relating to foreign-owned affiliates and their activities in New Zealand will provide policy makers with a much deeper understanding of the nature and outcomes of interaction between foreign and local enterprises, at a time when unlocking the full potential of FDI could be crucial to New Zealand's pursuit of competitiveness in a globalising economy.

APPENDICES

APPENDIX 3.1 LINKAGES AND SPILLOVERS - SUMMARY OF EMPIRICAL STUDIES

Indirect Linkages
Competitive Effects, Demonstration Effects, Effects of Foreign Presence

Author (date)	Host (Home) Country	Results
Aitken, Hanson & Harrison (1997)	Mexico	Sample of 2104 Mexican manufacturers. The probability a domestic plant exports is positively correlated with proximity to multinational (not domestic exporters) firms. The MNEs supply information about foreign markets, technology, and provide indirect access to markets.
Coe, Helpman & Hoffmaister (1997)	77 LDCs (22 AICs)	Found that substantial R&D spillovers from AICs to LDCs are due to international trade. Estimates the elasticities of total factor productivity using panel data for four five-year periods, finding that a 1% increase in R&D stock in industrialized countries raises output in developing countries by 0.06%, half being accounted for by the USA and the rest by Japan, Germany, France and the UK. Points out that Asian countries' productivity is influenced by Japan, Africa's by Europe and Latin America's by the USA. Suggests that total spillover effects in 1990 were equal to 44% of total official development aid.
Shan & Song (1997)	US (Europe, Japan)	Used patent and FDI data over 1978-1990 for US biotechnology firms. The results indicated that the greater the number of patents generated by a firm, the more likely that firm would become a target for FDI. The results support the hypothesis that FDI is motivated by the sourcing of country-specific advantages that are embedded in high-technology firms. Such technology-seeking investment is not only evident in the US, but also in Japan which has emerged as a country of technological leadership in the electronics industry.
Voss & Blackmon (1996)		Looks at the impact of country-of-origin effects on manufacturing practices. Suggests that the presence of foreign-owned sites offer opportunities for local firms to benchmark world class manufacturing practices, and training of local staff by the foreign-owned affiliate improves the skill-level of the labour pool.
Kokko, Tansini and Zejan (1996)	Uruguay	Study of 159 Uruguayan manufacturing plants found significant evidence spillovers in those with small to moderate, but not large, technology gaps vis-à-vis foreign firms. The results suggest that the ability of local firms to benefit from foreign presence rests on their existing level of technology. Study used firm-level measures of labour productivity.
Bertschek (1995)	Germany	Market competition through imports and IFDI had positive and significant influence on product and process innovation of domestic firms. Sample size 1270 manufacturing firms, study used Chamberlain's random effects probit estimator.
Kokko (1994)	Mexico	Results suggested that technology gaps between advanced MNE technology and local technology did not prevent spillovers occurring, but that they were less likely to occur under enclave FDI conditions - ie. where large technology gaps and high foreign presence exists.
Haddad and Harrison (1993)	Morocco	No evidence of spillovers, as the effect of foreign presence is insignificant on multi-factor productivity growth in local firms.

Author (date)	Host (Home) Country	Results
Blomstrom (1989)	Mexico	Evidence of spillover efficiency. Positive relationship between the productivity level (used as a proxy for technical efficiency) in Mexican plants in an industry and foreign participation in the same industry. Sample involved 215 manufacturing industries.
Gonçalves (1986)	Brazil	Sample of 52 MNEs and 32 national enterprises. Results found that MNEs performed better than national enterprises in external training, technical and/or marketing assistance to final users of products, distributors/service organisations/dealers, but not for suppliers or final users of products. However, matched pairs study using the same variables had mixed results.
Globerman (1979)	Canada	Labour productivity of domestic firms is positively related to, *inter alia*, the presence of foreign firms in these industries.
Caves (1974)	Canada Australia	A sample of 49 manufacturing industries finds evidence of spillovers from foreign presence. Labour productivity (proxy for technical efficiency) of domestic firms related to foreign presence in industry in Australia, but not Canada.

APPENDIX 3.1

Direct (backward and forward Linkages
Local sourcing, ongoing relationships and assistance to suppliers, subcontractors, customers and agents

Author (date)	Host (Home) Country	Results
Sun (1998)	China	Results found that foreign invested enterprises are concentrated in industries with high backward linkage indices and use of local inputs. Use of input-output analysis and output multipliers. Sample included 22 industry sectors of the Chinese economy. Additional case studies showed that FDI tends to improve the productive efficiency and resource allocation efficiency of Chinese domestic sectors by transferring technology, promoting exports, and facilitating inter-regional and inter-sector flows of labour and capital.
Dunning (1998a)	U.K. (U.S.A.)	Revised 1958 study of impact of US manufacturing firms in the UK. Considerable evidence of positive spillovers through both backward and forward linkages, through strict quality demands, training, transfer of technical, manufacturing knowledge as well as general assistance. US affiliates benefited from home-country/parent technical and managerial competences and had higher levels of productivity than domestic firms.
Chen & Chen (1998a)	U.S.A., S-E Asia, China (Taiwan)	Taiwanese firms engage in collaborative linkages in networks of firms as a complement to FDI. Strategic linkages, intended to enhance competitiveness by sharing complementary firm-specific capabilities, were undertaken more frequently in the U.S. Relational linkages, based on personal relationships and mutual trust were undertaken more frequently in South-East Asia and China.
Ruane & Gorg (1997)	Ireland	Foreign affiliates had lower levels of local sourcing of raw materials (12.6% of sales) and services (10.8%) compared with local firms who purchased 15.9 and 15.8 percent respectively.
McIntyre, Narula and Trevino (1996)	LDCs	Discusses costs and benefits (ie. employment, technology transfer, trade, foreign exchange, and linkages) of export processing zones using secondary data. Concludes that in order for net gains to accrue to the host economy, there must be appropriate industrial policy in place, including that which fosters integration with the local economy.
Barrow & Hall (1995)	England (U.S.A.)	AMEX (financial services) case study. Low levels of local sourcing, but higher level of local sourcing of services.
Barkley & McNamara (1994)	U.S.A.	Low levels of local sourcing. Foreign affiliates sourced significantly fewer inputs locally than domestic branch plants, although there appears to be a heavy reliance on suppliers based locally but from their country of origin.
Collis, Noon, and Berkeley (1994)	England (U.S.A., E.C.)	High level of local sourcing of services, 80% of banking & 61% of financial services purchased locally.
Turok (1993)	Scotland	13 foreign affiliates in the electronics industry. 12% of inputs purchased from local Scottish firms, 23% of inputs sourced locally from all firms (mainly standardised) purchased locally.

