

**BEYOND REASONABLE DEBT: A BACKGROUND REPORT ON THE
INDEBTEDNESS OF NEW ZEALAND FAMILIES**

Jaimie Legge¹
Anne Heynes
Families Commission
Retirement Commission

Abstract

This paper reviews international literature and New Zealand data to examine the indebtedness of New Zealand families and identify circumstances and behaviours that might distinguish families who use debt well from those who do not. Some circumstances (notably being young, having children and separation) and some behavioural traits (basing aspirations on comparisons with others and being impulsive) appear to be important in determining who gets into debt. Other circumstances (notably having low income) and other behavioural traits (having an external locus of control) appear to be important in determining who gets into problem debt. Having an external locus of control means you believe your environment or other people control your decisions.

INTRODUCTION

Increasing indebtedness is largely a modern phenomenon. Deregulation, coupled with technology, has made access to debt widely available. In many cases little or no financial security is required to access funds. This provides opportunities that might not otherwise have existed for many people to get ahead financially or “weather storms”. However, the cost of this access is greatest for those who can least afford it, creating a potential debt trap if unexpected events occur.

This is an area in which the Families Commission and Retirement Commission share a mutual interest. Both agencies want to ensure families are aware of the risks of using debt and recognise the warning signs before debt becomes a problem. In order to use indebtedness as an indicator of financial strain, however, we need to be able to isolate those who use debt well from those who do not. This paper provides a preliminary examination of a range of factors that may help us to distinguish these two population groups.

We do not undertake any multivariate analysis of families’ indebtedness, but recognise that the way in which variables interrelate is critically important. Both Commissions plan to undertake some multivariate analysis with the Living Standards Survey dataset to examine this further, and are also considering some primary research to improve our understanding of families’ knowledge of, attitudes to and behaviours relating to debt.

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Correspondence

Families Commission: www.nzfamilies.org.nz

Retirement Commission: www.retirement.org.nz

The paper begins with a brief outline of New Zealand families' debt situation. It then reviews the theory and evidence on the impact of circumstances and behaviour on families' indebtedness.²

NEW ZEALAND FAMILIES' DEBT SITUATION

According to Statistics New Zealand's SoFIE data,³ 64% of single families with or without children and 82% of couple families with or without children had some form of debt in 2003/04.⁴ For single families the total amount of debt owed was \$21,371 million, of which 69% represented mortgage debt, 12% student loan debt, 7% loans and credit card debt, and 13% other types of debt. For couple families the total amount of debt owed was \$71,032 million, of which 82% represented mortgage debt, 2% student loan debt, 6% loans and credit card debt, and 10% other types of debt.

As a group the household sector⁵ has rapidly accumulated debt since the early 1990s, and much of the increase has been for mortgages (Reserve Bank of New Zealand 2006). A similar trend has been observed in Australia. The Reserve Bank of Australia has observed that while owner-occupier housing debt has accounted for much of the increase in total household debt, this debt is concentrated in less than a third of all Australian households, and this proportion has not changed significantly in the previous decade: "The rise in housing debt is not due to a higher proportion of households acquiring debt, but is primarily due to an increase in the average level of debt per debtor household" (Reserve Bank of Australia 2003:5). Aggregate figures, however, do not tell us much about how individual families are faring – particularly their ability to service debt. This is discussed further in the next sections.

FAMILIES' CHARACTERISTICS AND CIRCUMSTANCES

A range of characteristics, circumstances and environmental factors are likely to influence and help to explain different families' decisions about savings and debt and their outcomes. This section outlines relevant theory and overseas and New Zealand evidence on the following:

- age
- relationships, children and transitions
- income, education and employment.

The full report on the Families Commission's and Retirement Commission's websites also addresses:

- wealth and home ownership
- ethnicity and region
- economic and social climate and policy.

² The full report is available on the Commissions' websites: www.nzfamilies.org.nz and www.retirement.org.nz

³ SoFIE data presented in this paper are based on the second wave of the survey carried out in 2003/04, generated by The Treasury on 28 March 2008, unless otherwise stated.

⁴ For the purposes of this work, "family" has been defined as a single individual with or without dependent children ("single families") or two individuals in a social-marital relationship with or without dependent children ("couple families").

⁵ The National Accounts consider government, business, household and external sectors.

Age

The life-cycle model of saving assumes that most individuals, or in this case families, go through predictable stages at predictable times. The life-cycle model can therefore be thought of as capturing a series of age effects. Normal patterns of human capital development and working life entail people having earnings streams that rise with age and then decline, so the theory of consumption smoothing implies a period of borrowing, followed by saving, followed by dissaving (drawing down savings).

Overseas evidence: Age appears to be an important predictor of both debt use and debt problems, with families headed by younger adults being more likely to use debt, have long-term debt and have difficulty managing debt. In the UK, those in their 20s and 30s are more likely to have debt problems than other age groups: almost 40% of those who find debt a “heavy burden” are aged between 25 and 34 (Tudela and Young 2004). This age group is also particularly susceptible to long-term debt, which is consistent with acquiring major assets such as houses (Balmer et al. 2005).

