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Does New Zealand have a household saving crisis?

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Preface

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Executive Summary

Is there a household saving crisis?

Data from the Household Income and Outlay Accounts (HIOA) show that the ratio of household saving to disposable income has been negative since the early 1990s and has declined steeply since 2000. These data have led many people to believe that New Zealand has a household saving crisis which will result in a crisis in retirement incomes in due course. These concerns have been expressed by certain key politicians. The upshot has been the enactment of several policies, notably:

- the New Zealand Superannuation Fund (2003), a scheme under which the government runs budget surpluses to invest in a fund to be able to cater for the costs of the universal pension when the population ages;
- the State Sector Retirement Savings Scheme (2004), an employer subsidised saving scheme for state sector employees; and
- Kiwisaver (2007), an employment related superannuation scheme in which the government provides inducements for joining, on-going subsidies for fund managers and tax breaks for participant employees and their employers. From April 2008 employers will be required to make contributions to the saving of their employees who are members.

A review of the existing measures of household saving in New Zealand shows little evidence of a saving problem. Indeed, the data that the proponents of saving policies have used poorly reflect the true household saving performance. Other data sources indicate that household saving is not only positive but has also been rising considerably in recent years.

Problems with the data

There are several reasons to believe the frequently-cited HIOA saving data inadequately capture true household saving. Firstly, being based on the national accounts statistics framework, HIOA overlooks hidden economic activity. Because tax evasion is an important motivation for this activity, it tends to be greater on the income side than the consumption side. Since saving in HIOA is the difference between income and consumption, omitting the informal economy understates saving. The size of the informal economy tends to rise with the effective tax rate so the increase in the top personal tax rate (from 33% to 39%) in 2000 since then is likely to have caused an accelerating understatement of household saving.

Secondly, HIOA takes no account of income from assets that New Zealanders hold directly in other countries. Given the lack of a full capital gains tax, no exchange controls, the very small local equity market, large inflows of migrants,

and the global focus of many New Zealanders, the wealth held directly overseas is potentially large. Therefore, omitting this source of income understates saving.

Thirdly, the sharp drop in the household saving rate from 2000 seems a sensible response to a fiscal policy change. In 2000, the top personal tax rate was raised by 18% from 33% to 39%. This shifts saving from households to the government by raising government revenue at the expense of household disposable income. Moreover, the fiscal surplus has expanded and households may have interpreted this as the government saving on their behalf, reducing their need to save.

The increase in the top tax rate applies to personal income but not to corporate and trust income and this has induced a change in the form of household saving. The income earned from trusts has grown steeply since 2000. Unincorporated businesses have been incorporated to reduce the tax burden. Shareholders of closely held companies have restricted their drawings to reduce their liability for personal income tax at the higher rate. In New Zealand, it is very cheap to set up and operate a company; thus cost and inconvenience do not much constrain incorporation and retaining savings to avoid the highest personal tax rate.

It is noteworthy that while household saving as recorded in the national accounts has fallen sharply since 2000, government and business saving have risen just as markedly so that aggregate saving as a percentage of GDP has been reasonably stable.

The current situation

The current situation can be summarised as follows:

- many believe New Zealand has an ever-worsening saving crisis which will lead to problems with the adequacy of retirement incomes;
- this belief has led to the introduction of several policies to correct an apparent failure of a hands-off approach to produce the optimal level of saving;
- the data upon which this belief is based are very suspect, and other data indicate that household saving is positive and rising sharply;
- a significant factor as to why the HIOA household saving rate has trended downward since 2000 is fiscal policy, specifically the increase in the top marginal tax rate by 18% in that year; and
- we have significant policy responses to statistical aberrations attributable largely to households' legal reaction to a sharp increase in the top personal income tax rates imposed a few years ago.

Are pro-saving policies a safe bet?

If saving is already high, more saving will depress consumption and weaken growth. If saving is low, external borrowing can be used to fill the shortfall. Saving is costly since it reduces current consumption.

Whether investment is financed by borrowing or saving does not matter. The crucial question is still how wisely invested the funds are. As long as the loans are used in profitable investments, indebtedness is not a problem. If New Zealand has difficulty sustaining foreign debt, it is because it has a growth problem, not a saving shortage.

Moreover, pro-saving policies like KiwiSaver are inefficient and inequitable. These policies entail subsidies, which will result in higher taxes (or lower government saving). The collection of tax to finance the subsidies creates a deadweight loss equivalent to the administrative resources involved in the money-go-round. Much of the saving is unlikely to be new saving but merely the reallocation of saving from other forms to the tax-favoured vehicle. The subsidies will also induce some people to borrow or delay loan repayment to fund their 'saving'contributions.

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1. Introduction

There is a lot of public concern over household saving in New Zealand. Rising household debt, negative and declining household saving rate, persistent and large current account deficit, heavy reliance on foreign borrowing, "worst savers in the OECD" or claims of similar spirits have recurred over the last decade. For example, former Reserve Bank Governor Don Brash (2002) called New Zealand "an indebted people" and the most indebted developed country. Recently, the New Zealand Herald devoted a column titled "a nation in debt" to featuring stories about people struggling with debt.[1] The New Zealand Institute argues that poor household saving lies at the root of many big problems facing the economy and that the number-one priority to transform New Zealand is to lift the household saving rate.[2]

This pessimistic view on household saving also pervades politics. Finance Minister Michael Cullen repeatedly quotes Statistics New Zealand data which show "on average households spend $1.15 for every dollar earned."[3] Leader of the Progressive Party Jim Anderton (2007) stresses the need to save because he believes that few New Zealanders have saved enough for retirement and that more savings will alleviate the problems caused by high interest and exchange rates. Ten years after his Compulsory Retirement Savings Scheme was rejected in a referendum, New Zealand First leader Winston Peters (2007) still pushes for compulsory superannuation.

These concerns manifest themselves in several policies, notably the New Zealand Superannuation Fund (2003), State Sector Retirement Savings Scheme (2004), and recently KiwiSaver (2007). After a long period of favouring the laissez-faire approach, the Treasury, the government's chief economic and financial advisor, has changed its position on saving. Despite research by its economists which finds little evidence of undersaving, Treasury (2007) calls for a 'least-regrets' approach and declares "stronger pro-saving action by the government is now justified."

However, pro-saving policies have attracted considerable criticism.[4] Many economists are skeptical about the so-called household saving crisis. Since the frequently-cited saving rates are inconsistent with other measures of household wealth, it is likely that household saving is mis-measured. If this was true, pro-saving policies may have been misguided by statistical artefacts and aimed to correct a non-existent problem.

