

# Household savings and wealth in New Zealand

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## 1. Introduction

Despite plenty of discussion on the subject of household savings and wealth in recent years, and a raft of data from recent surveys, there are plenty of unanswered questions and a lot of confusion around this important topic. A key issue bothering economists has been the statistics showing a decline in the household savings rate over the past 20 years with households apparently now consuming more than they are earning in income. Of particular concern, this decline in the household savings rate has accelerated over the past five years. Is this really the case or are the statistics somehow misleading us? If it is happening, what are the mechanisms that are causing households to spend more than they are earning through income? How long can the process continue, and does it really matter that the savings rate remains so low?

This is an issue that the Reserve Bank has been devoting much of its research effort to recently. We think we've learned a lot about household savings behaviour from this research, but there are still areas of murkiness. The purpose of this paper is to discuss what we've learned as well as highlight those areas where further work is required.

The structure of this paper is as follows. Section 2 defines the term 'saving' and explains how a country's saving relates to its current account balance. It presents the record of national saving over recent years and estimates of the breakdown of saving by sector. Section 3 goes on to explain the difference between saving and wealth and discusses the composition of wealth within the household sector. It also notes some of the challenges we face in actually measuring household wealth. Section 4 goes on to look at the steep decline in household savings over the past two decades, discussing a range of factors that we think have enabled this decline to occur. Section 5 considers whether a negative household savings rate is sustainable and what the limits might be, while section 6 looks at why the Reserve Bank has viewed the declining household savings measure with some concern. Section 7 concludes.

## 2. Saving

Discussion on the topic of saving is muddled by the tendency for 'saving' to mean different things to different people. The term saving is often confused with the concept of net worth. This lack of a common terminology inevitably creates confusion.

When the Reserve Bank uses the term 'saving', it does so with the conventional economic definition — also employed in the national accounts — clearly in mind. According to this definition, saving is simply the portion of national income accruing to a country (or sector thereof) that is not consumed and is therefore available to finance investment. This investment includes physical assets such as houses, plant and machinery, non-residential buildings, roads and other infrastructure.<sup>1</sup> National income here means the income generated by the factors of production owned by New Zealand residents, including income generated from assets owned abroad.

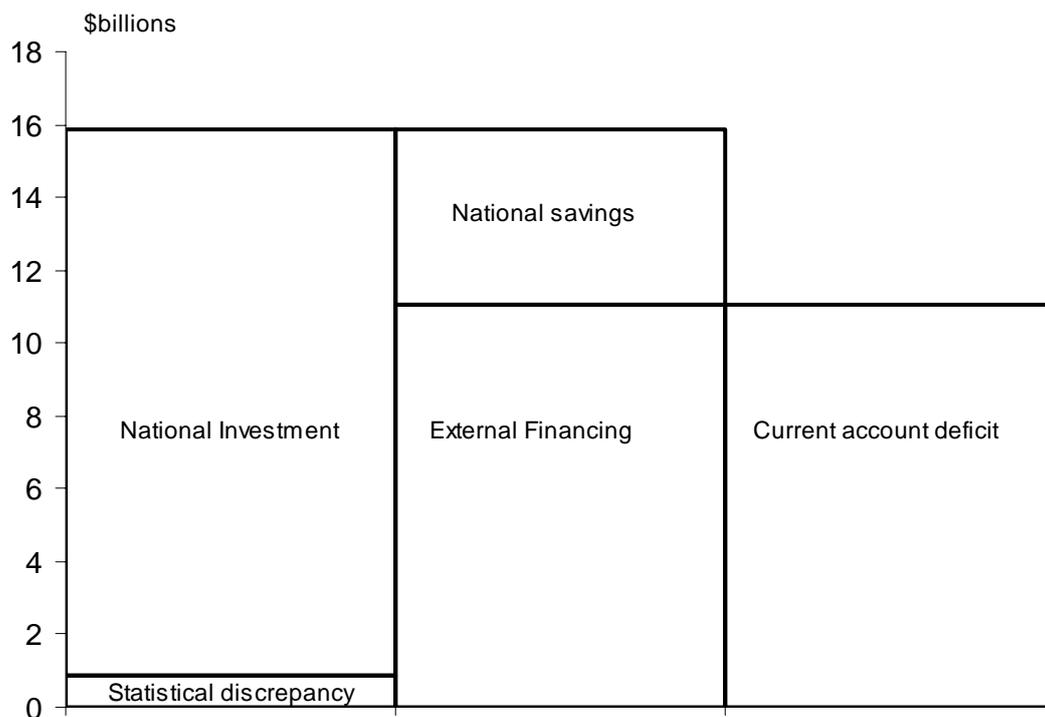
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<sup>1</sup> Generally we are referring to 'net' savings, meaning that an allowance is also made for the consumption (or depreciation) of capital in production when measuring savings.

If a country's desired consumption and investment spending exceeds its national income, then it will need to draw on the savings of another country in order to help fund this expenditure. It would either need to borrow from, or sell assets to, foreigners. Saving (whether internally generated or channelled from abroad) must always equal a country's investment. For any given level of national income, if a country wishes to consume more, then it will need to rely more heavily on foreign savings unless it is prepared to cut back on its investment.

Since a country's current account balance is the difference between what it earns and spends overseas, it follows that the current account balance mirrors the country's use of foreign savings. For every current account deficit, there must be a corresponding surplus on the country's financial account which measures the flow of assets and liabilities across the border. A financial account surplus implies a net inflow of savings from abroad (i.e. an increase in financial liabilities) in the form of borrowing from abroad or via financial investment by foreigners.

**Figure 1 National savings, investment and the current account deficit (March year 2005)**



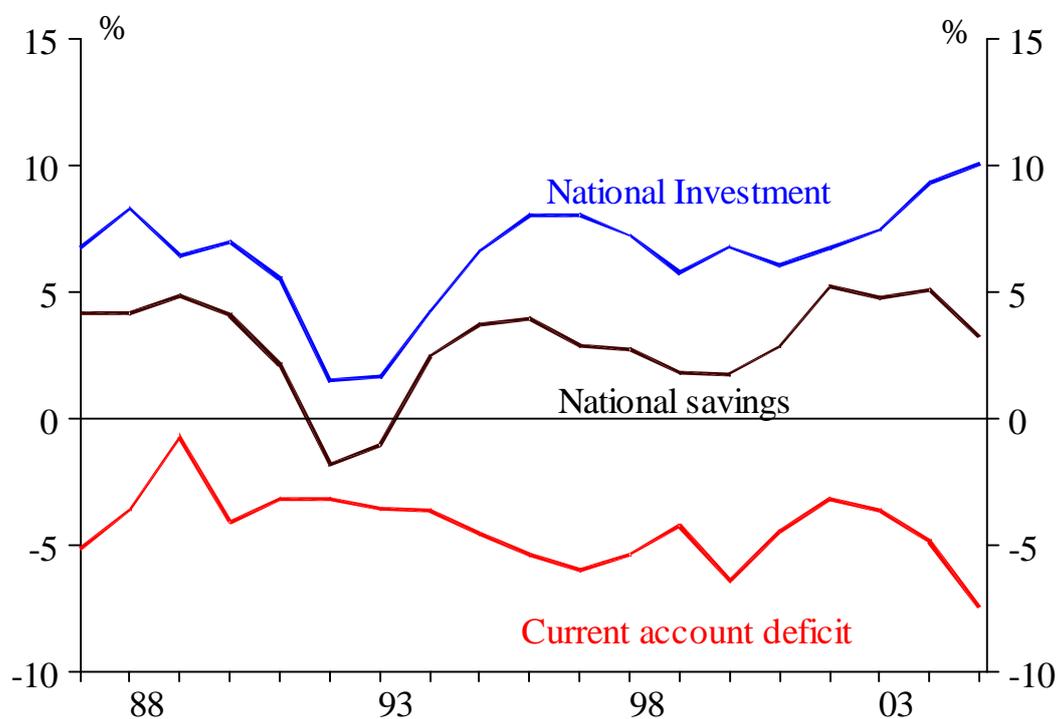
*Source: Statistics New Zealand's National Accounts, RBNZ calculations adapted from Claus and Scobie (2002)*

Figure 1 shows the proportional relationship between savings and investment for New Zealand in 2005, using the latest figures from Statistics New Zealand. During the year, our net national investment (our total investment less an allowance for the depreciation of capital) was around \$15 billion. We financed just about a third (\$5 billion) of this investment from our own internally generated savings. The remaining

two thirds was financed by using foreign savings, as reflected in the current account deficit of the same amount.<sup>2</sup>

Figure 2 shows the national savings and investment picture over the past two decades. Over this period the reliance on the use of foreign savings has been the norm. Our persistent current account deficits indicate that a significant portion of New Zealand's investment has in effect been financed by drawing on foreign savings — either in the form of direct investment by foreigners in New Zealand or by borrowing from them. We haven't consumed all of our national income, but nor have we put enough aside to fully-fund all of our investment.