Author (date)	Host (Home) Country	Results
Phelps (1993)	England	Levels of local sourcing by foreign manufacturing affiliates low (20% of material inputs purchased locally).
Wong (1992)	Singapore	Subcontracting relationships between 8 MNE affiliates and their 16 local subcontractors had a significant and positive influence on the latter's technological development.
Grosse (1988)	Venezuela	A comparison of foreign- and locally-owned firms revealed no significant differences in the propensity to use local suppliers, or percentage of total costs attributed to local suppliers.
Kumar (1987)	India	Value added (exports) higher in foreign affiliates than in local firms
O'Loughlin & O'Farrell (1980)	Ireland	Local forward linkages (measured by unity minus the export/sales ratio) of foreign affiliates were substantially lower than Irish firms, and backward linkages (retained value as a percentage of gross output, and local raw material expenditure as a percentage of total raw material expenditure) were slightly lower.

APPENDIX 4.1 REVIEW OF NEW ZEALAND FDI CASE STUDIES

Case Studies (Duncan et. al. 1997)	BellSouth	CDL Hotels	Dynamic Controls	Firestone	GL Bowron	Ngati Porou Hansol	Invacare NZ	Izard Irwin	Juken Nissho	Lakeland Tropical Resorts
Main acitivity	Mobile Telecom	Hotels	Wheel chair controls	Tyres	Woolskin	Forestry	Healthcare Equipment	Saw blades	Forestry, Log processing	Hotel
Investor Origin	U.S.A Singap	Singap	U.S.A	Japan	Japan	Korea	U.S.A	U.S.A	Japan	H.K. Singap
Investment Date (NZ)	1990	1993	1993	1928	1989	1996	1996	1991	1990	1993
Establishment Date	1990	1993	1972	1928	1912	1996	-	1980	1990	-
Capital										
Initial investment $m	500	20	18	-	11	50	-	16	126	15
On-going investment $m	✓	75	✓	-	✓	✓	-	✓	280	20
Dividend to Parent	-	Nil	Nil	-	-	Nil	-	Nil	-	Nil
Exports $m (% sales)	Nil	Nil	34 (99%)	(40%)	59	Nil	0.5 (2%)	21(99%)	160(99%)	Nil
Autonomy - Operational	✓	✓	✓	✓	✓	✓	-	✓	✓	✓
-Financial/strategic				✓						✓
Employment in NZ	383	1758	215	786	448	3	80	340	1000	130
Salaries/wages $m p.a.	22	34	6	26	14	-	3	8	30	3
Greenfield or Acquisition	G	A+G	A	G	A	G	A	A	G	A
Key Regions	Auck	NZ	Chch	NZ	Chch	Gisborne	Auck	N.Auck	Nthld,Gisb,	Qnstwn
Number of expatriates	3	3	-	1	-	-	-	Nil	Masterton	-
Technology transfer to NZ	GSM Digital	Reservation Software	R&D	R&D	Joint Develop.	Nil	R&D	Product	Process	Nil
Management practices									✓	
Corporate Network	✓	✓	✓	✓	✓		-	✓	✓	✓
Local sourcing $m p.a.	✓	102	11	63	39	Nil	3	6	96	4
Motive for investment	MS	SAS	SAS	MS	RS	RS	MS	SAS*	RS	MS

Figures subject to rounding. Key: ✓ Yes, - Unknown, MS market-seeking, SAS strategic asset-seeking (*indicates that the NZ company sought foreign ownership to fund capital requirements), RS resource-seeking.

APPENDIX 4.1 CONTINUED

Case Studies (Duncan et al., 1997)	MM Cables	Young's Animal Health	Amcor Packaging	Clear Commun-ications	Contec Group	Damba Holdings	Methanex	Nestle	Rayonier	Wenita Forest Products
Main activity	Wires & Cables	Animal Health	Packaging & Paper	Telecom.	Software Develop.	Office Furniture	Methanol manuf.	Food & Beverage	Forestry	Forestry Sawmill
Investor Origin	Australia	U.K.	Australia	UK/USA	Singapore	Malaysia	Canada	Switzerl	U.S.A.	China/HK
Investment Date (NZ)	1989	1987	1970	1991	1985	1994	1993	1926	1988	1990
Establishment Date	-	1932	1970	1991	1974	1969	-	1926	1988	1990
Capital										
Initial investment $m	52	-	-	48	1	4	560	-	-	115
On-going investment $m	✓	✓	229	✓	✓	✓	165	✓	✓	✓
Dividend to Parent	✓	-	✓	-	Nil	-	-	-	-	-
Exports $m (% sales)	15(15%)	-	10	Nil	5	2	468(99%)	41	110(55%)	47(70%)
Autonomy - Operational	✓	✓		✓	✓	✓	✓	✓	✓	✓
-Financial/strategic				✓	✓		✓			
Employment in NZ	375	30	1 678	980	41	59	245	985	152	66 (150)^
Salaries/wages $m p.a.	17	2	66	50	2	2	21	32	-	3
Greenfield or Acquisition	A	A	G	G	G	A	A	G+A	G	G
Key Regions	Chch	NZ	Auck/NZ	Auck/NZ	Chch	Auck	Taranaki	AuckReg	NZ	Auck/ Otago 2
Number of expatriates	-	-	-	-	-	-	Nil	-	-	
Technology transfer to NZ	R&D	R&D	R&D	Telecom. technology	Nil	Nil	Nil	R&D	Expertise	Nil
Management practices							✓			
Corporate Network	✓	✓	✓	✓		✓	✓	✓	✓	✓
Local sourcing $m p.a.	15	5	300	176	1	5	10 +energy	57	82#	21
Motive for investment	MS	MS	MS	MS	-	SAS	RS	MS/SAS	RS	RS

Figures subject to rounding. Key: ✓ Yes, - Unknown, MS market-seeking, SAS strategic asset-seeking (*indicates that the NZ company sought foreign ownership to fund capital requirements), RS resource-seeking, #includes salaries/wages to employees, ^ figure in brackets indicates contract staff.

APPENDIX 6.1

RESULTS OF PRE-TESTS

First Stage

Staff of Waikato Management School (W.M.S.)	Comments
Peter Enderwick, Professor International Management	Content of questionnaire, ambiguity and length of some questions.
Michele Akoorie, Senior Lecturer International Management	Consistency of terms, page numbering and layout of questions to facilitate understanding and answering, use of open-ended questions.
Judy Motion, Lecturer Management Communication	Looked at phrasing and grammar of specific questions, and helped with construction of questions that were easier to answer.
Shirley Leitch Associate Dean: Graduate Studies	Survey was too long, and too complicated which could be expected to lower response rates.
Scott Koslow, Senior Lecturer Marketing	Helped specifically with the construction of measurement scales and use of data to help test hypotheses. Critical of use of open-ended questions.
Alan Lowe, Senior Lecturer Accounting	Commented on questions relating to financial information.
Lorraine Friend Mary FitzPatrick Cheryl Cockburn-Wootten Patricia Koslow Quentin Somerville Charlotte Daly	Commented on general aspects of the questionnaire such as, wording ambiguity, sentence construction, sequencing of questions, filter questions, spelling, alternative interpretation of questions, and relevance of some areas of the survey to some respondents.