In light of the conflicting views on household saving, this paper seeks to synthesise what is known about the measurement of household saving in New

[1] See http://www.nzherald.co.nz/feature/index.cfm?c_id=1501217.
[2] See http://www.nzinstitute.org/index.php/ownershipsociety/.
[3] See, for example, Cullen (2007a,b,c).
[4] Examples include Layton (2007), Littlewood (2007), Gibson (2007), Kerr (2007).

Zealand and to reconcile the debate on the existing evidence. The paper focuses on saving by households. But since the household sector is interrelated with the business and government sectors, where applicable household saving will be examined in conjunction with saving by the other sectors.

The paper proceeds as follows. Section 2 reviews the evidence on household saving. Discussion follows in Section 3. Section 4 summarises and concludes.

2. Evidence on measuring household saving

2.1 Evidence

Saving is deferred consumption. By definition, saving is calculated as income less expenditure. This is often referred to as the *flow* approach. But saving can also be inferred from change in wealth, which defines the *stock* measure.

$$\text{Saving} = \text{Current income} - \text{Current expenditure} \quad (1)$$
$$\text{Saving} = \text{Current wealth} - \text{Wealth in previous period} \quad (2)$$

Two types of data can be used to estimate saving, namely micro (unit record) and macro (aggregate). Therefore, four types of saving measures can be computed: flow measure based on micro data, flow measure based on macro data, stock measure based on micro data, and stock measure based on macro data. Table 1 summarises the data sources that are available to estimate household saving in New Zealand.

Table 1 Data sources for measuring household saving in New Zealand

	Measurement approach	
Type of data	Flow: income less expenditure	Stock: change in wealth
Macro	Household Income and Outlay Account	Household financial assets and liabilities and housing values from Reserve Bank of New Zealand
		Spicers Household Savings Indicator
Micro	Household Economic Survey	Survey of Family, Income and Employment

2.1.1 Flow measures based on macro data

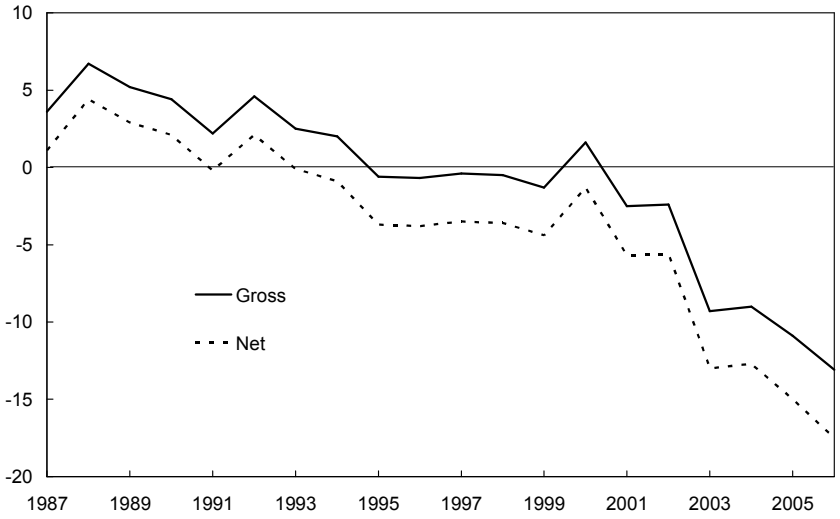
At the aggregate level, saving can be estimated as the difference between household disposable income and expenditures from the Household Income and Outlay Account (HIOA). The HIOA can be viewed as the household account for the nation or the sum of all individual household accounts.

The HIOA is the only institutional sector account published by Statistics New Zealand. It is labelled 'experimental,' because in the absence of a full suite of institutional sector accounts, there is insufficient confidence in the treatment and allocation of certain transactions between households and the other sectors (Statistics New Zealand, 2006). Despite its 'experimental' status, HIOA is the popular source of most frequently-cited household saving statistics.[5] The HIOA data are also popular for international comparisons, because they are based on an international standard (System of National Accounts 1993) and because macro stock data are rarely available.

Two measures of saving can be computed, the difference lying in the treatment of consumption of fixed capital (ie. depreciation). When depreciation is deducted from household disposable income and saving, the household saving rate drops by 2-4 percentage points. Figure 1 exhibits a clear downward trend in the household saving rate. Net saving peaked at 4.4% of disposable income in 1988. It switched sign in 1991 and worsened rapidly, reaching -17% in 2006. The average saving rate over the last 20 years is -3.9%.

Figure 1 Household saving rates based on HIOA data

Percentage of household disposable income



Source: Statistics New Zealand (2006)

2.1.2 Flow measures based on micro data

At the micro level, saving flows can be calculated from the Household Economic Survey (HES). The HES collects information on household income and expenditure, as well as demographic information on individuals and households. The survey was run annually from 1973 to 1998 (March year) and thereafter three-yearly (June year). Between 2000 and 3000 households are interviewed each year. Even though the survey is not designed for measuring saving, it is the only

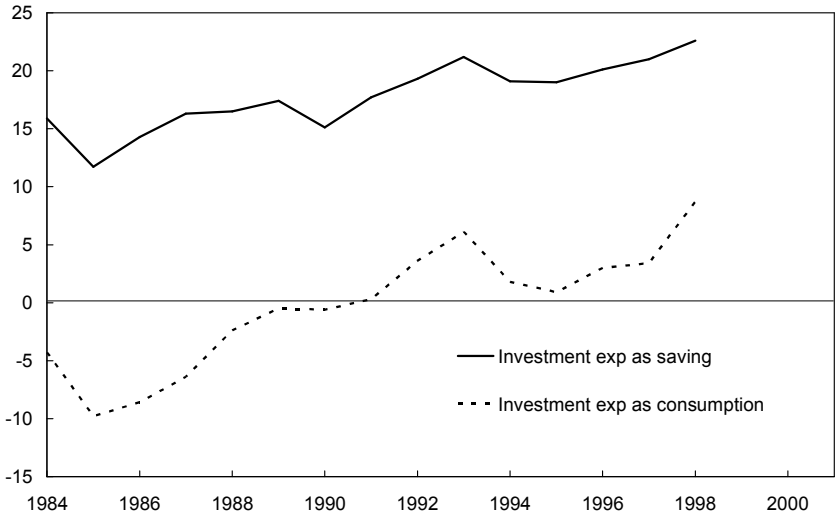
[5] Finance Minister Cullen's comment quoted on page 1 is based on the HIOA net saving rate of -15% for 2005.

source of micro data on income and expenditure in New Zealand. Therefore, HES data have been widely used for estimating saving flows.[6]

Contrary to HIOA data, HES displays a rising trend in the household saving rate (Figure 2). Household saving averaged 18.3% of disposable income over the period 1984-2001. In the 'conservative' measure where expenditures on durables, health and education are excluded from saving, the average saving rate is still positive (0.2%). Expenses on health and education are arguably investment on human capital, so they should be treated as saving rather than consumption. Outlays on durables are similar to the cost of depreciation in HIOA data. This is because in the long run total acquisition costs of durables should be the same as total depreciation costs. If purchases are evenly distributed across time, then total acquisition costs and total depreciation costs for each year should also be equal. Hence, the broader and 'conservative' HES saving rates are conceptually similar to the HIOA 'gross' and 'net' saving rates. According to HES data, the average household saving rates were 25% and 7.5%, sharply contrasting the estimates of -4.7% and -7.3% respectively from HIOA.