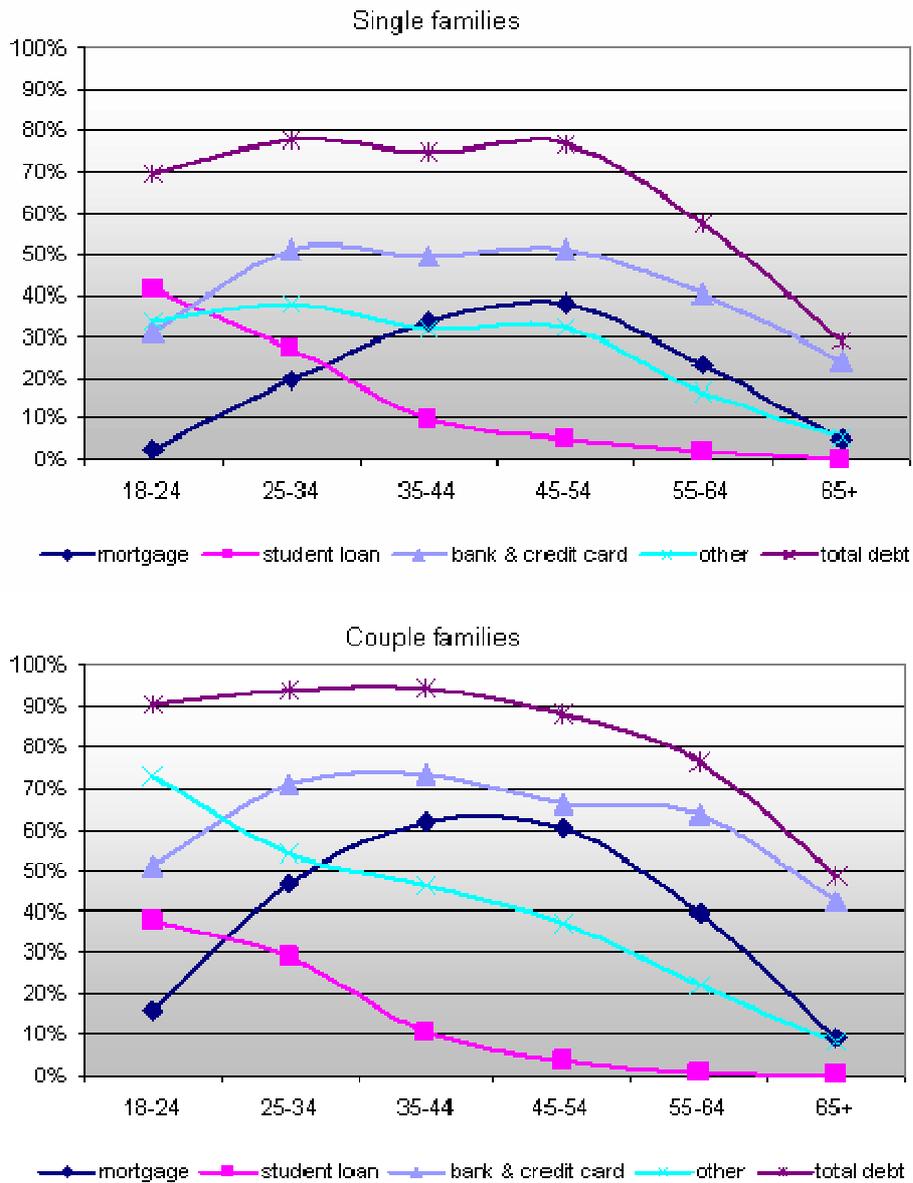
According to Kempson (2002), age is one of five key factors increasing the risk of arrears in the UK, the others being family, income, use of consumer credit and priority given to paying bills:

The relationship of age to debt problems may be a consequence of better access and more liberal attitudes to using credit, as well as higher rates of setting up new homes and having children among younger respondents, both of which are major causes of debt problems. (Kempson 2002:40)

New Zealand evidence: Statistics New Zealand’s SoFIE data, illustrated in Figures 1 and 2 below, demonstrate that a life-cycle relationship does exist between age and total debt: on average, New Zealanders become slightly more reliant on debt as they move through their 20s. This plateaus though their 30s, 40s and early 50s, then falls noticeably from their late 50s into retirement. This relationship exists for both single and couple families, although a greater proportion of couples have debt than singles.

However, the relationship is most apparent with mortgage debt and bank and credit card debt. Student loan debt, and to a lesser extent “other” debt, exhibit a negative relationship with age. This is to be expected in the case of student loan debt, as most students are likely to be young. The relationship with “other” debt, however, may reflect greater reliance on non-mainstream (and unsecured) forms of credit for young people who have less income and asset security, especially those in a couple family.

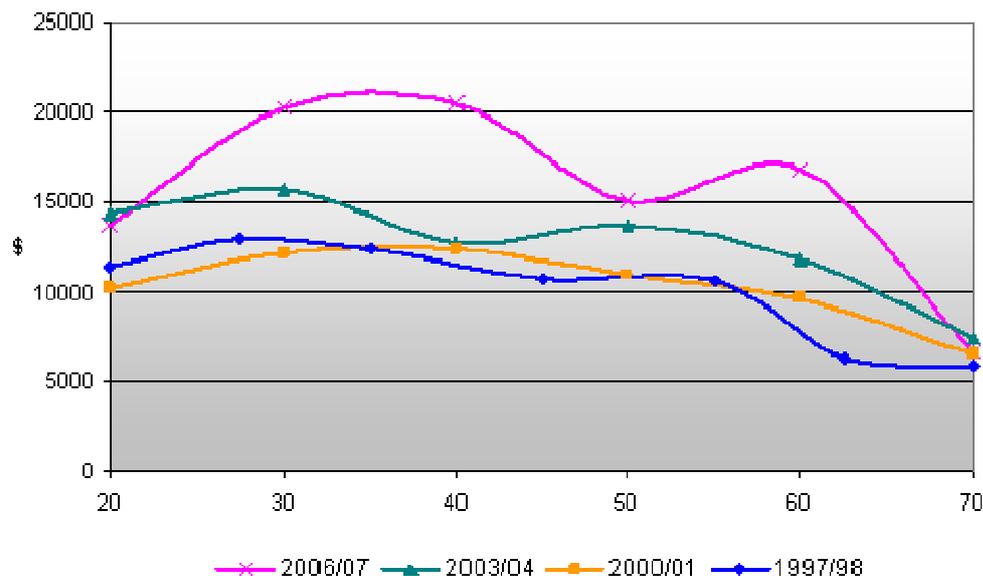
Figure 1 Proportion of Single and Couple Families with Different Types of Debt, by Age