Second Stage

Managers in W.M.S. MBA or Doctoral Programmes	Comments
Coll Macrury, Plant Manager Universal Beef Packers Ltd (Meat Processing)	Found the questionnaire easy to complete. Difficulty with value-added and local sourcing questions. Suggested inputs also include raw materials.
Kim Dorling, Global Risk Manager Price Waterhouse Coopers (Financial Services)	Difficulty with value-added question, and value of company's purchases from other NZ firms. Commented that the survey needed to be tailored more towards service firms.
Curan Loh, Food & Beverage Manager Marriotts Hotels (Restaurants & Cafes)	Wording of specific questions, alternative interpretation of 'value-added', difficulty with answering local sourcing questions as a service provider, filtering question needed for those that don't assist local firms
Brendon Rowse, Market Analyst Winstone's Wallboards (Manufacturing)	Difficulty with firm type/ownership, and local sourcing (percentages) questions. Need to include services as an input.
Dave McMillan Sovereign Insurance (Financial Services)	Unsure of the meaning of 'acquisition vs set-up of firm' question, answered 'nil' to local sourcing questions indicating an alternate interpretation. Transfer of resources in the collaborative agreement section not very clear.

Fourth Stage

Respondent	Comments
James Lawson, Financial Controller Dynamic Controls (now part of Invacare Corporation) (Manufacturing)	Noted that if no other competitors existed, then questions on competition were irrelevant. Difficulty with local sourcing questions, particularly allocating specific percentages and defining inputs and 'other NZ firms'.
John Jenkins, CEO Chief Executive Officer Bridgestone/Firestone New Zealand Ltd (Manufacturing)	Completed independently, no special comments.
Mark von Battenberg, Manager Invacare NZ Ltd (Manufacturing)	Completed independently without difficultly. Made some suggestions for local sourcing question, and definition of 'inputs'.
Murray King, Senior executive TranzRail (Transport)	Objected to open-ended and ranking questions, and any that took too much thinking about, such as the (revised) local sourcing questions. Value of inputs sourced locally too difficult to answer, as was number of relationships with, and assistance given to local firms, for such a large firm.
Laura Byrne CLEAR Communications Ltd (Telecommunications)	Unable to respond.
Chris Owen, Finance Director Methanex (NZ) (Energy)	Unable to respond.
Kim Altorf, Financial Controller Vodafone NZ Ltd (Telecommunications)	Unable to respond.
Lex Henry, CEO CDL Hotels (Accommodation)	Unable to respond.

Appendix 6.2

Questionnaire

The University of Waikato
Te Whare Wānanga o Waikato

Waikato Management School
Te Raupapa

QUESTIONNAIRE

FOREIGN INVESTMENT AND THE COMPETITIVENESS OF NEW ZEALAND

A Nationwide Study

If you would like to receive a **free copy** of the **major findings**, just complete this questionnaire and return it with your details below, to:
Department of Marketing & International Management, University of Waikato, Private Bag 3105, HAMILTON

YES, please send my copy to:
(or attach business card)

Name ..... Company name .....

Address .....

GUIDELINES

- **This is a survey that investigates the effects of foreign owned companies on New Zealand industry. The questions relate to YOUR FIRM'S NEW ZEALAND OPERATIONS.**

- **The enclosed questionnaire should be completed by the Managing Director, or a senior executive at your firm's New Zealand HEAD OFFICE.**

- **The questionnaire consists of THREE sections. All respondents are requested to answer Sections A and C. Respondents of firms who have formed a collaborative agreement* with another New Zealand firm in the past five years, are also requested to answer Section B, p7.**

Answers provided by respondents will be kept totally confidential and only be used for the purposes of this research. No individual firm information will be presented in the results.

*A collaborative agreement includes alliances, technology sharing or development arrangements, management contracts but NOT joint ventures.

SECTION A: TO BE ANSWERED BY ALL FIRMS

Ownership and influence

1 Does your firm have a foreign parent company or a major (25% or above) foreign shareholding?

No 1❑ go to Section C, Q31, p.8

Yes 2❑ go to Q2

2 What influence does your parent company/major foreign shareholder(s) have over decision making in your firm?

	none	minor influence	moderate influence	major influence	total influence	don't know
Short-term decision making	1❑	2❑	3❑	4❑	5❑	☐
Long-term decision making	1❑	2❑	3❑	4❑	5❑	☐

3 To what extent do the following explain your parent company/foreign shareholder(s) **main reason** for operating in NZ?

Tick **one** box for **each item**.	not at all	to a minor extent	to a moderate extent	to a major extent	completely	don't know
Use of local resources (eg. natural resources, un/skilled labour)	1❑	2❑	3❑	4❑	5❑	☐
Proximity to markets & customers (to sell products or provide services in NZ or Asia-Pacific)	1❑	2❑	3❑	4❑	5❑	☐
To raise efficiency or lower costs of production	1❑	2❑	3❑	4❑	5❑	☐
To protect parent/shareholder's competitive position (or to acquire strategic assets/technology)	1❑	2❑	3❑	4❑	5❑	☐
For trade and supporting activities (eg. importing/exporting, distribution, administration)	1❑	2❑	3❑	4❑	5❑	☐
Other reasons, please specify below	1❑	2❑	3❑	4❑	5❑	☐

➜

4 To what extent does your firm gain the following resources from your parent or related companies/foreign shareholder(s)?

