



Household debt: a cross-country perspective

Chris Hunt¹

Aggregate debt of the New Zealand household sector increased from 110 percent of household incomes in 2000 to a peak of 175 percent in 2008, and currently stands at 165 percent. The increase was large and historically unprecedented, but not exceptional compared to other countries' experience over the same period. New Zealand is one of a relatively small group of countries where the ratio of debt-to-income has fallen since the 2008/09 global financial crisis. This article reviews the international experience, and discusses some of the explanations for the rise in household debt across countries, together with some specific New Zealand factors.

1 Introduction

Households borrow for a variety of reasons. These include, for example, borrowing to purchase a home that otherwise would require a long period of saving and delayed consumption, or financing an investment in human capital through student loans. By bringing forward consumption and investment, debt can make resource allocation more efficient, and improve living standards.

But an increase in household borrowing does not always turn out well, either for individual households or for the sector as whole. The experience in a number of countries during the global financial crisis (GFC) suggests that sharply rising levels of household debt can materially increase the risk of financial crises and economic instability.

The level of household debt in New Zealand increased dramatically during the 2000s, although the household sector and the financial system were spared the dislocation witnessed in some other countries.

Drawing on a new cross-country database produced by the Bank for International Settlements (BIS), this article puts developments in the New Zealand household sector in a broader international context.² The next section briefly reviews the New Zealand household balance sheet and is followed by a cross-country debt comparison in section 3. Section 4 reviews various explanations for the run-up in debt internationally, and some of the specific reasons in the New Zealand context. The final section examines debt developments since the GFC.

2 The New Zealand household balance sheet – an overview

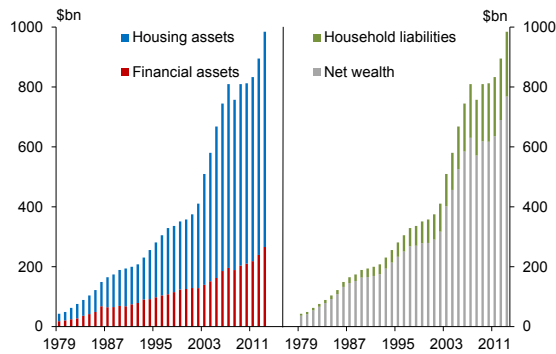
Figure 1 presents a picture of the aggregate New Zealand household balance sheet. Total assets (or gross wealth) captured here are close to \$1 trillion, an increase of 175 percent since 2000.³ The majority of wealth is held

¹ The author would like to thank Michael Reddell and other colleagues at the Reserve Bank for their helpful comments.

² A follow-up *Bulletin* article will take a specific look at the consequences of rising household debt both for the financial system and the wider economy.

in the form of housing assets. Strong growth in the value of housing over the last financial cycle (largely driven by rapid house price growth) explains most of the sharp increase in the size of the aggregate balance sheet over this period.

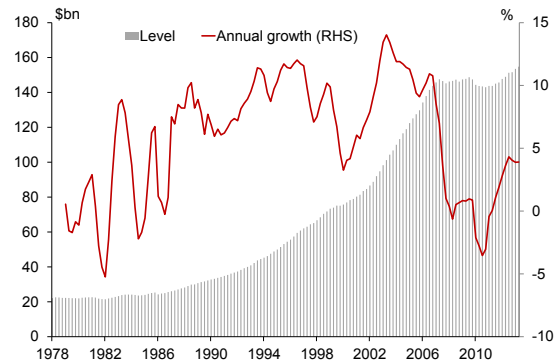
Figure 1
New Zealand household balance sheet



Source: RBNZ Household assets and liabilities (HHAL).

The stock of household debt (outstanding loan balances taking into account new loans and principal repayments) increased dramatically over the last financial cycle, with annual growth averaging 14 percent between 2003 and 2007 in nominal terms, and 11 percent in real (inflation adjusted) terms (figure 2). The overwhelming majority of this debt is in the form of loans secured on residential property (around 87 percent currently), the counterpart to the role of housing on the asset side of the balance sheet. The remaining 13 percent is accounted for by consumer and student loans (7 and 6 percent respectively).