Source: Statistics New Zealand SoFIE data, wave 2, 2003/04

Preliminary examination of Household Economic Survey trend data, illustrated in Figure 2 below, suggests that older age groups are becoming more indebted. The figure shows mortgage repayments (including interest and principal) against the age of the household “reference person” for those who reported such expenditure. Three points stand out: the broadly inverted U-shape is consistent with the life-cycle model; there is a general upward drift over time, consistent with an increase in household mortgage debt (this may include non-housing debt secured against property); and there appears to be an increase among older age groups.

Figure 2 Average Annual Mortgage Repayments, by Age



Source: : Statistics New Zealand Household Economic Survey data

Relationships, Children and Transitions

Family formation is one of the key life stages captured by the life-cycle model. People have traditionally partnered and had children at the start of their working life, and this helps to explain the relatively high ratio of borrowing to saving at this life stage: incomes are low and costs are high. Increasingly, however, the “average” family is forming later, is having fewer children, is more likely to have both partners in paid work, and is more likely to re-form or be a blended family (Statistics New Zealand 2005).

Overseas evidence: There is mixed evidence from overseas as to the effect family size has on use of debt or indebtedness. Livingstone and Lunt (1992) found evidence of a negative but insignificant relationship between use of debt and number of children. The mixed evidence may be due to confounding factors such as age, income and wealth. Large families are likely to be “older” and have the means to support more children. It follows that the relationship with indebtedness may vary depending on the representativeness of survey data of the age of the family and family incomes.

A positive correlation between family size and income may help explain Lindqvist’s finding that debt repayments were positively associated with family size and with owning one’s own home (Lindqvist 1981). Debt repayments reflect what people pay back, rather than what they owe or whether they borrow in the first place.

In terms of over-indebtedness (or problem debt), the relationship is clearer, but is also affected by the relationship between family size and income. Kempson et al. (2004) found that in the UK larger families are more likely to have arrears, be out of work and receive social security benefits. They also found that a higher proportion of larger families than smaller families experience hardship, and comment that “it is perhaps unsurprising that larger families appear more likely to be in arrears”. However, once income is adjusted for family size, Kempson et al. found the link between number of children and being in arrears (a measure of over-indebtedness) much weaker.

Berthoud (1989, cited in Valins 2004) has also found income to be a confounding variable when considering the impact of family structure on indebtedness: over-indebtedness tends to affect families that have both low incomes and children; among families without children, low income does not seem to make much difference. In other words, having children and low income is a better predictor of problem debt than low income alone (Valins 2004).

Relationship breakdown has also been found to be positively related to over-indebtedness. According to Balmer et al. (2005), relationship breakdown (and other key variables such as ill health) is a significant predictor of debt problems. Kempson et al. (2004) have also found that domestic violence and relationship breakdown problems more often occurred before debt problems, indicating the severe change in circumstances that can follow family breakdown. In a recent UK study, experience of domestic violence, personal injury, clinical negligence and relationship breakdown significantly increased the likelihood of debt problems (Balmer et al. 2005).

In the UK, a link between lone parenthood and debt has also been observed, with up to one in three single parents falling into arrears. Relationship breakdown or marital separation is considered the primary cause of this problem (Edwards 2003, cited in Balmer et al. 2005). Single parents, followed by couples with children, had the highest rates of debt problems (Edwards 2003, cited in Balmer et al. 2005).