Tick **one** box for **each item**.	not at all	to a minor extent	to a moderate extent	to a major extent	completely	don't know
Product [service] technology	1❑	2❑	3❑	4❑	5❑	☐
Production [service delivery] technology	1❑	2❑	3❑	4❑	5❑	☐
Research and development	1❑	2❑	3❑	4❑	5❑	☐
Management practices/culture	1❑	2❑	3❑	4❑	5❑	☐
Marketing systems	1❑	2❑	3❑	4❑	5❑	☐
Distribution systems	1❑	2❑	3❑	4❑	5❑	☐
Employment practices	1❑	2❑	3❑	4❑	5❑	☐
Human resources and skills	1❑	2❑	3❑	4❑	5❑	☐
Training (or training systems)	1❑	2❑	3❑	4❑	5❑	☐
Economies of scale or scope	1❑	2❑	3❑	4❑	5❑	☐
Favoured access to inputs (eg. raw materials, products)	1❑	2❑	3❑	4❑	5❑	☐
Access to information, experience and expertise	1❑	2❑	3❑	4❑	5❑	☐
Access to markets	1❑	2❑	3❑	4❑	5❑	☐
Access to finance	1❑	2❑	3❑	4❑	5❑	☐
Other resources, please specify below:	1❑	2❑	3❑	4❑	5❑	☐

➜

Market competition

5 Please indicate the competitive position of your firm relative to your competitors:

Tick **one** box for **each item**.	do not compete here	small competitor	average sized competitor	major competitor	only competitor	don't know
- in New Zealand	1☐	2☐	3☐	4☐	5☐	☐
- Internationally	1☐	2☐	3☐	4☐	5☐	☐

6 Relative to competitors in New Zealand, what are your firm's **two main competitive advantages**? (If you only compete internationally, answer on that basis)

Please specify ➜

7 Relative to competitors in New Zealand, to what extent does your firm depend on the following resources as a **source of competitive advantage**?
(If you only compete internationally, answer on that basis)

Tick **one** box for **each item**.	not at all	to a minor extent	to a moderate extent	to a major extent	completely	don't know
Product [service] technology	1☐	2☐	3☐	4☐	5☐	☐
Production [service delivery] technology	1☐	2☐	3☐	4☐	5☐	☐
Management practices/culture	1☐	2☐	3☐	4☐	5☐	☐
Marketing systems	1☐	2☐	3☐	4☐	5☐	☐
Distribution systems	1☐	2☐	3☐	4☐	5☐	☐
Human resources and skills	1☐	2☐	3☐	4☐	5☐	☐
Economies of scale or scope (ability to mass-produce or offer many products/services)	1☐	2☐	3☐	4☐	5☐	☐
Favoured access to inputs (capital, raw materials, components, products, services)	1☐	2☐	3☐	4☐	5☐	☐
Access to markets	1☐	2☐	3☐	4☐	5☐	☐
Other competitive advantages, please specify below:	1☐	2☐	3☐	4☐	5☐	☐

➜

8 In the past **3 years**, how have these features of your industry in NZ **changed**?

Tick **one** box for **each item**.	major decrease	decrease	no change	increase	major increase	don't know
Competition between firms	1☐	2☐	3☐	4☐	5☐	☐
Number of major competitors	1☐	2☐	3☐	4☐	5☐	☐
Number of smaller competitors	1☐	2☐	3☐	4☐	5☐	☐
Competitiveness of other firms in your industry	1☐	2☐	3☐	4☐	5☐	☐

10 To what extent has your firm's NZ operations **influenced** these changes?

Tick **one** box for **each item**.	not at all	to a minor extent	to a moderate extent	to a major extent	completely	don't know
Competition between firms	1☐	2☐	3☐	4☐	5☐	☐
Number of major competitors	1☐	2☐	3☐	4☐	5☐	☐
Number of smaller competitors	1☐	2☐	3☐	4☐	5☐	☐
Competitiveness of other firms in your industry	1☐	2☐	3☐	4☐	5☐	☐

11 What other factors contributed to these changes? ➜

Innovation

Innovation is any service, product, process technology, or any aspect of management that you consider to be a **new development** in your industry.

12 In the past **3** years, has your firm **introduced** innovation(s) to NZ in any of the following areas?

Tick **all** boxes that apply.	No	Yes		**If yes,** did the innovation originate from your: parent or shareholder	firm in NZ	both
Product [service] technology	❑	❑	→	❑	❑	❑
Production [service delivery] technology	❑	❑	→	❑	❑	❑
Management practices/culture	❑	❑	→	❑	❑	❑
Marketing systems	❑	❑	→	❑	❑	❑
Distribution systems	❑	❑	→	❑	❑	❑
Employment practices	❑	❑	→	❑	❑	❑
Human resources and skills	❑	❑	→	❑	❑	❑
Training (or training systems)	❑	❑	→	❑	❑	❑
Other, please specify below:	❑	❑	→	❑	❑	❑

→

13 What do you consider to be your firm's **two** main innovations?

Please specify →

14a Did your parent company/foreign shareholder(s) invest in, or set up your firm to **gain** existing innovation from your firm?

No	Yes		**If Yes**, what was the innovation(s)?
1❑	2❑	→	

14b Did your parent company/foreign shareholder(s) invest in, or set up your firm to **develop** innovation in your firm?

No	Yes		**If Yes**, what was the innovation(s)?
1❑	2❑	→	

14c Did your parent company/foreign shareholder(s) invest in, or set up your firm to **be close to** other local sources of innovation in NZ?

No	Yes		**If Yes**, what was the innovation(s) ?
1❑	2❑	→	
go to 15	go to 14d		

14d **If Yes** above, were these **local sources of innovation** from:

	If Yes ✔
Competitors we are/were collaborating with	1❑
Independent competitors	2❑
Local customers or agents	3❑
Local suppliers or subcontractors	4❑
Research institutes/universities	5❑
Other, please specify: →	❑

Sourcing of inputs

The next two sections focus on your firm's sourcing of **inputs** and the creation of downstream benefits for NZ suppliers and contractors.

Inputs are any factors used in production or delivery of a service which are **NOT made by your firm.** These include products, services, raw materials, components, equipment and outside contracting of labour.

15 How would you rate the standard of **inputs** from New Zealand firms relative to alternative sources of supply?

Tick **one** box for **each item.**	well below average	below average	average	above average	well above average	don't know
Availability	1❑	2❑	3❑	4❑	5❑	❑
Price	1❑	2❑	3❑	4❑	5❑	❑
Quality	1❑	2❑	3❑	4❑	5❑	❑
Reliability (eg. delivery, after-sales service, continuity of supply)	1❑	2❑	3❑	4❑	5❑	❑
Technical sophistication	1❑	2❑	3❑	4❑	5❑	❑

16 To what extent are New Zealand firms **able to supply** the following inputs required by your firm?

Tick **one** box for **each item.**	not at all	to a minor extent	to a moderate extent	to a major extent	completely	don't know
- Standardised (generic) products eg. raw materials	1❑	2❑	3❑	4❑	5❑	❑
- Standardised (generic) services eg. freight	1❑	2❑	3❑	4❑	5❑	❑
- **Specialised products,** customised to your firm's specifications eg. non-standardised technical equipment	1❑	2❑	3❑	4❑	5❑	❑
- **Specialised or professional services** eg. legal services, outside contracting of professional labour	1❑	2❑	3❑	4❑	5❑	❑

17 To what extent does your firm **rely on** the following sources for **specialised products?**

Tick **one** box for **each item.**	not at all	to a minor extent	to a moderate extent	to a major extent	completely	don't know
- Related NZ firms*	1❑	2❑	3❑	4❑	5❑	❑
- Other NZ firms	1❑	2❑	3❑	4❑	5❑	❑
- Parent or related companies overseas*	1❑	2❑	3❑	4❑	5❑	❑
- Other firms overseas	1❑	2❑	3❑	4❑	5❑	❑

*related to your firm by ownership

18 To what extent does your firm **rely on** the following sources for **specialised services**?

Tick **one** box for **each item.**	not at all	to a minor extent	to a moderate extent	to a major extent	completely	don't know
- Related NZ firms*	1❑	2❑	3❑	4❑	5❑	❑
- Other NZ firms	1❑	2❑	3❑	4❑	5❑	❑
- Parent or related companies overseas*	1❑	2❑	3❑	4❑	5❑	❑
- Other firms overseas	1❑	2❑	3❑	4❑	5❑	❑

*related to your firm by ownership

The next three questions focus on the relationships your firm has with **other** NZ firms (those that are **not** related to your firm by ownership).