**Figure 2 National savings and investment and the current account (% of GDP)**



Source: Statistics New Zealand's National Accounts, RBNZ calculations

### *Saving by sector*

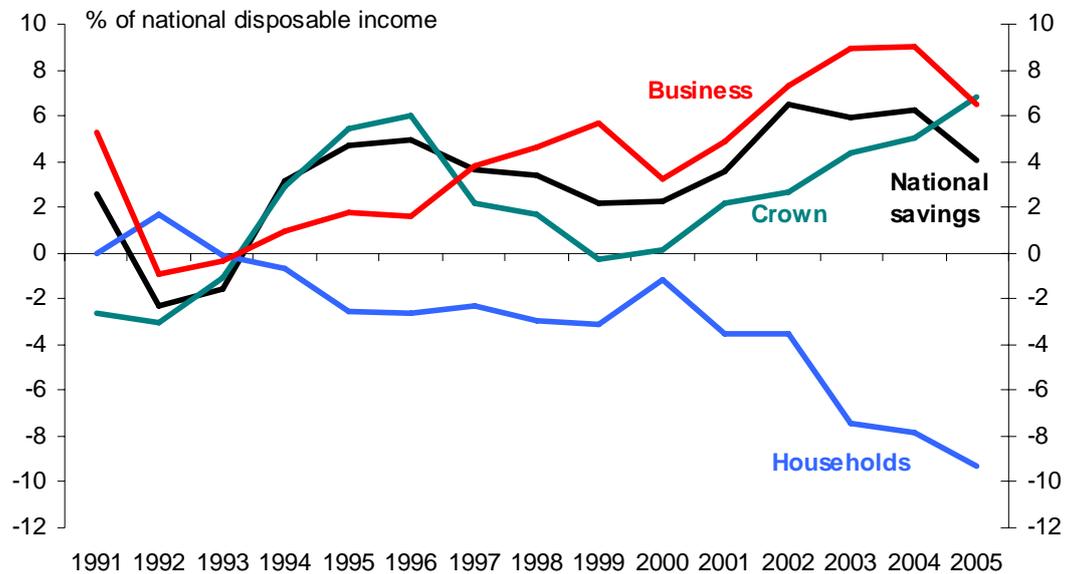
The estimates of national savings shown in figures 1 and 2 can be further decomposed into the contributions to savings from the various sectors of the economy — government, businesses and households. Currently, Statistics New Zealand produces estimates of saving by households via the Household Income and Outlay Account and by Government via the Crown account. No specific estimates for business savings are produced, but they can be estimated as the residual making up national saving.

Figure 3 shows the breakdown of savings by households, businesses and the crown. An outline of the calculations undertaken to arrive at household savings is shown in

<sup>2</sup> Note that these aggregates typically do not balance exactly due to measurement errors: the difference is reflected in the statistical discrepancy.

table 1. Household savings has been trending downwards and since the early 1990s has become negative, indicating that the household sector has been *dissaving*: that is, consuming in excess of its disposable income.

**Figure 3 Savings by sector**



Source: Statistics New Zealand's National Accounts, RBNZ calculations

**Table 1 The calculation of household savings — the household income and outlay account**

*\$ Billions*

	1990	2000	2005
Salaries and wages	32.5	45.8	63.3
All other income (1)	32.7	47.8	52.1
Tax and other mandatory payments (2)	-21.5	-28.3	-37.9
<b>Income</b>	<b>43.7</b>	<b>65.3</b>	<b>77.5</b>
<i>less consumption of fixed capital (3)</i>	-1.0	-1.9	-2.7
<b>Disposable income</b>	<b>42.7</b>	<b>63.5</b>	<b>74.7</b>
<b>Less Household Consumption</b>	<b>-41.7</b>	<b>-64.5</b>	<b>-85.8</b>
<b>Saving</b>	<b>0.9</b>	<b>-1.0</b>	<b>-11.1</b>
<i>% of disposable income</i>	<b>2.2</b>	<b>-1.6</b>	<b>-14.8</b>

(1) Includes entrepreneurial income (farm and non-farm), social assistance, pension income and interest and dividend receipts

(2) Includes interest on housing and non-housing debt

(3) A non-cash item to reflect the depreciation of the housing stock over the period.

Source: Consolidated version of Statistics New Zealand's Household and Income and Outlay Account

Statistics New Zealand estimates that in the year to March 2005 households' dissaving was around \$11 billion or nearly 15 per cent of their disposable income<sup>3</sup>. The declining household savings trend is addressed later on in the paper.

In contrast, business savings have been increasing since the early 1990s, contributing positively to national savings. Business savings are the retained profits or undistributed income of companies, so the increase in business savings is largely a reflection of rising profitability among New Zealand companies. After a period of running budget deficits, the crown started to run budget surpluses from the mid-1990s. This resulted in an improvement in public savings, which is now a strong contributor to national savings. Although both business and crown savings have increased significantly over the past decade, this improvement has not resulted in a large increase in national savings due to the continued decline in household savings.

### **3 The relationship between savings and wealth or 'net worth'**

At this point, a clear distinction has to be made between the concepts of saving, used in this paper, and 'wealth' or 'net worth'. These are not the same thing, but they are related. Saving is a flow concept while wealth or net worth is the market value of a sector's stock of assets less the market value of its stock of liabilities. Wealth or net worth are sometimes referred to as *savings* (spelt with an 's') or the accumulated stock of savings. However, in order to avoid confusion, the terms 'net worth' or wealth will be used instead in this paper.

Since, by definition, the flow of saving is used to finance investment, high levels of internally-generated savings will tend to go hand in hand with increases in net worth as new assets are acquired without corresponding increases in debt. One of the end goals of saving is to increase net worth over time.

However, market revaluations will also affect net worth. Even if saving and investment were zero, net worth will go up or down as asset prices change. At times, these 'revaluation effects' can completely swamp changes in net worth due to saving.

Table 2 provides estimates of household sector net worth in New Zealand, drawing on data we compile at the Reserve Bank which we publish annually on our website. These data aim to measure, as far as possible, the household sector's financial assets, such as bank deposits, shares, superannuation assets and other funds under management, and holdings of fixed assets (housing). On the liability side, the data include housing loans, personal loans, other consumer debt and student loans.

The table suggests that the implied net worth of the household sector has increased dramatically over the last few years, almost doubling in nominal terms since 2001. In the year to December 2005 alone, net worth is estimated to have increased by nearly \$70 billion. This increase in net worth has been dominated by large increases in the market value of the housing stock, which in turn have been driven by rising house prices.

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<sup>3</sup> Or just over 9 per cent of national income.

What contribution did savings make to the change in net worth? As we saw above, household saving has been negative over this period. This means that households were borrowing heavily through this period and/or running down existing assets. The table shows a sustained, strong increase in household borrowing, much of which was secured over housing. Although new residential investment was relatively strong through this period, it was more than offset by this growth in credit. Even so, increases in house prices were so strong as to lead to a substantial increase in the net worth of households.

Another point to note from table 2 is that household financial assets have grown reasonably strongly in recent times. For example, deposits with financial institutions increased by around \$13 billion in the three years to 2005. Although some households were borrowing heavily over this period, it appears that others were building up their financial assets. We will return to this point later on in the paper.