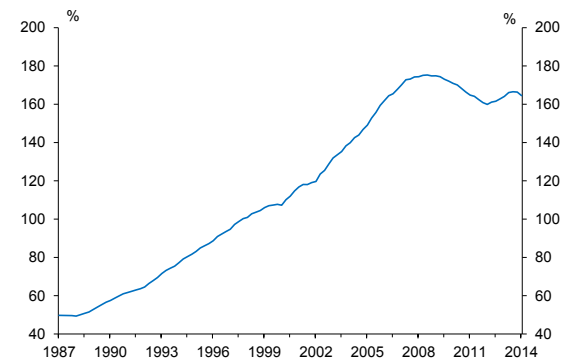
Figure 2
New Zealand real household debt – level and growth
(2000 dollars)



Source: RBNZ HHAL.
Note: Quarterly observations from 1978 and 1998 have been interpolated from annual series. Nominal series deflated using CPI.

Relative to household income, debt began to rise sharply from the late 1980s. Over the last cycle household debt-to-income increased 68 percentage points to a peak of 175 percent in 2008 (figure 3).⁴

Figure 3
New Zealand household debt
(percent of gross disposable income)



Source: RBNZ HHAL, Statistics New Zealand.

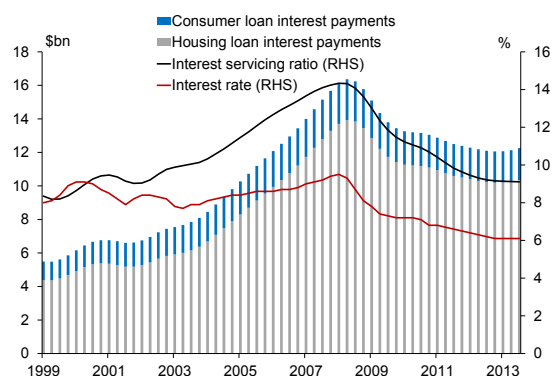
A corollary of the sharp increase in the level of household debt is an increase in household debt servicing obligations (figure 4). The debt service ratio peaked in

³ There are a number of important omissions from the Reserve Bank measure of household assets, including the net equity of households in the unincorporated sector, shares in unlisted incorporated business and some foreign assets (see Briggs 2012, for a discussion). While this does not directly affect household debt, it does imply that the net wealth of the household sector (i.e. assets less liabilities) is understated in figure 1.

⁴ Note, the debt-to-income series depicted in figure 3 differs from the series published on the Reserve Bank's website. The series on the website has a higher level of disposable income in the denominator since total interest payable is added back to the Statistics New Zealand's measure of gross disposable income. We use the Statistics New Zealand measure here to facilitate the international comparisons later in the article. The trends in the two series are very similar, although the levels differ.

2008, driven by both the increase in the stock of debt outstanding and higher interest rates over the upswing of the last cycle. With the decline in interest rates from 2008, interest servicing relative to income has fallen substantially, but will start to increase again as interest rates rise.

Figure 4
New Zealand household interest servicing



Source: RBNZ HHAL.

Note: Interest rate is a weighted average rate calculated as interest payments on housing and consumer loans divided by the total value of housing and consumer loans.

3 Placing New Zealand household debt in context – a cross-country comparison

In 2013 the BIS released a new cross-country database of total credit to the non-financial private sector.⁵ The data are quarterly and covers 40 countries at present, including both advanced and emerging economies. The database encompasses credit from all sources including banks and other financial intermediaries, capital markets and non-residents – both loans and debt instruments. The total credit series for each country is broken down into credit to households and non-profit institutions serving households (NPISHs), and non-financial corporates (essentially all non-household debt excluding that of financial institutions).⁶

A sub-sample of 26, mainly advanced, economies from the BIS dataset is compared against household

debt data for New Zealand (and Iceland which is also not included in the BIS data). To facilitate comparison, the data are scaled by GDP and gross disposable income (where available).⁷ For many countries, the database has a long run of historical data, but comprehensive data for our sample economies are available only since 2000, and that is the focus here. That period captures, for a majority of countries, most of the pre-GFC credit and asset market boom, even though for some countries – such as New Zealand – the increase in household debt ratios continued trends that had been apparent in the 1990s.

