

Household saving and wealth

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Abstract

The measure of household saving drawn from Statistics New Zealand's Household Income and Outlay Account (HIOA) suggests that New Zealand households have been *dissaving* heavily in recent years, with consumption exceeding estimates of income. This dissaving appears to have gone hand-in-hand with rapid increases in household wealth due to positive asset price revaluations, particularly for housing. However, there is considerable scepticism about the reliability of the saving figures, which are far lower than those overseas.

This paper presents an alternative estimate of household saving which is conceptually equivalent to the HIOA measure but is based on flows in and out of household assets and liabilities. The alternative saving rate shows the same downward trend as the HIOA saving rate and also suggests that households have been dissaving in recent years, but not to the same degree as the HIOA measure. We note the possibility that the household income measure used in the HIOA could be understated due to the omission of income accruing to trusts, which has grown extremely rapidly in recent years.

This paper explores a range of factors that may account for the decline in household saving over the past two decades. To the extent that households have been dissaving in recent years — as the HIOA and the alternative saving estimate made in this paper suggest — they must have funded this dissaving from existing wealth. This paper notes that equity withdrawal from both housing and farms funded by borrowing has been substantial in recent years and appears to be a key channel through which households have been dissaving.

A low or negative household saving rate — even if accompanied by rising asset prices and increases in net wealth — may still carry adverse economic implications. Since increased borrowing has funded dissaving by the household sector, this has led to ongoing current account deficits and rising external debt. Higher indebtedness, in turn, potentially increases New Zealand's financial vulnerability. In addition, this paper notes that the long-term sustainability of increases in wealth driven by asset prices is questionable.

[†] Much of the material covered in this paper has been drawn from Bollard, A, B Hodgetts, P Briggs and M Smith (2006) *Household savings and wealth in New Zealand*, available at www.rbnz.govt.nz. However, the views expressed in this paper are those of the authors and do not necessarily reflect the views of the Reserve Bank of New Zealand. The authors are grateful to colleagues at the Reserve Bank and Statistics New Zealand for feedback and assistance with earlier drafts of this paper. Remaining errors and omissions are our own.

1. Introduction

Despite plenty of discussion on the subject of household saving and wealth, there remain plenty of unanswered questions around this important topic. The published statistics on household saving from Statistics New Zealand's Household Income and Outlay Account (HIOA) show a decline in the saving rate over the past 20 years. The data imply that households are now *dissaving* significantly — that is, consuming more every year than they are earning in income. However, there is some scepticism as to whether this negative saving position reflects reality. The sceptics point out that the published saving rate is now orders of magnitude lower than that seen in other OECD countries. Is this really the case or are the statistics misleading us? If it is the case, what are the mechanisms that are causing (or enabling) households to dissave? How long can the process continue?

A key challenge for those analysing saving in New Zealand is thus to determine whether household saving is as low as the statistics suggest. This would seem to be an essential pre-requisite for sensible public policy debate on saving. The purpose of this paper is to outline the results of recent Reserve Bank research into this issue.

In section 2 of this paper we briefly define the term saving and review the published HIOA statistics for New Zealand against the background of similar statistics for overseas countries. We also explain the relationship between saving and wealth and show how low or negative saving may have co-existed with rising wealth due to rising asset prices over recent years.

Having reviewed the published statistics, Section 3 presents an alternative calculation of the household saving rate using asset and liability flow data. The aim here is to provide a crosscheck on the HIOA saving measure by calculating a conceptually equivalent alternative measure of saving based on largely different data sources. Whilst indicative only, this calculation produces a household saving rate that is not as low as the HIOA measure, although it does still suggest that households have been dissaving in recent years.

In section 4, we then explore the mechanisms that may have led to a fall in the saving rate in recent years (on either basis) highlighting the likely importance of equity withdrawal from housing and farming assets as well as other factors. Section 5 then briefly considers whether and why a negative household saving rate matters from an economic standpoint. Section 6 of the paper concludes.

2. Saving

Discussion on the topic of saving is muddled by the tendency for 'saving' to mean different things to different people. In this paper, we use the term 'saving' in its conventional economic sense, which is also employed in the national accounts. Under this definition, saving is the portion of national income accruing to a country (or sector thereof) that is not consumed and is therefore available to finance investment.¹ This investment will be in physical assets such as houses, plant and

¹ While there are a range of other definitions of saving that are popularly used, the main focus in this paper is on explaining statistical trends in the HIOA saving measure and what might be driving them. It should also be

machinery, non-residential buildings, roads and other infrastructure.² National disposable income here means the income generated by the factors of production owned by New Zealand residents, including income generated from assets held abroad.

If a country's desired consumption and investment spending exceeds its national income, there will be a shortfall between its saving and desired investment. The country would need to draw on foreign capital in order to help fund its expenditure. It would either need to borrow from, or sell assets to, foreigners. 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 capital. In other words, the difference between national saving (S_n) and national investment (I_n) equals the current account balance³:

$$S_n - I_n = CA \quad (1)$$

For every current account deficit, there must be a corresponding surplus on the sum of the country's capital and financial accounts. The larger of these accounts — the financial account — records financial transactions involving claims on assets held abroad and liabilities held against non-residents. A financial account surplus implies a net inflow of capital from abroad (i.e. an increase in financial liabilities) in the form of borrowing or via financial investment by foreigners.

The national saving identity given by (1) must always hold. For any given level of national income, if a country wishes to consume more, then it will need to rely more heavily on foreign capital (run a larger current account deficit and hence a bigger financial account surplus) unless it is prepared to cut back on its investment.

Figure 1 shows the proportional relationship between saving and investment for New Zealand in 2005, using the latest figures from Statistics New Zealand. During the year, net national investment (total investment less an allowance for the depreciation of capital) was around \$15 billion. Around a third (\$5 billion) of this investment was financed by the country's own saving. The remaining two thirds was financed by using foreign savings, as reflected in the current account deficit of the same amount.⁴

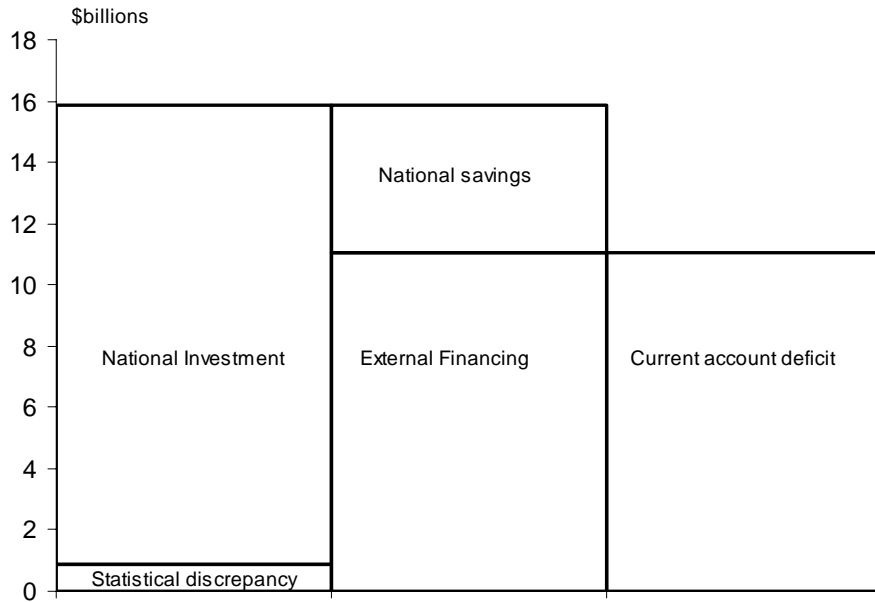
acknowledged that all measures of saving — including the national accounts concept — have their limitations. For example, it is sometimes pointed out that the national account saving measures — which are nominal rather than real measures — can be misleading in the presence of inflation. These conceptual issues are not considered further in this paper.

² Generally we are referring to 'net' savings, meaning that an allowance is also made for the consumption (or depreciation) of the capital stock.

³ In order for this identity to hold, one needs to include the change in economy wide inventories between the balance dates within the definition of national investment.

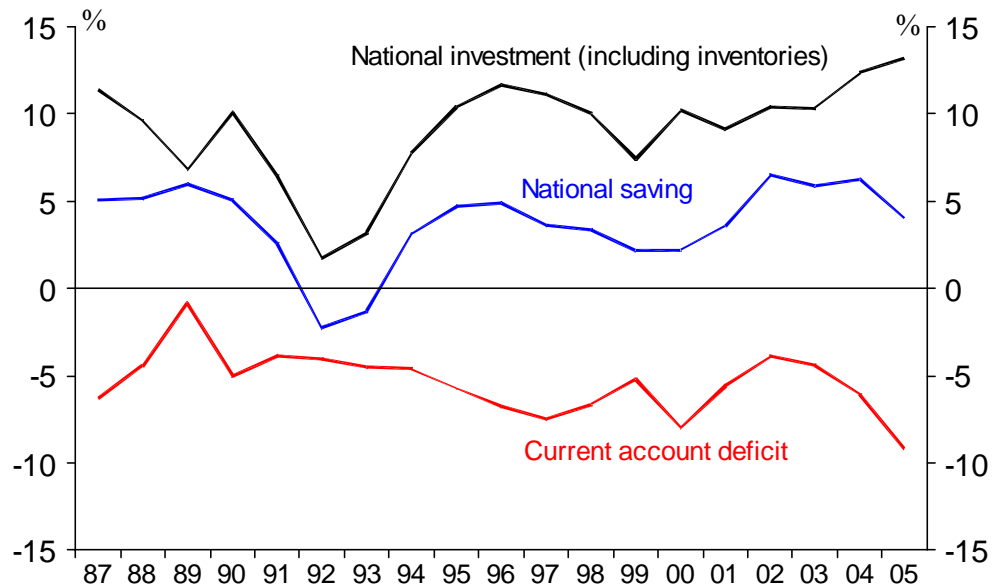
⁴ Note that these aggregates typically do not balance exactly due to measurement errors: the difference is reflected in the statistical discrepancy.