**Table 2 Household sector net worth <sup>4</sup>  
(December years)**

<i>\$ Billions</i>	1990	2000	2001	2002	2003	2004	2005
<b>Balance sheet</b>							
Deposits with financial institutions	30	45	49	54	59	65	72
Direct holdings of equities	9	17	16	15	18	20	20
Life, superannuation and managed funds	26	57	56	50	51	53	57
Other financial assets	7	7	9	11	13	14	13
Housing stock	127	231	247	282	370	429	506
<b>Total assets</b>	<b>199</b>	<b>357</b>	<b>377</b>	<b>412</b>	<b>511</b>	<b>581</b>	<b>668</b>
Loans secured by housing	25	64	71	78	86	99	115
All other loans	3	14	13	15	22	25	27
<b>Total Liabilities</b>	<b>28</b>	<b>78</b>	<b>84</b>	<b>93</b>	<b>108</b>	<b>124</b>	<b>142</b>
<b>Household sector net worth</b>	<b>171</b>	<b>279</b>	<b>293</b>	<b>318</b>	<b>403</b>	<b>457</b>	<b>526</b>
<b>Composition of change in net wealth</b>							
Net acquisitions of new assets and liabilities				3	1	0	-1
Net revaluations of assets				22	84	54	70
Change in net worth				25	85	54	69

Source: Reserve Bank

### ***How well can we measure wealth?***

A frequent point of contention when discussing household wealth is whether the available statistics adequately reflect reality. It is often noted that there are likely to be significant ‘holes’ in the various household wealth statistics, such as those presented in table 2. If so, the data could be misleading.

It is true that the Reserve Bank’s household balance sheet data do not capture all forms of wealth held by New Zealand households and almost certainly understate the

<sup>4</sup> A more comprehensive breakdown of household assets and liabilities — running back to 1978 — is available at the Bank’s website: [www.rbnz.govt.nz](http://www.rbnz.govt.nz).

overall true level of net worth. Although the Bank's data include the assets of local funds and superannuation schemes investing abroad and an estimate of New Zealanders' direct holdings of foreign equities, the estimates are subject to a large margin of error. Moreover, our data do not include a range of other assets New Zealanders own overseas, primarily because there is no reliable way of measuring them.<sup>5</sup> Many New Zealanders have lived and worked abroad and this together with open capital markets and significant migratory flows into and out of New Zealand, suggests that the amount of household wealth held overseas is likely to have been growing over time. In aggregate, the value of these omitted overseas assets is likely to run into billions of dollars.

Our data will also not include all forms of domestic household wealth. Inevitably with any estimates of household wealth, there are complex boundary issues. You have to decide what assets you are going to include and where the definition of a household starts and ends. The Bank's data does not include the value of assets such as motor vehicles, the ownership of commercial property, collectibles or investments in forestry. Moreover, although many people would consider the value of New Zealanders' interests in private (non-listed) companies, including farms, to be part of household wealth, they are not included in our household wealth statistics — we treat these as part of the business sector. The value of these assets is potentially quite significant.

In principle, the easiest way to uncover the assets and liabilities held by households is to survey them directly. This is precisely what Statistics New Zealand's *Household Savings Survey (HSS)*, conducted in 2001, attempted to do, providing the most comprehensive view of assets and liabilities available to date, albeit for a single point in time.<sup>6</sup> A later survey, conducted in 2004, known as the *Survey of Family Income and Employment (SOFIE)*, undertook a further investigation of assets and liabilities via its wealth module.

We are learning a lot about wealth from analysing the results of the HSS and SOFIE. First, the surveys tend to confirm that New Zealanders' holdings of assets abroad, such as property, are significant.<sup>7</sup> Second, they have also confirmed that the value of domestically held assets not currently picked up by the Reserve Bank's own statistics, such as the ownership of non-listed companies, is potentially quite large — interests in farms were valued at around \$38 billion as were interests in other (non-listed) businesses. Even so, the value of these assets continues to be 'dwarfed' by the overall importance of housing in the wealth portfolio.

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<sup>5</sup> Examples would include:

- Deposits and other financial assets New Zealand residents hold with financial institutions overseas;
- Houses or other overseas property; and
- Entitlements or investments in overseas-administered superannuation schemes.

<sup>6</sup> Despite its name, this survey did not actually aim to measure 'saving' as defined in this paper, but rather the net worth of households and the assets and liabilities which make it up.

<sup>7</sup> The Household Savings Survey estimated that property held overseas totalled around \$4 billion but a large margin of error was attached to this estimate. Given international property prices trends, the value of such holdings is likely to have increased dramatically since 2001.

We also learned that surveys of household wealth such as the HSS and SOFIE still have a tendency to produce underestimates of overall asset and liability holdings. When we match the results of the HSS against other sources of household assets — such as our own direct surveys of the banks — the HSS produced much lower estimates. This is likely to reflect the difficulty surveys such as the HSS face in adequately capturing the wealth of richer households. What it means is that surveys such as the HSS and SOFIE may perhaps be best thought of as producing indicative estimates of wealth held by New Zealanders, rather than definitive measures.

One important outcome from studying the HSS was the recognition of the importance of family trusts when measuring and analysing wealth. The HSS showed that around 8 per cent of households held assets in trust, estimated to be valued at around \$90 billion.<sup>8</sup> Since a household may have access to the assets and liabilities of the trust but not legally own them, some sources of financial data on households, including surveys, may not always reflect the holdings of trusts. In some cases, this can be a source of ‘undercounting’.

These comments point to a range of possible pitfalls when attempting to measure household wealth and might give the impression that we really have little idea about overall levels of household wealth. For all that, the Bank believes the data presented in table 2 are broadly indicative of changes in household wealth from year to year. HSS and SOFIE have confirmed that housing is by far the largest asset in the wealth portfolio of New Zealanders. The increases in house prices that have led to a large rise in measured wealth over the past few years will have dominated movements in total wealth.

#### **4. Why has the household savings rate fallen?**

The picture presented in section 2 and 3 is of a household sector that has been *dissaving* heavily in recent years, whilst simultaneously experiencing a rise in net wealth due to higher asset prices. The high rate of dissaving, in turn, appears to be a key factor behind New Zealand’s widening current account deficits.

A fall in the household savings rate has been a common trend among many OECD countries, not just New Zealand (see table 3). The latest estimates of savings rates for a number of other countries, including the US, Australia and Canada indicate savings rates for these countries have also begun to dip into negative territory. However, New Zealand stands out as having a more strongly negative household savings rate than other countries.

To some extent, the fall in the household savings rate in recent years may partly be a reflection of the more buoyant economic conditions facing households. Since the mid-1990s, the unemployment rate has declined markedly to very low levels, incomes have been increasing steadily and household confidence has been relatively high. This is in contrast to the much more difficult labour market conditions of the late 1980s and early 1990s. In such circumstances, households may lower their propensity to save.

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<sup>8</sup> See Briggs (2006).

**Table 3 Selected country savings rates**  
(Period averages as a per cent of household disposable income)

	1970s	1980s	1990s	2000-2004	2005
Australia	14.2	11.1	5.4	-0.5	-2.6
United States	9.6	9.1	5.2	2.1	-0.4
Canada	12.0	15.3	9.1	3.4	-0.2
Germany	13.1	12.8	11.4	9.9	10.7
France	13.2	9.5	11.6	12.2	11.6
Netherlands	4.1	14.3	14.1	8.4	5.7
Japan	23.7	16.3	12.4	5.0	2.4
New Zealand	3.6	2.8	-1.6	-7.2	-14.8

Data for Japan for 1970s are for period 1972-1979. Source: OECD

Another factor that could partly explain the fall in the household savings rate is the increase in the level of the Crown's own savings over the past decade and the general improvement in its own financial balance sheet. To the extent that some households may have interpreted this trend as reducing the need for their own savings — eg to meet their retirement, health or other needs — it may have contributed to a decline in the savings rate.<sup>9</sup>

There is a possibility that demographic factors have been influencing the household savings rate. For example, we know that the average household size, in terms of number of people per household, has been steadily falling. This might be expected to result in an underlying rise in the proportion of household income being spent on housing-related expenditure, thereby lowering savings. On the other hand, the move to smaller households includes a rise in the proportion of households that include only couples, and such households might be expected to be relatively high savers. The Bank intends to do more work in this area. Overall though it seems unlikely that long term demographic trends are behind the sharp falls in the savings rate that we have seen over the last five years.

In work undertaken overseas, international researchers have often attributed part of the secular decline in the household saving rate to the general liberalisation of retail financial markets and financial innovations that have made credit easier to obtain. Restrictions in retail financial markets were removed in many countries during the 1980s. According to this explanation, some households, which were previously constrained in their access to credit, were able to lower their desired savings rate.

