

Improvements to Household Balance Sheet statistics 27 March 2015

Since 2000 the Reserve Bank has been publishing statistics on the household sector financial position. We have collated and published a subset of household assets statistics that, because of an absence of reliable data, had a number of known gaps. The most important gaps related to the equity that households hold in unincorporated businesses (including trusts, sole traders and partnerships) and incorporated but unlisted businesses. These gaps have limited the usefulness of the aggregate statistics.

In collaboration with Statistics NZ we have taken steps to improve our household balance sheet statistics. The balance sheet is now being compiled based on international System of National Accounts standards for compiling sectoral balance sheets¹.

There are two major changes:

- A wider coverage of household assets, which now include currency holdings, equity in unincorporated and unlisted incorporated businesses and some unfunded superannuation benefits.
- A narrower definition of the household sector. In particular, residential rental property assets and associated liabilities no longer appear on the household sector balance sheet. Instead, only the equity that households hold in these businesses² is included in the balance sheet of the household sector. This narrower definition brings the household sector balance sheet onto the same basis used in the construction of Statistics NZ's household income and outlay account and thus, for example, the calculation of the household saving rate.

The new household balance sheet is a significant step forward. However, looking forward, further improvements can be made. For example, for now equity in farms (whether incorporated or unincorporated) is being recorded at book-value rather than market-value despite the known large swings in farm prices.

This paper discusses the changes made and presents the new household sector series³. The paper also outlines the methods used to estimate the new assets and subsequent revisions required to existing series.

The household balance sheet is published quarterly and for the majority of assets and liabilities reasonably reliable quarterly estimates are available. However, the new estimates for business equity are only annual and there is quite a long publication lag. For this reason a certain amount of estimation occurs for up to two years at the end of the data series. Analysts should take this into account when interpreting recent data⁴.

¹ The System of National Accounts is the internationally accepted guideline for producing sector balance sheet statistics. See <http://unstats.un.org/unsd/nationalaccount/sna.asp>.

² Includes both incorporated and unincorporated businesses.

³ Household balance sheet statistics are available in tables C21 and C22 on the Reserve Bank website.

⁴ Information to assist the interpretation of Reserve Bank statistics is contained in supporting series descriptions and background notes available on our website.

The Reserve Bank has been aware of the limitations of our previously published household sector statistics and has taken these into account in our analysis of the household sector⁵. The new statistics bring the data more into line with how we have thought about the sector, and do not materially change our view of the financial position of the household sector or its associated business interests.

New estimates

Four new assets have been incorporated into the household balance sheet. The estimates for equity held by households in unincorporated and/or unlisted businesses are by far the most significant. In addition, some of the existing asset and liability series have been revised and reclassified. In particular, residential rental properties, and the mortgage debt estimated to be associated with these properties, have been removed from household sector asset and liabilities, and replaced with the net of these two figures - the equity households own in these businesses.

A fuller description of the methods used to estimate the additional assets and revise existing series is available in the Appendix.

Table 1 –New estimates and their impact on September 2014 household balance sheet estimates

Assets	Equity in unlisted incorporated businesses	Increase assets by \$142 billion
	Equity in unincorporated businesses	Increase assets by \$170 billion
	Unfunded superannuation benefits	Increase assets by \$9 billion
	Currency	Increase assets by \$3 billion
	Deposits	Decrease assets by \$10 billion
	Investment fund shares	Increase assets by \$8 billion
	Housing and land	Decrease assets by \$182 billion
Liabilities	Housing loans	Decrease liabilities by \$73 billion

In aggregate an additional \$213b of net wealth has been added to the previously reported household net wealth estimates.

Treatment of rental properties

In New Zealand there are almost 33,000 residential rental property owners. Many of these own a small number of rental properties. In the System of National Accounts (SNA) when households own rental properties the operation is treated as a business regardless of whether the business is incorporated (e.g. Loss Attributing Qualifying Company or look-through company) or not. SNA guidelines thus require the rental properties and the mortgage debt held against them be recorded on the business sector balance sheet, not that of the household sector.