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



Source: Statistics New Zealand's National Accounts, RBNZ calculations. This diagram has been adapted from Claus and Scobie (2002).

Figure 2 National saving and investment and the current account (% of national disposable income)



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

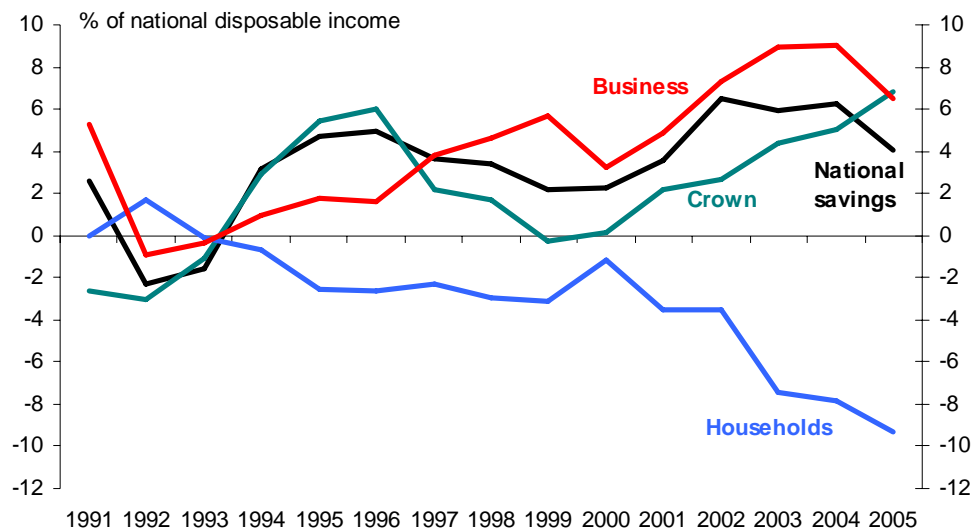
Figure 2 shows the national saving and investment picture over the past two decades. Over this period, the reliance on the use of foreign capital has been the norm. New Zealand's persistent current account deficits indicate that a significant portion of national investment has, in effect, been funded by foreign savings. We haven't consumed all of our national income, but nor have we put enough aside to fully fund all of our investment.

Saving by sector

The estimates of national saving shown in figures 1 and 2 can be further decomposed into the contributions to saving 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 (HIOA) and by the Crown via the Crown account. No specific estimate of business saving is produced, but it can be estimated as the residual making up national saving.

Figure 3 shows the breakdown of saving by households, businesses and the Crown. An outline of the calculations undertaken to arrive at household saving is shown in table 1. Based on the HIOA, household saving has been trending downwards and since the early 1990s has been negative, indicating that the household sector has been *dissaving* — consuming in excess of its disposable income.⁵

Figure 3 Saving by sector



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

⁵ The HIOA statistics do not purport to be 'official statistics'. Statistics New Zealand provides the data with the following caveat: 'In the absence of a full suite of institutional sector accounts, cross sector transactions are unable to be fully confronted within the National Income and Outlay Account framework. As a consequence, all data should be considered experimental and caution should be exercised when interpreting these data'.

Table 1 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 madatory payments (2)	-21.5	-28.3	-37.9
Income	43.7	65.3	77.5
<i>Less consumption of fixed capital (3)</i>	<i>-1</i>	<i>-1.9</i>	<i>-2.7</i>
Household Disposable income	42.7	63.5	74.7
Less Household Consumption	-41.7	-64.5	-85.8
Saving	0.9	-1.0	-11.1
<i>% of household disposable income</i>	<i>2.2</i>	<i>-1.6</i>	<i>-14.8</i>

(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 year in question.

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

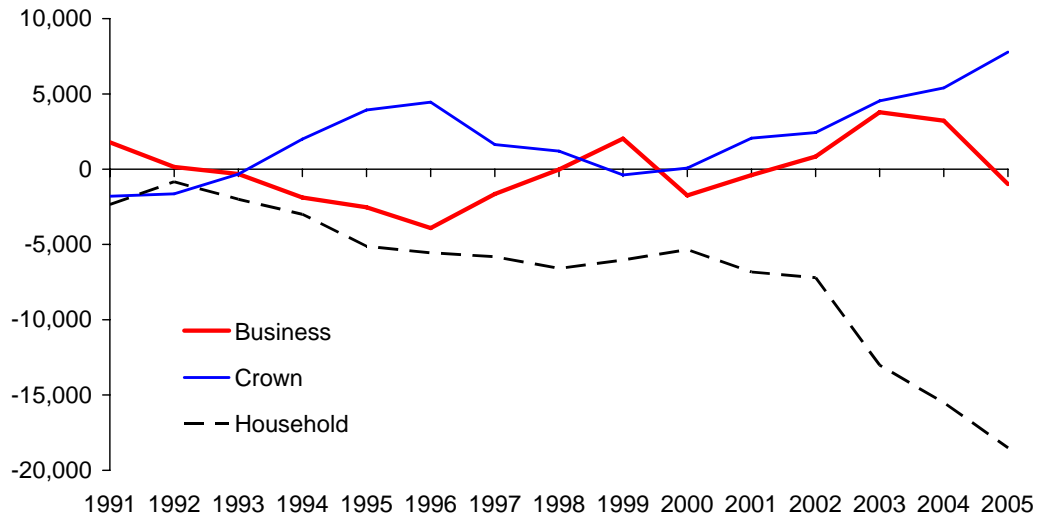
Statistics New Zealand estimates that in the year to March 2005 household dissaving was around \$11 billion or nearly 15 per cent of their disposable income.⁶ In contrast, business saving has been increasing since the early 1990s, contributing positively to national saving. Business saving is the retained profits or undistributed income of companies, so the increase in business saving has been a reflection of rising profits from 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 Crown saving, which is now a strong positive contributor to national saving. Although both business and Crown saving have increased significantly over the past decade, this improvement has not resulted in a large increase in national saving due to the continued decline in household saving.

As figure 4 suggests, the gap between saving and investment in the household sector – a measure of the sector's contribution to the current account balance— has widened significantly over the past two decades and stood at around minus \$18 billion in 2005. In contrast, the business sector's contribution appears to have fluctuated around zero over this period, while the Crown's contribution has steadily increased since 2000.

A fall in the household saving rate has been a common trend among many OECD countries, not just New Zealand (see table 2). The latest estimates of saving rates for a number of other countries, including the US, Australia and Canada indicate saving rates for these countries have also begun to dip into negative territory. However, New Zealand stands out as having a more strongly negative household saving rate than other countries.

⁶ Or just over 9 per cent of national disposable income.

Figure 4
Sectoral contributions to the current account deficit
(Difference between sector saving and investment)



Source: Statistics New Zealand's national accounts; RBNZ calculations.

Table 2 Selected country household saving 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

The relationship between saving and wealth or 'net worth'

At this point, a clear distinction needs to be made between the concepts of saving, as used in this paper, and 'wealth' or 'net worth'. These are not the same thing, but they are related. Saving as used here 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 is sometimes referred to as *savings* (spelt with an 's') or the accumulated stock of savings. Moreover, changes in net worth are sometimes

treated as a measure of saving.⁷ However, in order to avoid confusion, the terms ‘net worth’ or wealth (or changes therein) will be used instead in this paper.

The relationship between saving and wealth can be outlined as follows. At its simplest level, saving for the household sector is given by:

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

where S is household saving, Y is household disposable income and C is household consumption. The measure of saving given by (2) is a cash measure. However, in the HIOA, an adjustment is also made for the consumption of fixed capital (depreciation of the household sector’s capital stock — principally the housing stock) which can be thought of as the amount households notionally need to invest each year to ensure that the productivity of the capital stock is preserved. Thus the HIOA measure (denoted by SD) is calculated as follows:

$$SD = Y - C - CFK \quad (3)$$

where CFK is depreciation of the capital stock.

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

$$I^T + I^{NT} = S + \Delta B + CT \quad (4)$$

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 saving (cash measure, depreciation not deducted)

ΔB is the net change in household borrowing

CT is net capital transfers (including migrants’ transfers from overseas)

Identity (4) reflects the fact that investment in tangible and non-tangible assets must be financed through the household sector’s own saving from current income, by borrowing or capital transfers. Capital transfers are injections of cash into the household sector that are not part of current income. An example would be transfers of capital into the household sector by new immigrants.

Household wealth W is equal to the market value of assets (A) less liabilities (L):

$$W = A - L \quad (5)$$

$$A = (A^T_{-1} - CFK + I^T + R^T) + (A^{NT}_{-1} + I^{NT} + R^{NT}) \quad (6)$$

$$L = B_{-1} + \Delta B + R^B \quad (7)$$

Where:

A is the value of tangible and non-tangible assets ($A^T + A^{NT}$)

⁷ Goh (2005) and a number of researchers use the term *economic savings* to refer to changes in the stock of net worth over time.