Figure 2 Household saving rates based on HES data

Percentage of household disposable income



Source: Calculated by Claus and Scobie (2002) from Household Economic Survey data

Note: The accounting year for 2001 was June.

2.1.3 Stock measures based on macro data

Aggregate data on household assets and liabilities are constructed by the Reserve Bank of New Zealand (RBNZ). These data are sourced from financial institutions and exclude many components of the household balance sheet such as equity in farms, unincorporated businesses and unlisted incorporated businesses, consumer durables and overseas assets. Similar data are published by Spicers Household

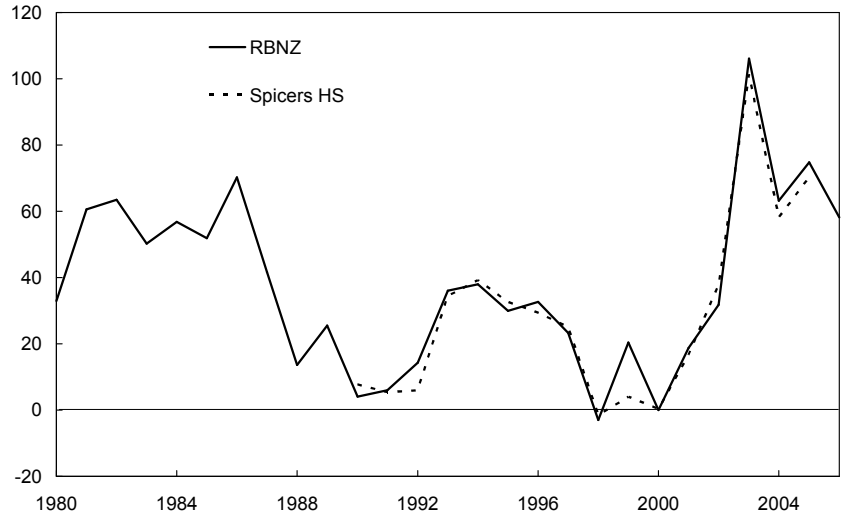
[6]Some examples are Coleman (2006), Gibson and Scobie (2001), Scobie et al (2005), Claus and Scobie (2002).

Savings Indicators (HSI, formerly Westpac FPG), which rely heavily on the RBNZ data but are more frequent.[7]

The saving rate can be calculated as change in net wealth (see equation 2) relative to household disposable income.[8] Figure 3 shows how closely the two series follow each other. For the period 1990-2005, when both data series are available, the average saving rate was 29.2% for the Spicers HSI and 31% for the RBNZ data. The only record of dissaving was for 1998, when a negative saving rate of 1.5-3% was observed.

Figure 3 Household saving rates based on macro stock data

Percentage of household disposable income



Source: RBNZ (2007) data, Spicers Household Savings Indicators compiled by Morningstar and NZIER

2.1.4 Stock measures based on micro data

A potential source of micro data for measuring saving based on the stock approach is the Survey of Family, Income and Employment (SOFIE), a panel survey which started in October 2002 and is intended to run annually for eight years. SOFIE collects data on income and many other socio-economic variables from individuals and families. The survey covers 26,339 individuals from 10,244 households, representing 3,771,864 people.

A wealth module was first added in Wave 2 and will be repeated every other wave. This module collects information on the type and value of assets and liabilities for every respondent above the age of 14. Net wealth can then be estimated for each respondent. Because the same respondents will be interviewed

[7]The RBNZ data run annually from 1979. The Spicers data are quarterly but only available from December 1989.

[8]Estimates of household disposable income for December year are included in RBNZ data. They differ from the HIOA estimates which are for March year.

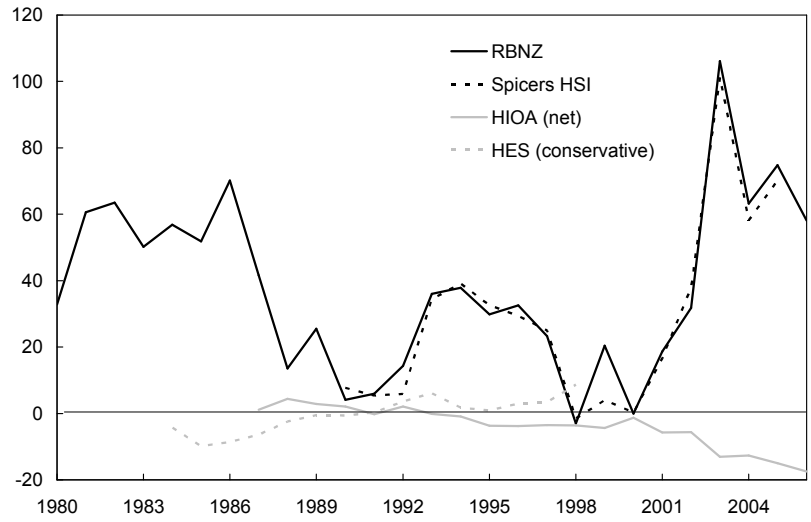
over time, saving for each respondent can be calculated as change in net wealth between waves. However, only data from Wave 2 (which ran from 1 October 2003 to 30 September 2004) have been released. Until data from Wave 4 are available, no estimates of stock-based saving rate based on micro data can be made.[9]

2.2 Measurement issues

In theory, the four methods of estimating saving should yield the same results. In practice, they differ markedly. As is clear from Figure 4, the HIOA saving rate has been falling and persistently negative since 1993. The HES rate, in contrast, follows an upward trend and has turned positive since 1991. No trend is evident in the RBNZ and Spicers saving rates, but they have been strongly positive for all but one year. For the years 1990-1998 and 2001, when data for the four measures were available, the RBNZ and Spicers saving rates averaged 20% of disposable income per year (see Appendix Table 1). The average saving rate based on HES data was 3.5% while HIOA recorded an annual dissaving rate of 1.7% on average.

Figure 4 Household saving rates based on various measures

Percentage of household disposable income



Sources: Statistics New Zealand (2006), Claus and Scobie (2002), Reserve Bank of New Zealand (2007), Spicers Household Savings Indicators compiled by Morningstar and NZIER

The RBNZ data indicate that in real terms, total household wealth in 2006 was 153% higher than in 1986 (Figure 5). By contrast, when HIOA saving is applied to RBNZ wealth, household wealth decreased by 68% over those 20 years.[10] These striking differences suggest that at least one measure is error-ridden.