It seems likely that the opening up of retail financial markets in New Zealand was a factor in the move to a lower savings rate during the late 1980s and early 1990s and it may well be a factor which has enabled the household savings rate to move down over time. Financial liberalisation, which included the removal of interest rate controls in the mid-1980s, meant that previous quantitative restrictions on the supply of credit to households by the banking system were effectively removed. Since liberalisation, the financial sector has introduced a range of new products, including flexible home loans that work much like an overdraft, and reverse mortgages. These

<sup>9</sup> Economists refer to this phenomenon as Ricardian equivalence.

have enabled households to structure their borrowing in a way that more closely meets their needs.

Also, with the move to a low inflation environment in the early 1990s, nominal interest rates fell. This enabled households to service higher debt levels and hence to take on more mortgage debt.

Given the general rise in house prices since the early 1990s – which may itself have been partly the result of higher borrowing – it is not surprising that households have elected to invest in housing, rather than saving some of their income. As we saw earlier, in recent years the contribution of asset revaluation to the growth in net wealth has been positive, and large, while the contribution from saving has been negative. This reflects households’ responses to the relative returns to investing in houses and to saving; gains in house prices have generally exceeded the returns on financial assets. As households began to realise what was going on – reflecting the role of learning regarding household behaviour – it seems that they reduced their saving even further, driving down the household saving rate.

However, these factors by themselves cannot be the full explanation for the transition to *negative* rates of household savings since the mid 1990s. Negative savings over a sustained period would require that households somehow receive money from sources other than their current income. It seems that something else has been going on.

The Bank’s work in this area points to four additional explanations for the growing wedge between consumption and income:

- The possibility that the household income measure used as the basis for calculating savings may be *understated* with some important sources of ‘income’, such as earnings accruing to assets held by family trusts, possibly undercounted;
- Various financial injections to the household sector, which may expand spending power, but which do not show up in the measure of current income used to calculate savings;
- The impact of unrealised increases in wealth — due to rising asset prices — on consumption decisions; and
- A range of mechanisms that have enabled households to ‘cash up’ equity gains that have accumulated over time due to rising asset prices.

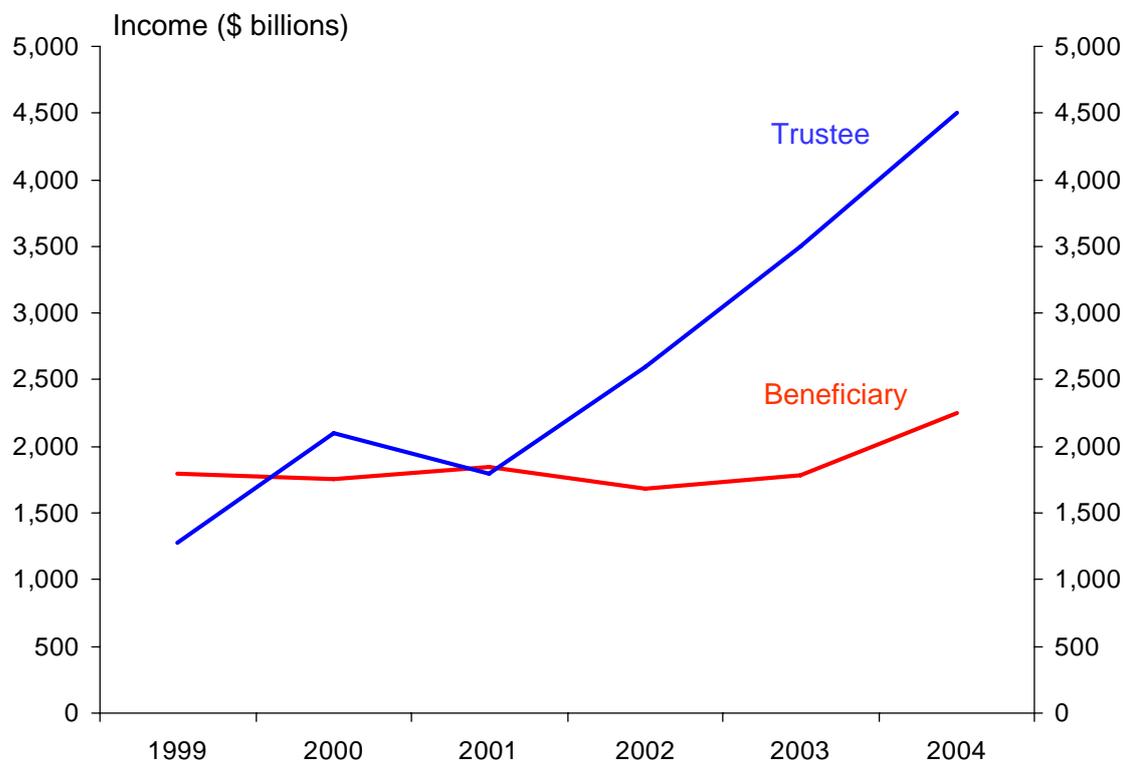
***Is the household income measure used to calculate household savings understated?***

Section 3 noted that the increasing use of family trusts can be a potential source of ‘undercounting’ when trying to measure wealth held by the household sector, since the assets and liabilities of the trust are not legally owned by the households involved. Similarly, there is also the potential for income accruing to family trusts not to be fully captured in the measure of household income on which the savings statistic is based. We have recently been exploring this possibility with Statistics New Zealand.

Income from family trusts is of two forms. Income that is paid out within six months of the trust's balance date is beneficiaries' income and is taxed at the beneficiaries' marginal rates. Income that is not paid out within six months of the trust's balance date is trustees' income and gets taxed at 33 cents in the dollar (full imputation is allowed for). This money in effect becomes part of the trust's capital, and can then be distributed at a later date with no further tax being paid.

Data from Inland Revenue<sup>10</sup> suggest that this trustees' income has become very significant, at around \$4.5 billion in the 2004 tax year. Moreover, this income appears to have been increasing extremely rapidly in recent years (see figure 4).<sup>11</sup>

**Figure 4** Income earned by trusts has grown extremely rapidly in recent years



Source: Inland Revenue

Although trustees' income may not be directly available to households to spend (since it may be retained in trusts) it seems highly likely that it will have a bearing on the savings and consumption decisions of the households that have these trusts. Difficulties in identifying the original sources of trust income may mean that it is not fully captured by the income measure used in the savings rate calculation.<sup>12</sup> This factor may help to explain the decline in the savings rate over recent years as well as

<sup>10</sup> See Inland Revenue (2005) pp. 34-35.

<sup>11</sup> Inland Revenue (2005) note that the rapid increase in trustees' income may be partly due to income sheltering i.e. to lower tax payments that would otherwise occur at a marginal rate of 39 cents.

<sup>12</sup> It should be noted that some trust income is included in entrepreneurial income included in the household income and outlay account.

its move into negative territory. In particular, the acceleration in trust income from 2001 onwards coincides with the sharp dip in the savings rate. This is an area that we are continuing to investigate, in conjunction with Statistics New Zealand. On its own, however, this factor is unlikely to explain why New Zealand's household savings rate is now so much lower than in other countries.

### *Non-income cash injections to the household sector*

The measure of savings employed in the national accounts has its limitations for economists wishing to analyse the determinants of household consumption behaviour. There are some transactions that boost household spending power that are not related directly to households' current income as measured in the national accounts. These transactions include capital transfers and sales of capital items. Some of these transactions are:

- *Injections into the household sector from migrants' capital transfers*

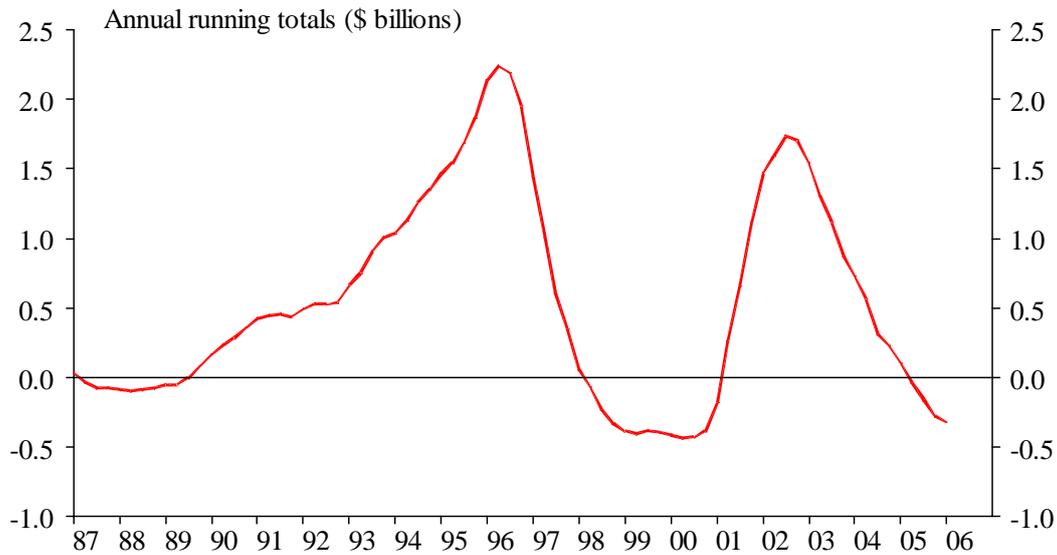
Migrants' transfers of cash and other financial assets are a direct boost to the spending power of the domestic household sector and can obviously be used to fund spending on the part of new immigrants, many of whom may be returning New Zealanders bringing back funds accumulated while working overseas. These funds are not measured as income in the calculation of savings since they are capital transfers from abroad.<sup>13</sup>