Across our 28-country sample there has been a secular rise in total private sector debt, with average debt increasing from 130 to 180 percent of GDP between 2000 and 2008. At 160 percent, the New Zealand private sector does not appear to be particularly heavily indebted.

In the discussion that follows, the focus is household debt, and in particular on changes in the ratios of household debt to income. That partly reflects challenges in comparing the level of debt across countries. There are several types of issues. For example, many countries include the debt associated with unincorporated business activities (small business owners, owner-operated farms and some lending associated with rental property) in household sector accounts, since getting good breakdowns can be difficult.⁸ In New Zealand, farm lending and non-mortgage lending to small businesses is not part of household debt, while mortgage lending that finances small business should also be excluded.⁹ However, much of New Zealand's rental property is held by small investors, and lending that finances (the business) of renting out residential property generally is included in the New Zealand measure of household debt.

The other important difference is the way that institutional differences, such as those in the tax system,

⁵ See Dembiermont, Drehmann and Mukusakunratana (2013) for a fuller description of the data and a discussion of trends in the 40-country sample.

⁶ New Zealand household balance sheet data do not include NPISHs, and there is no separate data on the stock of outstanding debt of this sector. However, this sector is very small and likely to be relatively less indebted than the wider household sector, so adding NPISHs would marginally reduce total household debt-to-income depicted in figure 3.

⁷ Comparable disposable income data are not available for Hong Kong and Singapore.

⁸ Australian measures of household debt, for example, include the debt of the unincorporated sector (ABS, 2014). On the other hand, in the United States, the debt and assets of the unincorporated business sector are recorded separately, and only the net equity that households have in the unincorporated sector is included on the household balance sheet.

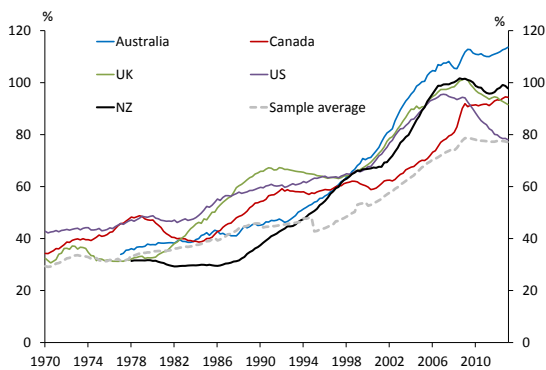
⁹ In the registered bank and non-bank lending institutions' *Standard Statistical Return* survey, mortgage lending for the purpose of funding business should be allocated to the business sector. However, in many cases lenders may not be able to fully identify the specific purpose attached to residential mortgage borrowing (i.e. how much supports a small businessperson's own home, and how much is financing their business).

can affect the gross assets and liabilities on a household's balance sheet across countries, even if the net wealth is the same for two households. In the Netherlands, for example, interest deductibility for mortgages on owner-occupied houses encourages borrowers to have interest-only mortgages on the liability side of their balance sheet and, for example, tax-preferred insurance policies on the other side. At some point, the asset is used to extinguish the liability, but for households with the same amount of wealth and income, both financial assets and financial liabilities will be higher in the Dutch system than they would in the New Zealand system. These institutional differences across countries tend to change only quite slowly, so that comparisons of changes in debt ratios are still useful.

3.1 The rise in household debt

Household debt increased substantially in years leading up to the GFC. Household debt as percent of GDP increased from an (un-weighted) average of 53 percent in 2000 to 72 percent in 2007 across the 28-country sample (figure 5). This represented multi-decade highs in many, if not most, advanced and emerging economies. While trends vary across countries, this increase in household debt is a phenomenon of both advanced and emerging markets. In the latter case, the level of household debt was previously very low – at around 10-20 percent of GDP in the early 1990s – and has since increased more towards advanced economy levels.