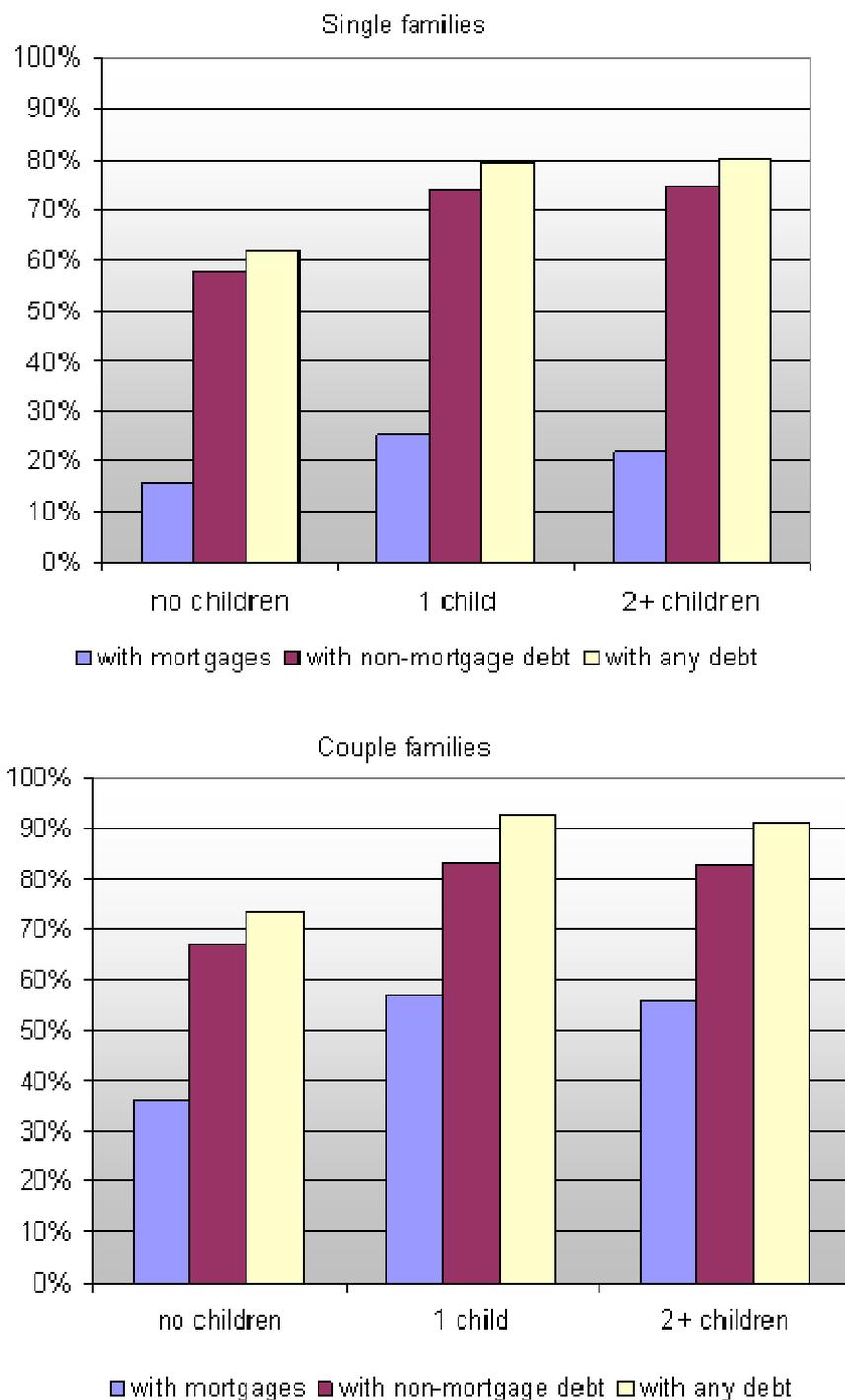
New Zealand evidence: The Living Standards Report (Ministry of Social Development 2006) found that families with dependent children have lower living standards than the overall population because more of these families are reliant on income-tested benefits. Families with market incomes have living standards that are similar to the overall population. The role that indebtedness plays in these disparities has not been fully explored using Living Standards Survey (LSS) data, although good data on debt and financial strain have been captured. This will be explored as part of the multivariate analysis of the LSS dataset planned by the Families Commission and Retirement Commission for 2008/09.

In another New Zealand study using Summary Instalment Order⁶ (SIO) data, subjects with more than three dependants at the time of application for an SIO had an estimated four-fold increase in bankruptcy risk compared to subjects without dependants in the first several months after application. Other risk factors for the same time interval included the size of the SIO instalment (Allen and Rose 2004).

According to Statistics New Zealand's SoFIE data, illustrated in Figure 3 below, the proportion of single and couple families with debt is higher if those families have children. The difference between having one and having two or more children, however, appears to be insignificant. Couple families generally have a greater proportion of secured debt than single families, but having children does not appear to disproportionately increase reliance on unsecured debt.

⁶ A consumer debt repayment plan administered by a court as a possible alternative to bankruptcy. The SIO allows debtors to repay their debts in regular instalments without the threat of further legal action while the order is in force.

Figure 3 Parenting Status of Single and Couple Families with Debt (Proportions)



Source: Statistics New Zealand SoFIE data, wave 2, 2003/04

Multivariate analysis of SoFIE data would allow us to examine whether age, income and wealth have confounding effects. Future SoFIE data could also shed more light on the effects of having fewer children and having them later, and on family transitions.

Income, Education and Employment

The relationship between income and borrowing is not entirely straightforward. In theory, as your income increases you can afford to service more debt. However, incomes tend to increase with age, and the life-cycle model suggests that people's propensity or need to borrow declines as they age and accumulate wealth. So which effect is greater? Is income positively related to indebtedness, but negatively to over-indebtedness? Education and employment are also relevant to this question. Higher education is likely to mean more stable employment and higher income, as well as better financial literacy.

Overseas evidence: Disposable income seems to be irrelevant to *whether* one gets into debt (presumably once a certain minimum income is obtained), but it is a moderate predictor of *how far* one gets into debt and an important predictor of how much one repays. Repayments are also predicted by the amount owed: the more one owes, the more one repays, provided one has the resources to do so (Livingstone and Lunt 1992).

In the UK, low income has been found to be a reasonable predictor of debt problems (Webley and Nyhus 2001, cited in Balmer et al. 2005). Arrears also tend to be higher for those on low incomes than for the extremely poor (Valins 2004). Del-Río and Young (2005) assessed the key factors determining participation in, and the amount borrowed from, the unsecured debt market. They found that positive expectations of the individual's future financial position are associated with a higher probability of participation in the unsecured debt market. Higher educational qualifications were also found to have the same association, suggesting that such qualifications make individuals more optimistic and more confident about their future income levels. Individuals with no educational qualifications were found to have a probability of debt that was 10 percentage points lower than that of qualified people. They also found that, for debt holders, the higher the educational qualification, the larger the amount of unsecured debt held. Borrowing for education, however, could likely have a significant influence on these findings. It is not clear whether this form of borrowing is included as unsecured debt, or whether income has been held constant in this study.

