RESERVE BANK OF NEW ZEALAND

A summary note on the workshop on 'Housing, saving, and the household balance sheet'

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On 14 November 2006, the Economics Department of the Reserve Bank of New Zealand held a one day workshop to discuss issues around housing, saving and household balance sheet developments. Seven papers were presented during the workshop followed by discussion. This paper summarises the main conclusions or lessons drawn from the workshop grouped under four headings: measurement issues, macro and micro views of saving, the global house price phenomenon, and determinants of saving/consumption behaviour. It also outlines likely areas of further work. Brief summaries of each workshop paper, together with notes on the discussions, are included in an appendix.

Measurement issues

General findings were as follows:

- An alternative household saving rate derived by Hodgetts et al was not as strongly negative as the official saving rate, although like the official rate, it showed a long downward trend. The alternative measure was derived using the Reserve Bank's aggregate data on household balance sheets. Basically it estimated savings as the flows into investment holdings minus increases in borrowing. The paper suggested that the official measure may not be adequately accounting for income from private trusts.

- Hodgetts et al note that the major omission in the Bank's current data on household assets is households' net assets in unincorporated businesses.

- Statistics New Zealand staff will be looking at the coverage of trust income in the household saving account, and also at New Zealanders' earnings on individually-held overseas assets. The plan is to release a revised household account in May 2007. Statistics New Zealand has also decided to again produce institutional sector accounts, which will include savings measures for unincorporated businesses, corporates, and other sectors. Having accounts that cover the whole economy is expected to result in the household account, and the household saving measure, being more accurate. The full set of accounts will not be available until 2008/09.

- The paper from Statistics New Zealand highlighted difficulties regarding the accuracy of micro, or household-based, data. The paper shows that while income data from the Household Economic Survey (HES) is similar to aggregate income data, the HES appears to be significantly under-estimating total household expenditure. This helps to

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explain why savings rates calculated from the HES are typically much higher than those shown by the aggregate data drawn from the Household Income and Outlay Account. Statistics New Zealand stressed that the HES was not designed to produce estimates of saving per se. There appears to be a strong case for revisiting research findings based on micro data that have concluded satisfactory levels of saving on the part of households.

Macro and micro views of saving

In the past it seemed that the macro and micro analyses of saving and wealth were presenting different, almost contradictory, views of the situation. The macro view was largely a negative one, with the official saving rate being strongly negative. On the micro side, work from Treasury and others which was based on household surveys has often been interpreted as showing that households were accumulating enough wealth to tide them comfortably through retirement. The papers at this workshop may have narrowed the gap between these views a little.

Findings on the macro side were as follows:

- Hodgetts et al provide, for the first time, a clear reconciliation between saving and wealth. The paper shows that over the last 15 years the annual contributions from saving to the growth in household wealth have been either very small or negative. The large rise in household wealth that has occurred has been driven overwhelmingly by net revaluations, which in turn were the result of rising house prices. As noted above, the paper's alternative saving rate is not as negative as the official rate, which means that the saving position of the household sector is not quite as dire as was earlier thought. However, households' negative saving indicates that the sector's contribution to the current account deficit (which is equal to saving minus housing investment) has been very large in recent years.

- Coleman's paper shows that after adjusting household interest payments and receipts for the effects of inflation, the saving rate is not as negative as the official rate. Part of the decline in the saving rate is accounted for by the need to compensate lenders for the effects of inflation; despite low inflation and low interest rates, the amount of compensation has generally risen as the level of households' net debt has climbed.

- Coleman notes the rise in government saving, which is also seen as having affected the level of household savings. A discussant at the conference also drew attention to the apparent inverse relationship between household saving and business saving, which suggests a 'corporate veil' effect, with retained earnings by firms also affecting household saving. Given this, and difficulties in drawing the boundaries between various sectors, there was a view that perhaps the emphasis should be on monitoring and reviewing national saving. Commentators at the workshop noted that the national saving rate has been reasonably stable over the last decade or so.