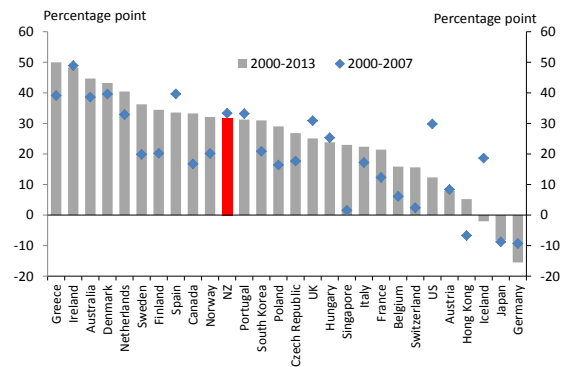
Figure 5
Household debt-to-GDP – selected countries



Source: BIS, Central Bank of Iceland, Haver, RBNZ.
Note: Sample average' is a simple un-weighted average of countries in the dataset.

New Zealand participated fully in the widespread increase in household indebtedness. In terms of GDP, household debt in New Zealand increased 33 percentage points between 2000 and 2007, similar to that in a number of other advanced economies (figure 6). The median increase for the countries in this sample was around 20 percentage points.

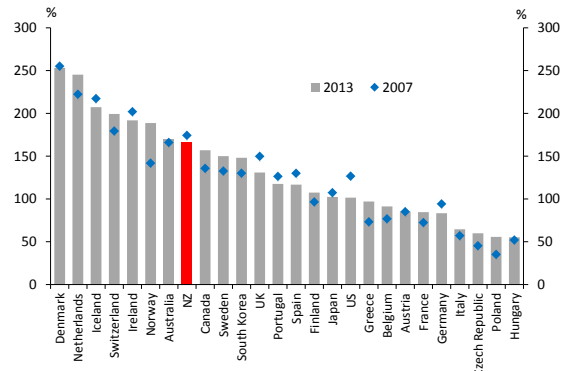
Figure 6
Household debt-to-GDP – percentage point change



Source: BIS, Central Bank of Iceland, Haver, RBNZ.
Note: Household debt-income series available 2002 for Ireland.

Based on the data as we have it, the debt-to-disposable income ratio of New Zealand households is towards the upper end of those in this sample (figure 7). However, without careful country-by-country detailed comparison of measurement and institutional differences, this ranking is really only a starting point for discussion. Moreover, a high level of debt does not necessarily imply that households in these countries have 'over-borrowed', or that such levels are unsustainable.

Figure 7
Household debt-to-disposable income – level



Source: BIS, Central Bank of Iceland, Haver, RBNZ.

4 Explaining the rise in household debt

4.1 The household balance sheet and household borrowing

A useful starting point for thinking about aggregate household debt described in the previous section, is to look at a stylised 'lifetime' balance sheet of an individual household (table 1).

Households can borrow to bring consumption forward in periods when their earning power is low, and they can also borrow to fund investment that is expected to yield a future return – be it financial assets, property or human capital (e.g. student loans). In a simple sense, the debt position of households is influenced by factors such as current and expected future income and wealth, together with interest rates (which influence decisions to borrow and consume today or in the future). In addition, the level and expected rate of change of house prices will have a significant impact on how much (relative to income), new entrants to the housing market tend to borrow.

Household decisions to accumulate debt are also heavily influenced by how the asset side of a balance sheet is structured in society. That is, the division of responsibility between the household and the public sector, as well as the organisation of the housing market

(Debelle, 2004; Reiakvam and Solheim, 2013; Riksbank 2014).

For example, the tax-financed welfare system transfers and public pension entitlements are part of household expected lifetime resources, even if they are not directly included in household accounts. Compulsory and opt-in (such as KiwiSaver) savings schemes organised by authorities can boost the level of financial assets held by households and, like other private pension schemes which lock up household assets in long-term retirement savings vehicles, might be associated with a higher level of gross household borrowing (for any given net wealth position). As another example, the public provision of various goods and services (e.g. health care) can also influence household saving and borrowing behaviour. More generally, the generous government provision of social entitlements could give households greater confidence to take on higher levels of debt.