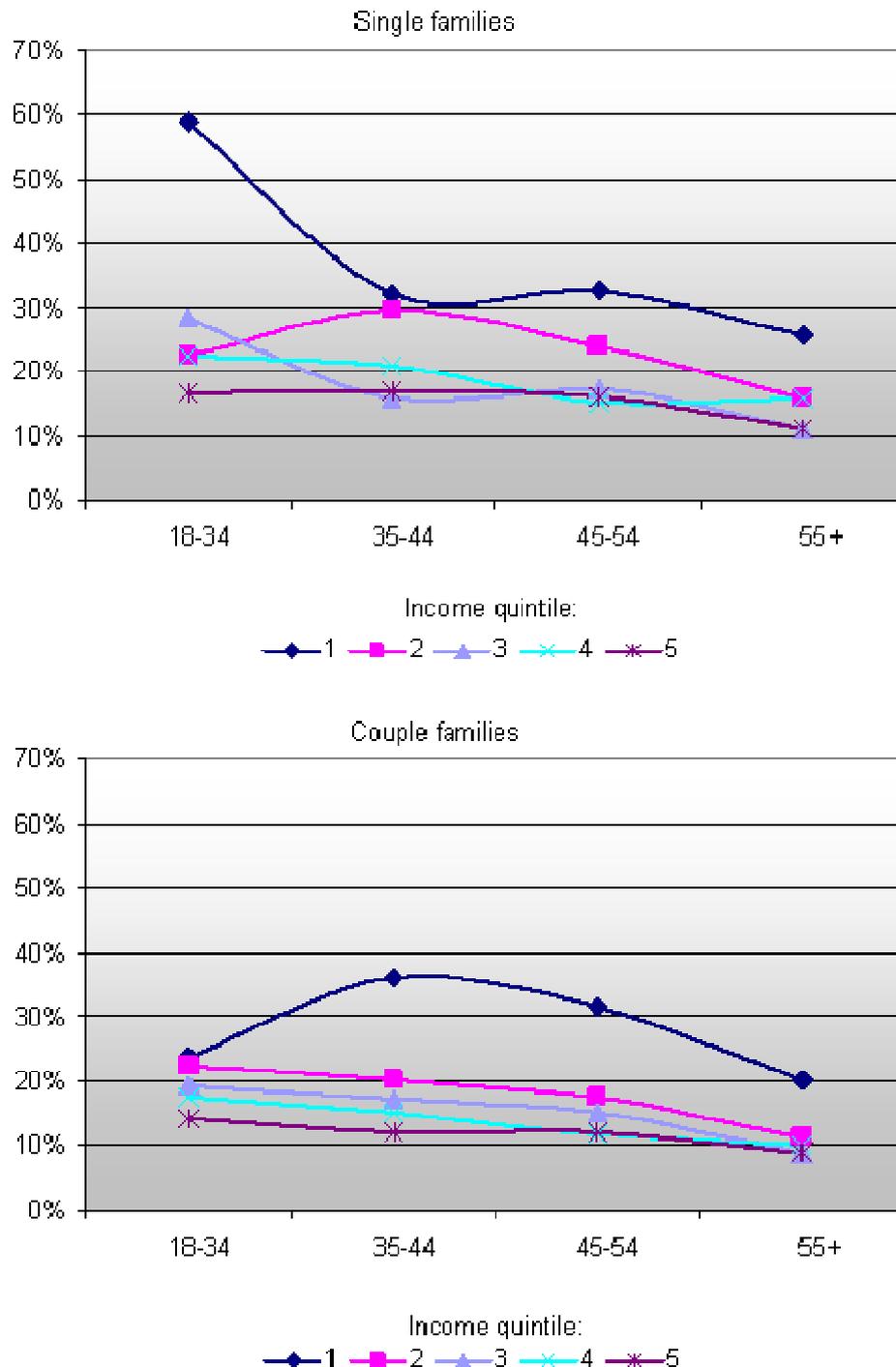
In the UK, those not in employment are more vulnerable to debt and twice as likely to be in arrears than those who are employed (Department for Work and Pensions and Department of Trade and Industry 2004). More than a quarter of UK Citizens Advice Bureau clients also reported job loss as a major factor contributing to their debt problem (Edwards 2003, cited in Balmer et al. 2005; Kempson 2002). According to Balmer et al. (2005), being in receipt of benefits or having a long-term illness or disability is considered the strongest predictor of debt problems.

New Zealand evidence: Living on a low income for a long period was found to be a major cause of indebtedness in some recent New Zealand case studies, and increasing income is considered the only way out (Williams and O'Brien 2003). According to Statistics New Zealand's SoFIE data, illustrated in Figure 4 below,⁷ median mortgage servicing ratios clearly decline over the life cycle and are generally higher for families with lower incomes. In other words, families with lower incomes allocate more of their income to servicing a mortgage, but all families allocate less of their income to mortgage repayments as they age.

⁷ Note that these data were generated by The Treasury on 30 May 2008, removing 17 debt-servicing "outliers" who had debt-servicing to income ratios greater than 5.

Of course, incomes tend to rise with age, so even if the proportion of income is decreasing, the actual amount repaid may still be increasing.

Figure 4 Median Mortgage Servicing Costs to Income Ratios for Single and Couple Families with Mortgages, by Age and Income Quintile



Statistics New Zealand SoFIE data, wave 2, 2003/04

Families' Behaviour

The study of indebtedness within the realm of economic psychology is relatively recent, with the first articles appearing from 1989 (Lunt 1995). However, the traditional theory of savings has alluded to the influence of psychological factors for some time, and psychological factors are now considered to play a key role in financial decision-making. This section explores what is known about the influence of psychological factors on financial decision-making behaviour and outcomes.