⁵ Estimates of these assets were first presented in a December 2012 *Bulletin* article written by Phil Briggs http://www.rbnz.govt.nz/research_and_publications/reserve_bank_bulletin/2012/2012Dec75_4briggs.pdf

Of course, many unincorporated and unlisted incorporated businesses are owned by the household sector. Therefore the equity (assets less liabilities) in these businesses is recorded on the household balance sheet. This change does not alter household sector net wealth, but does materially alter the gross assets and liabilities of this household sector. For this reason the housing and mortgage values in the household balance sheet presented here will differ from total housing and mortgage series that appear in other Reserve Bank tables.

However, when analysing the financial exposure of the household sector most analysts will want to include the liabilities of rental properties as household liabilities because of the full-recourse nature of mortgages in New Zealand. To enable such analysis we will continue to provide statistics that *include rental property* as an adjunct to the new series.

International comparisons

Our household balance sheet statistics are now compiled using international standards. However, different countries have complied with these standards in different ways and to different extents. Neither the previous New Zealand household sector balance sheet data, nor this new data, will necessarily be fully comparable with data presented by authorities in other countries. Analysts need to be aware of how each country treats various classes of assets (and liabilities). Table 2 below provides a summary of the issues for a range of advanced economies.

In many countries, for example, it is common to include the “not-for-profit institutions serving households” sector in the household sector. Not-for-profit institutions serving households are not included in the New Zealand approach (although the amounts involved appear to be relatively small). More importantly, in many countries (but not, for example, the United States) it is common to present the household sector consolidated with the unincorporated business sector. Many countries consolidate by adding the assets of each sector and then adding the liabilities of each sector. This is similar in concept to gross reporting. Net wealth is calculated by subtracting liabilities from assets.

In New Zealand the household balance sheet contains only the (SNA consistent) household sector. It does include an asset that represents households’ investment (assets less liabilities) in unincorporated businesses. It does not include the assets and liabilities of these unincorporated businesses. This is similar in concept to net reporting.

Consolidation matters when looking at common household ratios that use total assets and total liabilities as either numerators or denominators, but does not affect net wealth estimates.

Comparability is also affected by institutional features that differ across economies. As just one example, in New Zealand many residential rental properties are held directly by households, but in many other countries features of the tax system result in a larger proportion of rental properties being held in corporate vehicles. Again, net wealth comparisons are not affected, but the interpretation of gross asset and liability data can be.

Table 2 – A selection of household balance sheet presentation approaches

Country	Households	Unincorporated businesses	Not-for-profit institutions serving households	Private equity funds
New Zealand	✓			
Australia	✓	✓	✓	
Canada	✓	✓		
Eurostat ⁶	✓	✓	✓	
Japan	✓	✓		
United Kingdom	✓	✓	✓	
United States	✓		✓	✓

Note: Many countries are in the process of shifting to new national accounting standards, and consolidation/aggregation of sectors is changing in some cases.

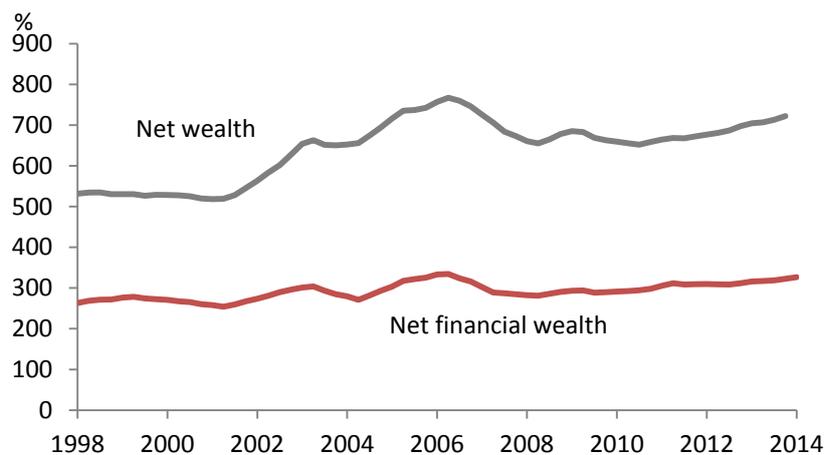
The *including rental property* series mentioned earlier in the paper are a partial consolidation of the household sector and the business sector. In producing these series we have removed the rental property equity on the household balance sheet and replaced it with the actual assets (houses) and liabilities (mortgages). The equity held in other businesses (e.g. non-corporate farms) remains in the form of equity.

