Retirement Provision for New Zealand Women:
The Relative Role of Demographic Influence

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1   INTRODUCTION

The issue of retirement provision is taking a heightened profile in public discourse with the structural ageing of the New Zealand population accelerating. The proportion of older people aged 65+ years, and in particular those aged 80+ years, is increasing more rapidly than ever before whereas the proportion of young people (0-14 years) is falling (Statistics NZ, 1995b). More important is the old age dependency ratio which represents a measure of this demographic burden on the working population. Based on current projections, there will only be three people of working age to each elderly person by 2031 (Statistics NZ, 1995b).

The old age dependency has important expenditure implications as most of the costs involved in supporting the elderly, namely health and welfare expenditure, tend to be borne by the state rather than the family. The Periodic Report Group established by the Todd Task Force estimates that fiscal pressures from public retirement provision (that is New Zealand Superannuation) combined with health expenditure could reach 40 percent of Gross Domestic Product (GDP) in 2050 (Periodic Report Group, 1997).

Research on retirement provision is highly relevant to social policy. St John and Ashton (1993), two New Zealand superannuation experts, stress that the superannuation issue as we enter the millennium is fundamentally about the distribution of resources between generations and among the retired, in the face of profound economic and social change. This paper adds another dimension to the generational accounting equation: that of gender. How the distribution of resources occurs will depend on a wide range of behavioural factors plus social and fiscal policies. The last two of those will determine the relative degree of state intervention as against the degree of self reliance expected on the population. In any case, the role of the state is not a simplistic one of public versus private provision and its complexity is evident in this comment made at an international superannuation conference in the early 1990s:

> "The conventional dichotomy between public and private may be inappropriate not only in terms of the definition but also in distinguishing between domains of public and private sector policy" (OECD, 1991: 3).

1.1   Women's Retirement Provision: A Research Need

Most of the protagonists in the superannuation provision debate agree that women are disadvantaged when it comes to retirement provision (Consumer, 1997; Dickson *et al*, 1997; Lawrence, 1996; Norwich Union, 1997; Office of the Retirement Commissioner, 1995; Shipley, 1996). Women live longer and are more likely to experience a longer retirement period. Ironically, however, their capacity to save for this life stage is much lower. This, in turn, is predominantly the product of a different life course characterised by childbearing, longer periods of time in unpaid work, and broken periods in paid employment.

Despite acknowledgment of women's difficulties in securing their financial independence in old age, research remains scant. Much of the research on saving has focused on modelling or on explaining macro level phenomena (Auerbach and Kotlikoff, Clements, 1984; 1992; Mason, 1988). At the micro level, research has tended to explore savings at a household level. Analyses taking an individual perspective have generally not been refined to take account of gender (Browning, 1992; Skinner, 1988).

A number of socio-demographic factors including age, income, employment status, occupation and ethnicity have been found to be strongly associated with levels of wealth accumulation (Department of Social Welfare, 1992; Office of the Retirement Commissioner, 1995). However, very little is known about the precise effect of these factors nor their relative importance.

The aim of this research is to quantify the relative effect of these potentially constraining demographic factors on women's decision to save for their retirement. Income, lifetime employment, family size, timing of family formation, education, and ethnicity are considered here. The results show that income is the most critical factor in determining likelihood to provide for retirement, and not the income of the woman herself so much rather the income of her partner.

2   A MODEL OF DEMOGRAPHIC BARRIERS

The model examined here assumes that both attitudinal and demographic factors can influence women's retirement provision behaviours. Furthermore, some influences have a direct effect and others have an indirect effect, while underlying determinants can also operate at either the macro or micro level. Macro economic factors such as GDP rate of growth, national debt, and employment will influence income and saving levels. Cultural beliefs about money, old age, and care giving will also determine the importance that we, as a society, give to the retirement provision issue. Finally, institutional factors and legislation can dictate the level of retirement provision being made.

The model (see Figure 1) focuses on demographic factors that have been highlighted in the literature as likely influences on retirement provision. Potential influences have been categorised in two groups: direct and indirect.

Figure 1: **Framework for analysing demographic barriers to retirement provision by women**
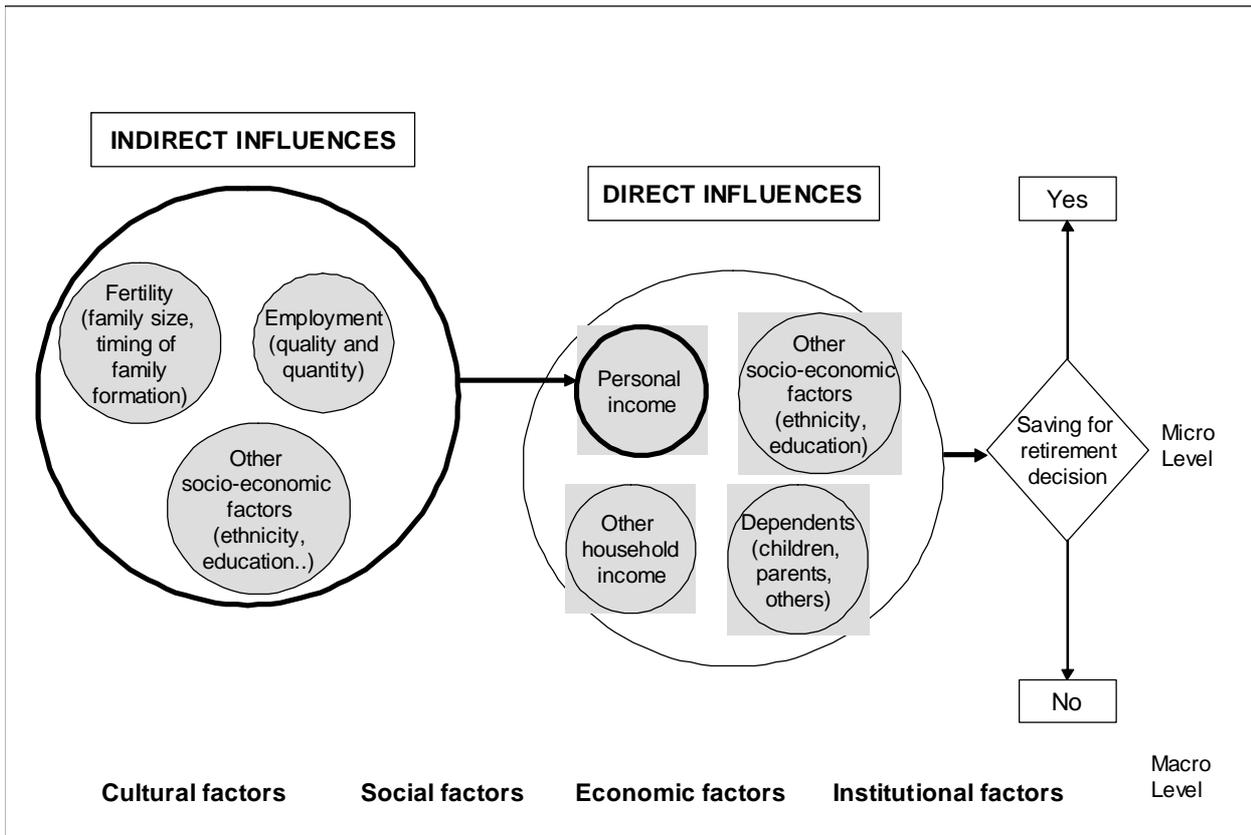
2.1 Direct Influences