The psychological factors can be thought of as falling into two groups: personality variables and environmental variables. Personality variables include:

- locus of control (the degree to which people consider they are in control of their own life and actions)
- aspirations (the degree to which people form aspirations based on comparisons with others)
- self-control (the degree to which people are impulsive or do not stick to long-term goals).

Environmental variables include:

- context relativity (the degree to which people's decisions are influenced by the context in which they are presented)
- shared experiences (the degree to which people's decisions are influenced by the experiences of family and friends)
- family decision-making (the degree to which people's decisions are influenced by family processes and priorities)
- consumer socialisation (the process by which people develop an understanding of the economic world)
- aggressive lending and advertising (the degree to which people's decisions are directly influenced by the actions of others).

Environmental variables are not discussed in this paper, but are available in the full report on the Families Commission's and Retirement Commission's websites.

Locus of Control

According to one study, "the most powerful explanation of the level of debt appears to be [general] locus of control, a factor not normally included in studies of household behaviour" (Cameron and Goldby 1991, cited in Valins 2004:43). Locus of control applies to an individual, since each person has a locus of control as part of their personality.

Locus of control is a personality variable related to how much people believe their lives are under their own control. Those who are said to possess internal locus of control believe they determine what happens to them and that they can change or influence the course of events. Others, said to have external locus of control, feel that the cause and control of events in their lives lie outside their abilities, and attribute what happens to them to the external environment. People with external locus of control feel they have little control over how their life evolves and believe that life experiences happen from the "outside-in." They tend to take less responsibility for their actions than those with internal locus of control, and place responsibility on some known or unknown force out of their control, such as chance, fate, powerful others, the government, or God. Those with internal locus of control tend to be

more self-reliant, independent and confident in themselves and their abilities. They show more initiative, make more effort to control the world around them, and tend to control their own impulses or urges better than people with an external locus of control (Pinto et al. 2004). Locus of control therefore includes, but is not limited to, the concept of self-control, discussed later.

Overseas evidence: Lunt and Livingstone (1991) compared those who saved regularly and those who did not in the UK and found that savers have more internal locus of control than non-savers, while non-savers tend to be fatalistic. In general, savers believe in personal control over finances, in budgeting and in keeping things simple, whereas non-savers tend to make life more complicated and feel less under control.

Livingstone and Lunt (1992) found that those in debt are more likely to attribute their financial problems to the credit system, in the form of blaming:

- the convenience of credit and high credit limits
- internal factors relating to control, such as lack of self-discipline and careless budgeting
- their pleasure in consumption
- their greed
- their tendency to drift along according to old habits.

Locus of control orientation has been found to change with age: internality tends to begin between ages 8 and 14, increase until middle age and decrease thereafter (Schultz and Schultz 2004).

Studies show that the development of locus of control is associated with family style and resources, culture, and experiences with effort leading to reward. “Internals” have been found to grow up in families that model typical “internal” beliefs such as effort, education, responsibility and thinking. Parents typically gave children rewards they had promised them. In contrast, “externals” are typically associated with lower socio-economic status, because poor people have less control over their lives (Schultz and Schultz 2004). Findings from early studies on the familial origins of locus of control were summarised by Lefcourt: “warmth, supportiveness and parental encouragement seem to be essential for development of an internal locus” (Lefcourt 1976:100).

Aspirations

In addition to the practical or financial reasons for why people save, traditional savings theory suggests that people may also save for a range of aspirational reasons, including being financially independent, aspiring to a particular lifestyle based on their preferences, and starting a business.

Cameron and Golby (1991) suggest the aspirational motive can be explained by social comparison theory. In particular, they use it to describe an aspirational behaviour known as “keeping up with the Joneses”. Duesenberry (1949) recognised the social comparison process⁸ as an important mechanism in both saving and borrowing, proposing that people save any money left over from expenditure necessary to keep up with their social reference

⁸ Social comparison processes (usually discussed in psychology literature) include the desire to affiliate with others, the desire for information about others, and explicit self-evaluation against others.

group, and that people borrow in order to acquire goods necessary to keep up with their reference group.

Overseas evidence: Canova et al. (2005) found that 97 British adults named 15 reasons for saving, which functioned hierarchically. More concrete or materialist goals such as “purchase”, “holidays” and “money availability” were at the bottom of the hierarchy, while at the top were more abstract goals of “self-esteem” and “self-gratification.” In the middle were goals that channelled the more concrete towards the abstract.

Watson (2003) measured behaviour by variables such as self-esteem, self-worth, self-image, identity and social status, and found that highly materialistic people are more likely to view themselves as spenders and to have more favourable attitudes to borrowing. The more materialistic individuals are, the more credit cards they own, the more the finance charges are on those credit cards, and the more likely they are to have loans of more than \$1,000 (Watson 2003). Livingstone and Lunt (1992) also found those in debt considered that enjoyment requires higher consumption and therefore lower savings, while savers did not consider this to be the case.

Despite this, there is evidence of a negative association between materialism and happiness. Van Boven found that the more people aspire to materialistic goals, the less satisfied they are with life and the more at risk they are of developing psychological disorders. Furthermore, allocating discretionary resources in pursuit of life experiences was found to make people happier than pursuing the acquisition of material possessions (Van Boven 2005).