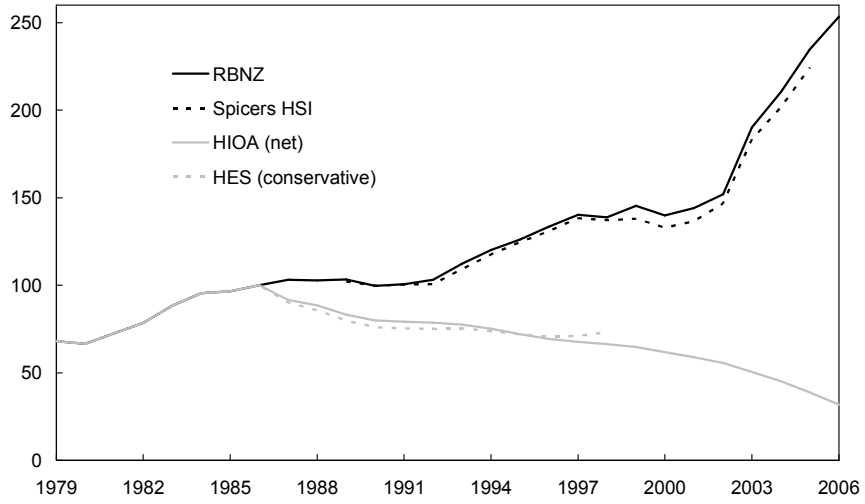
[9]The 2001 Household Savings Survey also collected data on assets and liabilities. However, it was a one-off survey, so saving (change in net wealth) can not be estimated.

[10]Nominal wealth is deflated by CPI. For simplicity we ignore the fact that HIOA data are for March year while RBNZ data for December year.

Indeed, none of those measures is free from biases. There are several sources of errors.

Figure 5 Household wealth index based on different measures of saving

Index value



Source: Author's calculations from data in Figure 4

Measurement approach: In principle, the difference between disposable income and expenditure is saved and thus adds to existing wealth, so flow and stock measures of saving are equivalent. In practice, the value of assets can change over time, due to market revaluation (capital gains), or simply inflation.

When annual inflation is low, as in the case of New Zealand in the last 16 years, asset revaluation is the most important source of discrepancy in saving measured by the stock and flow approaches. Capital gains are considered *passive* saving (as opposed to *active* saving, which is withholding income from consumption, the only form of savings recognised by the flow measure). Capital gains generate a wealth effect and can influence saving behaviour, especially for target savers. Indeed, Hull (2003) finds that the implied long-run marginal propensity to consume is 5-7 cents for every dollar gain in housing wealth. That is, property owners view (real) growth in house prices as increase in wealth and consume more out of current income. As a result, saving measured by the flow approach falls. Given the recent boom in house prices,[11] asset revaluation is an important reason why the RBNZ and Spicers household saving rates greatly exceed the HIOA rate.

Assets may also depreciate. Depreciation is picked up in the flow approach and does not, theoretically, cause disparity in the two approaches. In practice, depreciation is estimated, not measured, which introduces another source of error. This factor also distorts cross-country comparisons, as some countries estimate

[11] See http://www.rbnz.govt.nz/keygraphs/Fig4.html.

depreciation based on historical costs while others adopt the replacement cost method.

Data: In theory, results from a micro survey, when appropriately weighted, should match aggregate data. In reality, survey data are subject to sampling error. Not all types of income and expenditure can be included and neither can all assets and liabilities. Rich people save a greater proportion of their income (Dynan et al, 2004), but this group is often under-represented in household surveys (Groves and Couper , 1998).

Data quality can be compromised by non-sampling error. For example, survey respondents tend to under-report income (Ravallion, 2003). Expenditures and wealth may be misreported due to 'respondent fatigue.' This factor is important for HES, which covers around 2,300 expenditure items.

These variables are also likely to be underestimated by aggregate data due to difficulties in accounting for the 'informal' economy. Deaton (2005) notes that there is generally no presumption why national accounts should be favoured over surveys. While surveys can be faulty, national accounts estimates are also subject to many errors.

Boundary: The household and business sectors are not clearly divided. According to Bascand et al (2006), unincorporated enterprises should belong to the business sector, but in New Zealand their net income is transferred to the owners and hence appear in the household sector income and saving. In balance sheet data, household liabilities are overstated because some households borrow against their home for use in small businesses. Thorp and Ung (2000) estimate that 10-20% of household debt in New Zealand falls in this category. Besides, some countries include private non-profit organisations as part of the household sector.

Definitions of variables: Problems also arise from defining some variables. What does wealth comprise of? How are durables treated? Are expenses on health and education consumption or investment? Does income include in-kind payments?

Residual effects: As is clear from equations 1-2, saving is measured as a residual. That is, saving is not calculated from data in its own right; it is the left-over item when one sum is subtracted from another. As a consequence, any errors in estimating income, expenditure or wealth will be reflected, and magnified, in saving.

These conceptual and practical problems add up to aggravate the measurement error. HIOA draws on various surveys, so error in the data is inevitable. The HIOA saving statistics suffers from the difficulties in estimating depreciation and in separating saving of unincorporated businesses from the household sector. In addition, passive saving is ignored in this measure. HES estimates of saving are subject to sampling and non-sampling error. They also overlook passive saving. On the one hand, the RBNZ and Spicers figures are exaggerated by inflation. On

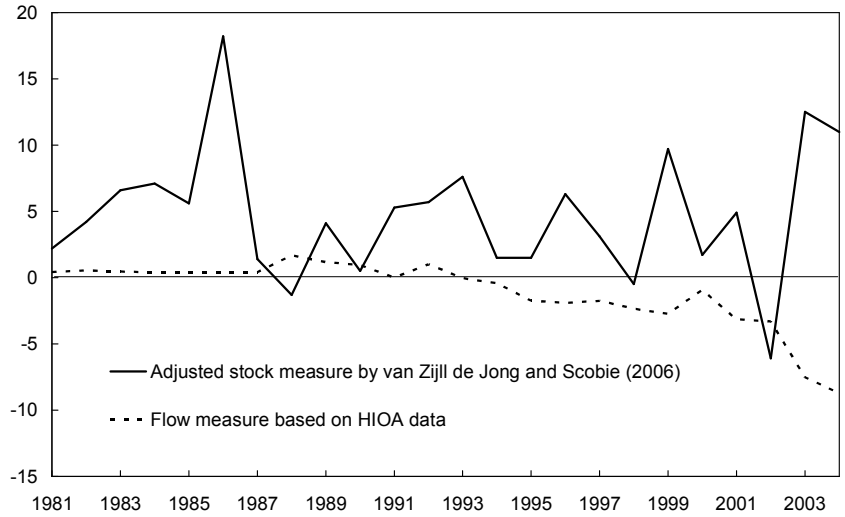
the other hand, they are biased downward because the data overstate household liabilities while excluding many types of asset. Furthermore, all of these measures suffer from difficulties in defining variables and in capturing underground economic activity. Any bias in incomes, expenditures, assets and liabilities will also be carried over and exacerbate the resulting saving measure. The fact that HIOA is labelled experimental and that the RBNZ data are neither official nor comprehensive does not suggest a high degree of reliability in the data. The discussion above reveals no clear reasons why one should prefer one measure to another.