We are continuing to work with Statistics NZ to produce an unincorporated business sector balance sheet which will enable the full consolidation of the household sector and unincorporated business sector. While this is not strictly the balance sheet of the (SNA consistent) household sector, it is the most common way to present these statistics internationally.

The new series

The following charts show the new household balance sheet series as a percentage of disposable income⁷.

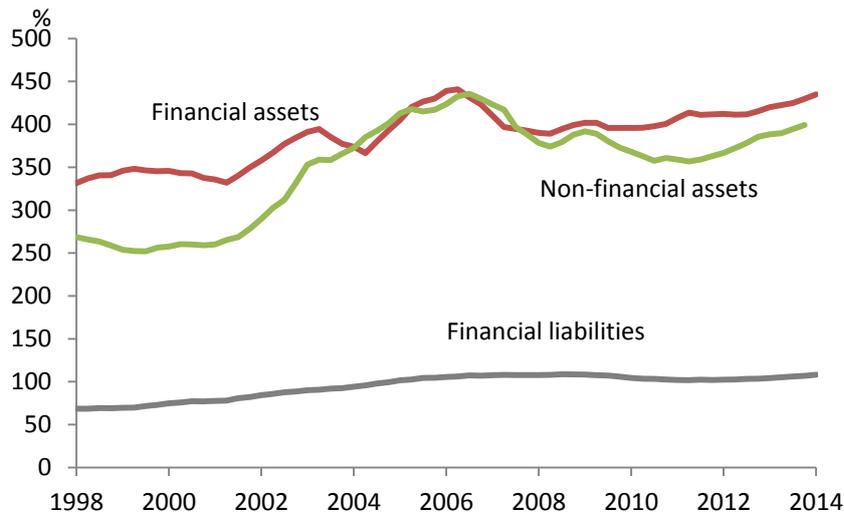
Graph 1 – Wealth as a percentage of disposable income



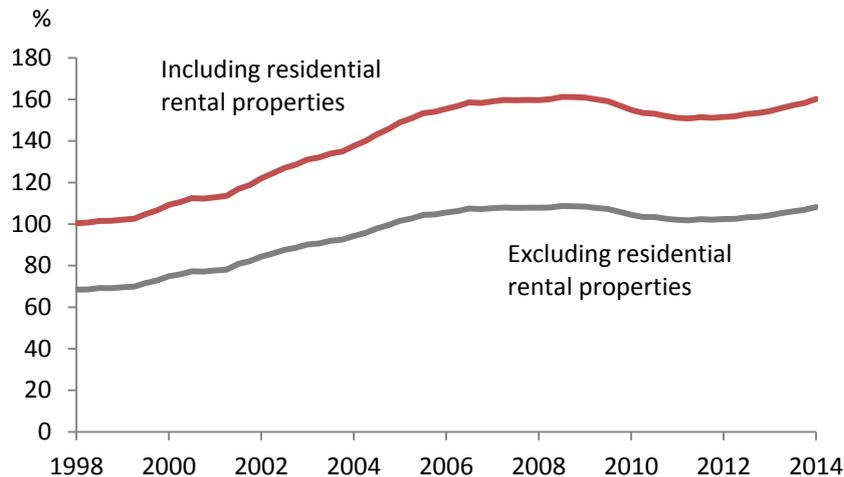
⁶ Eurostat presents the statistics for 27 EU countries on this basis. Each country could have a different way of presenting their data.