This may explain why Livingstone and Lunt (1992:131) found that “those who owed more were more likely to disagree that keeping up with the [Joneses] was a source of pressure for them and hence a cause of their financial problems”. Among their responses, however, this group “did not identify any other cause of their problems which differed from those less in debt”, and the authors suggest that “this apparent tendency to deny the operation of social comparison processes might be investigated further.”

They also found that those in debt not only experience pleasure in consumption but also express their social worth and social relations through consumption, buying presents for themselves and others as rewards or bribes. Debtors also tended to talk more about money with friends, suggesting that social relations partly centre on consumption as a topic of mutual interest and value. This pattern of social relations may be both cause and effect of a general dissatisfaction and disappointment experienced by debtors in their standard of living. The authors comment that being in debt appears to be linked to socio-psychological participation in consumer culture more generally. They observe that while having similar resources to those in debt, those not in debt are less likely to reward or bribe with purchases, talk about money with friends, feel dissatisfied with circumstances or find pleasure in shopping (Livingstone and Lunt 1992).

Yurchisin and Johnson (2004) found that compulsive buying behaviour was negatively related to self-esteem and positively related to perceived social status associated with buying and materialism. While compulsive buying behaviours are believed to affect only 1 to 5% of consumers, studying this extreme behaviour enables the association to be made (Earl and Kemp 1999).

Self-Control

Behavioural economists have developed a “hyperbolic consumption model” (based on economic life-cycle theory) to represent self-control problems (or “irrational” consumer behaviour). According to this theory, “hyperbolic” consumers are like their “exponential” counterparts in that they prefer instant gratification over achieving long-run goals (in other words, they have high discount rates or prefer consumption in the short term). Unlike their exponential counterparts, however, hyperbolic consumers also have time-inconsistent preferences – that is, their preferences change depending on whether they are asked what trade-off they would make now or in the future.

In addition to discount rates and preferences, the role of expectations (or expectations of future happiness) in rational choice theory has been challenged in order to explain some observed self-control problems, such as the use of goods like cigarettes, which bring immediate benefit but have a potentially serious future cost, or shunning personal investment that brings immediate cost but future benefit (Clark et al. 2003).

Impulsivity is associated with problems such as addiction and criminality (Farrington 1995). It is generally assumed that personality traits such as impulsivity are resistant to change, but one quantitative review of longitudinal studies (Roberts and DelVecchio 2000) showed that delay of gratification is one of the personality traits most susceptible to change with adult experience.

Overseas evidence: Neuroscientists have recently isolated the brain circuit involved in thinking twice and checking impulsive action, effectively proving that humans can literally act before they think when making decisions (Brass and Haggard 2007). Although not perfect, the “hyperbolic discount function” helps explain a wide range of anomalous economic choices, including procrastination, addiction, self-deception, sub-optimal retirement timing, the design of contracts by profit-maximising firms, and under-saving. The theory also offers explanations for a number of apparent anomalies in household financial decision-making.

- Households with hyperbolic discount functions tend to hold their wealth in an illiquid form (such as a house), since such illiquid assets are protected from consumption splurges.
- Households with hyperbolic discount functions are very likely to borrow on their credit cards to fund instant gratification.
- Since hyperbolic households have little liquid wealth, they are unable to smooth consumption, generating a high level of co-movement between income and consumption (Angeletos et al. 2001).

Pinto et al. (2004) found that students who tended to carry forward large unpaid balances were thought to make impulse purchases and use their credit cards to buy more than they could afford. Although these students were aware of the down sides of their usage level, they appeared unable to regulate or modify their behaviour in using credit. Perhaps surprisingly, Pinto et al.’s study does not support previous studies showing that the psychological factors of self-esteem and locus of control are inversely related to shopping behaviour and credit-card spending. Regardless of their type of credit card use, the students reported very high self-esteem and stronger internal locus of control.

This suggests that there may not be a linear relationship between locus of control, aspirations and self-control. The authors argue that this may be because of the uniformity of the college student sample, and self-reporting reflecting a *change* in locus of control and aspirations rather than an *absolute* level. This is consistent with studies indicating increases in students' self-esteem and a shift from external to internal locus of control during the college years.

CONCLUSION

This paper has examined the indebtedness of New Zealand families and explored a number of circumstances and behavioural factors that might distinguish families who use debt well from those who do not. Some circumstances (notably being young, having children and separation) and some behavioural traits (basing aspirations on comparisons with others or being impulsive) appear to be important in determining who gets into debt. Other circumstances (notably having low income) and behavioural traits (having external locus of control) appear to be important in determining who gets into *problem* debt.

However, our review has revealed that these factors operate together in quite complex and potentially confounding ways, and that further work is required to tease them out. Age, for instance, seems to be an important factor in the development of self-worth, and thus in people's desire for less materialistic things and their propensity to save. Income, on the other hand, changes the social group people operate in and compare themselves with.

A better understanding of the interplay between factors in a family decision-making setting is also required. For example, where in a two-parent family one partner has an internal locus of control and the other an external one, it may be in the family's long-term interests for each to be aware of their tendencies, strengths and weaknesses and to empower the internally focused partner to make decisions about the family's finances.

There also remains a question of whether differences emerge before or after people become indebted – can we reliably use these factors before the event to identify problem debt risk-factors?