At a micro level, the significance of economic status has been highlighted in most studies of retirement provision (Auerbach and Kotlikoff, 1992; Mason, 1988). Economic resources available within the household directly affect household members' ability to save for retirement purposes. The shape of the savings cycle is directly related to these resources: people are expected to save in the middle part of their life when their income levels are higher, predominantly due to their active participation in the labour force, and to dissave when they are young or in the latter life stages when their income levels fall (Hubbard *et al*, 1994; Skinner, 1988).

Research in New Zealand has associated levels of income to the propensity to save for retirement (Department of Social Welfare, 1992; Office of the Retirement Commissioner, 1995). The results of these studies have shown that people with limited earning levels were less likely to make provision for retirement.

In the context of retirement provision for women, it appears highly relevant to assess the precise effect of income as women have traditionally earned less than men because of their childbearing and associated childrearing roles, even at equal levels of education (Statistics NZ, 1993). In fact, New Zealand women place lack of income on

top of the list of barriers to retirement provision (Office of the Retirement Commissioner, 1995).

A number of reasons exist for wanting to define more precisely the variable income for this research. The use of household income or income of the main household earner dominates consumption and saving studies (Danko and Schaninger, 1990; Horioka and Watanabe, 1997; Shefrin and Thaler, 1988). However, a limited proportion of the household income may be available to a woman for retirement provision purposes. According to Easting (1994), the income women earn personally may be the only income over which they can exert choice in spending decisions. Therefore, the distinction between a woman's personal income and other household income may provide further insight into women's barriers to retirement provision.

Income not only represents economic power, but it is also linked to social stratification (Coleman, 1983; Schaninger, 1981). Income may affect saving decisions because of varying attitudes formed about retirement provision in different social strata. Income can encapsulate a specific view of the retirement issue. Research has shown that people with high income levels were more likely to agree that they should personally save for retirement and that the government would be unlikely to continue to provide current public superannuation benefits (Office of the Retirement Commissioner, 1995).

Retirement provision behaviour is also posited to be influenced by the composition of the household. Economic theory suggests that consumption and, indirectly, savings involve trade-offs. Savings for retirement is competing with other demands placed on income. These demands can vary greatly between households depending on a wide range of circumstances.

At a micro level, dependents, and children in particular, represent an important source of consumption expenditures that directly affects the pool of income available for retirement provision. Browning (1992) has established the impact of children on a vast number of household economic behaviours. Economic studies have attempted to model food and clothing consumption on the basis of the number of dependent children in the household (Wilkes, 1995). Although not linear, the relationships between consumption and number of children are positive and they suggest that the greater the number of children, the greater the consumption of basic commodities.

The age of children is also important. Consumption analysis over the life cycle suggests that patterns of consumption do change considerably (Wilkes, 1995). Danko and Schaninger (1990) who evaluated the Gilly-Enis household life cycle model across a variety of consumption areas concluded that consumption patterns across families differ markedly. In general, the financial demands placed on family income increase as the children grow older, and this trend is arrested only when the children become financially independent (Wynn, 1972).

Finally, the literature suggests that catering for children under five involves less expenditure than for older children, in particular when the mother stays at home to

rear them instead of participating in the work force (Douhitt and Fedyk, 1990). On this basis, children under the age of five and children aged 5-17 years are expected to have a negative effect on retirement provision behaviour.

The structural ageing of the New Zealand population has highlighted the issue of older dependents. However, older dependents (eg. parents living at home) were not considered in this research after the examination of the data revealed that only a very small minority (less than three per cent) of households included such members.

Ethnicity is posited as a direct influence on retirement provision behaviour due to its cultural role. In the context of the New Zealand Society, ethnicity has shown to be an important societal agent Jackson, 1998; Te Puni Kokiri, 1998).

Retirement provision originated in western cultures (Obervye, 1996). The more individualistic nature of these cultures in contrast to the more collective organisation of the Maori culture has probably been more conducive to the development of insurance and social welfare systems.

In addition to its cultural effect, ethnicity interacts with socio-economic factors. Traditionally in New Zealand, ethnicity has been a powerful discriminator of social class structure. Wilkes *et al.*, (1985) found in their study of stratification in New Zealand society, that Maori and Pacific Islanders predominated in the working class. Studies based on social class segmentation have argued that different social classes exhibited marked differences in terms of attitudes, opinions, and interests (Coleman, 1981; Fisher, 1987). Research undertaken by the Office of the Retirement Commissioner (1995) indicated that more Maori than Pakeha believed that the state should provide retirement income while more Pakeha than Maori believed that it is necessary to save.

The last direct influence considered in the model is education. The rationale for its relevance stems broadly from the same reasons advanced for including ethnicity. Education has a social stratification effect which leads to differences in attitudes, opinions and interests, and different opportunities due to work which becomes available and thus income (Coleman, 1981). Research in many disciplines has shown that education is an important factor in social change. For example, demographers have linked education to usage of contraception and declines in fertility (Rindfuss, Bumpass, and St John, 1980).