⁷ As typical in central bank analysis, interest payments have been added back to the SNA concept of gross disposable income.

Graph 2 – Assets and liabilities as a percentage of disposable income



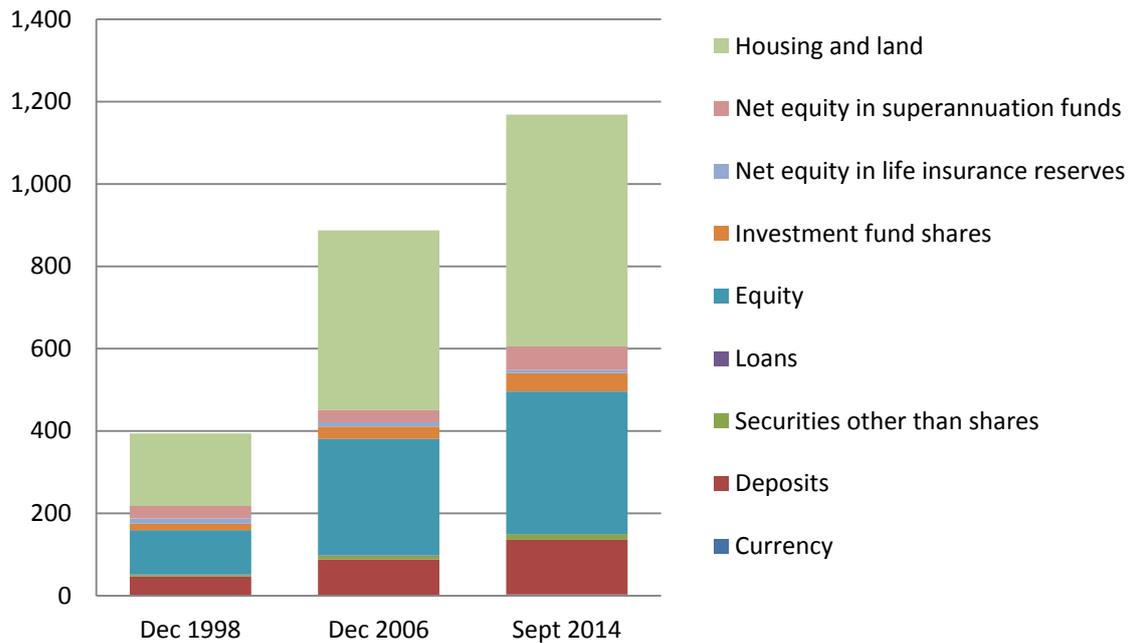
Graph 3 – Household liabilities as a percentage of disposable income



The graph below shows the distribution of household assets by asset type. At September 2014 housing and land is the largest share (48 percent) of total assets, followed by equity in unincorporated businesses (15 percent), equity in unlisted incorporated businesses (12 percent) and registered bank deposits (11 percent).

If rental properties are included in assets (rather than just rental property equity) the share of housing and land investment increases to 60 percent of total assets.

Graph 4 – Household assets (\$billion)



Methods

The household balance sheet is published quarterly and for the majority of assets and liabilities reliable quarterly estimates are available. However, Statistics NZ produces business equity statistics annually and their release is not as timely as other data. For this reason a certain amount of estimation occurs for up to two years at the end of the data series.

For simplicity where annual data are not timely an additional annual figure (in this case March 2014) has been estimated and is held constant for the most recent quarters. This method is a trade-off – it is simple, however it will result in revisions being made to the most recent year's data around September of each year when new annual data become available.

An alternative is to use a quarterly indicator to extrapolate the most recent quarters; however this requires a suitable indicator to exist and will not eliminate the need to revise data when new annual data becomes available. We will investigate suitable indicators for future inclusion in the estimates. In the meantime users should be aware of the limitations of these series for the most recent periods.

In some cases where only annual data are available a very simple straight-line interpolation has been used to estimate a quarterly path, as is the case for the new business equity estimates.

The appendix contains a fuller description of the methods used to estimate the new assets and revise the existing series.