2.3 Adjusted measures

Some commentators argue that stock measures exaggerate saving because they include capital gains, which are sizeable given the recent surge in house prices. van Zijll de Jong and Scobie (2006) remove the effect of house prices from the RBNZ stock measure of household saving but the resulting saving measure still exceeds the HIOA measure (see Figure 6). This adjusted measure of saving is almost always positive and shows no decreasing trend over the last 25 years. No allowance is made for revaluation in non-housing assets, but van Zijll de Jong and Scobie's saving measure is potentially understated because it ignores changes in housing quality.

Figure 6 Adjusted stock measure of household saving

$billion



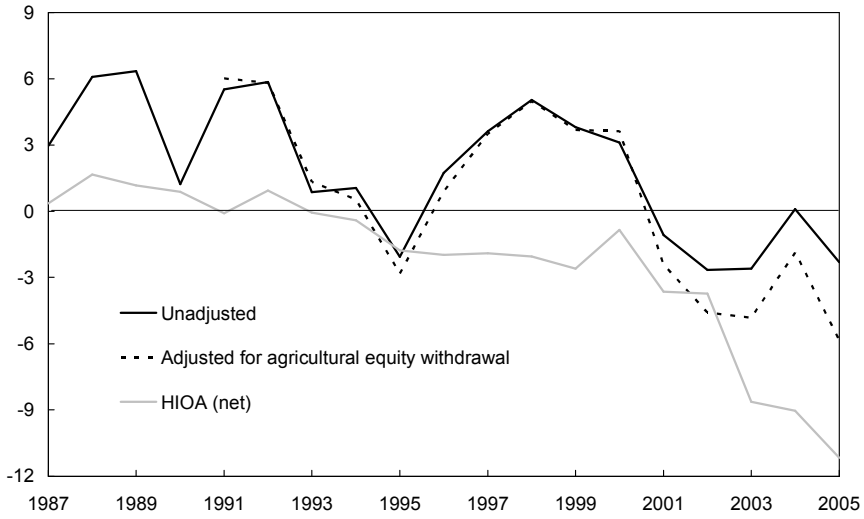
Source: van Zijll de Jong and Scobie (2006)

Hodgetts et al (2006) track flows into and out of household assets and liabilities to derive an estimate of household saving that is conceptually equivalent to the HIOA measure. Compared to the HIOA measure, Hodgetts et al's saving measure is higher but more variable (Figure 7). The authors suspect that the variability reflects shifts in actual saving behaviour over the economic cycle that are not captured by HIOA data. Their saving measure increases during periods of strong

household consumption and drops when consumption growth eases off. This pattern stands in stark contrast with the steady downward trend in the HIOA measure.

Figure 7 Hodgetts et al's measure of household saving

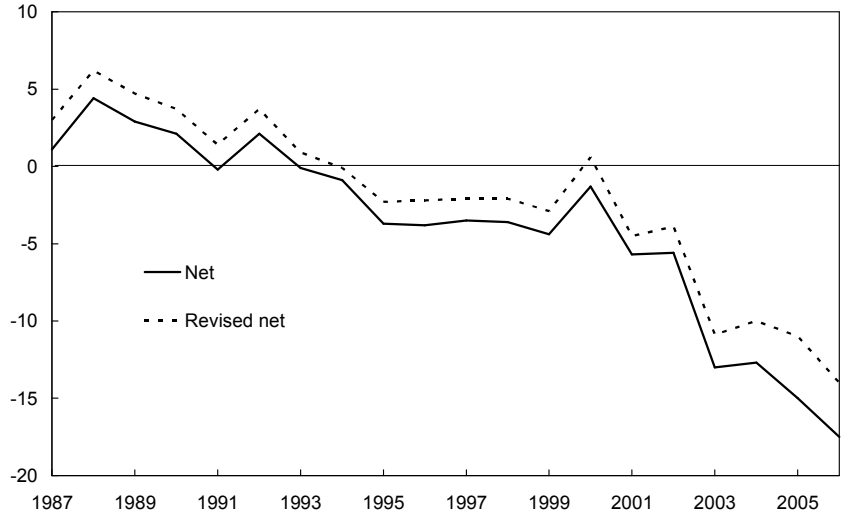
$billion



Source: Hodgetts et al (2006)

Figure 8 Household saving rates based on revised HIOA

Percentage of household disposable income



Source: Statistics New Zealand (2006, 2007)

Statistics New Zealand (2007) has recently revised HIOA data to correct for trust income. According to Briggs (2006), trusts have become a popular means of holding capital and financial assets but a considerable amount of trust income is likely to be omitted from HIOA. Previously, HIOA included beneficiary income and total income for trusts classified as 'unincorporated enterprises.' The revised accounts replace beneficiary income with all income for personal and family trusts

excluding business income and partnership income (which are already included in entrepreneurial income). Nevertheless, income accruing to trusts from overseas is excluded to be consistent with HIOA's existing treatment of income from offshore assets directly owned by households.[12] As presented in Figure 8, the adjustment for trusts lifts the household saving rate by 0.8 to 4 percentage points. The famous saving rate of -15% for 2005 becomes -11%.

3. Discussion

3.1 Is low household saving a problem?

The purpose of saving is to increase future consumption. At the micro level, households (and similarly, businesses and governments) set aside some current income for use in the future when income falls short of consumption needs. Saving also acts as a buffer against income shocks due to illness, unemployment and old age. Savings are held in financial assets (eg. bank accounts or company shares) or real assets (eg. houses) which can later be sold to finance consumption. At the macro level, funds from financial assets are invested in factories, machinery and human capital. A better capital stock enhances the country's capacity to produce goods and services in the future. It also helps improve the productivity of future workers and their wages, thereby enabling them to attain higher consumption. In short, saving plays in important part in boosting economic growth and, ultimately, economic welfare.