2.2   Indirect Influences

If income is deemed central to retirement provision, then one can look at factors that will directly affect a woman's income and thus indirectly influence her retirement provision capacity. A demographic perspective becomes useful because of the inter-penetration of the career (thus income) and family cycles. Put more simply, the pivotal question of interest is 'how is income affected by employment patterns and children?

Following a 10 year longitudinal study of maternal participation in the New Zealand full-time workforce, Lloyd, Fergusson, and Horwood (1989:2) concluded that

"entry into the full-time workforce is a resultant of a complex series of processes which include: the effects of the transition to motherhood on maternal role perceptions and opportunities for workforce participation; the demands of the family economy which may place pressure on the mother to enter the workforce; and the mother's role orientation which may influence her attitudes towards workforce participation".

They also noted that the age of the children was an important factor as full-time female participation was higher amongst mothers whose youngest child was over five.

The lack of affordable childcare continues to be a major barrier for women with pre-schoolers to consider full-time employment. Research in the United States has shown that childcare costs constrain women's employment (Oppenheim and Kuhlthau, 1992). In New Zealand, the Ministry of Women Affairs (1994:10) also found in a survey that work force participation depended on the availability of affordable, accessible and high quality childcare.

The timing of family formation, in particular the trend towards smaller families and delayed childbearing, is becoming an increasingly important piece in the interactions between fertility and employment. Dharmalingam, Pool, and Johnstone (1996), who examined the influence of age at first birth on work together with other intermediary effects such as education and contraception, found that work and education had a substantially greater effect on the timing of first birth than other variables. Women increasingly want to establish themselves securely in careers before starting their families (Cigno and Ermisch, 1989).

In the context of retirement provision, the importance of the timing of the first birth is a further significant factor. In light of trends towards increasingly delayed childbearing and the structural ageing of the population, many demographers have documented the potential difficulties that future cohorts of women in middle age may experience when they face conflicting demands of child and parent dependency (Sceats, 1988). It is argued that these women may have to withdraw from the labour force to devote time to care for their older parents, therefore reducing their financial capacity to accumulate sufficient wealth for retirement. However current cohorts of women in the middle age years are unlikely to face this dilemma according to New Zealand research undertaken by McPherson (1993) but generations currently at young ages may have to in the future.

Knowing whether or not women are working during their childbearing period may not be sufficient to adequately inform the retirement provision debate. Detailed patterns of employment over time can offer greater insight into women's ability to save for their retirement. Duration of employment, full-time versus part-time, types of work women do, in conjunction, are all key determinants of women's income. Quantity of employment may be important but the quality of this employment has equally important ramifications. Quality is also partly a function of quantity as seniority is often achieved through uninterrupted presence in employment (Jacobsen and Levin, 1995).

Davies and Jackson (1993) who undertook a comprehensive review of women's labour force participation in New Zealand covering the 100 years to 1993 have emphasised the shift from a uni-modal left skewed profile (labour force participation being restricted to the period prior to marriage or prior to childbearing) to the so-called m-shaped curve since the sixties. This new pattern suggests that now, women are only temporarily withdrawing from the workforce around their key childbearing ages. More recent micro level research in North America also suggests that the traditional division of women at key parenting ages between participants and non participants in the labour force fails to describe the diversity of employment for many women (Vandenheuvel, 1997).

Although quantity of employment might enhance women's opportunities to achieve greater financial independence in their old age, in itself, it may not be sufficient. Pacific Island women have traditionally exhibited high levels of participation in the full-time workforce, to almost the same level as their Pakeha counterparts. However, their participation has been concentrated in unskilled and consequently low paid jobs (Davies and Jackson, 1993; Statistics NZ, 1995a). Overall, the statistics report lower level of economic wealth in this ethnic group (Statistics NZ, 1994).

Quality of employment must be considered in parallel with quantity of employment. Although the wage gap between men and women remains in the 1990s (Cook and Briggs, 1997:2), there is no doubt that women in more skilled occupations have achieved greater financial power than those in less skilled employment. For example, in 1991, the median income for women school teachers was $31,030 compared to $14,102 for a sewing machinist or $21,359 for a sales assistant (Statistics NZ, 1993).

The positive link between higher education and higher income levels has long been recognised both at an individual and country level (Calhoun and Espenshade, 1988; Moffit, 1984). This is also the case for New Zealand women (Department of Statistics, 1993) and statistics show that labour force participation is higher for those who have formal qualifications, particularly tertiary qualifications (Statistics NZ, 1993).

As mentioned earlier, a distinct feature of the New Zealand society is its biculturalism. Pakeha and Maori populations have been characterised by significantly different demographic transitions (Pool, 1991). Labour force participation of the two ethnic groups has also been different. Maori women continue to exhibit lower participation rates than Pakeha women, and to record higher unemployment levels (Davies and Jackson, 1993). These historical and continuing differences have important implications for the structures and functions of the family, as well as on economic and social policy, including government policy for retirement provision (Pool, Jackson, and Davies, 1993).

In summary, dependents, income, ethnicity, and education will directly influence women's ability to earmark financial resources for retirement purposes. In addition, employment patterns, dependents, timing of family formation, education, and ethnicity will directly influence women's personal incomes and therefore will indirectly have an impact on old age provision.

3   METHOD

The validation of the model used data from New Zealand's first large-scale national fertility survey, Women: Family, Employment, Education (NZW:FEE) Survey (Dharmalingam, Hillcoat-Nallétamby, and Pool, 1995). For the first time in New Zealand, data retracing women's life cycles are available. They allow the examination of employment and family formation influences on current retirement saving behaviour in addition to the common socio-economic intervening factors such as income, education, and ethnicity.

The survey drew heavily in its design (sampling and questionnaire) on the approach developed by the United Nations Economic Commission for Europe (which includes North America). Thus, it benefited from the expertise developed by the participating countries and the extensive testing of the survey instrument undertaken over the last two decades that such surveys have been carried out around the world in both industrialised and developing countries (Dharmalingam *et al.*, 1995). A complete description of the technical issues relating to the New Zealand survey can be found in the NZW:FEE technical and methodological report (Marsault *et al*, 1997).