Findings on the micro side included the following:

- Scobie et al showed that most income groups would need to have very high saving rates over the remainder of their working lives if their post-retirement consumption was going to equal their pre-retirement consumption. For example, the results show that for couples in the 45-54 age group, most quintiles would need to be saving 15% to 22% of their gross income. The exception is the lowest quintile, which would not need to save at all; people in this group would in fact move on to higher incomes when they retired, owing to national superannuation payments. All results in this

paper are predicated on the assumption that national superannuation will continue in its current form. The high required saving rates for most groups seem to suggest that people in more mature age groups are running out of time with respect to saving for retirement. The paper also suggests that while households could access the equity in their houses on retirement, this would not have a major impact on helping to maintain consumption at pre-retirement levels.

- Coleman's paper shows that after adjusting the saving rates of various age groups to account for the impact of inflation, and also the effects of the national superannuation scheme and health subsidies, the young are generally saving while the old are dissaving. This result suggests that saving schemes which are targeted at the young may not be wholly appropriate.

The global house price phenomenon

Ellis identified two broad trends that have been driving housing and housing finance around the globe:

- Financial deregulation, increased competition amongst providers of finance, and greater innovation in the provision of finance to households.

- The move to low inflation and lower nominal interest rates.

The fall in nominal interest rates has had a significant effect on the maximum amount a household can borrow, and hence on the demand for housing. However, the supply of housing is sticky, and has been unable to meet this higher demand, resulting in higher house prices in equilibrium. Both sides of the household balance sheet have expanded substantially as a result. Household balance sheets are unlikely, by themselves, to bring about a slowing of growth. However, if a downturn were to occur, households' reactions to it could make it worse.

One conclusion from Ellis's paper seems to be that, given these global trends, there is only limited scope for national policies to influence the way in which the housing market will develop. Ellis noted that one difference between Australia and New Zealand is the lack of a capital gains tax on investor properties in New Zealand.

Determinants of saving/consumption behaviour

Housing equity withdrawal (HEW)

HEW occurs when the increase in borrowing against the housing stock exceeds net investment in the housing stock. Smith's paper looked at farm equity withdrawal (FEW) as well as HEW. Both HEW and FEW are likely to affect household spending and savings. The data seems to suggest that this is the case, although it wasn't possible to find a stable long-run relationship between equity withdrawal and consumption. Workshop participants thought it might be better to keep focusing on the 'wealth effect' on consumption, of which equity withdrawal is a part. However, as Hodgetts et al showed, equity withdrawal is important in that it is probably the only way in which the household sector could sustain negative saving rates over a number of years.

Buying houses as a strategy for accumulating wealth

This was one area that, surprisingly, didn't attract much comment. There were no suggestions that households were behaving irrationally in pursuing such a course. As Hodgetts et al indicated, this strategy had so far been successful, with most of the gains in net wealth being the result of house price changes rather than saving.

Further work

Likely areas of further work by the Reserve Bank include the following:

- Liaising with Statistics New Zealand on work to improve the official savings measure and develop institutional sector accounts. The Bank will also look at developing sectoral balance sheets that can be linked to the institutional sector accounts. This would provide another way of assessing the accuracy of sectoral saving measures. The immediate focus for the Bank will be on developing balance sheets for unincorporated businesses, which will enable us to estimate households' net assets in unincorporated businesses (which are currently missing from the household balance sheet). In doing this work, it is intended to use a farm/non-farm split of the unincorporated sector.

- Continue work on modelling housing market behaviour by age cohorts. Work undertaken at the Bank by Andrew Coleman is similar to that being done by Luci Ellis, and has in fact been developed in the light of Ellis's earlier work in this area. A discussion paper on Coleman's modelling work to date will be published shortly. The model will later be expanded to account for the effects of taxes. The broad aims of this work will be to understand, and if possible predict, trends in home ownership, debt levels, debt servicing, etc.

- Examine the rates of return on various forms of investment. The aim will be to clearly establish why households have been favouring housing over financial investments. The work will look at after-tax returns for various population groups.

- Re-examine HES data and assess whether it can be used to explore, at the micro-level, the link between wealth and consumption. In view of Statistics New Zealand's paper showing that consumption is being under-estimated in the HES, this work will be regarded as being exploratory, at least initially.