19 In the past **12 months**, how many **other** NZ firms acted as your firm's:

Tick **one** box for **each item**.	None	2 or less	5 or less	10 or less	more than 10	more than 50	don't know
- Licencee	1❑	2❑	3❑	4❑	5❑	6❑	❑
- Franchisee	1❑	2❑	3❑	4❑	5❑	6❑	❑
- Supplier/Subcontractor for **specialised*** inputs	1❑	2❑	3❑	4❑	5❑	6❑	❑
- Agent for wholesale/retail sales, marketing, distribution	1❑	2❑	3❑	4❑	5❑	6❑	❑
- Customer for **specialised*** inputs (from your firm)	1❑	2❑	3❑	4❑	5❑	6❑	❑

*Specialised = customised to the firm's specifications (ie. NOT standardised)

20a In the last **12 months**, has your firm assisted **other** NZ firms to improve their products or services?

No 1❑ go to Q21

Yes 2❑ go to Q20b

20b **If Yes** above, which of the following **types of assistance** were given to the following **types of firm** in NZ?

Tick **all** boxes that apply.	Licencee or franchisee	Supplier or subcontractor	Agent or customer	don't know
Product component [or service] specifications	1❑	2❑	3❑	❑
Product samples or prototypes	1❑	2❑	3❑	❑
Production [service delivery] technology	1❑	2❑	3❑	❑
Equipment	1❑	2❑	3❑	❑
Technical assistance	1❑	2❑	3❑	❑
Testing and quality control procedures	1❑	2❑	3❑	❑
Inventory or service systems management	1❑	2❑	3❑	❑
Staff training	1❑	2❑	3❑	❑
Information about markets, suppliers, contacts	1❑	2❑	3❑	❑
Assistance with acquiring inputs	1❑	2❑	3❑	❑
Managerial assistance	1❑	2❑	3❑	❑
Trade or exporting assistance	1❑	2❑	3❑	❑
Financial assistance	1❑	2❑	3❑	❑
Other, please specify below:	1❑	2❑	3❑	❑

➜

Collaborative Agreements include alliances, technology sharing or development agreements, management contracts but NOT joint ventures.

21 In the past **3 years**, has your firm formed a **collaborative agreement** with any of the following firms?

	No	Yes	**If Yes**, what was the **purpose** of the agreement?
- an **overseas** firm (**not** related to your firm by ownership)	1❑	2❑	➜
- a **related** firm **in NZ** (related to your firm by ownership)	1❑	2❑	➜
- a **firm in NZ** (**not** related to your firm by ownership)	1❑	2❑	**If Yes**, Go to **SECTION B**, p7.

If No, go to **SECTION C**, p.8

SECTION B: TO BE COMPLETED BY FIRMS WHO FORMED COLLABORATIVE AGREEMENTS WITH OTHER NEW ZEALAND FIRMS* in the last 3 years

*not related to your firm by ownership

22 In the past **3 years**, **how many** of the following collaborative agreements has your firm formed with other NZ firms?

Tick **one** box for **each item**.	None	one	two	three	more than three	don't know
Alliance	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	☐
Technology sharing or development agreement	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	☐
Management contract	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	☐
Other, please specify: →	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	☐

The next 3 questions relate to your firm's **most significant** collaborative agreement with another NZ firm (**not a Joint Venture**).

23 What was the **purpose** of this agreement? →

24 Tick **all** that apply, for **both parts** of the answer.

For your most significant collaborative agreement, which of the following resources were **transferred**:

from your firm (to other NZ firm)?		from other NZ firm (to your firm)?	N/A
☐	Product [service] technology	☐	☐
☐	Production [service delivery] technology	☐	☐
☐	Research and development	☐	☐
☐	Management practices/culture	☐	☐
☐	Marketing systems	☐	☐
☐	Distribution systems	☐	☐
☐	Employment practices	☐	☐
☐	Human resources and skills	☐	☐
☐	Training (or training systems)	☐	☐
☐	Economies of scale or scope	☐	☐
☐	Specialised inputs	☐	☐
☐	Information, experience and expertise	☐	☐
☐	Access to markets	☐	☐
☐	Finance	☐	☐
☐ →	Other resources, please specify below:	☐	

25 In relation to Q24, which of these transferred resources, were **unique** to either firm prior to this agreement?

Please specify or indicate on list above →

26 What resources, if any, were **developed** as a result of this agreement?

Please specify →

go to SECTON C, p.8

SECTION C: TO BE ANSWERED BY ALL RESPONDENTS

Finally we would like to ask a few questions about your firm to help us analyse the results of this questionnaire.

27 In what year was your firm **originally founded** in New Zealand? Year

28 In what year did your parent company or largest foreign shareholder(s) first invest in, or set up your firm (if different from above)? Year

29 What is the **country of origin** of your parent company or largest foreign shareholder(s)?

30 Is your firm: If Yes ✔

- a NZ branch or subsidiary of a foreign company ..... ❑
- a NZ firm acquired by a foreign company ..... ❑
- a joint venture with both NZ and foreign participation ..... ❑
- a NZ firm owned by foreign individual(s)..... ❑
- Other, please specify ➜ ❑

31a Please indicate which industry group your firm is best represented by:
Tick **ONE**

- ❑ Accommodation, cafes and restaurants
- ❑ Agriculture, forestry and fishing
- ❑ Communication services
- ❑ Construction
- ❑ Cultural and recreational services
- ❑ Education
- ❑ Electricity, gas and water supply
- ❑ Finance and insurance
- ❑ Health and community services
- ❑ Manufacturing, please specify type ➜
- ❑ Mining
- ❑ Personal and other services
- ❑ Property and business services
- ❑ Retail trade
- ❑ Transport and storage
- ❑ Wholesale trade

31b What is your firm's **main** business activity? Please specify ➜

32 For the last financial year, please **estimate** your firm's -

- **total sales** for your New Zealand operations ..... **$**
- proportion of total sales spent on research and development ..... **%**
- proportion of total sales exported ..... **%**
- proportion of these exports that went to parent/related companies ..... **%**

33a How many staff does your firm employ? ..... Full-time

Part-time
(<30 hours per week)

33b How many hours **in total** do these part-time staff work each week? ..... Total hours per week

34 A proposed **follow-up** to this survey will involve discussions with managers about the meaning of key findings for their specific firm. **This will be an excellent opportunity for respondents to give more in-depth responses about topics covered in this survey.**

If your firm would like to be considered to participate in this follow-up please give your contact details below (or attach a business card):

❑ YES, our firm may be interested in participating in the follow-up

❑ NO, our firm would rather not be contacted again

Name .....