A total of 3,017 women aged 20-59 years were interviewed (face-to-face). Definitions of response rates vary depending on the rigour of computation. In the case of the NZW:FEE survey, the response rate varied between 61%[1] and 54%[2] depending on whether only those contacted were considered, or whether not only those contacted but also those identified as eligible but who could not be contacted were included in the computation. Despite the relatively high level of non-response in the NZW:FEE survey, comparison of the NZW:FEE data with data from other sources on key variables indicated that the sample was generally representative of the wider New Zealand female population aged 20-59 years (Marsault *et al*, 1997). Furthermore, detailed analysis of response patterns for a range of variables, sampling errors and related factors as well as exhaustive validations show that the data are very robust.

The analysis limited its investigation to women aged 35-59 years. These ages represent the key ages for interest in retirement provision issues as well as involvement in labour force participation and parenting. Using the age criteria, 1,525 women were selected to form the research sub-sample.

4   RESULTS

The results obtained in validating the model are presented below. They are drawn from a longer research project (Marsault, 1998).

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[1] Ratio of total number of completed interviews to total number of respondents contacted.

[2] Ratio of total number of completed interviews to total number of eligible respondents selected for interview.

4.1 Direct Influences

Due to the dichotomous nature of the dependent variable (yes/no), a logistic regression procedure was performed to model the relationships between retirement provision and the six direct factors: personal income, other household income, number of children aged 0-4 and 5-17 years, education, and ethnicity. The outputs of this analysis are presented in Table 1 below.

All variables except the number of children aged 0-4 years and education were found to have a statistically significant effect ($p<.01$). As was expected, estimates of both parameters relating to income (personal and other household income) were positive, indicating that increases in income result in greater likelihood to make financial contribution for retirement. Also as posited, the number of children aged 5-17 years had a negative effect on the retirement provision decision (-0.152). As expected being Pakeha had a positive effect on retirement provision behaviour.

Surprisingly, the coefficient education was not statistically significant nor the coefficient for children aged 0-4 years was not statistically significant. This may be due to the small number of women in the sample who had children in this age group (170 out of 1,339, or 13 percent).

Table 1: Factors directly related to retirement provision

N=1339*	Estimate	Standard Error	t(1334)	p level	Odds ratio
Intercept	0.333	0.192	1.739	.082	1.40
Personal income	0.653	0.084	7.823	.000	1.92
Other household income	1.138	0.086	13.189	.000	3.12
No.of children aged 0-4 years	-0.086	0.129	-0.618	.537	0.92
No.of children aged 5-17 years	-0.152	0.057	-2.670	.008	0.86
Education	0.216	0.135	1.600	.110	1.24
Ethnicity	0.633	0.175	3.606	.000	1.88

- 186 cases with missing values were not included in the analysis - These missing values were predominantly due to missing income data and missing data in the job history section of the questionnaire (e.g., starting date)

To assess the influence of each independent variable on the dependent variable, retirement provision, one can also look at ratios. The odds ratio is the number by which one would multiply the odds of making a financial contribution to retirement provision for each one-unit increase in the independent variable. As shown in Table 1, an increase in one standard deviation in the respondent's personal income would result in an increase of 92 percent in her odds of making provision for her retirement. In comparison, an increase in one standard deviation in income from other household members (most likely husband or partner) would result in an increase of 212 percent in the odds of savings for retirement. This result suggests that access to income

generally, but to a much greater extent to other household income, is a key factor in a woman's ability to save for retirement. Conversely, the presence of children aged 5-17 years has only a small negative influence on the retirement provision behaviour. The model also indicates that an additional child in this age group decreases by 9 percent the odds of making provision for retirement. No comment is made about younger children as their effect is not statistically significant.

4.2 Indirect Influences

A multiple regression analysis was applied to quantify direct influences on personal income (indirect influence on retirement provision). The results are presented below.

Table 2 indicates that the coefficients for education, children under the age of five, and all four employment variables are statistically significant (p<.01). They are also in the direction expected. Therefore, higher tertiary education levels, greater hours of employment and employment of higher quality over the lifetime positively influence personal income. Conversely, as expected, the presence of children under the age of five has a negative effect on income. But the presence of children aged 5-17 years does not appear to be significantly related to income levels; nor is the timing of family formation.

Surprisingly, ethnicity is not statistically significant (p<.05). In practical terms, this means that when controlling for other variables included in the model, ethnicity does not have a statistically significant effect. One would have expected the opposite given the greater number of Maori women in lower socio-economic groups. On the basis of these results, quantity and quality of employment, education, and the presence of children but only when they are aged 5–17 years, were shown to be significant. In contrast, the presence of children under the age of five, the timing of family formation, and ethnicity were not significant.

Standardised regression coefficients provide an effective way to compare the relative influence of each independent variable on personal income. Table 2 shows that hours worked in jobs of high socio-economic status is by far the strongest driver of personal income. The importance of this aspect of employment is further reinforced on the examination of the coefficient obtained for the other employment variables. The number of hours worked in employment of medium to high or low to medium socio-economic status has the next highest standardised coefficients. This means that a change in hours worked in jobs of either high, medium to high or low to medium status will have a greater relative effect that a change in any other variable. However, a change in education level from secondary to tertiary level will have a greater effect that changes in hours worked in jobs of low socio-economic status. Additional children will moderately influence a woman's income and the negative effect is likely to disappear when the children have reached the age of five.

In summary, the statistical analysis indicates that, directly, income is the main driver of old age provision, but much more so the income of other household members than the income that a woman generates herself. Women earning high incomes and living with a partner are best placed to ensure a comfortable retirement period for

themselves. Conversely, those living on their own and earning low incomes are the most vulnerable. The presence of children aged 5-17 years and being Maori have moderate effects on retirement provision. Indirectly, the quality and quantity of employment can substantially assist in retirement provision through their key influence on personal income. Higher levels of education and the absence of children under the age of five also enhance women's earning ability, albeit to a lesser degree.