But how large are they? Statistics New Zealand's own estimates from the capital account of the balance of payments suggest that such transfers have made a total net injection to the household sector of up to \$10 billion over the past 20 years with most of that occurring in the last 10. During some periods of strong net immigration, these injections appear to have been very large relative to total consumption (the equivalent of 5 per cent of consumption by value in some years during the immigration cycle of the mid-1990s). Any estimates of migrant transfers need to be treated cautiously as the flows are extremely difficult to measure — the true inflows could be much larger or smaller. Since these transfers often represent the nest eggs of migrants, it does not follow that they are necessarily spent on consumption. Some of the funds will probably be spent on investment in housing. Also, the part that is spent on consumption may not be spent in the year that the funds are transferred to New Zealand. Rather the effect on consumption could potentially be drawn out over a period of many years.

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<sup>13</sup> Note that *current* transfers from abroad (eg remittances to foreign students in New Zealand to meet their living expenses) are captured as part of income, though these flows may be difficult to measure.

**Figure 5 Migrant transfers may partly explain the wedge between consumption and income since the early 1990s**



Source: Statistics New Zealand

Overall, it seems likely that the positive spending impact of migrant transfers is also part of the reason why the household savings rate has been lower than it might otherwise be, and, with migration inflows strongly positive in recent years, could also help to explain its decline. New Zealand's small population and relatively large migratory cycles means that these funds may well have been a more important influence on the economy than is the case in some other countries.

- ***Proceeds of demutualisations, dismantling of community trusts, etc***

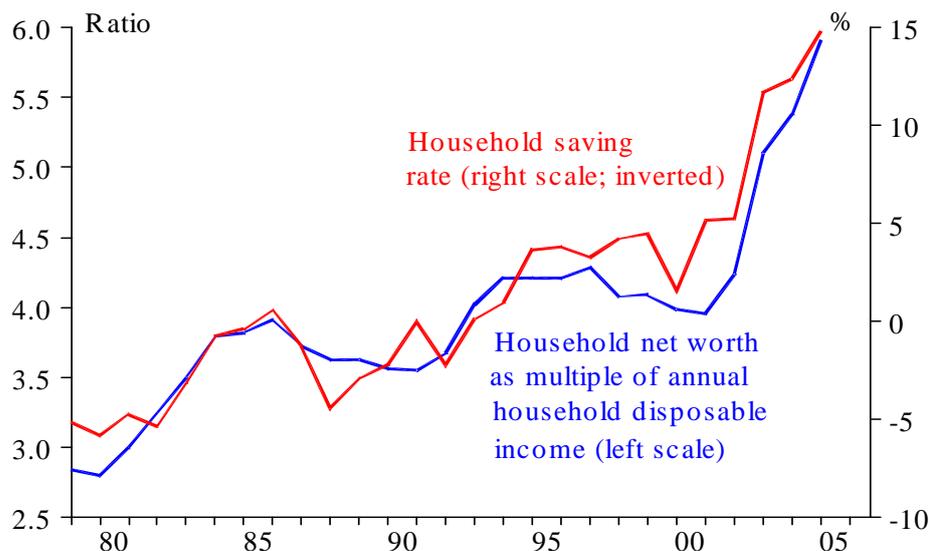
Over the years, there have been a range of cash transfers from businesses to households as businesses change their corporate form. The largest of these transfers was the demutualisation of AMP in 1999, which is estimated to have injected around \$2 billion of cash into the household sector. There have also been other examples, such as the sale of publicly owned electricity distribution companies, which have resulted in cash payments to households. Strictly speaking, these cash windfalls do not necessarily represent an increase in wealth of households but they do represent a movement from an “arms-length” ownership stake to a “cashed-up” position. Although economists debate the extent to which these cash windfalls end up being spent, they do appear to have boosted consumption, at least at the margin. At times, such flows may have added to the wedge between “income” and consumption.

***Unrealised wealth effects***

Section 3 showed that rapid house price inflation in recent years has contributed to a large increase in household wealth calculated using current market prices. The increases here are very large indeed — table 2 suggests that household net worth increased by around \$200 billion in the four years to 2005. This was despite substantial growth in borrowing, much of which helped to fuel the asset price gains.

The reasons why asset prices have been so strong is a whole topic in itself. The Bank has previously noted that a range of factors have contributed to rising house prices, many of which have also been factors in the rapid house price cycles experienced by other OECD countries. Factors include: unusually low nominal interest rates; demographic factors; changing housing preferences; and increased international participation in the housing market. In New Zealand's case, some domestic factors, including strong net immigration and an increasing participation by some households in the investor property market, have also fuelled house price inflation.

**Figure 6 Trends in the savings rate have been inversely related to movements in household net worth**



Source: Statistics New Zealand, Reserve Bank

For many existing homeowners, the wealth associated with rising house prices is unrealised. However, the evidence suggests that many householders may view this increase in wealth as “in the bag” and may have lowered their savings from current income as a result. There appears to be a strong inverse relationship between changes in household wealth and savings (see figure 6). The Bank's own empirical estimates suggest that the long-run propensity to consume via increasing housing equity may be as much as 5 to 7 cents for every dollar of increase in housing equity. These estimates need to be treated cautiously since house prices are likely to be correlated with other developments in the economy, including other asset prices. Nevertheless, they indicate the likely importance of house prices as an explanation of why the household savings rate has fallen over recent years.

In future work in this area, we hope to develop indicators of household savings across different parts of the household sector and then test the extent to which rising wealth may be affecting consumption spending in each segment.

### *Realised wealth effects or ‘cashing up’*

While an increase in wealth associated with rising house prices (or other assets) is unrealised by many households, some households do realise gains. They might do

this by simply selling a property, thereby pocketing the difference between the sale price of the property and the debt that is still owed on it. Or they might increase the mortgage that they have on their current property, which in effect gives them access to extra cash.

When mortgage borrowing by the household sector as a whole exceeds new investment in housing, then the sector is withdrawing household equity. This withdrawn equity is known as Housing Equity Withdrawal (HEW). This unlocking of equity – turning housing equity into cash by selling properties or borrowing more – can in principle have a powerful effect on consumption spending. When the cash proceeds resulting from these capital transactions are spent, the households involved may effectively be dissaving. That is, their spending may be higher than their current income. This mechanism thus helps to explain why the savings rate has been negative in recent years.

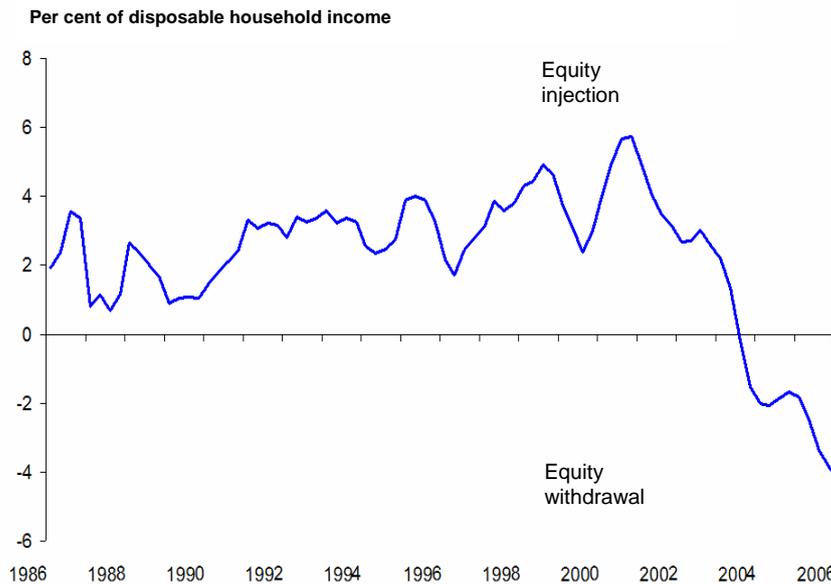
Housing equity withdrawal can occur *passively* as a result of normal lifecycle effects. Retiring home-owners trading down to a smaller house (or selling up altogether) end up pocketing cash from the sale. If asset prices have increased substantially since the house was purchased, the sale proceeds can yield a very substantial cash nest egg. For many New Zealanders, realising this nest egg has been a cornerstone of their retirement savings strategy. Of course, the sale proceeds will not always be directed immediately toward higher consumption — recipients of HEW may simply choose to invest the proceeds in financial assets. Over time, it is likely that the proceeds will be consumed gradually or left to the next generation via a bequest (at which time they may be consumed).