Company .....

Phone

You may like to use the remainder of this page for any other comments about your firm's operation in New Zealand, or to elaborate on any of your answers elsewhere in the survey.

Thank you. Your contribution to this research is greatly appreciated

Please return the questionnaire in the pre-paid envelope provided or to: Joanna Scott-Kennel
Department of Marketing & International Management, University of Waikato, Private Bag 3105, HAMILTON.
Fax: 07 838 4352, e-mail: joscott@waikato.ac.nz

APPENDIX 7.1
MAIN INNOVATIONS

Main Innovations	No of responses	% of total responses (763)
Product (service) offering		
New product/service	151	19.79
Product technology	61	7.99
Product quality/improvement	29	3.8
Product range	14	1.83
Integrated product/service offering	11	1.44
Product design/features	9	1.18
Pricing	4	0.52
Total product responses	**279**	**36.57**
No of firms with at least one product innovation	249	
% of total innovative firms (n=413)	60.29%	
Production		
Production processes/systems	19	2.50
Production technology	15	1.97
Production efficiency/flexibility	8	1.05
Local production facility	5	0.66
Production cost	4	0.53
Total production responses	**51**	**6.7**
No of firms with at least one production innovation	51	
% of total innovative firms (n=413)	12.35%	
Service		
Service delivery	39	5.12
Service quality, responsiveness	23	3.02
Service technology	7	0.92
Service partnerships/alliances	1	0.13
Total service responses	**70**	**9.2**
No of firms with at least one service innovation	66	
% of total innovative firms (n=413)	15.98%	
Technology		
Technology	43	5.65
Use of the internet, e-commerce	27	3.55
R&D	5	0.66
Technical skills	4	0.53
IT systems	3	0.39
Locally adapted technology	2	0.26
Total technology responses	**84**	**11.04**
No of firms with at least one technology innovation	82	
% of total innovative firms (n=413)	19.85%	
Management		
Management practices & leadership	36	4.73
Company structure/organisation	8	1.05
Management culture	7	0.92
Systems/quality management	5	0.66
Account management	4	0.53
Project management	2	0.26
Autonomy in management	1	0.13
Total management responses	**63**	**8.28**
No of firms with at least one management innovation	63	
% of total innovative firms (n=413)	15.25%	
Marketing		
Marketing systems	40	5.26
Marketing techniques	30	3.94
Market coverage & networks	8	1.05
Client & channel management	5	0.66
Market development	4	0.53
Marketing alliances	3	0.39
Use of brands	2	0.26
Marketing competitiveness	1	0.13
Total marketing responses	**93**	**12.22**
No of firms with at least one marketing innovation	89	
% of total innovative firms (n=413)	21.55%	

Main Innovations *continued*	No of responses	% of total responses (763)
Distribution		
Distribution systems	32	4.20
Efficiency of distribution	3	0.39
Distribution partners	2	0.26
Direct distribution (no middleman)	2	0.26
Total distribution responses	**39**	**5.12**
No of firms with at least one distribution innovation	39	
% of total innovative firms (n=413)	9.44%	
Employment & human resources		
Training	24	3.15
Human resources	11	1.45
Employment practices	9	1.18
Specialist skills	6	0.79
Employment contracts	5	0.66
Reward/remuneration schemes	5	0.66
Internal communication	3	0.39
Team based, participative management	3	0.39
Efficiency improvements	2	0.26
Working environment	1	0.13
Total employment/HR responses	**69**	**9.07**
No of firms with at least one employment/HR innovation	65	
% of total innovative firms (n=413)	15.74%	
Procurement practices, access to resources, supply chain management	**11**	**1.45**
% of total innovative firms (412)	2.66%	
Other innovations	4	0.53
Total number of responses	**763**	**100**

APPENDIX 7.2

MAIN COMPETITIVE ADVANTAGES RELATIVE TO NEW ZEALAND COMPETITORS

Competitive Advantage	No of responses	% of total responses (992)
Product (service) offering		
Product quality/differentiation	110	11.09
Product range	73	7.36
Price	20	2.02
Product technology	12	1.21
Product integration	9	0.91
Product expertise	6	0.60
Locally adapted product	4	0.40
Production processes	2	0.20
Total product responses	**236**	**23.79**
No of firms with at least one product CA	218	
% of total competitive firms (n=490)	44.49	
Service		
Service quality/responsiveness	66	6.65
Service delivery	18	1.81
Total service responses	**84**	**8.47**
No of firms with at least one service CA	83	
% of total competitive firms (n=490)	16.94	
Technology		
Technology	61	6.15
R&D	19	1.92
Skills relating to technology	16	1.61
Intellectual property	16	1.61
Specialised plant	2	0.2
Total technology responses	**114**	**11.49**
No of firms with at least one technology CA	111	
% of total competitive firms (n=490)	22.65	
Management Practices		
Management practices/expertise	14	1.41
Management culture	6	0.6
Employment practices	1	0.10
Strategic focus	2	0.20
Local management	2	0.20
Total management responses	**25**	**2.52**
No of firms with at least one management CA	24	
% of total competitive firms (n=490)	4.9	
Marketing		
Brand strength	49	4.94
Marketing practices (general)	12	1.21
Niche marketing	11	1.11
Marketing expertise (specific)	8	0.81
Sales strategies	3	0.30
Client relationships	4	0.40
Total marketing responses	**87**	**8.77**
No of firms with at least one marketing CA	83	
% of total competitive firms (n=490)	16.94	
Distribution		
Distribution systems	16	1.61
Intra-firm distribution	2	0.20
Total distribution responses	**18**	**1.81**
No of firms with at least one distribution CA	18	
% of total competitive firms (n=490)	3.67	