A^T_{-1} is the value of tangible assets (capital stock) in the previous period

CFK is depreciation of the capital stock

R^T is the revaluation of tangible assets

A^{NT}_{-1} is the value of non-tangible assets in the previous period

R^{NT} is the revaluation of non-tangible assets

B_{-1} is the level of borrowing in the previous period

ΔB is the change in borrowing

R^B is the revaluation of the amount borrowed

Subtracting (7) from (6) and using (4) it can be shown that:

$$W = W_{-1} + R^{\text{Net}} + SD + CT \quad (8)$$

where

W_{-1} is wealth in the previous period

$$R^{\text{Net}} = R^T + R^{NT} - R^B$$

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

Since, by definition, the flow of saving is used to finance investment in either fixed or financial assets, high levels of saving will tend to go hand in hand with increases in net worth as new assets are acquired without corresponding increases in debt. Conversely, in the absence of positive net revaluations, dissaving ($SD < 0$) will reduce wealth since it involves running down existing assets and/or increasing liabilities. However, market revaluations will also affect net worth. At times, these 'revaluation effects' can completely swamp changes in net worth due to saving.

Table 3 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. The data are intended 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.⁸

⁸ Note 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 overall true level of net worth. Key exclusions include the equity held in unincorporated businesses, including farms, the ownership of commercial property and investments in forestry. There are also a range of assets held overseas that are not captured such as housing, offshore deposits and investments and entitlements in overseas-administered superannuation schemes. The Household Savings Survey conducted in 2001 showed that the value of these assets is significant, although housing remained the dominant household asset (see Statistics New Zealand (2001)).

**Table 3 Household sector net worth⁹
(December years)**

\$ Billions	1990	2000	2001	2002	2003	2004	2005
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
Total assets	199	357	377	412	511	581	668
Loans secured by housing	25	64	71	78	86	99	115
All other loans	3	14	13	15	22	25	27
Total Liabilities	28	78	84	93	108	124	142
Household sector net worth	171	279	293	318	403	457	526
Memo item							
Debt as a per cent of total assets	14.1	21.8	22.3	22.6	21.1	21.3	21.3

Composition of change in net wealth

Saving and capital transfers				-3	-4	-2	-6
Net revaluations of assets				28	89	56	75
Change in net worth				25	85	54	69

Source: Reserve Bank.

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. For the year to December 2005 alone, net worth is estimated to have increased by \$69 billion. The increase in net worth was due mainly to large increases in the market value of the housing stock, which in turn were driven by rising house prices.

What contribution did saving make to the change in net worth? As we saw above, the HIOA measure of household saving has been negative over this period, implying a negative contribution to the change in net worth. In other words, households were increasing their borrowing through this period and/or consuming out of existing assets. The table shows a sustained, strong increase in household borrowing, much of which was secured over housing.

Another point to note from table 3 is that household financial assets have grown reasonably strongly in recent times. For example, deposits with financial institutions increased by around \$18 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.

⁹ A more comprehensive breakdown of household assets and liabilities — running back to 1978 — is available at the Bank's website: www.rbnz.govt.nz. The estimates of saving, capital transfers and revaluations contained in this table are the authors' own.

3. Can we corroborate the HIOA saving statistic?

An important issue when analysing the saving behaviour of New Zealand households is whether the HIOA saving statistic reflects reality. There has been some scepticism in this regard, given the increasing divergence between the published household saving rate for New Zealand and the household saving rates of other OECD countries. As noted in the previous section, New Zealand's published (HIOA) household saving rate, at minus 14.8 per cent in 2005, appears to be orders of magnitude lower than in other countries.¹⁰ Why should New Zealand be so different?

Ideally, we want some way of verifying the HIOA household saving measure. In this section, we present an attempt to calculate the household saving rate on the same conceptual basis as the HIOA using an alternative approach.¹¹ The approach is based on that used by the Federal Reserve Board of Governors in the construction of detailed flow of funds accounts for the US.¹²

Since saving implies an addition to the household sector's net wealth and dissaving implies a withdrawal from it, it follows that saving can also be derived from the net flows into and out of household assets and liabilities over a given period. Rearranging identity (4) and deducting the consumption of fixed capital gives:

$$SD = I^T + I^{NT} - CFK - \Delta B - CT \quad (9)$$

Over any given period, household investment in financial assets (I^{NT}) will be given by the net purchases of financial assets across the range of asset classes held by households. The challenge from a statistical standpoint is to disentangle these flows from revaluations.

The net flows into the mainstream financial system — such as bank deposits and deposits and debentures with non-banks — can be readily derived from the Reserve Bank's various surveys as the change in the stock of these assets held by households over a given period as revaluations are not generally an issue. These data are now generally considered to be of a relatively high quality. Net flows into other asset classes, such as domestic or foreign equities are less easy to derive as flow data are not directly available.¹³ Whilst the resulting flow estimates will be an approximation only, the flows into and out of these assets are likely to be comparatively small (certainly in comparison with flows into and out of other asset classes such as bank deposits). To calculate net flows into private pension funds, life insurance schemes and managed fund assets we have taken data from the HIOA and calculated net flows as contributions minus benefits paid plus fund earnings.

¹⁰ Some researchers have also questioned the HIOA saving measure on the grounds that changes in net worth (which are sometimes treated as saving) have been strongly positive over recent years. However, as noted in the previous section, these are actually quite different concepts.

¹¹ Unfortunately, the lack of institutional accounts for most sectors of the economy means that the HIOA cannot be cross-checked by confronting the data with that of other sectors.

¹² To see this approach used in the US context, see Federal Reserve (2006) table F.10.

¹³ The NZSE40 was used to isolate the net flows in and out of domestic equities. In the case of assets held abroad, the MSCI index was used in conjunction with the New Zealand dollar TWI to adjust for market and exchange rate revaluations.

Household investments in tangible assets (I^T) will be dominated by residential investment, for which data are readily available. Other significant investments in fixed assets will include the purchase or sale of land to/from other sectors and the purchase or sale of existing houses to/from the state or local authority sector. Data on these purchases are available from QVNZ.

There are a range of other financial assets that households hold for which we have little reliable data. These would include direct deposits held offshore, houses owned abroad and so forth. While the 2001 Household Savings Survey suggests that the stock of such assets may be reasonably significant, a critical assumption here is that the flows in and out of such assets are likely to be reasonably small from year to year.

The net change in household borrowing is simply the observed change in financial liabilities over a given period. As most household borrowing activity is done through the M3 sector, data on such activity is readily available, and is considered to be of a good standard. There are also relatively comprehensive data available on the non-M3 sources of lending to the household sector, which are available annually via the Reserve Bank's various surveys and published as components of its household sector balance sheet estimates.

The main source of capital transfers into the household sector will be net migrant transfers, which are available as part of the balance of payments statistics. Capital inflows are a boost to household financial assets, but since they are not a flow from current income, they need to be subtracted from the build up in assets when calculating saving.

For the purposes of this calculation, we have used the same consumption of fixed capital allowance that Statistics New Zealand uses in the HIOA saving calculations. This should help to ensure consistency when comparing the two saving measures.

There is one further complication to address, relating to the treatment of farms and other unincorporated businesses, which are a source of income to the household sector. In the HIOA, this income is included under 'entrepreneurial income'.

However, the alternative measure of saving that we have been constructing is based on household balance sheet data that is incomplete. It omits the net equity (i.e. assets minus liabilities, or wealth) held by households in unincorporated businesses, including farms. Changes in this net equity are likely to affect the levels of other assets and liabilities held by households.

For example, suppose a household owns a farm without a mortgage and that it then sells this farm. The wealth of the household (and the whole household sector) will not

Table 4 Household saving estimated using an asset and liability acquisitions approach*