At the macro level, concerns over savings rest on the argument that low saving restricts the country's ability to accumulate sufficient capital stocks to sustain economic growth without reliance on external borrowing. According to Skilling (2005), foreign saving is an imperfect substitute for domestic saving; low domestic saving constrains investment and, subsequently, growth. In addition, Skilling argues that New Zealand's high indebtedness raises the cost of capital, because it makes foreign investors consider New Zealand risky and require a risk premium on their loans. Large external debt also induces xenophobic fears of increasing foreign ownership of local assets. There has been growing pessimism about New Zealand's external imbalances and its ability to service the debt.[13] At the micro level, there is concern that low saving jeopardises households' safety net and lowers their living standards in retirement.

However, these concerns lack credence. First, the saving-investment-growth issue relates to national saving rather than household saving. New Zealand's national saving rate has been largely positive and shows no sign of deteriorating (see Appendix Figure 1). Second, whether or not saving causes growth is contentious. Besides empirical support for the saving-growth relationship, significant evidence

[12]This omission is necessitated by measurement difficulty. Further details are explained in Diamond (2007).
[13]For example, Bollard (2005), Brash (2002), Peters (2007).

demonstrates that growth causes saving but saving does not cause growth.[14] Third, in a financially open economy, the link between domestic saving and investment is weak. If New Zealand's saving is high, prudent fund managers will diversify investments overseas, leaving little funds for local businesses to draw on. Claus et al (2001) find that domestic saving does not seem to have impeded investment and growth because New Zealand has been able to tap into foreign capital to meet its investment needs.

Investing more than saving, which is equivalent to importing more than exporting, is not necessarily 'bad.' As Smith (1776) put it, "Nothing […] can be more absurd than this whole doctrine of the balance of trade […] [T]rade which, without force or constraint, is naturally and regularly carried on between any two places is always advantageous, though not always equally so, to both."[15] A trade deficit is equivalent to an investment surplus and may simply signify that the country is an attractive location for investment.

As a result of investing more than saving, New Zealand's gross national income (GNI) has been around 6% lower than its GDP (see Appendix Figure 2). However, how much New Zealand's GDP accrues to foreign savers is irrelevant. What is relevant is how the loans were spent and what the country's GNI would be if it did not borrow. It is fallacious to say that New Zealand will be better off saving to finance its investment (as it will not have to pay foreigners for the use of their money). This is because saving lowers current consumption and may create a negative impact on the country's output and welfare level.

We can not judge people's preparedness for retirement based on aggregate household saving data. This is because in a demographically stable economy with no income growth, the saving by working people exactly offsets the dissaving by retired people (Coleman, 2006). When income growth diverges from zero, aggregate saving will no longer be zero but tend to zero in the long run. Recent micro household data indicate that most middle-aged New Zealanders are preparing adequately for retirement (Le et al, 2007).

Many international studies show that public and private insurance 'crowds out' household saving. For example, Gruber and Yelowitz (1999) observe that Medicaid, the US publicly-funded health programme, reduces the wealth holdings of eligible households by up to 16%. Similarly, the Taiwanese universal, comprehensive health insurance policy lowers household saving by 8.6-13.7% with the highest effects for households with the lowest savings (Chou et al, 2003). Another US study finds that halving the unemployment benefit replacement rate would raise gross financial asset holdings by 14% for the average worker (Engen and Gruber, 2001). According to Gruber and Yelowitz, when risks are large and

[14] See, for example, Carroll and Weil (1994), Attanasio et al (2000), Dekle (1993), Rodrick (1998).
[15] Book 4, chapter 3, part 2.

variable, market insurance is a superior means of smoothing consumption to own savings.[16]

Financial reform also influences household saving behaviour. Claus and Scobie (2001) note that flow measures of household saving are lower in countries with more liberalised financial markets (Australia, Canada, New Zealand, UK and US) than in those where financial markets are more regulated (France, Germany, Italy and Japan). The deregulation of financial markets in the mid-1980s has enabled New Zealand households to obtain finance that was previously unavailable and triggered a temporary rise in household consumption and investment spending.[17] If household saving in New Zealand was low, it might be the transitional effect of financial liberalisation and because the presence of effective private insurance markets and social assistance programmes have eased the need for precautionary saving.

3.2 Is household saving really low?

Only HIOA data suggest that household saving in New Zealand is low. Apart from the alternative measures reported in Section 2, there are several reasons to suspect that household saving is not as low as indicated by HIOA.

First, national accounts statistics overlook hidden economic activity.[18] Because tax evasion is an important motivation for this activity, it tends to be greater on the income side than the consumption side. Hence, omitting the informal economy would understate saving. Since the size of that economy rises with the effective tax rate (Giles and Johnson, 2002) and given the recent increase in the top personal tax rate, fully capturing it would make a big difference to the household saving rate.

Second, HIOA takes no account of income from assets that New Zealanders hold directly in other countries. Given the lack of a full capital gains tax, no exchange controls, small local equity market, large inflows of migrants, and the global focus of many New Zealanders, the amount of wealth held directly in overseas assets is potentially large. Therefore, omitting this source of income substantially understates household saving.

Third, the dip in the HIOA household saving rate seems a perfectly sensible response to change in fiscal policy. It is notable from Figure 9 that the household saving rate started to plummet from 2000 while the business and government

[16]The effect of private health insurance on precautionary saving is mixed. For example, Starr-McCluer (1996) and Guariglia and Rossi (2004) find that privately insured households save more. This evidence suggests the problem of adverse selection (ie. buying insurance is not a random choice) and that highly risk-averse people are likely to both purchase insurance and save against health contingencies.

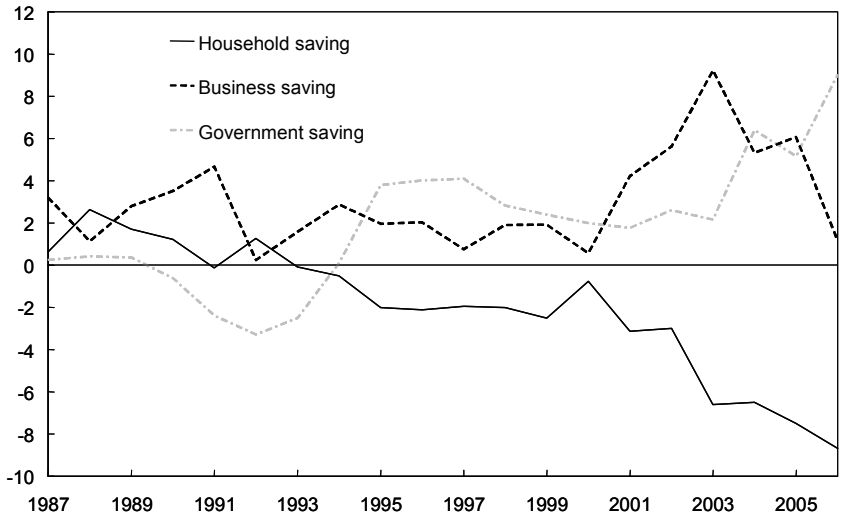
[17]This phenomenon may last for a long time, depending on the impact of overlapping generations within the economy (Bayoumi, 1993).