Home ownership rates may be associated with higher levels of household indebtedness. Home ownership rates will be influenced to some extent by the provision of public housing relative to the amount of private housing. In terms of the rental stock, the split between public, private corporate and direct household ownership will influence measured household debt levels. If, for example, a large

Table 1
Stylised lifetime household balance sheet

Assets	Liabilities
<p>Financial assets</p> <ul style="list-style-type: none"> • Deposits/cash • Funds/equities • Insurance claims • Other assets 	<p>Debt (including interest)</p> <ul style="list-style-type: none"> • Past consumption and investment not yet paid for • Mortgage and other consumer debt • Student loans
<p>Real assets</p> <ul style="list-style-type: none"> • House • Car 	<p>Future consumption</p> <ul style="list-style-type: none"> • All consumption for remainder of life span
<p>Lifetime income</p> <ul style="list-style-type: none"> • Expected future income • Pension entitlements • Welfare schemes 	<p>Equity or 'surplus'</p> <ul style="list-style-type: none"> • Buffer against uncertainty, transfer to future generations

Source: Reiakvam and Solheim (2013).

Note: Assets and liabilities will be influenced by current and (expected) future tax obligations.

portion of the private rental stock of housing is owned by corporations, any borrowing associated with this activity will appear as business debt, rather than household sector borrowing.

Tax regimes can also have some bearing on the degree of household indebtedness. If mortgage interest costs are tax deductible, for example, this increases the relative attractiveness of borrowing to purchase a house.

4.2 The role of credit constraints

A variety of factors limit the ability of individual households or the sector as a whole to take on as much debt as they might be able to support over a lifetime. The extent to which these 'credit constraints' or rationing mechanisms have eased over recent decades is likely to be important in helping to understand developments in household debt.

Credit constraints include:

- any pervasive credit rationing that might occur in a heavily regulated financial system, as in the case of the period prior to the liberalisation and deregulation of the financial sector in the 1980s in most countries. In New Zealand prior to 1984, for example, borrowers typically had to demonstrate a savings record with a lender to obtain a first mortgage from that lender;
- risk management practices adopted by lenders in more open financial systems, associated with internal debt-to-income limits, loan-to-value ratio (LVR) limits, and other lending requirements;
- prudential regulation specifying formal limits on debt servicing and LVRs, and other requirements; and,
- loan instruments designed on the implicit assumption of low inflation, once inflation rises.

Inflation can act as a de facto credit constraint through a debt-to-income channel (Ellis, 2013; Debelle 2004). This constraint arises from the 'hurdle' or 'tilt' from front-loading of mortgage interest payments in a standard table mortgage. When inflation is high and hence nominal interest rates are high, the initial loan servicing cost is higher as a share of income for a loan of a given size. This essentially imposes a ceiling on debt service as a

share of income. In the absence of indexed instruments – which generally did not develop in countries with even moderately high inflation – inflation constrains the amount of borrowing households can undertake early in their life cycle.

4.3 Explaining the run-up in debt during the 2000s

Drawing together some of the insights of sections 4.1 and 4.2, we can identify a number of candidate drivers for the rise in household debt observed across most countries in the run-up to the GFC. These include:

- financial liberalisation and deregulation;
- financial innovation and the loosening in credit standards;
- the decline in borrowing costs;
- increase in house prices;
- the rise in income inequality.

Financial liberalisation and deregulation

Financial deregulation and liberalisation can significantly increase household access to credit and, if accompanied by increased optimism about future income and wealth prospects, can further boost the household sector's willingness to borrow. For most of the countries in our sample, major financial sector reform occurred in the 1980s and early 1990s, and is therefore not likely to have been a significant factor in explaining the rise in household debt during the 2000s.

By contrast, credit booms in a number of emerging European economies over the last cycle were driven by financial integration and deregulation during the latter part of 1990s (Chmelar, 2013). And during the early part of 2000s, Iceland privatised its banking system, with the newly created commercial banks significantly easing household liquidity constraints (Olafsson and Vignisdottir, 2012).

Financial innovation and the easing in lending standards

Financial innovation helped to both lower borrowing costs for existing borrowers and to improve access for new borrowers in a number of countries during

the last financial cycle. Financial innovation in the US, for example, greatly relaxed constraints for lower-income and first-home buyers with the prevalence of exotic mortgage products such as interest-only loans, and loans with little verification of borrower income or assets (so-called NINJA or 'no income no job or assets' loans) (Dynan, 2012; Li and Patwani, 2012).