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	
NZ\$ billions																				
Net acquisitions of financial assets																				
1 Currency holdings	0.020	0.084	0.024	0.006	0.097	0.065	0.027	0.167	0.121	0.009	0.135	0.091	0.353	-0.008	0.172	0.210	0.146	0.140	0.209	
2 Deposits and debentures with Banks and DTIs	2.266	2.373	3.828	1.406	1.760	3.536	1.004	0.561	1.189	3.236	3.128	3.725	0.739	-0.497	-0.283	1.938	4.620	4.926	4.886	
3 Unit trusts, life offices, superannuation	3.064	3.112	0.884	2.422	2.521	2.410	2.404	2.989	2.566	2.674	2.594	1.957	2.293	2.110	2.186	1.640	1.391	1.959	2.399	
4 Net direct purchases of domestic equities	-1.563	0.000	0.541	-1.357	0.723	1.271	-0.505	0.297	-1.919	-0.426	0.068	-1.420	2.644	0.005	-0.045	-0.145	-0.124	0.494	-0.427	
5 Net direct purchases of overseas equities	0.365	1.076	0.769	-0.299	0.386	-0.437	0.153	0.255	-0.520	0.688	-0.231	0.515	-0.294	0.643	-0.305	-0.380	-0.157	0.414	-0.366	
6 Other	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.100	0.150	0.200	0.250	0.300	0.350	0.400	0.450	
7 =1+2-3+4+5+6	4.201	6.695	8.096	2.229	5.537	6.885	3.132	4.319	1.487	6.231	5.741	4.988	5.885	2.453	1.518	3.563	6.226	8.333	7.150	
Gross investment in tangible assets																				
8 Residential fixed investment	2.299	2.626	2.728	2.321	3.256	2.904	3.112	3.894	4.821	5.201	5.694	5.933	5.191	6.234	5.537	5.805	7.443	9.259	10.334	
9 Net purchases of land	0.135	0.202	0.260	0.297	0.339	0.397	0.494	0.635	0.556	0.513	0.578	0.703	0.878	0.962	1.052	1.128	1.181	1.257	1.135	
10 Net asset purchases from state and local authorities	-0.030	-0.052	-0.050	-0.064	-0.004	-0.003	0.002	0.020	0.089	0.102	0.100	0.147	0.066	-0.003	-0.028	-0.029	-0.041	-0.055	-0.059	
11 =8+9+10	2.404	2.776	2.938	3.464	3.591	3.298	3.608	4.549	5.466	5.816	6.372	6.783	6.135	7.193	6.561	6.904	8.583	10.461	11.410	
12 Less consumption of fixed capital	0.813	0.904	0.975	1.048	1.106	1.154	1.217	1.338	1.483	1.604	1.682	1.752	1.823	1.880	1.985	2.075	2.204	2.427	2.731	
13 Net investment in tangible assets	1.591	1.872	1.963	2.416	2.485	2.144	2.391	3.211	3.983	4.212	4.680	5.031	4.312	5.313	4.576	4.829	6.379	8.034	8.679	
14 Household net investment	5.792	8.567	10.059	4.644	8.022	9.028	5.524	7.531	5.469	10.443	10.421	9.999	10.198	7.766	6.094	8.392	12.605	16.367	15.829	
Net increase in financial liabilities																				
15 Loans secured over housing	2.592	2.368	3.317	2.901	2.001	2.275	3.083	4.415	4.697	5.712	5.648	4.101	5.893	3.678	4.841	6.880	12.564	14.416	16.880	
16 All other loans	0.310	0.184	0.319	0.157	0.063	0.352	0.576	0.701	0.970	1.042	0.808	1.195	0.892	1.364	1.229	2.461	1.771	1.622	1.548	
17 Net increase in financial liabilities	2.902	2.552	3.636	3.059	2.064	2.627	3.659	5.116	5.667	6.755	6.456	5.297	6.786	5.042	6.070	9.351	14.335	16.038	18.428	
18 Net capital transfers	-0.079	-0.073	0.081	0.354	0.438	0.544	1.005	1.355	1.867	1.952	0.348	-0.331	-0.398	-0.384	1.111	1.704	0.873	0.227	-0.279	
19 (14-17-18)	2.969	6.088	6.342	1.232	5.519	5.857	0.860	1.060	-2.065	1.737	3.617	5.034	3.810	3.108	-1.087	-2.663	-2.603	0.102	-2.320	
20 Estimate of equity withdrawal/injection to/from agricultural sector					0.493	-0.038	0.463	-0.528	-0.761	-0.843	-0.117	-0.058	-0.128	0.512	-1.322	-1.929	-2.225	-1.975	-3.506	
21 Implied household savings (2)					6.013	5.819	1.323	0.531	-2.826	0.894	3.499	4.975	3.682	3.620	-2.408	-4.591	-4.828	-1.872	-5.826	
					7.119	6.973	2.540	1.869	-1.343	2.488	5.191	6.727	5.505	5.500	-0.423	-2.516	-2.624	0.555	-3.095	
22 HIOA Saving (household income and outlay account)	1.669	1.164	0.936	-0.004	0.990	-0.060	-0.445	-1.785	-1.959	-1.808	-2.397	-2.651	-1.006	-3.272	-3.510	-7.863	-8.829	-11.069	n.a.	
23 Disposable income (from HIOA account)	37.659	40.138	42.654	43.819	44.596	44.41	46.057	48.421	51.597	55.123	56.846	59.305	63.452	63.815	66.99	67.349	71.29	74.718	79.2011 (est)	
Saving as % of disposable income:																				
(=row 19 as % of 24) Implied household savings (1)	7.9	15.2	14.9	2.8	12.4	13.2	1.9	2.2	-4.0	3.2	6.4	8.5	6.0	4.9	-1.6	-4.0	-3.7	0.1	-2.9	
(=row 21 as % of 24) Implied household savings (2)	4.4	2.9	2.2	0.0	2.2	-0.1	-1.0	-3.7	-3.8	-3.3	-4.2	-4.5	-1.6	-5.1	-5.2	-11.7	-12.4	-14.8	n.a.	
(=row 22 as % of 24) HIOA Saving					7.119	6.973	2.540	1.869	-1.343	2.488	5.191	6.727	5.505	5.500	-0.423	-2.516	-2.624	0.555	-3.095	

* Data have been compiled on a December year basis as some data are available only as at December. Data from the Household Income and Outlay account are for the nearest March year.

Series source notes

- 1 Source Reserve Bank, estimate of change in currency holdings in hands of public, derived from Table C1 (column 2) of <http://www.rbz.govt.nz/statistics/monthly/C3/data.html>
- 2 Source Reserve Bank Standard Statistical Returns (SSR) for Registered Banks and Non Bank Financial Institutions derived from 'Household Financial assets and liabilities' spreadsheet available at www.rbz.govt.nz/statistics
- 3 Statistics NZ's Household Income and Outlay account. Calculated as contributions less benefits paid out plus earnings.
- 4 Reserve Bank estimate of domestic equity holding based on computershare registry of ownership. Changes in the stock have been adjusted by movements in the NZX50 (and precedents) to estimate net flows.
- 5 Overseas equity holding is a Reserve Bank estimate. Changes in the stock have been adjusted by movements in the trade weighted exchange rate index and the MSCI world index to derive implied net flows.
- 6 Small allowances for growth in residual assets not elsewhere captured.
- 7 Statistics New Zealand's national accounts estimate of nominal private investment in dwellings.
- 8 Statistics NZ: Statistics NZ: RBNZ estimates
- 9 Source: QVNZ: Statistics NZ: RBNZ estimates
- 10 Source: QVNZ: Statistics NZ: RBNZ estimates
- 11 Source: QVNZ: Statistics NZ: RBNZ estimates
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- 18 Source: QVNZ: Statistics NZ: RBNZ estimates

have changed. However, the household's net equity held in farms will have fallen to zero, while the household's financial assets will have increased by the amount the farm was sold for.

Our alternative measure of saving will have picked up the rise in this household's financial assets. But it will not have picked up the offsetting change in net equity in farms. We need to adjust the saving measure downwards in order to account for this change in farm equity.

We have made an estimate of the equity changes that have occurred in the farming sector as a whole by taking the difference between annual investment in farms and the annual change in farm borrowing.¹⁴ We have assumed that all of these equity changes will be reflected in household balance sheets. That is, we have assumed that all farms are owned by households. Clearly this is a simplification, since some farms are owned by companies. We simply add the annual estimates of equity changes, which may be negative or positive, to our alternative savings measure in order to adjust it for changes in farm equity.

We have not been able to make a similar adjustment for changes in the equity position of other unincorporated businesses. This is clearly a shortcoming of this approach.¹⁵

Table 4 sets out the derivation of household saving by adding up estimates of the flows across the various asset and liability classes as outlined above. The table presents the alternative measure of the household saving rate and compares it with the HIOA measure published by Statistics New Zealand.

Figures 5 and 6 present the alternative measure of the household saving rate, both with and without the adjustment for farm equity withdrawal. Figure 4 shows the saving estimate in \$ billions while figure 5 shows them relative to the HIOA measure of disposable income. The dotted lines in figure 5 represent a linear trend for each of the series.

The alternative estimates of household saving appear to be significantly higher than the HIOA estimate over most of history. As shown in Figures 5 and 6, the alternative saving rate (with the equity adjustment) appears to have declined since the early 1990s to around minus 8 per cent of disposable income by 2005.¹⁶ While this would still suggest considerable dissaving on the part of households in recent years, it is not as dramatic a picture as that painted by the HIOA measure (which sat at nearly 15 per cent of disposable income in 2005).

¹⁴ This difference between investment and borrowing, when it is negative, indicates that equity is being withdrawn from the farm sector as a whole. We come back to the issue of farm equity withdrawal later in the paper.

¹⁵ It may be possible to derive estimates of equity withdrawals or injections for non-farm unincorporated businesses using data from Statistics New Zealand's Annual Enterprise Survey. This is an area for further investigation.

¹⁶ From here on, we will take the alternative estimate of the household saving rate as being the one which is adjusted for changes in equity held in agriculture.