Table 2: Factors indirectly related to retirement provision

N=1389*	Standardised BETA	Standard Error of BETA	t(1379)	p-level
Ethnicity	.032	.068	1.312	.189
Education	.110	.054	4.099	.000
Age at first birth before 20	.009	.083	0.287	.774
Age at first birth between 20 and 24	-.039	.067	-1.215	.225
Age at first birth between 25 and 29	-.054	.071	-1.752	.080
No. of children aged 0-4 years	-.078	.052	-3.169	.002
No. of children aged 5-17 years	-.001	.023	-0.035	.972
No. of hrs ever worked in jobs of <u>low</u> socio-economic status	.066	.026	2.553	.010
No. of hours ever worked in jobs of <u>low to medium</u> socio-economic status	.235	.028	8.407	.000
No. of hours ever worked in jobs of <u>medium to high</u> socio-economic status	.166	.025	6.573	.000
No.of hours ever worked in jobs of <u>high</u> socio-economic status	.415	.029	14.579	.000

*   136 cases with missing values were not included in the analysis. These missing values were predominantly due to missing income data and missing data in the job history section of the questionnaire (e.g., starting date).

5   DISCUSSION

This section discusses the findings in the context of empirical and theoretical knowledge in three areas, retirement provision, women's socio-economic position, and employment patterns.

5.1   Retirement Provision, Income and Social Attitudes

An examination of direct influences on saving retirement behaviours has confirmed the importance of income as a key determinant. Higher levels of income tended to be associated with greater likelihood to save for retirement. Economic theory and social stratification can help explain this influence. For those with greater financial resources, the opportunity cost of retirement provision is lower in relative terms than

for those with more limited financial resources. Retirement provision as a product is not only competing against other forms of financial investment but also with the whole spectrum of consumer goods and services.

From a social class perspective, income differentials may also mediate attitudes towards retirement provision. Attitudinal segmentation of the population on the issue of retirement provision supports this idea as well as provides some rationale for the positive effect noted for education. Recent research conducted by the Office of Retirement Commissioner (1995) shows than above than average proportions of women were found in two segments which significantly differed in terms of the income profiles. Attitudes towards retirement provision between these groups was also found to differ markedly:

1   The 'pessimists' segment tended to include more women in disadvantaged socio economic groups with lower education levels and more people separated, divorced or widowed. The pessimists believe that they should save more but they admit that they simply cannot. They are also more likely to agree that the government can afford to maintain NZ superannuation.

2   The 'sheltered' segment tended to include women that were better off financially, who had higher education levels but who generally were not the main income earner. They were more likely to rely on someone else to make provision on their behalf. Despite less personal involvement, they were confident that this provision will be sufficient.

A significantly higher regression coefficient was obtained for other household income (1.138) compared to the personal income coefficient (0.653). This result indicates that women with access to income from other household members have a much greater propensity to save for their retirement. While other household income may come from different sources, it can be reasonably assumed that the main source would be from the respondent's partner. Even if part of this income came from non-dependent children, it is unlikely that it would be available for retirement purposes. Recent research in New Zealand on family income allocation indicates that gifts in the form of money are more likely to be in the direction of parents to adult children rather than vice versa (Easting, 1994). This suggests that women, despite becoming increasingly independent generally including in financial matters, continue to rely on partners when it comes to retirement issues. Thus, a woman's partnership situation is paramount to retirement provision.

This is not to say that women are not taking responsibility for financially preparing for their old age. Slightly more than 30 percent make provision themselves solely and 15 percent contribute in conjunction with someone else. Nevertheless, retirement provision contributions continue to be entrenched in traditional family models. The continuity of women's marital or partnership career underpins their ability to approach retirement with security. Even women in high income stable households may also be at risk unless they take a more pro-active approach towards their old age well being. Despite change in family law concerning the treatment of husband's superannuation,

their weaker economic status, key parenting role, and moderate pro-activity in saving for old age, maintain them in a vulnerable position.

5.2 Income, Employment and Family

Directly linked to income is employment. Over the life course, each employment experience is important because, whether it is a career step or more simply a new job, it will partly shape the next experience, and ultimately it will have an impact to a certain degree on future income (Jacobsen and Levin, 1995). Overall, both the quantity and quality of employment were found to have a significant effect on current income level.

The analysis showed that women who have worked in occupations of <u>high</u> socio-economic status had higher personal incomes. The number of hours worked in this type of occupations also varied significantly between savers and non-savers. Education, which also had a positive influence on personal income, most likely reflects the better job opportunities it brings. The total number of hours ever worked in jobs of <u>low to medium</u> socio-economic status was found to be the second most important variable affecting personal income. These types of jobs are predominantly of a clerical, sales or customer service nature where part-time work is commonly available. They offer greater opportunities for women to reconcile family and work commitments, and perhaps to maintain continuity in employment (Davies and Jackson, 1993). In fact, the data suggest that the majority of women work in this type of jobs. Survey data show that the average number of hours worked over the lifetime is highest for the low to medium socio-economic status employment category (16,263 hours compared to 5,857 hours in the low socio-economic status category, 4,216 in the medium to high status category and 9,317 in the high status category).

Labour force participation trends indicate that women increasingly are in the labour force at all ages but decreasingly work in teenage years due to longer periods in education. In the key childbearing ages, participation tends to decrease also (Davies and Jackson, 1993). Our analysis shows that this pattern of participation is an important factor of retirement provision. The presence of children under the age of five did have a negative effect on income, but this effect is small compared to the influence of employment factors. This finding is congruent with research showing that women no longer display the dichotomous orientation of mother or worker that has traditionally been described in the literature. Women are now returning faster to the paid workforce (Lloyd *et al*, 1989). Vandenheuvel (1997) who undertook a longitudinal study of North American mothers for 10 years following their first birth concludes that the fact that so few mothers of young children are continuously in the homemaker role after 10 post birth years attests to women's commitment to employment despite the high childrearing demands they are facing at this life course stage. The fundamental changes in women's work patterns may explain why the present research failed to identify timing of family formation as a determinant of income.

In conclusion, women's ability to save for their retirement is underpinned by their ability to gain access to income as well as by the quantum and quality of their own employment. They are increasingly able and willing to find ways to mix the mother and worker roles to ensure a better financial outcome for themselves and their families.

5.3 Retirement Provision and the Cost of Children

The presence of children was expected to have a direct negative effect on retirement provision behaviour because of the pressure for financial expenditure associated with childrearing. The results here present a mixed picture. The presence of children under the age of five was found to have a significant indirect effect but not a significant direct effect. In contrast, the presence of children aged 5-17 years was found to have a significant direct effect but not a significant indirect effect. A number of arguments can be put forward to explain these findings.