[18]Giles (1999) estimates that over the period 1968-1994, the New Zealand's black economy ranged between 6.8% and 11.3% of measured GDP.

saving rates have trended upwards since. It was precisely in 2000 that the top personal tax rate was lifted from 33% to 39%. This tax increase has affected the saving pattern in several ways. First, it shifts saving from households to the government by raising government revenue at the expense of household disposable income. Moreover, the fiscal surplus has expanded and households may have interpreted this as the government saving on their behalf, reducing their need to save for retirement and fall-back positions. Since tax brackets are not inflation-indexed, the effective tax rates increase over time. Consequently, the saving gap between these two sectors will widen, all else equal.

Figure 9 Net household, business and government saving

Percentage of GDP



Source: Statistics New Zealand

The tax change applies to personal income but not to corporate and trust income, so it can induce behaviour to shift income, and saving, from the household sector to the business sector. The number of family trusts has risen rapidly over the last 15 years (Briggs, 2006) and income earned from trusts has grown steeply since 2000 (see Appendix Figure 3). Briggs notes that trust ownership increases with income and that financial instruments are the most popular asset type for trusts after own home. These facts signify that some people have used trusts as a means to protect their income or to avoid paying the higher marginal tax rate. This form of income sheltering will become increasingly popular, especially because under New Zealand law the retained earnings of a trust become part of its capital after only six months and thus can be distributed as capital payments.

For the same tax-avoidance purpose, unincorporated businesses (whose saving appears on the household sector of national accounts) will move towards incorporation. This movement would be aided by the provisions that allow a company in New Zealand to have only one shareholder and one director. The extent of tax avoidance, and the gap in saving between the household and business sectors, will grow when the company tax rate is cut to 30% (from 2008).

The tax increase may have also incentivised people liable to pay the 39% tax rate to favour investments that do not generate taxable income, such as bigger houses, geared rental properties and holiday homes. This would reduce flow-based measures of household saving even though the household balance sheets suggest otherwise.

There is widespread concern that New Zealanders hold too much savings in housing, yet it is misplaced for a number of reasons. Firstly, according to Scobie et al (2007), between 2001 and 2004 the share of property in total investment assets of New Zealand households increased, but it mainly reflects the surge in house prices. Even with this rise, the composition of household portfolios in New Zealand is broadly similar to that of other OECD countries. Secondly, most high-wealth, high-saving people are subject to the 39% marginal tax rate; with six-month deposit rates ranging from 4.6% to 8% per annum in the past seven years, real after-tax return on savings for these people would be close to zero. When annual house price inflation reaches up to 25% and given the absence of a comprehensive capital gains tax, it is hard to see why housing would not be a preferred form of investment. Thirdly, households are allowed to fully deduct rental income losses against other income, which encourages them to take out large mortgages to purchase investment property. Fourthly, banks appear more willing to lend for geared property than for geared assets of other types. Finally, houses are also durable goods that provide streams of accommodation service. Since housing is a necessity consumption good, poorer households spend a higher proportion of their budget on it, which creates the impression that they invest a larger fraction of savings in housing.[19] The apparent 'love affair' that New Zealanders have with housing is nothing but a rational response to the prevailing institutional and economic conditions. Only when income grows and when the advantages of property ownership are removed can we expect the share of household wealth in this type of asset to fall.

In sum, the HIOA household saving rate has been low and declining dramatically. Yet this measure is at odds with other measures of household saving. It also overlooks household's rational reaction to economic incentives. In fact, a partial correction for trust income already raises the HIOA saving rate by up to 4 percentage points (see Section 2.3). When other issues are more thoroughly dealt with, the results can change significantly. The current HIOA saving measure is unreliable.

3.3 Are pro-saving policies a safe bet?

It is not true that in light of data uncertainties, using policies like KiwiSaver to promote saving is the 'least-regrets' approach. If saving is already high, more saving will depress consumption and weaken growth or trigger a contraction.

[19] New Zealand is poorer than most countries it often likes to compare itself with. For example, Whitehead (2007) compares New Zealand with US, Japan, Canada, UK, Germany, Australia and France. Due to data constraints, the international comparisons on housing assets in Scobie et al (2007) and Whitehead (2007) refer to both owner-occupied houses and investment property.

Japan provides a telling example of how undesirable a saving glut can be. Despite a high rate of household saving, Japan has experienced sluggish growth. This is because savings has been squandered by poor investments while consumer spending has been weak (as a result of high saving).

If saving is low, external borrowing can be used to fill the shortfall. Saving is costly since it reduces current consumption. Whether investment is financed by borrowing or saving does not matter. The crucial question is still how wisely invested the funds are. As long as the loans are used in profitable investments, indebtedness is not a problem. If New Zealand has difficulty sustaining foreign debt, it is because it has a growth problem, not a saving shortage.

Moreover, pro-saving policies like KiwiSaver are inefficient. First, KiwiSaver is unlikely to have a significant impact on household saving, as the tax incentives will encourage existing savers to shift savings from other vehicles and others to take on debt to fund their KiwiSaver contributions. Second, the tax breaks will reduce government saving. Third, the subsidies will generate substantial deadweight loss to the economy.

Overall, the reasons that have been used to justify pro-saving policies lack economic underpinnings. If there is a policy that New Zealand needs, it must be one that promotes growth. Pro-saving policies are more likely to be regrettable than not.

4. Conclusions

It is widely believed that New Zealand has a household saving crisis, but that view rests solely on data from HIOA. Even though the household saving rate based on the 'experimental' HIOA data has been falling, the national saving rate based on the official national accounts has shown no such trend. Since households are the ultimate owners of national saving, negative saving in the household sector alone is not a real problem.

Other data sources suggest differently, some even show that household saving has been positive and increasing strongly. As a quick test, the HIOA saving rates imply a reduction of 68% in household wealth over the period 1986-2006. On the contrary, the RBNZ data show an increase of 153%; this growing trend persists even when capital gains in housing are subtracted. In effect, the HIOA saving rate is low because it is contaminated by measurement error and because institutional and economic settings have induced household behaviour that causes the measured saving to be low. Compelling evidence and arguments demonstrate that HIOA data significantly understate the true household saving performance.

Even if saving was low, intervention in household saving behaviour would not be justifiable. At the micro level, each individual has different saving/consumption patterns at different stages of the life cycle. Some people save negatively, but it is perfectly rational for them to do so at that point in time. Saving is not always the

optimal choice for everyone. At the macro level, although theory suggests that saving causes growth, in practice there is no necessary relationship between domestic saving and growth, especially in open economies. Some studies even find that saving is caused by growth rather than causing growth.