Figure 5 Alternative derivations of the household saving rate (\$ billions)

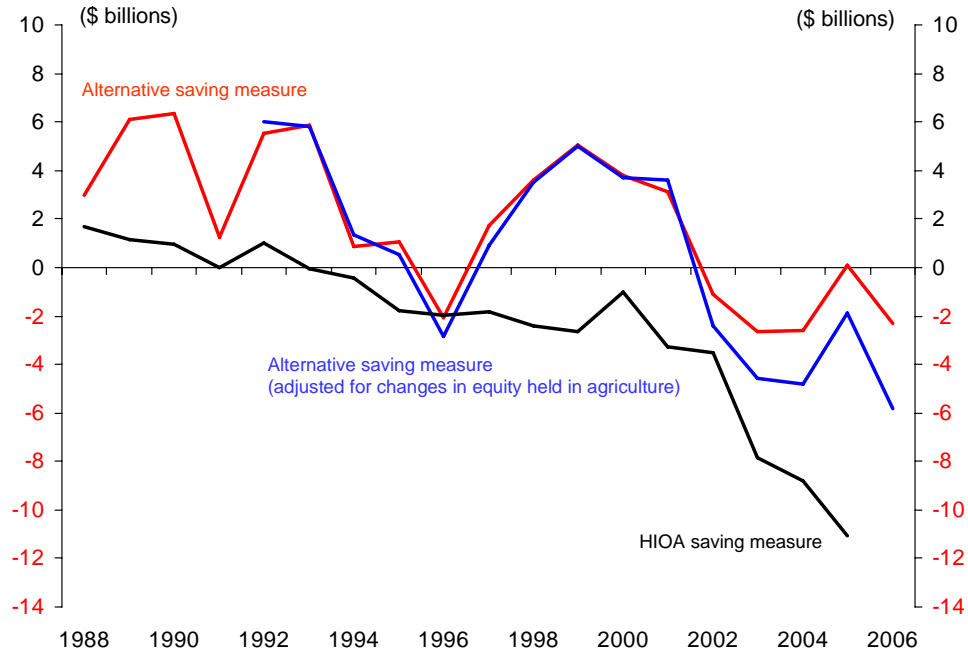
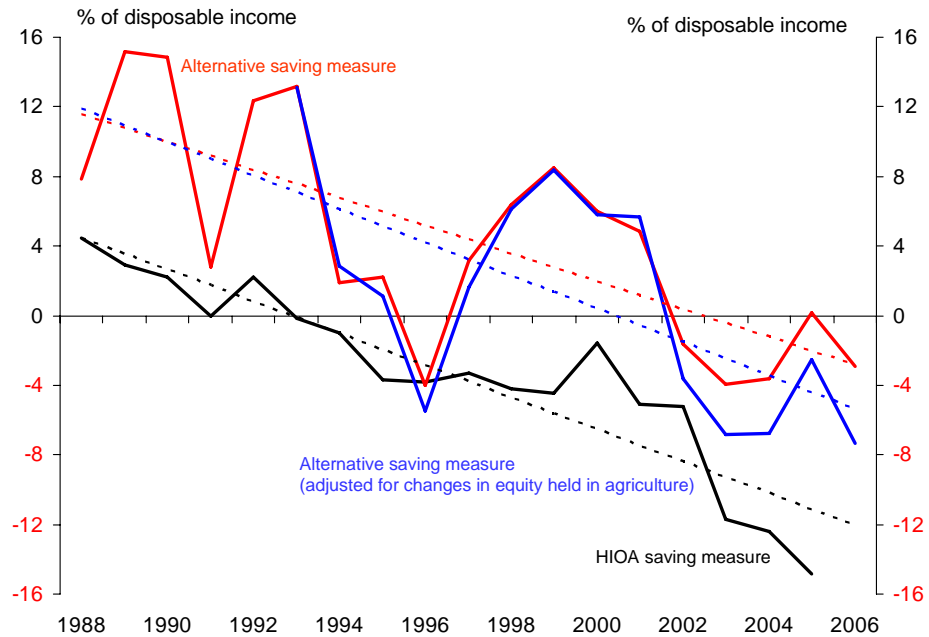


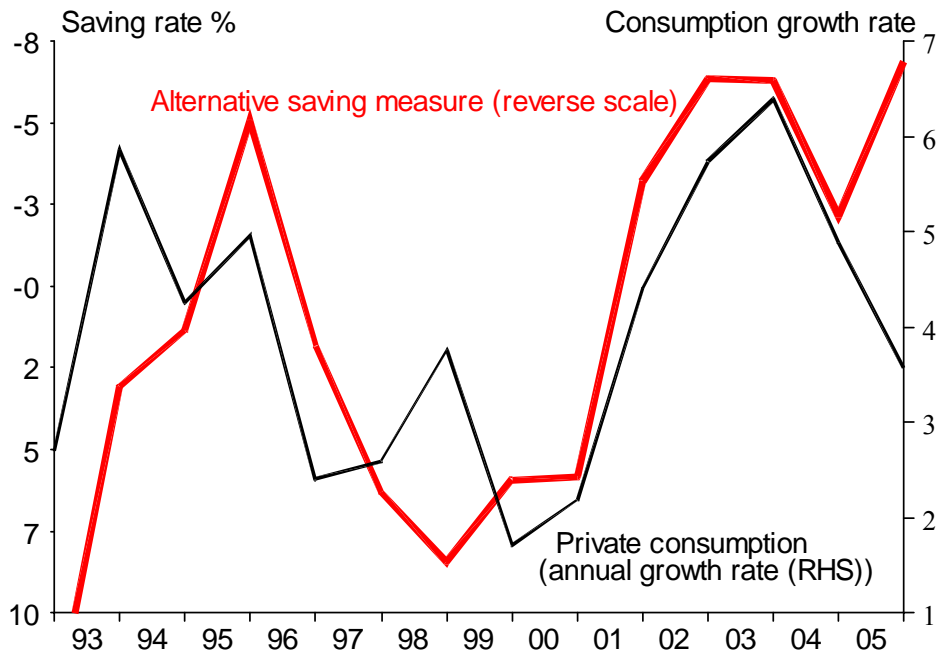
Figure 6 Alternative derivations of the household saving rate (% of disposable household income)



Compared to the HIOA measure, our alternative estimate of household saving appears to be rather more variable from year to year. This may simply be an issue of data quality, but it is also possible that the variability reflects shifts in actual saving behaviour over the economic cycle that for some reason are not being reflected in the HIOA measure. Figure 7 shows that the alternative saving rate appears to rise during

periods of strong household consumption and fall when consumption growth is softening. For example, the fall in the alternative saving rate in the early 1990s coincided with a sharp acceleration in consumption spending as the economy emerged from a prolonged recession. In contrast, the HIOA measure appears to fall smoothly through time despite the economic cycle.

Figure 7 The alternative saving measure (adjusted for changes in equity held in agriculture) and private consumption growth



Statistical issues -- missing income?

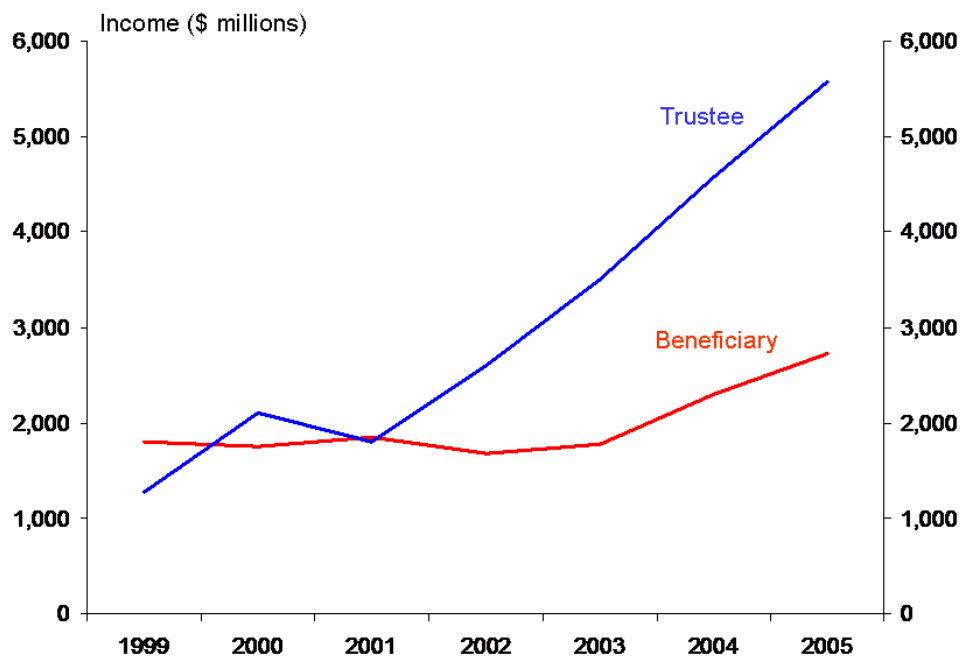
Both the HIOA saving rate and the alternative saving measure calculated in this paper have fallen markedly in recent years and both appear low by international standards. Before considering possible economic reasons for why they are so low, it is worth considering whether statistical factors — such as ‘missing’ income — could partly explain the low level of these series.

Like other macroeconomic balances, saving is the difference between two large aggregates — the difference between income and consumption (in the case of the HIOA measure) or the difference between the accumulation of assets and liabilities (in the case of our measure). These aggregate will be subject to a range of measurement errors. Most often, it is suggested that the measure of household income could be *understated* for various reasons, which in turn would tend to bias the HIOA measure of saving downwards. There are a range of areas of possible understatement. For example, one such area concerns income earned from overseas investments. Income that is not taxed locally is unlikely to be captured by Statistics New Zealand (which relies heavily on IRD records when compiling the HIOA).

The possibility that the saving rate is understated sometimes leads to the conclusion that the focus should really be on the *trend* in the published saving rate rather than on the level. Of course, this conclusion assumes that any measurement errors are not shifting markedly over time. If they are, then both the level and the trend could be misleading.

If the HIOA household saving rate is understated, as our alternative estimate suggests, what would this imply for our interpretation of New Zealand's overall savings record? It would imply that our working estimate of business saving (which is currently calculated as a residual between national saving and household and crown saving) is overstated, assuming that the errors have not carried over to national saving.

Figure 8 Income earned from trusts has grown extremely rapidly in recent years



Source: Inland Revenue

Briggs (2006) notes 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. A similar issue may exist with respect to trust income. The Reserve Bank's recent work in this area suggests that income accruing to trusts may not be fully captured in the measure of household income on which the saving statistic is based. This, in turn, could be causing the HIOA saving measure to be understated and may also be affecting our own saving estimates. We have recently been exploring this possibility with Statistics New Zealand.