More generally, credit constraints were eased in many countries with rising LVRs, longer amortisation periods and the growing prevalence of interest-only loans. Interest-only loans are particularly popular in a number of Northern European economies such as the Netherlands, Norway and Sweden, sometimes for tax reasons. Typically tied to variable-interest rate mortgage products, the popularity of these interest-only loans is now a source of concern for policymakers in some countries (given the expected rise in debt serving costs as interest rates normalise).

For some advanced European economies, the creation of a single market and adoption of the euro also appear to have been factors. On the one hand, improved access to wholesale market funding improved the availability of credit, and on the other hand several countries experienced a significant reduction in interest rates resulting from monetary union, which further supported household demand for credit.

Regulators in some countries were also accommodating the easing in lending standards which, *ex post*, reflected an underestimate of the risks associated with household lending. Reflecting critically on the Irish experience, Honohan (2014) observes that it was "fatally easy in such an environment for Irish decision-makers to buy in uncritically and unreflectively to naïve and to some extent ideological attitudes" (p. 7). This environment included an over-confidence in banks' risk management capacity and a mis-placed belief in the self-regulating properties of modern finance.

The decline in borrowing costs

Interest rate costs facing households declined over the past decade relative to the 1990s. A number of factors are behind this, including a longer-term trend decline in real interest rates (which, all else equal, increases the 'sustainable' amount of debt a borrower can service), a

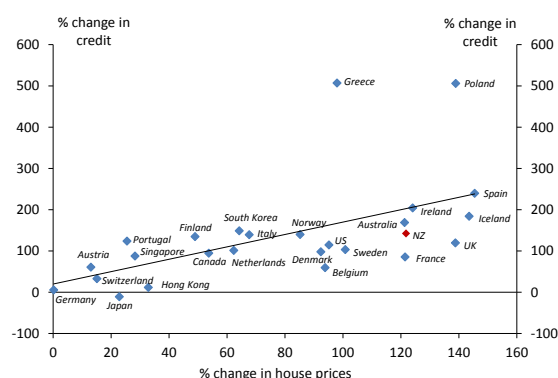
generalised decline in the inflation premium component of nominal interest rates (which eases credit constraints as discussed in section 4.2), and changes in the margin between borrowing rates and funding costs of financial intermediaries caused by competition.

More generally, the shift to a low inflation environment was emblematic of a 'Great Moderation' in macro-economic volatility in the pre-crisis period. This may have contributed to a decline in precautionary saving by households and growing confidence in taking on more debt.

The role of house prices

Housing is the main asset funded by household borrowing. Rising house prices, perhaps driven by low interest rates, population growth, tight housing supply or some other factor, imply that any new or prospective entrant to the housing market must borrow more to purchase any given house (assuming he or she is still required to put up, say, a 20 percent deposit). This effect from rising house prices increases aggregate gross household debt, and can do so for some years, even after house prices stop rising, since the housing stock turns over slowly. In addition, as the value of the collateral attached to housing lending rises (i.e. the value of the house increases), households are able to borrow more to increase non-housing related consumption, or to fund other business activity.

Figure 8
Household debt and house prices
(2000-2007)



Source: BIS, Haver, Corelogic NZ.

House prices grew strongly across most countries in our sample, and there is a positive relationship between rising house prices and increases in household debt (figure 8).

In an environment where house prices are increasing, and are expected to go on increasing, financing a property purchase with a large proportion of debt can look very attractive for property investors. Speculative dynamics can also affect potential owner-occupiers. Rising house prices might also create a fear among potential purchasers that they may miss out on owning a home entirely as affordability declines, prompting them to borrow more heavily and purchase a house earlier than otherwise planned.

The rise in income inequality

There is a growing literature investigating the macroeconomic consequences of income inequality and whether the sharp increase in inequality observed in some advanced countries is linked to financial stress. Another related strand of the literature examines the link between income inequality and consumption inequality. Consumption inequality has not increased to the same degree as income inequality, suggesting a role for credit markets in mitigating very large differences in consumption patterns between households across the income spectrum.