Having ample savings does not solve any problem. A more critical issue lies in how savings are used to generate growth and wellbeing for New Zealanders. Rather than driving the country to despair over statistical aberrations, policy makers should review the measurement issues and investigate what underlies the apparent decline in the HIOA saving rate. Rather than using distortionary policies to promote saving, politicians should invest in policies that deliver growth. The saving 'hype' should cease to be exaggerated at the expense of more important matters.

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Appendix A Additional data

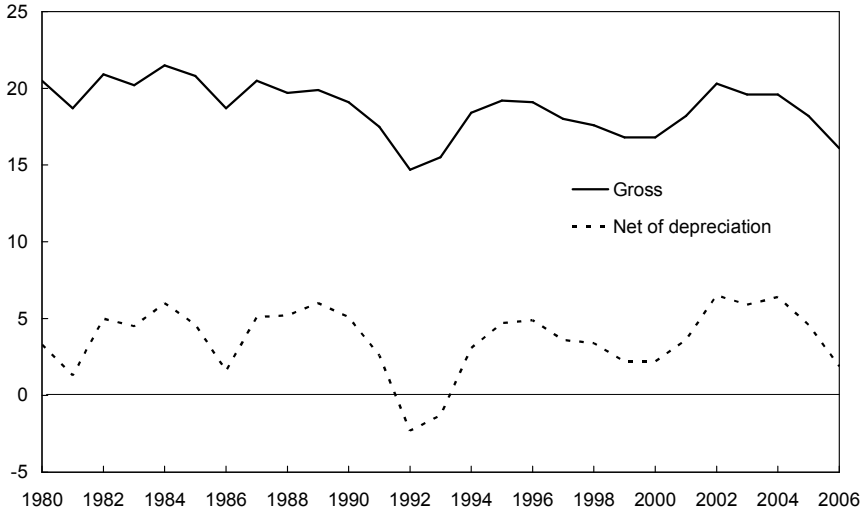
Appendix Table 1 Household saving rates based on various measures

Year	HIOA (net)	HES (conservative)	RBNZ	Spicers HSI
1980			32.9	
1981			60.6	
1982			63.5	
1983			50.2	
1984		-4.3	56.8	
1985		-9.8	51.9	
1986		-8.6	70.2	
1987	1.1	-6.4	41.6	
1988	4.4	-2.4	13.6	
1989	2.9	-0.5	25.5	
1990	2.1	-0.6	4.1	7.7
1991	-0.2	0.3	6	5.4
1992	2.1	3.6	14.3	5.9
1993	-0.1	6.1	36	34.4
1994	-0.9	1.8	37.9	39.2
1995	-3.7	0.9	29.9	32.6
1996	-3.8	3	32.6	29.4
1997	-3.5	3.4	23.3	25
1998	-3.6	8.7	-3	-1.5
1999	-4.4		20.4	4
2000	-1.3		0	0.3
2001	-5.7	7.5	18.7	16.7
2002	-5.6		31.8	37.9
2003	-13		106.1	101.3
2004	-12.7		63.2	58.2
2005	-15		74.8	70.2
2006	-17.5		58.1	
Average	-3.9	0.2	37.8	29.2
Average 90-98 & 01	-1.7	3.5	20	19.5

Note: Entries are percentages.
Source: See Figure 4

Appendix Figure 1 National saving

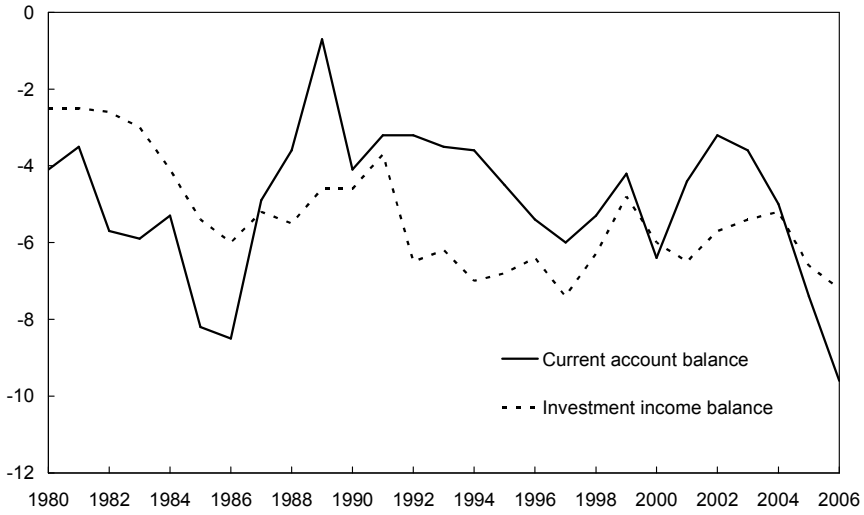
Percentage of national disposable income



Source: Statistics New Zealand (2007)

Appendix Figure 2 Current account balance and investment income balance

Percentage of GDP

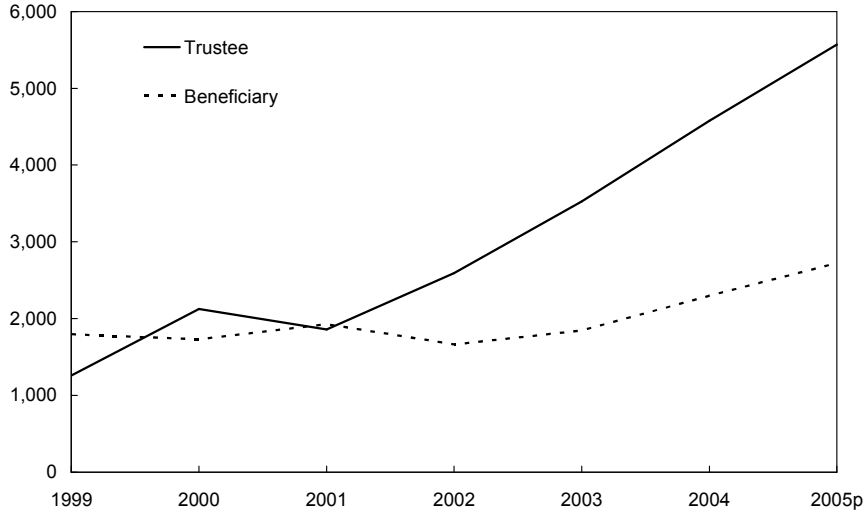


Source: Statistics New Zealand (2007)

Note: Investment income balance is the difference between GNI and GDP.

Appendix Figure 3 Income earned from trusts

$million



Source: Data from Inland Revenue Department, reported in Hodgetts et al (2006, Figure 8)

Note: Data are based on an 11% sample of IR6 tax returns. Only trusts that have a positive income are included. Data for 2005 are a progress total.