When housing equity rises over time due to higher house prices, some households may choose to *actively* withdraw equity by topping up an existing housing loan. This is another mechanism by which rising house prices can be realised in cash. The proceeds can then be used for spending. Once again, this expenditure may mean that the households are dissaving.

A 2004 survey by the Reserve Bank of Australia found a marked increase in housing equity withdrawal in Australia associated with strong house price inflation from 2000 onwards. Much of this equity withdrawal appears to have been of the passive variety and does not appear to have been immediately spent. Around a quarter of the equity withdrawal was of the active variety, occurring via-top-ups. About half of the equity withdrawn this way was used to fund consumption.

The Reserve Bank has recently been studying HEW in New Zealand. Our work to date indicates that significant aggregate HEW has occurred in the New Zealand economy over the past four years, coinciding with a very strong housing market. Over the past four years, household equity withdrawal is estimated at around \$ 7 billion (see figure 7).

**Figure 7** There has been significant housing equity withdrawal in New Zealand in recent years



Quantifying the effects of HEW on savings and consumption is not straightforward. The incidence of aggregate equity withdrawal in New Zealand is a relatively recent phenomenon, meaning that there is not a long period of history on which to gauge the impacts of HEW on aggregate consumption and savings. Furthermore, aggregate estimates of equity withdrawal mask differing types of home equity injections and withdrawals made by individual households. Equity withdrawal may not be spent immediately when it occurs but could fuel consumption further down the track.

The Bank's econometric evidence to date suggests a positive impact from the recent increases in HEW on private consumption growth. Our estimates would be consistent with HEW having fuelled perhaps 15 per cent of the overall increase in consumption in recent years, implying that it does explain some of the decline in the savings rate. However, as in the case of Australia, much of the equity withdrawn appears to be accruing to older age groups who leave the housing market with a large nest egg, implicitly funded by borrowing from the younger buyer. In support of this, there appears to have been a reasonably strong build-up in household financial assets over recent years, concurrent with the sharp rise in mortgage borrowing (see table 2). This suggests that some of the cash realised through HEW has been banked. However, it may well be spent gradually in the years to come.

Even if house prices level off, the process of equity withdrawal looks set to continue for some time. Given the rises in house prices that have occurred in recent years, some households will continue to pocket cash from equity gains as they sell out of the housing market. These households will continue to realise gains that other parts of the sector will finance through borrowing. This, in turn, is one reason why a lift in the household saving rate is likely to take some time.

### *Other channels for ‘cashing up’ wealth gains*

While housing equity withdrawal, financed by borrowing on the part of other households, may be an important means by which some households have ‘cashed up’ wealth in recent years, there are a range of other mechanisms by which equity withdrawal from rising asset prices may have occurred, potentially providing further fuel for consumption. These channels include:

- *Sales of assets to non-residents*

When a non-resident purchases an asset such as land, housing or a business from the household sector using funds from abroad, the asset concerned is exchanged for cash. The household’s net wealth, measured at market prices does not change, nor will household income reflect the cash received. But this does not mean the transaction is necessarily “neutral”. The release of “cash” to the household from the transaction can potentially fuel consumption spending, particularly if it enables prior capital gains to be realised. In the case of housing, this is the Housing Equity Withdrawal effect, financed directly by foreigners, rather than by local lenders.

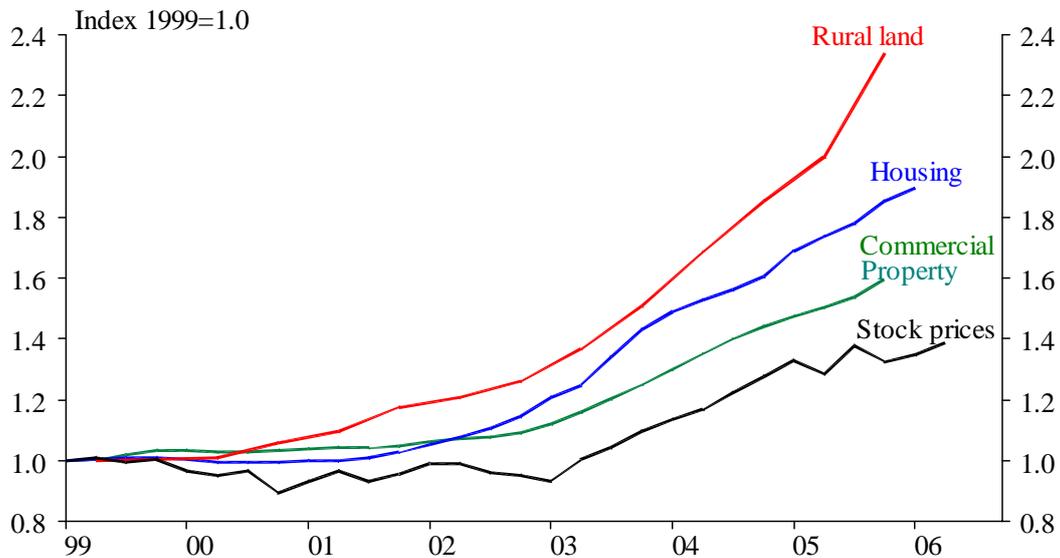
Gauging the importance of foreign transactions in the housing market to the savings-consumption story is difficult. We certainly think that foreign participation in New Zealand’s housing market has increased significantly in the current decade, but there are no reliable statistics available. Nevertheless, given the substantial rise in house prices in recent years, it seems likely that cash acquired by selling houses to foreigners has added to consumption at the margin. Of course, as with HEW financed by domestic borrowing, it does not necessarily follow that funds raised by selling assets to non-residents will have been spent straightaway.

Foreigners’ purchases of equity from New Zealanders may have also unlocked cash. The Bank’s own estimates suggest that households have been net sellers of equities in recent years, to the tune of several billion dollars.

- *Releasing equity from non-housing domestic assets*

When households sell business assets to other households, the conventional wisdom is that the transaction has little net effect on the household sector. However, when capital gains have occurred in business assets over an extended period and the buyer chooses to finance the purchase through borrowing, the transaction can potentially unlock significant amounts of equity that flow back into the household sector as cash. In other words, in addition to housing equity withdrawal, equity withdrawal from asset price gains in other parts of the economy may also explain the trend in the household savings rate. An obvious example comes from the farming sector, where rural land prices have climbed relentlessly in recent years.

**Figure 8** There have been significant increases in a broad range of domestic asset prices in recent years



Consider a retiring farmer that chooses to sell the family farm to an existing farmer wishing to expand his existing operation. The buyer is likely to take out a loan secured on the farm, while the retiring farmer pockets the proceeds. Analogous to the housing sector, there is thus the potential for a farm equity withdrawal effect which could sustain consumption spending for many years to come. What will appear as growth in business sector borrowing (i.e. lending to agriculture) may actually be funding a cash transfer back to the household sector. The potential for such withdrawals may also exist via ownership of other parts of the business sector that have been exposed to rising asset prices.