Data from Inland Revenue indicate that trustees' income has become very significant.¹⁷ It was around \$5.6 billion in the 2005 tax year (figure 8). Moreover, this income has shown extremely rapid increases over recent years.¹⁸

Although not all of trustees' income may 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 saving and consumption decisions of the households that have these trusts. We suspect that not all the household-owned income in trusts is being fully captured by the income measure used in the saving rate calculation.¹⁹ This may partly help to explain the steep decline in the saving rate over recent years; the acceleration in trust income from 2001 onwards coincides with the sharp dip in the HIOA saving rate. On its own, however, this factor is unlikely to explain why New Zealand's household saving rate is now so much lower than in other countries.

It is also possible that the alternative saving rate calculated in this paper fails to capture all of the income accruing to households from trusts. If the trust income resides in bank accounts or other financial assets that are classified as other than 'Household' accounts (such as farm or business accounts) then it will not be captured by our approach, which relies heavily on classification practices.

4 Why has the household saving rate fallen?

The evidence presented in section 3, while indicative only, adds weight to the view that household saving has declined over the past two decades. It also corroborates the notion that households have been *dissaving* in recent years, albeit not to the degree suggested by the HIOA.

In attempting to explain why the household saving rate has fallen over the past two decades, a range of factors are often cited. These include:

- The impact of financial liberalisation;
- Demographics;
- The impact of more buoyant economic conditions in recent years;
- The attractiveness of housing as an investment;
- Wealth effects associated with rising house prices;
- The impact of various capital transfers and other injections of cash into the household sector;
- The sharp increase in saving by the crown; and
- Equity withdrawal from housing, farms or other businesses.

¹⁷ See Inland Revenue (2005) pp. 34-35.

¹⁸ Inland Revenue (2005) note that the rapid increase in trustees' income may have been due to income sheltering. Trustee income is subject to tax at 33 cents in the dollar rather than the marginal rate of 39 cents that might otherwise apply to an individual's income.

¹⁹ It should be noted that some trust income is included in entrepreneurial income in the household income and outlay account. Data obtained from Statistics New Zealand indicate that around \$800 million of trust income was included in this item in the calculation of saving for the 2005 March year. It should also be acknowledged that the purpose and use of trusts varies and it may not be the case that all income earned by trusts should properly be considered household income.

The significance of each of these factors is examined in turn.

Financial liberalisation

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

Demographics

There is a possibility that demographic factors have been influencing the household saving 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 saving rate that we have seen over the last five years.

More buoyant economic conditions

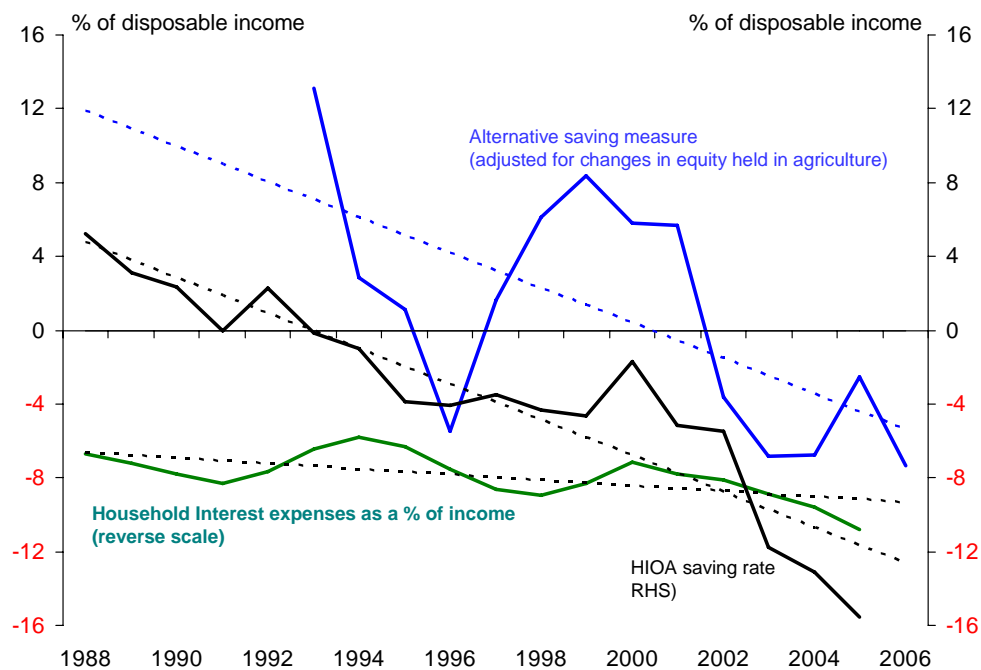
To some extent, the fall in the household saving rate in recent years may partly be a reflection of the more buoyant economic conditions facing households. Since the mid-1990s, the unemployment rate has declined markedly to very low levels, incomes have been increasing steadily and household confidence 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 have lowered their propensity to save.

The attractiveness of housing as an investment

Another factor that may partly explain why the saving rate has declined over recent years is an increasing tendency to accumulate wealth through housing rather than financial assets. There are many reasons why this seems to have been the case for many New Zealanders: the relatively favourable tax treatment of housing; aversion to financial investments following several episodes of adverse returns; falling nominal interest rates; and rising house prices, which have produced large capital gains.

In itself, a reliance on housing as an investment vehicle need not automatically mean a fall in the saving rate. However, putting money into housing financed primarily by borrowing could affect the saving rate to the extent that interest servicing costs increase over time as more borrowing is undertaken. This broadly appears to have been the case for New Zealand households — the HIOA indicates that interest servicing costs relative to disposable income have risen from around 7 per cent in 1987 to around 11 per cent in 2005. The rise in debt servicing reflects the volume of additional housing debt taken on over this period, notwithstanding a fall in interest rates. Sustaining the same level of consumption for any given level of income would thus require households to save less. Of course, this begs the question why households have chosen not to reduce consumption of non-housing items as their relative outlays on debt financing have increased.

Figure 9 Debt servicing and the saving rate



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 3 suggests that household net worth

increased by \$230 billion in the four years to 2005. This was despite substantial growth in borrowing, although much of this borrowing 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.

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 saving from current income as a result. 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 (see Hull (2003)). 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 saving rate has fallen over recent years.

The impact of various capital transfers and other injections of cash into the household sector

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 saving since they are capital transfers from abroad.²⁰

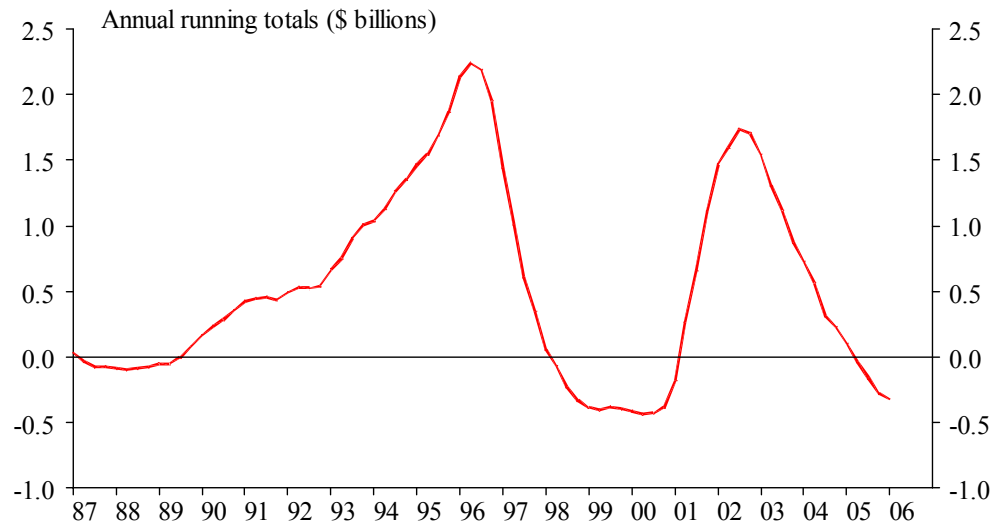
But how large are they? Statistics New Zealand's own estimates from the capital account of the balance of payments suggest that such transfers have made a total net injection to the household sector of up to \$10 billion over the past 20 years with most of that occurring in the last 10 (see figure 10). 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 net 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

²⁰ 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.

are transferred to New Zealand. Rather the effect on consumption could potentially be drawn out over a period of many years.

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

Figure 10 Migrant capital transfers may partly explain the wedge between consumption and income since the early 1990s



Source: Statistics New Zealand

Over the years, there have also 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 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.