Further possible improvements

The introduction of the equity in unlisted incorporated and unincorporated businesses acknowledges the value of wealth currently held in unlisted businesses in New Zealand and addresses the most significant coverage gaps in the previously published statistics. However, other smaller gaps exist and methods can always be improved.

Possible areas for improvement include:

- Improving quarterly estimates for business equity for recent periods by identifying or developing a reliable quarterly indicator
- Converting book-value equity estimates to market-value
- Producing a consolidated household and unincorporated business balance sheet to aid international comparison
- Estimating non-life insurance technical reserves (i.e. outstanding insurance claims and prepayments of insurance)
- Estimating household assets held overseas (e.g. deposits with overseas banks, superannuation funds with overseas governments, properties in other countries)

Further questions

For further questions about the Household balance sheet improvements please contact stats-info@rbnz.govt.nz

Appendix

Instrument	Description	Annual method	Quarterly method
Equity in unlisted incorporated businesses	<p>Unlisted incorporated businesses are limited liability companies that are not listed on the NZX.</p> <p>Equity is calculated by subtracting liabilities from assets. The equity estimates are currently book-value.</p>	<p>Statistics NZ estimates for March years 1999 – 2013 (see end of Appendix for a fuller explanation).</p> <p>March 2014 estimate derived using the average growth of the last three years.</p>	<p>Quarterly values are a straight line interpolation between March year benchmarks.</p> <p>For quarters after the latest annual benchmark the figure is held constant. Revisions will occur in this series when new annual benchmarks become available.</p>
Equity in unincorporated businesses	<p>Unincorporated businesses include sole traders, partnerships and trusts⁸. In New Zealand the most significant of these are non-corporate farms and rental properties (residential and commercial).</p> <p>Equity is calculated by subtracting liabilities from assets. The equity estimates are currently book-value.</p>	<p>Statistics NZ estimates for March years 1999 – 2013 (see end of Appendix for a fuller explanation).</p> <p>March 2014 estimate derived using the change in household sector entrepreneurial and property income received as recorded in the household income and outlay account.</p>	<p>Quarterly values are a straight line interpolation between March year benchmarks.</p> <p>For quarters after the latest annual benchmark the figure is held constant. Revisions will occur in this series when new annual benchmarks become available.</p>
Currency	The value of notes and coins issued by the Reserve Bank that are in the hands of households.	Not required. Reliable quarterly data exists.	Reserve Bank currency in circulation less the holdings of currency by banks and savings institutions less an estimate derived from annual reports for

⁸ Trusts are difficult to classify to sector. In this analysis any trust that reports business income on its IR6 tax form is considered a business sector trust, most probably in the unincorporated business sector. That would include trusts holding rental properties. Trusts with no business income are considered to be part of the household sector. That would include family trusts that own a property occupied by the family, where no rent is paid.

			<p>the currency holdings of casinos and supermarkets.</p> <p>Two thirds of the residual is allocated to the household sector.</p>
Unfunded equity in superannuation funds	<p>Unfunded equity in superannuation refers to superannuation entitlements not covered in full by the amounts that are held in superannuation funds. These unfunded claims largely relate to defined benefits schemes.</p> <p>Estimates have been included for the Government Superannuation Fund (GSF) and are taken from central government budgets. As yet we have no estimates for the unfunded component of private sector schemes, although such schemes have been reducing in importance over recent decades. Trustees also have a responsibility to ensure that these types of funds are fully-funded.</p>	Data is sourced from the central government accounts.	<p>Pre 2008 quarterly values are a straight line interpolation between March year benchmarks.</p> <p>Post 2008 quarterly values are informed by the Reserve Bank Managed Funds survey results.</p>
Residential housing and land asset values	<p>The value of housing and land has been revised down to remove the value of rental properties. Rental properties are treated as businesses. Even if no corporation, trust or other accounting entity has been established, an unincorporated business is created to hold the rental property. The assets and liabilities</p>	<p>CoreLogic estimates of the total value of housing and land are used. The value of rental properties needs to be estimated and deducted from the total, as conceptually these belong to business sectors.</p> <p>The value of owner-occupied,</p>	<p>The annual ratio of non-rental property values to total housing and land value is applied to the quarterly total housing and land value to interpolate between annual benchmarks.</p>