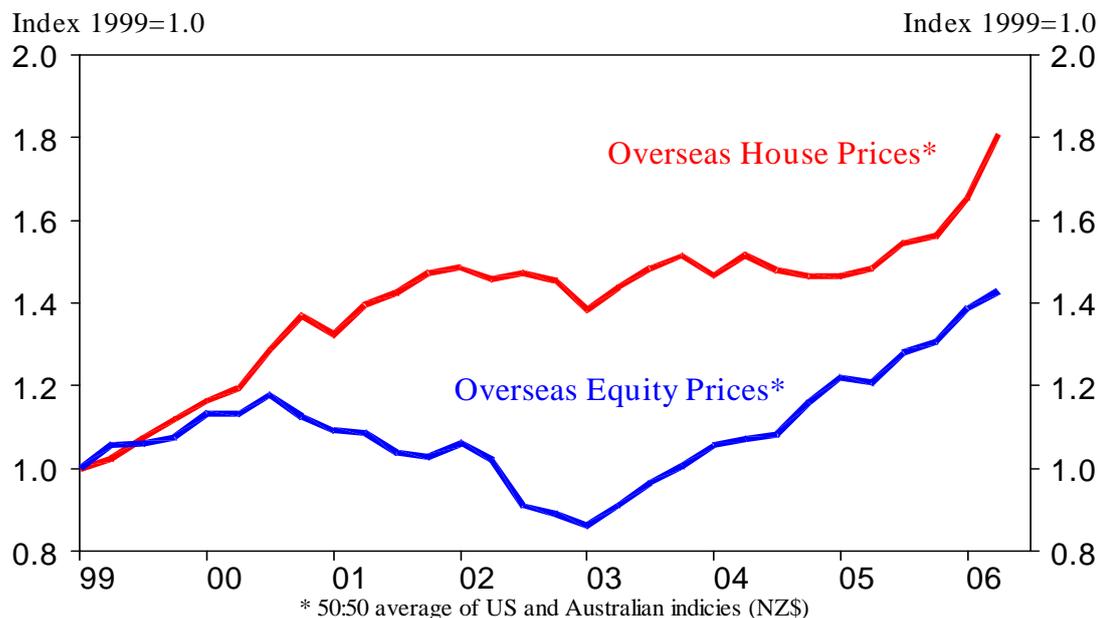
Our preliminary estimates of equity withdrawal from the farming sector suggest that it could have been as much as \$5.5 billion over the past 5 years. We have not yet quantified possible equity withdrawal effects by households from other parts of the business sector (such as the ownership of commercial property) although we suspect these are unlikely to have been large.<sup>14</sup>

- ***Capital gains on assets held abroad***

The income measure used for calculating savings includes the returns on assets held abroad such as dividends, but not the capital gains (or losses) on those assets. As with housing, unrealised capital gains on these assets may affect savings activity via a wealth effect. In addition, when the New Zealand household sells the asset and makes a capital gain, the proceeds from that transaction represent ‘cash’ that could potentially fuel domestic consumption. The sharp rise in international asset prices in recent years (housing and shares) increases the chance that such cash-up effects have occurred.

<sup>14</sup> As yet we don’t have estimates for all of the factors that are we believe are impacting on consumption. Work is ongoing on obtaining a fuller reconciliation between consumption and the use of income and capital.

**Figure 9 Gains in overseas asset prices are likely to have boosted household wealth**



The upshot of this discussion is that asset price gains in areas other than just housing – such as farming – and in other countries need to be taken into account when assessing why the household savings rate has been so low in recent years.

## 5. Is a negative savings rate sustainable in the long term?

As Section 4 has shown, there are a number of channels that help to explain why household savings has been so low in recent years. Some of these channels appear to involve transfers to households that do not show up as current income in the calculation of household savings, such as migrant capital transfers. Some of the channels have a common underlying theme — they are directly or indirectly connected with rising asset prices.

We have to appreciate that when households decide how much to consume and save, they will not necessarily conceptualise ‘saving’ in terms of its strict national accounts definition. Funds earned from the sale of an asset sold at the peak of an asset cycle may constitute ‘income’ just as much as funds earned through employment. The fact that those funds were obtained via a capital transaction – which was possibly financed by borrowing by another household, and ultimately through the lender to borrowing from overseas – will be of little consequence to the household receiving the funds. Hence, we ought not to be surprised if the household concerned adjusts its consumption, and hence its savings rate, accordingly.

Does this mean that a negative household savings rate driven by rising asset prices can be sustained indefinitely? The answer would appear to be no. Sustaining a negative savings rate ultimately involves substantial new borrowing on the part of the household sector. For example, the housing equity extractions that have occurred in

recent years have essentially involved a significant redistribution of wealth from one part of the household sector to another and from one generation to another financed by borrowing. Some households, particularly the older or more established ones, have benefited from a sustained period of strong house or farm price inflation paid for by increased borrowing by new buyers, which in turn has been largely financed from borrowing by banks from overseas.

Ultimately, there are constraints on this process, although it is impossible to be definitive about when a particular constraint may start to bind. These constraints include the following:

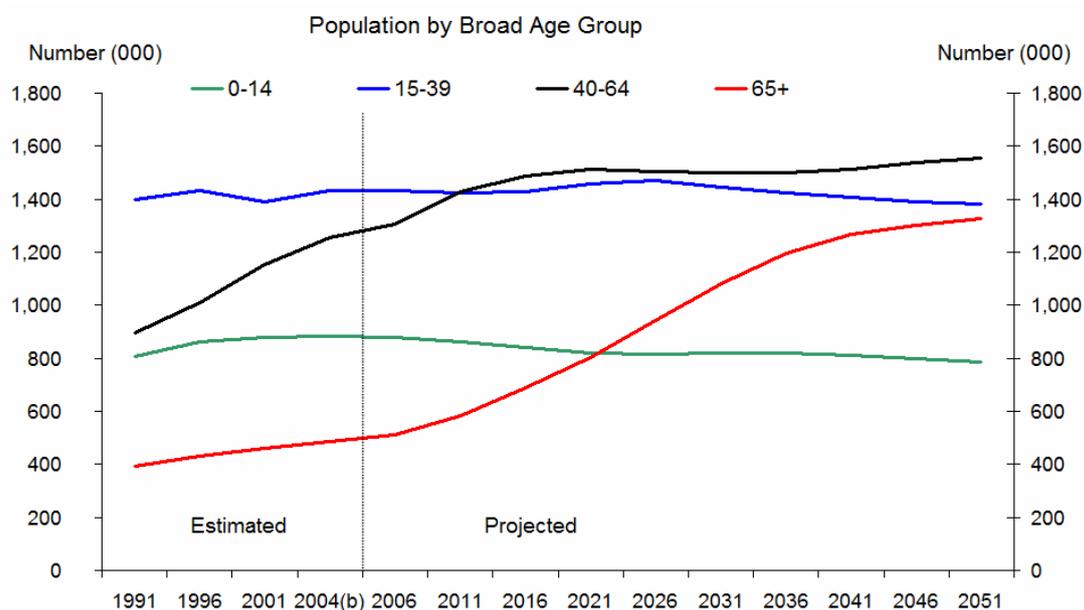
- There are ultimately limits on the borrowing capacity of new borrowers and others purchasing houses at higher prices which mean that asset prices are unlikely to rise indefinitely;
- There may also be limits on the inflow of new buyers in the housing market due to factors such as the ageing of the population ; and
- To the extent that a negative savings rate has contributed to large current account deficits for the country as a whole — leading to increased external indebtedness — there may be practical limits on New Zealand Inc's ability to continue to finance additional borrowing from overseas at favourable terms.

We know that household indebtedness — debt relative to income — has increased rapidly over the past decade mirroring the decline in household savings. The aggregate trends mask even higher debt burdens across some parts of the household sector, such as younger new home owners, which have gone hand-in-hand with a rise in overall debt servicing costs. At the point where households decide that they are unable or unwilling to take on more debt and/or that current debt levels are too burdensome from a servicing perspective, we are likely to see some lift in the rate of savings. Of course, it is difficult to know when that point will arise. Back in the mid-1990s, debt-to-income ratios for the household sector looked 'high' and many people thought a levelling off was imminent, but they have increased a lot further since.

The ageing of the population could present some challenges. As the population ages and more households attempt to realise wealth built up through capital gains, doing so will require that there be enough willing and able new buyers of these assets at the current (or higher) price. However, an increase in sellers as the baby-boomer generation retires over the next ten years coupled with fewer new entrants to the housing market could potentially apply some downward pressure to house prices. This is especially the case if new entrants to the housing market face limits on the amount of debt that they can reasonably afford to take on given their underlying income. In this instance, the plans of some households to retire with a healthy nest egg earned through the family home or other housing investments may be frustrated.