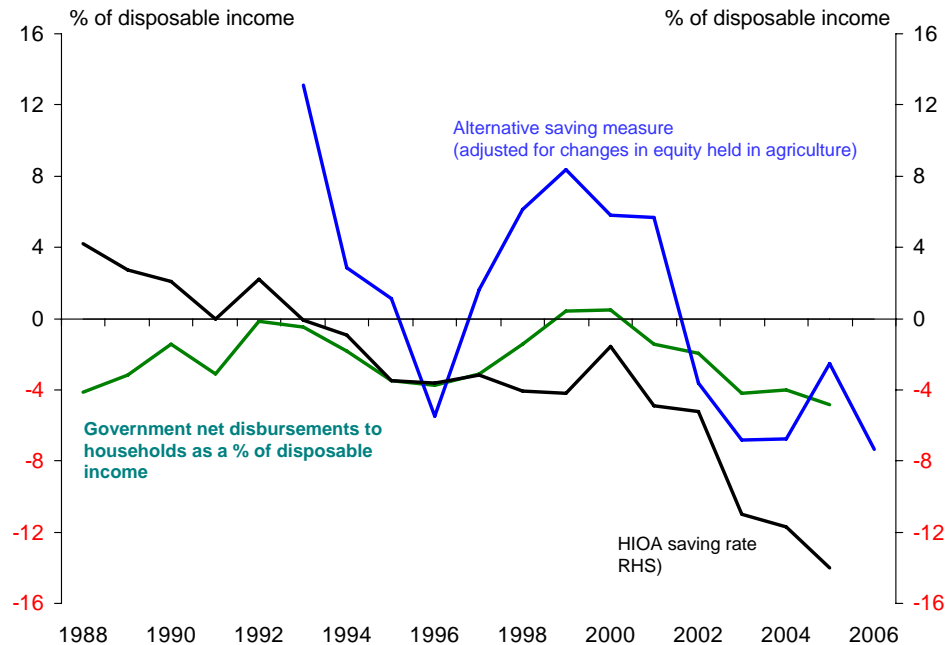
The sharp increase in saving by the Crown

As Coleman (2006) has suggested, another factor that could partly explain the fall in the household saving rate is the increase in the level of the Crown's own saving over the past decade and the general improvement in its own financial balance sheet.

Figure 11 shows central and local government transfers to the household sector in both cash and kind less taxes collected. As the chart shows, collections from

households have increasingly outstripped transfers in the past five years — a period coinciding with a sharp fall in household saving (on either of the measures). There are a number of ways in which increasing net payments to government may have influenced household saving. First, some households may have interpreted this trend as reducing the need for their own saving — eg to meet their retirement, health or other needs.²¹ Second, to the extent that increasing payments have reduced household disposable income, the saving rate would need to have declined in order to maintain consumption for any given level of income.

Figure 11 Government net disbursements versus household saving²²



Explaining dissaving: the importance of equity withdrawal

While each of the above factors may help to explain why the household saving rate has declined over time, they do not really explain the mechanism by which *dissaving* may have occurred in recent years. Figure 12 shows the alternative saving measure, and also the same measure without any adjustment for depreciation. Since this second measure includes no allowance for depreciation, it provides us with a look at the ‘cash deficits’ that the household sector has been running recently. The deficit reached around 3 per cent of disposable income in 2006.

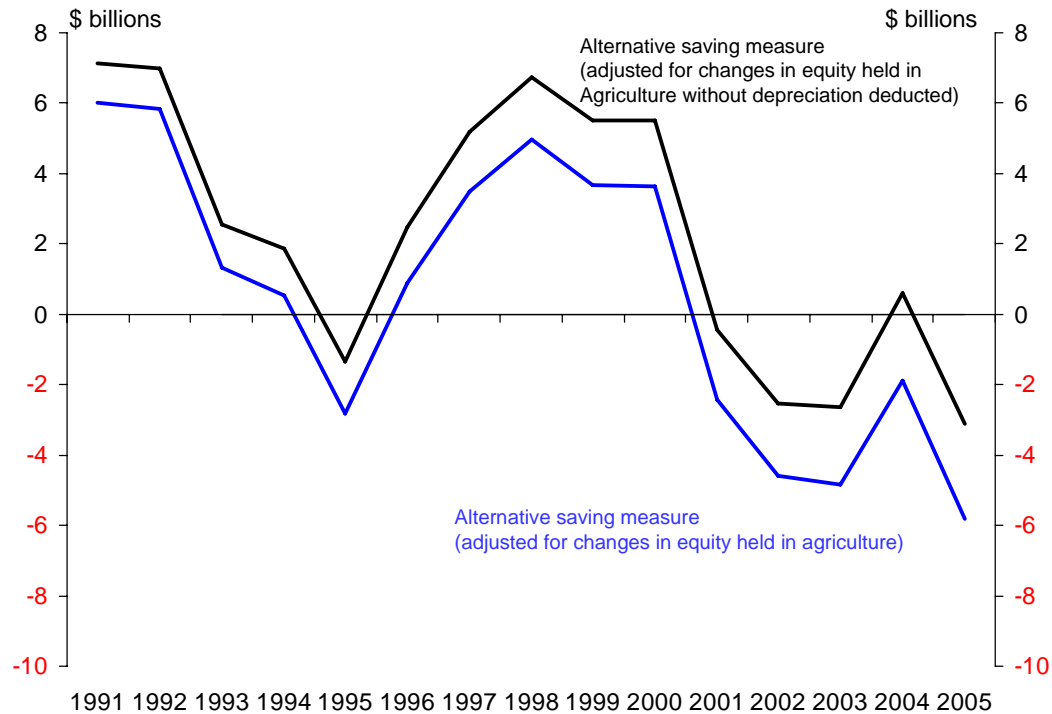
By definition, running cash deficits must somehow involve using existing wealth to fund consumption. This may involve selling assets to some party outside the sector and spending the proceeds or by withdrawing equity from existing assets. When mortgage borrowing by the household sector as a whole exceeds new investment in

²¹ Economists refer to this phenomenon as Ricardian equivalence.

²² Net disbursements are calculated as transfers to households in cash plus transfers in kind (central government and local government goods and services provided) less income tax and direct taxes.

housing, then the sector is withdrawing housing 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. This mechanism helps to explain why the saving rate has been negative in recent years.²³

Figure 12 The alternative saving measure with and without depreciation



Returning to the identities discussed earlier and substituting (2) into (4) gives:

$$C = Y - I^{NT} + (\Delta B - I^T) + CT \quad (10)$$

The expression in the brackets $(\Delta B - I^T)$ provides a measure of equity withdrawal from tangible assets, such as housing. When $(\Delta B - I^T) > 0$, equity is being withdrawn. Equity withdrawal from tangible assets will result in a rise in consumption, provided the proceeds do not simply flow into financial assets (resulting an increase in I^{NT}). However, suppose that equity withdrawal occurs but the proceeds are kept in the bank. In this situation, the level of financial assets will rise, and this offsets the equity withdrawal, keeping consumption constant.

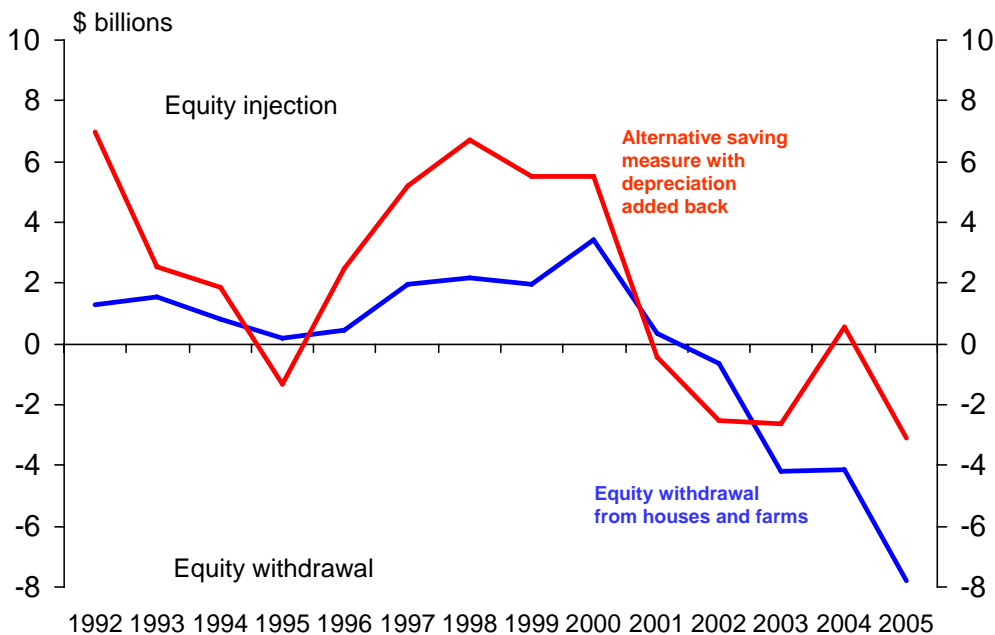
Housing equity withdrawal can occur *passively* as a result of normal lifecycle effects. Retiring home-owners trading down to a smaller house (or selling up altogether) end up pocketing cash from the sale. If asset prices have increased substantially since the house was purchased, the sale proceeds can 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

²³ For a full description of equity withdrawal see Smith (2006).

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).

A survey conducted in 2004 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 (see Schwartz, Hampton, Lewis and Norman (2006)). 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.

Figure 13 Equity withdrawal in New Zealand



Smith's (2006) analysis indicates that significant aggregate HEW has occurred in the New Zealand economy over the past four years, coinciding with a very strong housing market.

Of course, equity withdrawal may also have occurred from household assets other than just houses in recent years, particularly given the marked increases that have occurred across a wide variety of asset classes. An obvious example comes from the farming sector, which we looked at earlier. Rural land prices have climbed relentlessly (more quickly than house prices) in recent years. Smith's (2006) preliminary estimates of equity withdrawal from the farming sector suggest that it could have been as much as \$9.7 billion over the past 4 years. For the same period, equity withdrawal from both houses and farms is cumulatively estimated by Smith to be around \$14.5 billion (see figure 13).