- Assess how wealth is likely to be recycled to younger households via bequests and trusts. At this stage, this work does not have high priority.

Appendix: Summaries of papers and notes on workshop discussions

1. *Household savings and wealth*, by Bernard Hodgetts, Phil Briggs and Mark Smith, Reserve Bank of New Zealand

An alternative measure of household saving is derived using household balance sheet data. This is done using an identity which equates sources of household sector funds (saving, changes in borrowing, and capital transfers) to uses of funds (fixed investment, and changes in holdings of financial assets). Annual estimates for saving are backed out of this identity. Like the official measure of saving, which is derived from household estimates of income and expenditure, the alternative estimates show a long term downward trend. However, the alternative savings rate for recent years was not as strongly negative as the official rate. It is suggested that the official rate may be underestimating income from private trusts. The paper argues that recent negative rates of saving have been made possible through households withdrawing equity from housing and businesses (especially farms).

The approach taken to deriving the alternative estimate seemed to be largely accepted by workshop participants. In discussion it was noted that the paper does not provide an explanation as to why the saving rate has declined. Also, there was an inverse correlation between levels of household saving and business saving, which may indicate that a 'corporate veil' effect is occurring. Some participants seemed to be strongly of the view that the fall in household saving in recent years is due to high government saving as well as the underestimation of trust income. However, the rise in government saving does not in itself explain why household spending has remained high and household saving has been negative.

2. *Family trusts*, by Phil Briggs, Reserve Bank of New Zealand

This paper looks at the impact on home ownership of the strong growth in the number of family trusts. The paper estimates that the home ownership rate would have been around 1% higher in 1991, and around 2.5% higher in 2001, if dwellings that were held in a trust by the occupier were counted as being 'owned'. However, as with the official ownership rate, this adjusted ownership rate has declined since 1991. Most of this decline was concentrated in younger age groups. The paper also looks at the wealth and income of trusts. The Household Savings Survey (HSS) showed that trusts accounted for 19% of all household assets in 2001. There is also evidence that trusts are receiving substantial amounts of income, and that trust income growth has been high since the change to the top marginal tax rate in 2000. Researchers working on household sector data, especially household surveys, need to be aware that a significant portion of household wealth and income – that going to trusts – will be off balance sheet.

It was recognised during discussion that even the HSS, which is the best source of data on trusts, probably underestimated the level of trust holdings. For example, some trust settlors would have been deceased at the time of the survey, and hence the assets and liabilities of these trusts would not have been included. There was also some doubt as to whether the new questions on trusts in the 2006 census would provide accurate data. Accurate data on trusts may have to come through a direct survey of trusts that are registered with the IRD. The number of trusts would probably continue rising, although falling home ownership rates may eventually inhibit growth.

3. *What do we know about equity withdrawal by households in New Zealand?* by Mark Smith, Reserve Bank of New Zealand

Housing equity withdrawal (HEW) occurs when the increase in borrowing against the housing stock exceeds the net investment in the housing stock. While HEW does not have an immediate effect on the net worth of the household sector, it represents a 'cashing up' of equity held in housing, and hence it is likely to ultimately affect household spending and saving.

The estimates of net investment used in this paper to calculate HEW cover not only building activity abut also net transfers of land to the household sector. These transfers have been significant, especially in view of the increased demand for lifestyle blocks. The resulting estimates of HEW show that the historical norm has been for households to inject equity rather than withdraw it. However, over the last three years there have been high levels of equity withdrawal. The paper also produces estimates of farm equity withdrawal (FEW) which can also be expected to affect household spending. Equity withdrawal from farms has increased sharply since 2001, reflecting rises in rural property prices and consequent rises in farm debt. The paper looks at the impact of equity withdrawal from houses and farms on household spending. Estimates suggest that in the short term around 40 to 70 percent of equity withdrawal is consumed. However, given that evidence of a stable long-run relationship between equity withdrawal and consumer spending could not be found, these estimates are indicative only.