First, the literature suggests that family composition has an influence on the allocation of income to leisure and home production activities as well as to market goods. Douhitt and Fedyk (1990), found that home production and purchased goods were substitutes at least in the production of child services. The first (home production) is gradually replaced by the second (purchased goods) as children grow older. In the context of retirement provision, this means that as children grow older, they will divert more financial resources from the retirement saving purpose (the direct effect for children 5-17 years and absence of this effect for children under the age of five).

In terms of indirect effect, the difference between children under the age of five and children aged 5-17 years can relate to women's availability for work. With children under five, opportunities for gaining paid employment may depend on the availability of affordable childcare. As children grow older and start going to school, the reliance of these services will diminish resulting in greater availability for participation in the labour force.

Second, the manner in which women allocate the income available for consumption can also have an impact on their ability to earmark a portion for their old age, although for different reasons in different cultures. Easting (1994) found that Pakeha women gave priority to the needs of household members whereas Maori women, in particular those active in Whanau, and Pacific Island women, may channel part of their disposable income to other household members.

This means that the competition for income allocation to retirement provision purposes presented by children may affect women to a greater extent than men due to their heightened value placed on family or Whanau members. This of course may be partly alleviated by lower opportunity costs achieved through higher income levels.

5.4 Retirement Provision and Ethnicity

This study provided mixed results on the effect of ethnicity on retirement provision behaviours. Ethnicity did influence retirement provision behaviour directly but did not influence personal income. It is possible that ethnic affiliation reflects specific

attitudes towards retirement provision. Retirement provision being more a western phenomenon, Pakeha women may feel a greater need for it than do Maori and Pacific Island women. Easting (1994) noted cultural differences in the value placed on money as well as in the way income was spent. It was assumed that ethnicity would indirectly influence retirement provision by affecting personal income. This hypothesis was not supported. It is possible that the ethnicity effect was captured through employment (i.e. smaller quantity and lower socio-economic status). Indeed, higher proportion of Maori and Pacific Island women work in lower pay jobs, or are unemployed, or are not participating in the labour force (Horsfield and Evans, 1988; Statistics NZ, 1993). The model may also be imperfect in mapping the complex interaction between education, employment, and family formation on Maori women's incomes.

6 CONCLUSION

Retirement provision has been an on-going social issue in New Zealand. Successive governments have wrestled with it and, in the process, they have generated much debate. As the ageing trend will accelerate next century, this issue has come back to the political forefront in recent years with renewed interest. Retirement provision poses additional challenges for women. They face longer retirement periods but have traditionally been less able to accumulate wealth for this life stage mainly because of their childbearing and childrearing functions.

Although women are continuously portrayed as the vulnerable parties with respect to old age provision, research on the topic has generally not focused on them. The NZW:FEE survey data enabled a detailed analysis of the difficulties they face by combining some key demographic characteristics relating to family formation, socio economic status, and employment over the life time. The analysis carried out was limited to women aged 35-59 years because this age group includes the ages where retirement provision is an issue of interest to them and where they are most involved in parenting.

The analysis of demographic barriers to retirement provision suggests that despite the increasing economic independence achieved by women, their position in terms of wealth accumulation for retirement remains notably vulnerable. Their approach to retirement provision still rests largely on the traditional model of family organisation. The husband's income still remains a key factor in retirement provision patterns. Thus ultimately the capacity of women to accumulate savings will depend to a large degree on their spouse's behaviours related to money management. Their capacity to generate savings independently is still affected by demographic forces: bio-social behaviours relating to childbearing and childrearing, as well as the interaction between these demands and access to paid work.

Despite increasing economic independence, women's ability to face a secure retirement continues to rest on conventional family models. This works in a number of different ways. The presence of children inhibits old age provision in two ways. Older children (5-17 years) divert financial resources that may be available for retirement purposes while younger children (0-4 years) reduce to a degree women's ability to

earn an income through their participation in the labour force. Women can indirectly enhance their retirement provision capabilities by increasing both the quantum and quality of employment. Current trends towards greater achievements in higher education and better options to mix their mother and worker roles should result in better old age income prospects.

Furthermore, cultural attitudes may also weaken the prospect of a financially manageable retirement for non-Pakeha women. Retirement saving was found to be more prevalent among Pakeha women and this result may reflect different cultural values about old age and how this life stage should be economically funded. It is therefore essential that the cultural dimension of retirement provision be acknowledged so as to avoid marginalising non-Pakeha women.

In conclusion, this research contributes to our knowledge of retirement provision by clarifying the obstacles that women face in relation to old age provision. By using multivariate analysis and therefore by controlling for confounding effects, this study has isolated the particular influence of important socio-economic factors.

Through continued participation in the labour market, despite their childbearing roles, and the goal of enhancing the quality of their employment, women have an opportunity to strengthen their ability to provide sufficiently themselves for their own old age but this is still even today not a certainty or a source of unlimited support.

7   NEEDED POLICY RESEARCH

The area of retirement provision for women is characterised by a paucity of data. The research agenda is broad and encompasses demographic and attitudinal analyses.

One obvious avenue for future attitudinal research is the analysis of the retirement provision decision within the life course framework. What were women circumstances when they started saving for their retirement? Why did they start? How did they choose their saving vehicle? Social change has been studying as a diffusion process (Redmond, 1996). Studying retirement provision within an adoption/diffusion framework may help policy makers identify women who are most likely to start savings early in life and predict the diffusion process in future generations of women.

Taking a more demographic perspective, the analysis presented in this study should be refined by the use of sophisticated analytical techniques. For instance, the use of the life table technique would permit stricter accounting for the exact effects of the timing of family formation in relation to labour force participation.

Cohort analysis could also prove useful to account properly for the true influence of age on retirement provision prevalence. Boskin and Lau (1988) found that saving behaviours among the North American population differed between people born before and after 1939. This presumably has some link to the psychological impacts of the 1930s Depression. Cohort analysis applied to retirement provision could help isolate the influence of age on retirement provision behaviour while removing historical influences.