The ageing of the population is one of the reasons why the Reserve Bank has warned people in recent years not to rely too heavily on housing in their overall savings strategy. It has also been a reason why we are naturally nervous when we see strong rises in asset prices that appear to be out of line with the underlying economic fundamentals (which appears to have been the case for farm land in recent years).

**Figure 10 An ageing population may curtail the scope for continued increases in house prices**



Source: Statistics New Zealand. Medium fertility and mortality, net annual migration assumption of 10,000.

It is sometimes suggested that immigration or overseas participation in the New Zealand housing market could help to sustain rising house prices in New Zealand indefinitely. However, as we have seen in the past, controlling the overall level of migration, and the timing of migration flows, can be problematic.

Another reason why we have been uncomfortable with developments in household savings in recent years is that they have contributed to growing external and internal debt levels. As New Zealand's gross indebtedness increases, this creates potential vulnerabilities for both borrowers and lenders even if the higher debt levels go hand in hand with higher asset prices. These risks relate to potential changes in interest rates or servicing ability, the willingness of overseas parties to continue to provide funds, and changes in the value of the security against which the lending is undertaken. At some point, if New Zealand continues to run large current account deficits, foreign lenders could revise the terms on which they are prepared to provide funds. This is why, from a financial stability policy perspective, the Reserve Bank has been focusing its efforts on helping to ensure that financial institutions remain resilient in the face of changes in local or external economic conditions.

## 6. Policy issues

New Zealand's household savings record continues to highlight the disproportionate significance of housing in household wealth and the potentially damaging effects of asset price cycles. It also raises the question whether monetary policy or some other policies could be used to contain asset price cycles. The experience of many central banks is that asset prices do not necessarily respond predictably to monetary policy

and that successfully controlling them, without creating damage elsewhere in the economy, is a dubious proposition. Our work on Supplementary Stabilisation Instruments, which we released earlier in the year, was about looking at whether there might be other tools directly affecting the housing market and/or the market for residential mortgage credit, which could supplement the role of interest rates in managing inflation.<sup>15</sup> However, there are no easy answers on this front.

Another issue to arise from our work is why New Zealanders are so reluctant to accumulate wealth through financial assets rather than simply through investment in housing. The share of financial assets as a proportion of total wealth in New Zealand appears to be very low by international standards, even accepting the difficulties in measuring wealth. While the tax advantage of housing is undoubtedly a factor here for many people, many households appear to have a deep-seated suspicion for financial assets. This may be partly understandable — many households have probably been coy about investing in equities or managed funds, given their experiences in the late 1980s and in 1999/2000. But there are also risks in households putting so much of their investment into housing. It can take time to turn an illiquid asset like a house into cash, should the need arise. Also, there is a risk regarding the valuation of housing assets. While we have not seen any large downward adjustments to nominal house prices in New Zealand in the past, this does not mean that New Zealand will be immune from such changes in the future.

Alas many New Zealanders find the notion that housing investment may be a risky proposition difficult to fathom, given their favourable personal experience to date. As such, they are likely to put a very low probability on it. One of the findings of contemporary behavioural economics is that households tend to underweight risks of events for which they have no personal experience. This helps explain why households are often unimpressed with the argument that they need to save more across a range of financial instruments.

Although policies to promote savings and the accumulation of wealth are beyond the scope of this paper, there is a need to ensure that, as far as possible, policies provide a 'level playing field' regarding the accumulation of assets. That is, policies should not favour one form of wealth building over another. In general, policies aimed at encouraging a more diversified savings strategy on the part of households, and which reduce reliance on capital appreciation, seem sensible.

One of the consequences of low household savings and growing debt levels is that households are now potentially more affected by interest rates than in the past. A change in interest rates would ultimately have a bigger impact on total debt servicing costs than it would have done when debt levels were lower. This is something that we have to take account of when setting the Official Cash Rate. However, changes in the structure of the mortgage market, away from floating debt to fixed term debt have meant that the effects of interest rate changes have also become more drawn out.

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<sup>15</sup> See RBNZ (2006).

## 7. Conclusion

New Zealand has experienced a dramatic fall in its household savings rate in recent years. Our work in this area points to a range of influences. There is the possibility that the household income measure used to calculate savings is understated. Also, there have been some cash injections into the household sector — such as migrant transfers — which are a boost to spending power independent of current income. Both these factors may be affecting the household savings rate and may also partly account for its decline in recent years.

However, our work also suggests that much of the decline in the savings rate in recent years may be connected with rising household net worth that has occurred due to sharp increases in prices for houses and farms. This paper has shown that there are a range of channels by which some households have been able to ‘unlock’ wealth on their balance sheets and spend it, which will have contributed to the wedge between income (as conventionally defined) and consumption. Many of these channels have involved an increase in indebtedness by parts of the household sector, which in turn has fuelled increased borrowing from overseas. In effect, there have been significant transfers of wealth across households and generations. Younger generations are now paying for the wealth transfer in the form of reduced housing affordability and higher debt levels, or by foregoing homeownership altogether.

It seems likely that the household saving rate will continue to be negative for some time yet. Given recent rises in asset prices, there are still considerable unrealised capital gains that can be withdrawn. However, a levelling off in asset prices would eventually change the situation. In the short term it would reduce the attractiveness of property investment relative to simply saving. And in the longer term it would reduce the amount of equity available for withdrawal.

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A detailed version of Statistics New Zealand’s Household Income and Outlay account referred to in this paper can be downloaded from [www.stats.govt.nz](http://www.stats.govt.nz).

## Appendix: Notes on the algebra of savings and wealth

### Saving

An identity that helps in the understanding of household savings is the following:

$$I_T + I_{NT} = S + \Delta B + CT \quad (1)$$

where:

$I_T$  is investment in tangible assets (such as houses and flats)

$I_{NT}$  is investment in intangible assets (i.e. the change in financial assets)

$S$  is savings (cash measure, depreciation not deducted)

$\Delta B$  is the change in household borrowing (mortgages)

$CT$  is net capital transfers (including migrants' transfers from overseas)

The intuition behind the identity is straightforward. Investment in tangible and intangible assets is funded by savings, changes in debt, and capital transfers.

One of the issues this paper focuses on is: how can savings be negative for a sustained period? In other words, how can consumption be higher than income for so long?

We can use identity (1) to help with this. Also, by definition:

$$S = Y_D - C \quad (2)$$

where:

$Y_D$  is household disposable income

$C$  is household consumption

Substituting (2) into (1) and rearranging we get:

$$C = Y_D - I_{NT} + (\Delta B - I_T) + CT \quad (3)$$

The expression in the brackets is equity withdrawal. Hence, a rise in equity withdrawal will result in a rise in consumption, provided that the level of financial assets ( $I_{NT}$ ) doesn't change. However, suppose that equity withdrawal occurs but none of it is spent but is kept in the bank. In this situation the level of financial assets lifts, and this offsets the equity withdrawal, keeping consumption constant.

In this paper we have looked at how equity withdrawal and current transfers ( $CT$ ) might account for  $C$  being higher than  $Y_D$ .

### Wealth

Wealth ( $W$ ) is equal to assets minus liabilities, and:

$$\text{Assets} = (K_{-1} - D + I_T + \text{Reval}_T) + (NT_{-1} + I_{NT} + \text{Reval}_{NT}) \quad (4)$$

where

$K_{-1}$  is the value of the capital stock in the previous period

D is depreciation of the capital stock

Reval<sub>T</sub> is the revaluation of tangible assets

NT<sub>-1</sub> is the value of non-tangible assets in the previous period

Reval<sub>NT</sub> is the revaluation of non-tangible assets

$$\text{Liabilities} = B_{-1} + \Delta B + \text{Reval}_B \quad (5)$$

where

B<sub>-1</sub> is the level of borrowing in the previous period

ΔB is the change in borrowing

Reval<sub>B</sub> is the revaluation of the amount borrowed

Subtracting (5) from (4) and using (1) it can be shown that:

$$W = W_{-1} + \text{Reval}_{\text{Net}} + S_D + CT \quad (6)$$

where

W<sub>-1</sub> is wealth in the previous period

Reval<sub>Net</sub> is equal to Reval<sub>T</sub> plus Reval<sub>NT</sub> minus Reval<sub>B</sub>

S<sub>D</sub> is equal to S minus D (savings with depreciation deducted)

Hence, the three factors contributing to changes in wealth are revaluations, saving and capital transfers.