Quantifying the effects of equity withdrawal on saving and consumption is not straightforward. Aggregate estimates of equity withdrawal mask differing types of

equity injections and withdrawals. Equity withdrawal may not be spent immediately when it occurs but may instead simply be reflected in a build-up of financial assets. The effects on consumption could thus occur gradually over many years.

Smith (2006) has estimated a small positive effect from the recent increases in HEW on consumption but acknowledges the difficulties in obtaining reliable estimates. 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 3). This suggests that some of the cash realised through equity withdrawal has been banked. However, it may well be spent gradually in the years to come.²⁴

Would equity withdrawal from houses and farms be enough to ‘explain’ the dissaving suggested by the HIOA saving measure? Estimates of equity withdrawal (\$16 billion from both houses and farms over the past four years) are smaller than the cumulative dissaving by households implied by the HIOA measure over the same period (a massive \$31 billion). This would seem to corroborate the view that the HIOA saving rate could be understated to some degree (eg by virtue of missing some components of income).

Smith’s estimates of equity withdrawal would be more consistent with the alternative measure of saving developed in the previous section and would appear sufficient to explain the negative rates of saving implied by that measure. Over this period cumulative dissaving implied by the alternative measure (with depreciation added back) is estimated to be around \$7 billion. This would be consistent with around half of the equity withdrawal from houses and farms having been reallocated into financial assets rather than consumed.

Other channels for equity withdrawal

While housing and farming equity withdrawal, financed by borrowing, 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

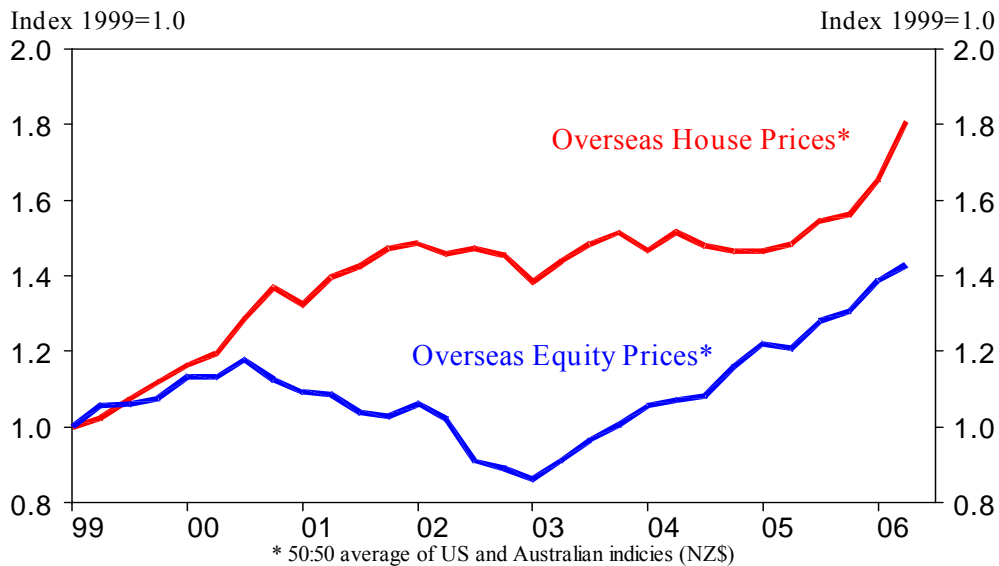
²⁴ The Reserve Bank has not yet quantified possible equity withdrawal effects by households from other parts of the business sector (such as commercial property, or non-farm unincorporated businesses). Work is ongoing on obtaining a fuller reconciliation between consumption and the use of income and capital.

be realised. In the case of housing, this is the Housing Equity Withdrawal effect, financed directly by foreigners, rather than by local lenders.

- ***Realising capital gains on assets held abroad***

The income measure used for calculating saving 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 saving 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.

Figure 14 Gains in overseas asset prices have boosted household wealth



The upshot 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 saving rate has been so low in recent years. However, much work in quantifying these effects remains to be done.

5 So why does a negative household saving rate even matter?

The issue to arise at this point is why a negative household saving rate — in the context of an ongoing rise in household wealth — might matter. If households have been successfully accumulating wealth by relying on asset appreciation, isn't a negative household saving rate simply irrelevant?

The answer would appear to be no — there is a case to be made that it does matter. Sustaining a negative saving rate has ultimately involved substantial new borrowing

on the part of the household sector. The housing equity extractions that have occurred in recent years have resulted in one part of the household sector benefiting at the expense of another. Some households, particularly the older or more established ones, have benefited from a sustained period of strong house or farm price inflation. On the other hand, new buyers have been faced with increased borrowing, 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 saving 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 saving. The aggregate trends mask even higher debt burdens across some parts of the household sector, such as younger new home owners. 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 saving. 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. It is also difficult to know whether any adjustment may be gradual or more abrupt.

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.

As discussed in section 2, a negative household saving rate has undoubtedly contributed to growing external debt levels via its effect on New Zealand’s current account against the rest of the world. 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. Since sustaining a negative household saving rate would presumably mean ongoing current account deficits, these vulnerabilities may well increase over time.

6 Conclusions

This paper has discussed the apparent decline in the household saving rate in recent years as reflected in the HIOA saving measure. The conclusions from the analysis can be summarised as follows:

- a. The discussion of saving in New Zealand has been muddled by a tendency to conflate flows and stocks when discussing saving. Saving (conventionally defined as income minus consumption) is distinctly different from wealth or changes in wealth, although the concepts are related. Household saving from current income appears to have been very low (and quite possibly negative) in recent years, while wealth has been rising on the back of higher asset prices — particularly higher house prices.
- b. An alternative calculation of the household saving rate undertaken on a conceptually equivalent basis to the HIOA measure appears to corroborate the general view of a declining household saving rate. This measure also indicates that households have been dissaving in recent years, but not to the degree the HIOA measure suggests. The alternative saving rate calculation should be regarded as indicative only.
- c. We have noted the possibility that the household income measure used to calculate saving in the HIOA is understated, which could explain why the HIOA saving measure appears so extreme by international standards (and lower than our alternative estimates of saving). A possible area of understatement concerns income accruing to trusts, which has been growing very rapidly in recent years. Any understatement of household saving suggests business saving (which is presently calculated as a residual from national saving) is overstated.²⁵
- d. There are a broad range of possible explanations for the general decline in the saving rate over recent years. These include: the ongoing adjustment to financial sector liberalisation in the late 1980s, which relieved credit constraints on households; demographics; an increasing tendency to accumulate wealth through housing rather than financial assets; the impact of an increase in Crown saving; and general wealth effects from rising asset prices.
- e. Equity withdrawal — from houses, farms, businesses and possibly assets owned overseas — is likely to have been a key mechanism sustaining *dissaving* in recent years. We presented statistics showing significant equity

²⁵ Assuming estimates of Crown saving, national saving and the current account are robust.

withdrawal from both housing and farms over the past few years, some of which may have funded consumption. However, on their own these estimates could not completely explain the negative saving rate. We noted that more work needs to be done to ascertain equity withdrawal from other asset types held by households and to refine estimates of the impact of equity withdrawal on consumption.

- f. A low or negative household saving rate — even if accompanied by rising asset prices — may carry economic implications. Dissaving has been funded by increased borrowing by the household sector, leading to ongoing current account deficits and rising external debt. Higher indebtedness, in turn, potentially increases New Zealand's financial vulnerability.

If the equity withdrawal channel is helping to sustain negative saving, then a key issue is how long this can continue. Given recent rises in asset prices, there are still considerable unrealised capital gains that may be withdrawn over the years ahead. This suggests that a sharp turnaround in the rate of saving may be unlikely. 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.

References

Briggs, P (2006), 'Family trusts: ownership, size, and their impact on measures of wealth and home ownership' Reserve Bank Discussion Paper 2006/06.

Coleman, A (2006), 'A note on the treatment of inflation, taxes and household saving in the National Income and Outlay accounts', unpublished file note, Reserve Bank.

Claus, I and Scobie G.M, (2002) 'Saving in New Zealand: measurement and trends' NZ Treasury Working Paper 02/02.

Federal Reserve (2006) 'Flow of Funds Accounts of the United States, Federal Reserve Board of Governors Statistical Release, June 8, 2006 (and various issues).

Goh, K (2005) 'Savings and the Household Balance Sheet', Reserve Bank of New Zealand *Bulletin*, 68/2.

Hull, L (2003) 'Financial deregulation and household indebtedness', *Reserve Bank of New Zealand Discussion Paper*, 2003/01, January

Inland Revenue (2005), 'Briefing for the Incoming Minister of Revenue – 2005', Inland Revenue.

Smith, M (2006), 'What do we know about equity withdrawal by households in New Zealand?', paper prepared for Reserve Bank workshop on 'Housing, saving and the household balance sheet', 14 November 2006.

Statistics New Zealand (2001), 'The net worth of New Zealanders: a report on their assets and debts', available at www.stats.govt.nz.

Schwartz, C, T Hampton, C Lewis and D Norman (2006), 'A Survey of Housing Equity Withdrawal and Injection in Australia', Reserve Bank of Australia discussion paper RDP2006-08.

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.

The national saving, investment and income statistics referred to in section 2 of this paper are available at <http://www.stats.govt.nz/products-and-services/hot-off-the-press/national-accounts>.

The Reserve Bank's estimates of the household balance sheet and a range of data used to estimate components of household wealth in this paper are available at <http://www.rbnz.govt.nz/statistics/monfin/>.