Workshop participants recognised the difficulties of finding a stable relationship between equity withdrawal and consumption, given that most of the variation in equity withdrawal has occurred in a relatively short period i.e. over the last few years, when it increased sharply. It was suggested that it might be better to keep focusing on the 'wealth effect' on consumption, of which equity withdrawal is a part. However, equity withdrawal is important in that it is probably the only way in which the household sector could sustain negative savings rates over a number of years.

4. *Housing in the household portfolio and implications for retirement saving: some initial findings from a longitudinal panel survey*, by Grant Scobie and Trinh Le, Treasury, and John Gibson, University of Waikato.

The first part of the paper provides a brief look at the data on assets and liabilities from wave 2 of the Survey of Family Income and Employment (SoFIE) which was undertaken in 2004. The SoFIE data shows, for example, that for most age groups, home ownership rates in New Zealand are lower than in Australia, the US, and countries included in the Luxembourg Wealth Study.[2] One in six New Zealand households owns some other type of residential property.

The second part of the paper looks at the adequacy of retirement saving. The modelling framework seeks to smooth consumption through time. This approach calculates jointly the saving and income replacement rates for each person or couple. (The replacement rate is the ratio of gross income in retirement to gross income pre-retirement). The calculations are undertaken using SoFIE data on the income and wealth of non-partnered individuals and couples. In calculating wealth at retirement age it is assumed that earnings and New Zealand

[2] It is worth noting that the New Zealand home ownership rates were not adjusted to account for trust ownership; SoFIE does not provide enough data to do this accurately.

Superannuation payments will both grow at an annual real rate of 1% per annum. Bequests are assumed to equal the current equity in the principal residence. Prescribed saving rates are presented for various groups. For example, for couples in the 45-54 age group, the lower income quintile needs to do no more saving, while those in other quintiles should be saving 15 to 22% of their gross income. The impact of converting housing equity to retirement income, rather than bequeathing the house, is examined. The effect of home equity withdrawal on prescribed saving rates appears to be relatively small.

There was some discussion as to how realistic the prescribed saving rates might be. These prescribed rates, apart from those for the lower income quintile, seemed high, especially in the context of the negative aggregate measure for the household sector. It was noted too that these saving rates were based on gross income; they would be even higher as a proportion of after-tax income. It was suggested that it might be useful to produce runs where savings rates are fixed at realistic levels with a view to seeing what the resulting levels of retirement income look like.

5. *Housing and housing finance: the view from Australia and beyond*, by Luci Ellis, Reserve Bank of Australia

Two broad trends have been driving housing and housing finance around the globe over the past decade or so:

- Financial deregulation, increased competition amongst providers of finance, and greater innovation in the provision of finance to households.
- The move to low inflation and lower nominal interest rates.

These developments have increased households' demand for the stock of housing.

Data are presented which show that a fall in inflation and interest margins similar to that experienced in Australia over the 1990s could increase a homebuyer's capacity to pay by as much as 60%. In contrast, the supply of housing is inherently sticky, especially in the face of a surge in demand of this size. New dwellings and renovations in Australia, for example, have accounted for, at best, an additional 7% of total dwelling stock in any year. In the face of this mismatch of supply and demand, the result has been higher house prices in equilibrium. Both sides of the household balance sheet have expanded substantially as a result.

Within the broad global trends, national differences can occur. For example the tax system can clearly have an effect. One difference between Australia and New Zealand, for example, is the lack of a capital gains tax on investor properties in New Zealand.

Increases in house prices and household indebtedness increase the concerns of policy makers. It seems unlikely that householders would spontaneously begin to repair their balance sheets and bring about a slowing of growth. But if a macroeconomic downturn occurred at a vulnerable moment, households' responses could exacerbate it. Overall, the best course of action seemed to be to continue to assess the risks to households and to the financial sector, and not to panic.

The paper acknowledged that reduced restrictions on housing supply would reduce long-run equilibrium house prices, but argued that this would not have prevented the increase in prices that had occurred over the past decade. There was some debate about the extent to which easing supply constraints from here would offset some that increase.