	<p>appear on the business sector balance sheet.</p> <p>For rental properties legally owned by the household sector, the equity of the rental property operating businesses appears on the household balance sheet.</p>	<p>second/holiday homes, and rental property and land are estimated using Census data on housing tenure (indicating numbers of properties of each type) and Household Savings Survey 2001 information (on the relative average values of the property types).</p> <p>Adding the values of the three property types results in a slight difference from the CoreLogic estimates of the total value of housing and land. The difference is removed by using the property type ratios and applying them to the CoreLogic total.</p>	
Investment fund shares (previously other managed funds)	<p>The redeveloped Reserve Bank Managed Funds survey has produced higher quality estimates of household investment in managed fund products. In addition Portfolio Investment Entities (PIE) funds have been transferred from being reported as deposits to being reported as other investment fund shares.</p> <p>In recent quarters investment fund shares have been broken down into cash management trusts and other investment fund shares.</p>	Not required. Reliable quarterly data exists.	Sourced from the Reserve Bank Managed Funds survey

	Unlike all of the other changes this revision is not a level shift. The new series is lower at the beginning of the series and higher at the end of the series, than what was previously published. This is due to the significant growth in PIE funds.		
Registered bank deposits	PIE funds have been transferred from being reported as deposits to being reported as investment fund shares.	Not required. Reliable quarterly data exists.	Sourced from the Reserve Bank Standard Statistical Return (SSR)
Residential housing loans	<p>The value of housing loans has been revised down to remove the mortgage debt held against rental properties.</p> <p>Rental property liabilities appear on the balance sheets of business sectors.</p>	<p>The total value of mortgage debt from the Reserve Bank SSR is split into household and non-household sectors using proportions derived from Census housing tenure statistics.</p> <p>These proportions are consistent with those used in allocating mortgage interest payments in the Household Income & Outlay Account (HHIO).</p>	The annual ratio of non-rental property loans to total housing loans is applied to the quarterly total housing loans from the SSR.

Estimating household equity in New Zealand businesses

<p>Unlisted corporate businesses in New Zealand</p> <p>Statistics NZ operates an Annual Enterprise Survey (AES) that provides statistics on the financial performance and financial position of New Zealand businesses, covering all economically significant enterprises for most areas of the economy. In addition, Statistics NZ supplements surveyed data with a variety of tax data, to reduce the reporting load placed on New Zealand business.</p> <p>Equity in unlisted incorporated businesses is calculated by:</p> <ol style="list-style-type: none"> 1. Using AES to estimate the book-value equity (assets less liabilities) of all incorporated businesses, whether listed on the share-market or not. 2. Adding the estimated book-value equity of incorporated businesses that are not covered by AES using tax data. 3. Replacing the book-value equity estimates of share-market listed businesses with estimated market values. 4. Adding the equity that NZ businesses hold overseas reported in the International Investment Position (IIP) 5. These steps result in an estimate of equity held in incorporated businesses. Then using a variety of SNZ and Reserve Bank data, allocate all of this equity to the sector of ownership. <p>The residual from deducting the shareholdings of non-household sectors (in step 5) leaves the household ownership estimate. From this we deduct the value of listed share equity (already shown on the household balance sheet as “NZ listed shares” and “Overseas listed shares”).</p>	<p>Unincorporated businesses in New Zealand</p> <p>Equity in unincorporated businesses is calculated by:</p> <ol style="list-style-type: none"> 1. Using AES to estimate the book-value equity (assets less liabilities) of unincorporated businesses owned by households. 2. Adding the estimated book-value equity of unincorporated businesses that are not covered by AES using tax data. This includes trusts undertaking business activities. <p>The equity estimate is then transferred to the household balance sheet.</p>
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