Competitive Advantage *continued*	No of responses	% of total responses (992)
Human Resources		
Experience and expertise	30	3.02
Specialist skills	17	1.71
Flexibility/speed of decision making	13	1.31
Human resources	12	1.21
Total human resource responses	**72**	**7.26**
No of firms with at least one human resource CA	71	
% of total competitive firms (n=490)	14.49	
Economies of Scale		
Cost of production/operation	29	2.92
Size	14	1.41
Economies of Scale	11	1.11
Lead time/speed to market	4	0.40
Total economies of scale responses	**58**	**5.85**
No of firms with at least one economies of Scale CA	57	
% of total competitive firms (n=490)	11.63	
Favoured access to:		
Finance	28	2.82
Inputs/resources	21	2.12
Experience and expertise	17	1.71
Technology	17	1.71
Products	11	1.11
Lower priced inputs	10	1.01
R&D	9	0.91
Total favoured access responses	**113**	**11.39**
No of firms with at least one favoured access CA	99	
% of total competitive firms (n=490)	20.2	
Markets and customers		
National (or global) network	44	4.44
NZ based/local provision	34	3.43
Market share dominance	25	2.52
Access to customers	7	0.71
Access to markets	6	0.6
International exposure	6	0.60
Total market responses	**122**	**12.3**
No of firms with at least one market CA	116	
% of total competitive firms (n=490)	23.67%	
MNE affiliations		
Part of an MNE/global synergies	24	2.42
Reputation	22	2.22
Global stability/back up	6	0.6
Ownership	6	0.60
Autonomy	4	0.40
Rating	1	0.1
Total MNE affiliation responses	**63**	**6.35**
No of firms with at least one MNE CA	62	
% of total competitive firms (n=490)	12.65%	

APPENDIX 7.3
ASSISTANCE GIVEN TO LOCAL FIRMS IN THE PAST 12 MONTHS

Type of Assistance	Licencee or franchisee	Supplier or subcontractor	Agent or customer	Total
Technical assistance	18	67	161	246
Product component (service) specifications	13	57	124	194
Staff training	15	37	125	177
Information about markets, suppliers, contacts	16	40	117	173
Product samples or prototypes	5	37	114	156
Production (service) delivery technology	9	43	90	142
Testing & quality control procedures	8	39	82	129
Equipment	11	32	83	126
Assistance with acquiring inputs	8	29	59	96
Managerial assistance	12	17	61	90
Inventory or service systems management	12	24	52	88
Financial assistance	8	11	47	66
Trade or exporting assistance	5	11	46	62
Other	1	1	3	5
Total responses	**141**	**445**	**1164**	**1750**

APPENDIX 7.4
TRANSFER AND DEVELOPMENT OF RESOURCES VIA COLLABORATIVE AGREEMENTS

	Number of Collaborative Agreements where Resources were:			
Type of Resource	**transferred to local firm**	**transferred to foreign firm**	**transferred and unique**	**developed**
Product [service] technology	73	38	51	23
Production (service delivery) tech.	48	27	22	14
Research & development	46	29	14	2
Management Practices	37	14	6	3
Marketing systems	46	23	7	11
Distribution systems	38	27	8	6
Employment Practices	19	9	1	1
Human resources & skills	29	24	7	10
Training	49	17	8	4
Economies of scale/scope	35	23	4	3
Specialised inputs	49	30	7	4
Information, experience, expertise	84	57	18	9
Access to markets	47	38	8	3
Finance	29	8	4	1
Totals	**629**	**364**	**165**	**94**

Total Number of Firms that had Collaborative Agreements = 148

APPENDIX 7.5
DETERMINANTS OF DIRECT LINKAGES: ENTER STEPWISE

Independent Variables - Determinants	Coefficients (B) for Dependent Variables - Types of Linkage #p<0.10, *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001				
	1) ASSIST	2) AGENT2	3) SUPPLIE2	4) NONE	5) CA
Motive					
Resource seeking	.0674	.0763	.0543	-.1324	-.0262
Market seeking	-.0610	.0507	-.0090	.0371	.0636
Efficiency seeking	.0188	-.1347	.1791	.0040	.2007#
Strategic asset seeking	-.0115	-.0852	-.0469	.0988	.0885
Trade/support activities	.0469	.1070	-.0153	-.1064	.0249
Autonomy					
Influence over short-term decision making	-.1605	.0968	.0264	-.1018	-.0500
Influence over long-term decision making	.2573	-.0560	.2613	-.0149	.0009
Main Business Activity					
Service Provider	.3655	.1052	.4424	-.2950	.2482
Trader	.0399	.3001	.4429	-.3741	-.1158
Manufacturer (Primary Processor)	.4846	.6987	.2145	-..7397	-.2637
Resources from Parent					
Technology Factor	-.0421	.1473	-.3863	-.0919	-.0208
Human Resources/training Factor	-.0891	.1634	-.1373	-.0916	-.1245
Management practices/culture	-.1535	-.1836	-.0158	.1267	.0116
Marketing systems	-.0980	-.2394	.1532	.1477	-.1666
Distribution systems	.0409	.0414	-.2212	.0536	.1731
Economies of scale or scope	.0022	.1573	.0885	-.1353	-.0611
Access to inputs	.0824	.1550#	.3643**	-.2248**	-.1457
Access to information, experience, expertise	.3288*	.2167	.0780	-.1312	.3950*
Access to markets	-.0798	-.1018	.1869	.0681	.0711
Finance	-.0957	.0599	-.3371*	.0865	.1149
Innovations introduced to New Zealand					
Product (service) technology - P	.7232*	1.0579**	.6851	-1.0476**	-.2951
- NZ	.5836	.8258#	1.2829	-1.1360**	.2791
- B	.7172*	.9975*	1.1306	-1.0438**	-.1252
Production (serv.del.) technology - P	-.1566	-.6626*	-.0506	.5340#	.1459
- NZ	-.1595	.0018	-.3325	.1582	-.0545
- B	.1554	-.0407	.0441	-.0098	.2124
Management practices - P	.0991	.1829	-.1561	.0326	.0665
- NZ	.0823	.0073	.5169	-.2817	.5507
- B	.1398	.0757	.2028	-.0679	.3442
Marketing systems - P	.3656	.4600	-.3885	-.1829	.1658
- NZ	-.1805	.2355	-.7480	.3147	.1059
- B	.0166	.4013	-.1377	-.4064	.2777
Distribution systems - P	-.2633	.3164	-.9265	-.0219	-.1611
- NZ	.8307*	.8242*	.6975	-.9287**	-.5571
- B	-2.436	.0493	-.4954	-.0809	.3391
Employment practices - P	.1899	-.7298	.8998	.1391	1.1577
- NZ	-.8541*	-.8786*	-.5656	.8388*	.4415
- B	-.1004	-.3305	.4564	.1094	1.1879*
Human Resources/skills - P	.2291	.2744	.6329	-.2570	-1.2586*
- NZ	1.1046**	.1.0282*	.5494	-.8080*	-.2132
- B	1.0162*	.7836#	1.3154*	-..9577*	-.7815
Capability of Local Firms					
Capability Factor	.0662	-.0033	-.0706	-.0252	.0022
Price	.0484	.1693	-.1672	.0260	.0722
Ability to supply Factor	.0583	.1462	.2609	-.1522	.0956