APPENDIX 1: MODEL OPERATIONALISATION

Independent variables - direct influences

Income. Income was operationalised into two variables: personal (i.e., respondent) income and other household income, each being an income selected from 13 income categories. Categorical income variables were transformed into continuous variables by selecting the mid point of the category. Variables were standardised.

Dependents. Two variables, number of children aged 0 to 4, and number of children aged 5 to 17.

Main ethnicity. This variable distinguished between Pakeha and other ethnic groups. The coding of ethnic groups was based on the New Zealand Standard Classification of Ethnicity (Department of Statistics, 1993).

Education. This construct was operationalised with one variable representing the highest level of qualification ever achieved. Respondents were categorised into two groups: those with tertiary qualifications and those without.

Independent variables - indirect influences

Employment. Four variables were used to capture quality and quantity of employment together. Each represents the number of hours a woman has worked over her life time in specific types of jobs ranked by status (derived on the basis of median occupational income according to census statistics). Extensive manipulation of the data was required to construct these variables. The final employment variables represented the total number of hours ever worked in employment of high socio-economic status, medium to high socio-economic status, low to medium socio-economic status and low socio-economic status. All employment variables were standardised.

Time of family formation. Age at birth of first children was chosen as the best indicator of family formation. A dummy variable was created. The reference category represented a childless status at age 30 and three dummy variables were created: having a first birth before age 20, between 20 and 24, and between 25 and 29. These categories were chosen following examination of the data set which revealed a spread in the timing of family formation between the late teens to the early thirties. There is no doubt that this pattern is somewhat different from the patterns that younger and future generations of women will experience as the median age at first birth continues to rise (27 in 1991 compared to 23 in 1971, Statistics NZ, 1993).

Dependent variable

Retirement provision decision. The independent variable was operationalised into a simple Yes/No answer to the question, "Are you or anyone on your behalf currently making financial provision for your retirement"?

Construct and operationalisation	Variables	Variable type	Possible answers	Possible values	Expected direction of the relationship
Retirement provision	RETPROV	Categorical Dichotomous	Yes No	1 0	n/a (dep. var)
Personal income	PERSINC PINCSTD	Continuous (Not standardised) Continuous Standardised		many	+
Other household income	OTINCSTD	Continuous (Standardised)		many	+
Number of children 0 to 4 5 to 17	CHLD0_4 CHLD5_17	Continuous Continuous		many many	- -
Employment : total no. of hours ever worked in jobs of * high socio economic status * medium to high socio-economic status * low to medium socio-economic status * low socio-economic status	JOBCAT4 JOBCAT3 JOBCAT2 JOBCAT1	Continuous (Standardised) Continuous (Standardised) Continuous (Standardised) Continuous (Standardised)		many many many many	+ + + +
Time of family formation Age at first birth Reference category = being Childless at 30 Dummy variables: * before age 20 * between 20 and 24 * between 25 and 29	BEFORE20 B20_24 B25_29	Categorical dummy variable	Yes No Yes No Yes No	1 0 1 0 1 0	+
Ethnicity	ETHNIC2	Categorical Dichotomous	Pakeha Other	1 0	+
Education Whether or not has Tertiary qualifications	EDUC2	Categorical Dichotomous	Yes No	1 0	+

REFERENCES

Auerbach, A.J. & Kotlikoff, L.J. (1992) "The Impact of the Demographic Transition on Capital Formation". *Scandinavian Journal of Economics* 94(2):281-295.

Boskin, M. & Lau, L. (1988) "An Analysis of Post-War US Consumption and Saving: Part II, Empirical Results". *NBER Working Paper 2606*, Cambridge, MA: National Bureau of Economic Research.

Browning, M. (1992) "Children and Household Economic Behavior". *Journal of Economic Literature*, 30(3):1434-1475.

Calhoun, C.A. & Espenshade T.J. (1988) "Childbearing and Wives' Foregone Earnings". *Population Studies*, 42:5-37.

Clements, R. (1984) "Uses of Savings in New Zealand". *Reserve Bank Bulletin*, 47 (July), 291-296.

Cigno, A. & Ermisch, J. (1989) "A Microeconomic Analysis of the Timing of Births". *European Economic Review*, 33(4):737-760.

Coleman, R.P. (1983) "The Continued Significance of Social Class in Marketing". *Journal of Consumer Research*, 10 (December), 265-280.

Cook, D. & Briggs, P. (1997) "*Gender Wage Gap: Scenarios of the Gender Wage Gap*". Wellington: New Zealand Institute of Economic Research.

Danko, W.D. & Schaninger, C.M. (1990) "An Empirical Evaluation of the Gilly-Enis Updated Household Life Cycle Model". *Journal of Business Research*, 21(1):39-57.

Dharmalingam, A., Hillcoat-Nallétamby, S. and Pool, I. (1995) "Surveys on Family Formation and Associated Factors: A Brief Introduction". *Population Studies Centre Discussion Paper No. 6.* Hamilton, University of Waikato.

Dharmalingam, A., Pool, I. & Johnstone, K. (1998) "Work and Timing of First Live Births in New Zealand". Proceedings of *7th Conference on Labour, Employment & Work*, Victoria University, Wellington, November 1996, 133-140.

Davies, L., & Jackson, N. (1993) Women's Labour Force Participation in New Zealand: the past 100 years". *Social Policy Journal,* Wellington: Social Policy Agency.

Department of Social Welfare (1992) "A Survey of Retirement Provision". Wellington: Research Unit. Wellington: Social Policy Agency.

Department of Statistics (1993) *Standard Classification of Ethnicity*. Wellington.

Department of Stastistics (1993) *Work. New Zealand Social Trends*. Wellington.

Dickson, J., Fish, J., Marsault, A., Pool, I. & Martin, B. (1997) "New Zealand Women: Constraints to Savings for Retirement" *Population Studies Centre Discussion Paper 22,*. Hamilton, University of Waikato.

Douhitt. R.A. & Fedyk. J. (1990) Family Composition, Parental Time and Market Goods: Life Cycle Trade-offs". *Journal of Consumer Affairs*, 24(1):110-133.

Easting, S.K. (1994) "Families, Money and Policy - Summary of the Intra Family Income Study and Discussion of Policy Issues". Intra Family Income Project, Wellington in association with the Social Policy Research Centre. Palmerston North, New Zealand: Massey University.