6. *The life-cycle model, savings and growth*, by Andrew Coleman, Reserve Bank of New Zealand

The basic idea behind the Modigliani-Brumberg life-cycle model is that individuals try to smooth their consumption over a finite lifetime. Since their labour income varies over time, and since their household size varies over time, their saving rates will vary over time. In particular, a typical household will accumulate assets during its working years and decumulate during retirement. However, country studies have shown little evidence for this, possibly because of the impact of state-funded pension schemes. Using data from the Household Economic Survey (HES), this paper adjusts the New Zealand age-saving profile to take account of a number of factors: the impact of inflation on interest payments and receipts; and the effects of the national superannuation scheme and health subsidies on household income and expenditure. Once these adjustments are made, there is a hump-shaped age saving profile, in keeping with the theory.

One consequence of the Modigliani-Brumberg model is that, because of the decumulation phase in older age groups, there is very little information in the aggregate saving rate; it is the saving rate of the working population that matters.

The paper includes inflation adjustments to the interest payments and receipts included in the household income and outlay account. The paper also estimates the net household tax contribution to government (i.e. tax payments less government transfers to households). The net contribution to government has increased sharply in recent years, and is seen as having affected the level of household saving.

The final section of the paper shows that the negative shock that occurred to male income in 1981 persisted for 20 years. It seems that incomes failed to rise as fast as had been reasonably expected, and that this might be a reason for low savings.

There was some discussion as to how health expenditure might increase through time, and whether other things besides health and pensions should be considered when adjusting the savings rate. For example, why not include education and student loans? There was also discussion on whether the returns to individuals from a pay-as-you-go pension scheme had been adequate, and whether it was possible for individuals to set up contracts that would offset low returns in this area.

It was suggested that if the alternative savings figures produced in the paper on 'Household savings and wealth' were adjusted to account for the effects of inflation on interest payments and receipts, and also for changes in government saving, the household saving 'problem' might look like being less of a problem.

7. *Statistical issues in the measurement of New Zealand's saving(s)*, by Geoff Bascand and Diane Ramsay, Statistics New Zealand.

The first part of this paper looks at flow-based measures of saving. In particular it compares results from the household income and outlay account (HIOA) with results from the Household Economic Survey (HES). This requires a number of adjustments to both the HIOA and HES data, excluding categories that are in one source but not in the other. On the income side, the HES seems remarkably accurate; it is accounting for about 96% of the equivalent household income sources recorded in the HIOA. On the expenditure side, the match is not so good, with the HES capturing about 83% of similar items in the HIOA. Clearly this has

implications for studies that try to look at savings via the HES. Statistics New Zealand has in fact noted that the HES is not designed to produce measures of saving.

The income data from the HES is a gross measure i.e. no attempt was made to deduct income tax. The HIOA measure of saving was adjusted by adding back in taxation and depreciation; this made it more comparable with the HES measure. The long-term decline in the HIOA saving rate is not as obvious once taxation is added back into income. This suggests that the growth in income tax has had a key impact on household saving.

Once the HIOA saving rate is adjusted to make it equivalent to the HES, it shows very little decline over the long term, as does the HES. It is postulated that the HIOA may be understating household income, and that this may be in the areas of family trust income – which was an area which the first two workshop papers had pointed to – and income from financial assets directly held overseas. These matters are under investigation.

The second part of the report looks at wealth measures, and compares results from the HSS and SoFIE with the Reserve Bank's aggregate measures. The conclusion is that the survey results align reasonably well with the aggregate measures. However, household surveys should not generally be used for estimating aggregate figures, given survey undercoverage (e.g. exclusion of the assets of rest home residents, and assets that are held off-balance sheet in trusts).

Further work:

- Improving the data on HHIO income, by incorporating enhanced coverage of trust income and New Zealanders' earnings on individually-held overseas assets. This is likely to be released in May 2007.
- Work will be undertaken with a view to producing a full set of institutional sector accounts. This is scheduled for completion in 2008/09.
- While it would be desirable to develop flow of funds and financial accounts, there are no specific plans to do this.
- SoFIE is planned to end in 2010/11, the same year that the HSS is scheduled to be repeated. At this stage there are no funding arrangements for work on wealth measures beyond this.

There was some discussion on estimating capital gains, and whether the work on institutional sector accounts could be completed and released in stages.