Appendix 7.5 continued

Independent Variables - Determinants	Coefficients (B) for Dependent Variables - Types of Linkage #p<0.10, *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001 1) ASSIST	2) AGENT2	3) SUPPLIE2	4) NONE	5) CA
Age					
Years in New Zealand	-.0054	.0072	-.0185#	.0007	.0095#
Years owned by current foreign investor	.0026	-.0024	.0297**	-.0044	-.0076
Size					
Full-time equivalent staff	.0000	-.0013*	.0004	.0003	-.0001
Country of Origin					
USA/Canada	.0458	-1.1455*	1.2650	.7859	.2040
Australia	-.3217	-1.6743**	1.6093	.9380#	-.2367
Japan	-.0837	-1.3200*	2.1540	.6293	.2563
UK/Ireland	.5626	-.6041	2.2838#	-.0587	.1600
Other Europe	-.0947	-1.3100*	2.0321	.5870	.7495
(Other Asia/Pacific)					
Constant	-1.7210	-2.3442#	-6.6144**	1.8028	-3.8062**

APPENDIX 7.6
MULTI-DISCRIMINANT ANALYSIS - SUMMARY OUTPUT

Tests of Equality of Group Means

	Wilks' Lamda	F	df1	df2	Sig.
comp	.397	129.097	6	509	.000
forward	.493	87.140	6	509	.000
back	.442	107.287	6	509	.000
knowl	.217	305.384	6	509	.000
colla	.451	103.397	6	509	.000

Classification Results - Degree of Linkage (DOL) Clusters[a]

DOL Cluster	Predicted Group Membership							
Original Count	1	3	4	5	7	8	9	Total
1	82	1	0	0	0	0	3	86
3	0	20	0	0	0	0	0	20
4	1	1	40	0	1	0	2	45
5	0	0	0	49	0	1	1	51
7	0	0	0	0	87	2	4	93
8	0	0	0	0	0	116	0	116
9	0	0	0	0	1	0	104	105
%								
1	95.3	1.2	0	0	0	0	3.5	100
3	0	100	0	0	0	0	0	100
4	2.2	2.2	88.9	0	2.2	0	4.4	100
5	0	0	0	96.1	0	2.0	2.0	100
7	0	0	0	0	93.5	2.2	4.3	100
8	0	0	0	0	0	100	0	100
9	0	0	0	0	1.0	0	99.0	100

[a] 96.5% of original grouped cases correctly classified.

APPENDIX 8.1
REASON FOR INVESTMENT BY MAIN ACTIVITY

Type of firm		Resource seeking	Market seeking	Efficiency seeking	Strategic asset seeking	Trade/ support activities
Service provider	Mean	2.03	3.65	1.69	2.83	2.12
n=167	s.d.	1.27	1.46	0.99	1.36	1.36
Trader	Mean	1.73	4.10	1.55	2.42	3.16
n= 172	s.d.	1.14	1.22	0.91	1.36	1.50
Manufacturer	Mean	2.21	3.77	2.20	2.74	2.64
n=146	s.d.	1.29	1.28	1.10	1.26	1.23
Primary processor	Mean	3.76	2.48	2.07	2.41	2.34
n=29	s.d.	1.35	1.50	1.10	1.27	1.29
Total	Mean	2.08	3.77	1.81	2.64	2.63
n=514	s.d.	1.31	1.38	1.03	1.34	1.43

APPENDIX 8.2
COMPETITIVE CHANGES AND INFLUENCE OVER THOSE CHANGES BY INDUSTRY

Industry*	1	2	3	4	5	6	7	8	
Changes	n=158	n=138	n=53	n=39	n=34	n=25	n=15	n=11	All firms
Competition between firms	3.93	4.09	4.02	3.97	4.21	4.12	4	3	**4**
Number of major competitors	3.33	3.42	3.45	3	3.62	3.4	3.4	3.44	**3.38**
Number of smaller competitors	3.48	3.56	3.65	3.16	3.39	3.4	3.8	3.67	**3.5**
Competitiveness of firms	3.69	3.89	3.98	3.85	4.03	3.84	3.8	3.89	**3.85**

Mean values where 1= major decrease, 3=no change, 5=major increase.

Influence on these changes									
Competition between firms	3.15	3.05	3.22	2.78	3.18	3.04	3.13	2.89	**3.06**
Number of major competitors	2.39	2.20	2.41	2.08	2.50	1.92	2.53	1.89	**2.28**
Number of smaller competitors	2.17	2.09	1.90	1.86	2.15	2.00	2.13	1.56	**2.07**
Competitiveness of firms	2.76	2.60	2.90	2.50	2.97	2.52	3	2	**2.68**

Mean values where 1=no iinfluence at all, 5=complete influence.

*1=Manufacturing, 2=Wholesale Trade, 3=Property&Business services, 4=Finance&Insurance, 5=Transport&Storage, 6=Retail Trade, 7=Construction, 8=Agriculture, Forestry&Fishing.

APPENDIX 8.3 RELIANCE ON PARENT RESOURCES BY COUNTRY OF ORIGIN

	RESOURCES FROM PARENT													
COUNTRY OF ORIGIN GROUP	PRODUCT	PRODN	R&D	MGMT	MKTING	DIST	EMPLY	HR	TRAIN	EOS	INPUTS	INFO	MKT ACCESS	FINANCE
USA/CANADA	3.6	3.11	3.45	3.3	2.83	2.44	2.66	2.5	2.62	2.99	2.59	3.56	2.64	3.48
AUSTRALIA	3.27	2.89	2.99	3.02	2.82	2.47	2.39	2.36	2.47	2.85	2.45	3.38	2.64	3.39
JAPAN	2.87	2.6	2.9	2.65	2.62	2.25	1.92	1.98	1.9	2.23	2.02	2.87	2.85	3.4
UK	3.31	2.98	3.23	2.96	2.5	2.08	2.52	2.33	2.38	2.67	2.46	3.23	2.4	3.21
OTHER EUROPE	3.77	3.16	3.56	2.97	2.73	2.23	2.18	2.1	2.51	2.66	2.44	3.46	2.31	3.34
OTHER ASIA/PACIFIC	2.3	2.2	2.2	2.67	2.5	2.13	1.97	2.03	1.9	2.6	1.9	2.73	2.47	3.5
ALL GROUPS	**3.37**	**2.95**	**3.2**	**3.03**	**2.73**	**2.33**	**2.37**	**2.29**	**2.42**	**2.76**	**2.42**	**3.34**	**2.57**	**3.4**

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