Fisher, J.E. (1987) "Social Class and Consumer Behavior: The Relevance of Class and Status". *Advances in Consumer Research*, 14:492-496.

Horioka, C.Y. & Watanabe, W. (1997) "Why do People Save? A Micro-Analysis of Motives for Household Saving in Japan". *The Journal of the Royal Economic Society*, 107(442):537-552.

Horsfield, A. & Evans, M. (1988) "Maori Women in the Economy. Te Ohu Whakatupu". Wellington: Ministry of Women's Affairs.

Hubbard, R.G, Skinner, J. & Zeldes, S.P. (1994) "Expanding the Life Cycle Model: Precautionary Saving and Public Policy". *American Economic Review*, 84(2):174-179.

Jackson, N. (1998) "Ethnic Stratification in New Zealand. A 'Total Social Production' Perspective". Unpublished PhD Theses, Canberra: Australian National University.

Jacobsen, J.P. & Levin, L.M. (1995) "Effects of Intermittent Labour Force Attachment on Women's Earnings". *Monthly Labor Review*, 118(9):14-19.

Lawrence, J. (1996) "The Changing Situation of Women and their Opportunities to Save for Retirement". In *Proceedings of The First Conference Retirement Income and Women Conference*,. Wellington: Ministry of Women's Affairs.

Lloyd, M., Fergusson, M. & Horwood, L.J. (1989) "A Longitudinal Study of Maternal Participation in the Full-Time Longitudinal Study of Maternal Participation in the Full-Time Workforce. Part 2 Exit from the Full-Time Workforce". *New Zealand Population Review* 15(2):3-22.

McPherson, M.J. (1993) Cohort Vulnerability Due to Lack of Family Support in Old Age". *New Zealand Population Review*, 19(1, 2):65-93.

Marsault, A (1998) "The Market for Retirement Provision: Demographic Barriers Experienced by Women". Unpublished Master in Management Studies Thesis. Hamilton, University of Waikato.

Marsault, A., Pool, I., Dharmalingam, A., Hillcoat-Nallétamby, S. & Johnstone, K. (1997) "New Zealand Women: Family, Employment and Education Survey: *Technical and Methodological Report. Technical Report Series, 1*. Population Studies Centre. Hamilton, University of Waikato.

Mason, A. (1988) "Saving, Economic Growth and Demographic Change". *Population and Development Review*, 14(1):113-144.

Ministry of Women's Affairs (1994) "Working it out: Towards Family Friendly Workplaces". Wellington.

Moffit, R. (1984) "Profiles of Fertility, Labour Supply and Wages of Married Women: A Complete Life-Cycle Model." *Review of Economic Studies*, 263-278.

Obervye, E. (1996) "The New Zealand Pension System in an International Context: An Outsider's View". *Social Policy Journal*, 6:23-42.

OECD (1991) "The Issue". Conference of National Experts on Private Pensions and Public Policy. Paris: OECD Conference Secretariat.

Office of the Retirement Commissioner (1995) "Towards Developing a Retirement Communications Program. Determining Public Awareness Attitudes and Behaviours". Wellington.

Oppenheim-Mason, K. & Kuhlthau,K. (1992) "The Perceived Impact of Child Care Costs on Women's Labor Supply and Fertility". *Demography*, 29(4):523-543.

Periodic Report Group (1997) "1997 Retirement Income Report: A Review of the Current Framework - Interim report". Wellington

Pool, I. (1991) *Te Iwi Maori*. Auckland: University Press.

Pool, I., Jackson, N. & Davies, L. (1993) "Demographic Change and Family Policy: A Methodological Comment". *Population Studies Centre Discussion Paper No 1*,. Hamilton, University of Waikato

Redmond, W.H. (1996) "Product Disadoption: Quitting Smoking as a Diffusion Process". *Journal of Public Policy & Marketing*, 15(1):87-97.

Rindfuss, R.R., Bompass, L. & St John, C. (1980) "Education and Fertility: Implications for the Roles Women Occupy". *American Sociological Review*, 45:431-447.

Sceats, J. (1988) Implications of Changes in New Zealand Family Formation and Household Structure. In Crothers, C. & Bedford, R. (eds.) *The Business of Population,* Wellington: New Zealand Demographic Society.

Shefrin, H.M. & Thaler, R.H. (1988) "The Behavioral Life-Cycle Hypothesis". *Economic Enquiry*, XXVI (October), 609-639.

Shipley, J. (1996) "Opening Remarks". In P*roceedings of the First Conference: Retirement Income and Women's Conference*, Wellington: Ministry of Women's Affairs.

Skinner, J. (1988) "Risky Income, Life Cycle Consumption and Precautionary Savings". *Journal of Monetary Economics,* 2(2):237-255.

St John, S. & Ashton, T. (1993) "Private Pensions in NZ: Can They Avert the Crisis?". Institute of Policy Studies. Wellington: University of Victoria.

Statistics NZ. (1993) *Women in New Zealand*. Wellington.

Statistics NZ (1994) *Income Statistics, 1994*. Wellington

Statistics NZ. (1995a) *New Zealand 1996 Yearbook*. Auckland.

Statistics NZ (1995b) "65 Plus". *New Zealand Now*. Wellington.

Te Puni Kokiri (1998). "Progress Towards Social and Economic Gaps Between Maori and Non-Maori." Wellington.

Todd Task Force (1992) "Private Provision for Retirement: The Way Forward". *Final Report*. Wellington.

Vandenheuvel, A. (1997) "Women's Roles after First Birth: Variable or Stable?". *Gender and Society*, 11(3):357-368.

Wilkes, C., Davis, P., Tait, D. & Chrisp, P. (1985) "The New Zealand Class Structure". *Sociology Department Working Paper 1,* Palmerston North, New Zealand: Massey University.

Wilkes, R.E. (1995) "Household Life-Cycle Stages, Transitions and Product Expenditures". *Journal of Consumer Research*, 22(1):27-42.

Wynn, E. (1972) "Family Policy: A Study of the Economic Cost of Rearing Children and their Social and Political Consequences". Raywood, Victoria: Pelican Editor Penguin.