REFERENCES

- Allen, L.N. and L.C. Rose (2004) *Determinants of Personal Financial Distress in New Zealand*, Working Paper Series 04/33, Department of Commerce, Massey University, Auckland.
- Angeletos, G.M., D. Laibson, J. Tobacman, A. Repetto and S. Weinberg (2001) "The Hyperbolic Consumption Model: calibration, simulation, and empirical evaluation" *Journal of Economic Perspectives*, 15(3):47–68.
- Balmer, N., P. Pleasance, A. Buck and H.C. Walker (2005) "Worried sick: the experience of debt problems and their relationship with health, illness and disability" *Social Policy and Society*, 5(1):39–51.
- Berthoud, R. (1989) *Credit, Debt and Poverty*, Her Majesty's Stationery Office, London, UK.
- Brass, M. and P. Haggard (2007) "To do or not to do: the neural signature of self-control" *Journal of Neuroscience*, 27(34): 9141–9145.
- Cameron, S. and D. Golby (1991) "Personal debt crisis: an economic approach" *International Review of Applied Economics*, 5: 310–324.
- Canova, L., A. Rattazzi and P. Webley (2005) "The hierarchical structure of saving motives" *Journal of Economic Psychology*, 26:21–34.

- Clark, J., R. Poulton and B. Milne (2003) *Bleak Expectations: The Role of Pessimism in Smoking, Hazardous Drinking and Exercise*, Working Paper 2003/03, Department of Economics, University of Canterbury, Christchurch.
- Del-Río, A. and G. Young (2005) *The Determinants of Unsecured Borrowing: Evidence from the British Household Panel Survey*, Working Paper 263, Bank of England, London, UK.
- Department of Trade and Industry (2004) *Tackling Over-indebtedness: Action Plan 2004*, <http://www.berr.gov.uk/files/file18559.pdf>
- Duesenberry, J. (1949) *Income, Saving, and the Theory of Consumer Behavior*, Harvard University Press, Cambridge, MA.
- Earl, P.E. and S. Kemp (eds.) (1999) *The Elgar Companion to Consumer Research and Economic Psychology*, Edward Elgar Publishing Ltd., Cheltenham, UK.
- Edwards, S. (2003). *In Too Deep: Cab Clients' Experience of Debt*, Citizens Advice Bureau, London, UK.
- Farrington, D.P. (1995) "The development of offending and antisocial behaviour from childhood: key findings from the Cambridge study in delinquent development" *Journal of Child Psychology and Psychiatry*, 36:929–964.
- Kempson, E. (2002) *Over-indebtedness in Britain*, Department of Trade and Industry, London, UK.
- Kempson, E., S. McKay and M. Willitts (2004) *Characteristics of Families in Debt and the Nature of Indebtedness*, Research Report 211, Department for Work and Pensions, London, UK.
- Lefcourt, M. (1976) *Locus of Control: Current Trends in Theory and Research*, Lawrence Erlbaum Associates, Hillsdale, NJ.
- Lindqvist, A. (1981) "A note on determinants of household saving behaviour" *Journal of Economic Psychology*, 1:39–57.
- Livingstone, S.M. and P.K. Lunt (1992) "Predicting personal debt and debt repayment: psychological, social and economic determinants" *Journal of Economic Psychology*, 13:111–134.
- Lunt, P. (1995) "Psychological approaches to consumption" in D. Miller (ed.) *Acknowledging Consumption: A Review of New Studies* (pp. 238–263), Routledge, London, UK.
- Lunt, P.K. and S.M. Livingstone (1991) "Psychological, social and economic determinants of saving: comparing recurrent and total savings" *Journal of Economic Psychology*, 12:621–641.
- Ministry of Social Development (2006) *New Zealand Living Standards 2004*, Centre for Social Research and Evaluation, Ministry of Social Development, Wellington.
- Pinto, M.B., P.M. Mansfield and D.H. Parente (2004) "Relationship of credit attitude and debt to self-esteem and locus of control in college-age consumers" *Psychological Reports*, 94:1405–1418.
- Reserve Bank of Australia (2003) "Household debt: what the data show" *Reserve Bank Bulletin*, 2003(March):1–11.
- Reserve Bank of New Zealand (2006) *Household Financial Assets and Liabilities and Housing Values: 1978 to 2006: Table 1*, www.rbnz.govt.nz/statistics/monfin/HHAandL2006webcopy.xls [accessed 30/11/2007].
- Roberts, B.W. and W.F. DelVecchio (2000) "The rank order consistency of personality traits from childhood to old age: a quantitative review of longitudinal studies" *Psychological Bulletin*, 126:3–25.
- Schultz, D. and S. Schultz (2004) *Theories of Personality* (8th edition), Wadsworth Publishing Company, Belmont, CA.

- Statistics New Zealand (2005) "Chapter 2: Families and households" in *Focusing on Women 2005*, Statistics New Zealand, Wellington.
- Tudela, M. and G. Young (2004) "The distribution of unsecured debt in the United Kingdom: survey evidence" *Quarterly Bulletin*, Winter: 417–427.
- Valins, O. (2004) *When Debt Becomes a Problem: A Literature Study*, Ministry of Social Development, Wellington.
- Van Boven, L. (2005) "Experientialism, materialism and the pursuit of happiness" *Review of General Psychology*, 9(2):132–142.
- Watson, J. (2003) "The relationship of materialism to spending tendencies, saving and debt" *Journal of Economic Psychology*, 24:723–739.
- Webley, P. and E.K. Nyhus (2001) "Life-cycle and dispositional routes into problem debt" *British Journal of Psychology*, 92(3):423–446.
- Williams, L. and M. O'Brien (2003) *The Dynamics of Debt for Low Income Families*, New Zealand Council of Christian Social Services, Wellington.
- Yurchisin, J. and K. Johnson (2004) "Compulsive buying behaviour and its relationship to perceived social status associated with buying materialism, self-esteem and apparel-product involvement" *Family and Consumer Sciences Research Journal*, 32:291–314.