Much of the focus here is on the US, given the steep increase in income inequality from the 1980s onwards. Kumhof, Ranciere and Winant (2013) point out the similarities between the Great Depression and Great Recession, with both preceded by a sharp increase in income inequality. As Barba and Pivetti (2009) argue, growing household debt cannot be understood as a rational response of households reacting to temporary deviations of income from long run trends, but “principally as a response to stagnant real wages and retrenchment in the welfare states, i.e. as the counterpart of enduring changes in income distribution” (p. 114).

The role of income inequality may not be a compelling explanation for the rise in household debt over the past cycle in the New Zealand context, as inequality has been broadly unchanged following a sharp increase over the late 1980s and the early part of the 1990s (Perry,

2014). Nor does it appear a robust argument for highly indebted households in Denmark, Netherlands, Norway and Sweden for example, as these countries maintain relatively generous welfare systems that have helped to mitigate any sharp increase in income inequality.

4.4 Explaining the increase in the level of New Zealand household indebtedness

Some of the factors identified in the previous section are clearly relevant in explaining the run-up in household debt over the last financial cycle in New Zealand. These include:

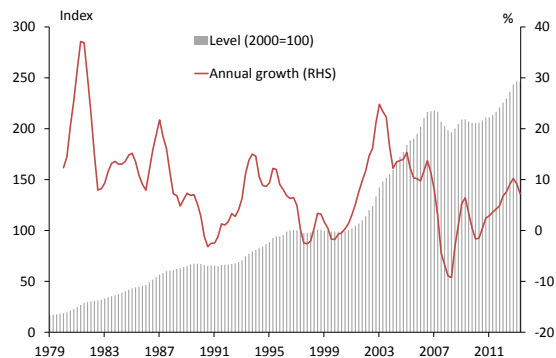
- the on-going decline in real borrowing costs which has increased the underlying capacity of households to take on and service debt;
- generally favourable economic conditions and rising incomes enabling households to service higher debt levels;
- the ability of banks to easily access offshore funding to accommodate household demand for debt; and,
- specific developments tied to the housing market.

There was no obvious increase in financial innovation over the post-2000 period that can be directly linked to the increase in debt, in contrast to the US, which had specific new products enabling low income households to overcome liquidity constraints. That said, the dramatic increase in household debt would not have occurred without the prior period of financial deregulation and liberalisation in the 1980s – so to this extent such deregulation helped to enable and facilitate the rise of debt during the 2000s, particularly the ability of the banking system to fund credit growth by accessing global wholesale markets.

There was, however, a cyclical easing in credit constraints and an increase in high-LVR lending towards the latter end of the upswing as competition between banks for market share of housing lending intensified. This increase in high-LVR lending could be construed as ‘financial innovation’, at least to the extent that it reflected genuine improvements in the way that banks screened and monitored their borrowers, or their adoption of new innovations in risk management practice more broadly.

The relaxation of lending standards for housing lending, and developments in the housing market more generally, loom large in the New Zealand story of rising household debt for two main reasons: first, households have to borrow more to purchase a given house which has increased in market value; and second, rising house prices enable households to borrow more through the

Figure 9
New Zealand house prices



Source: Corelogic NZ.

collateral channel. House prices increased 120 percent between 2000 and the peak in late 2007 (figure 9).

In addition to some of the factors directly influencing household credit noted above, a mix of structural and cyclical factors affected house prices in the run-up to the GFC:¹⁰

- the surge in net migration over 2002/03;
- an increase in household formation (declining household size) related to an aging population;
- monetary policy too slow to respond to housing-related inflation pressures, especially early in the cycle, and fiscal stimulus late in the cycle helping to support housing demand;
- an expectations dynamic of rising house prices becoming entrenched among households;
- the tax regime favouring housing more generally over other assets, and favouring leveraged investor housing relative to leveraged owner-occupier housing; and
- various planning and policy practices, and other impediments related to housing supply.

¹⁰ See the Productivity Commission's 2012 *Housing Affordability Inquiry* for a comprehensive discussion.

One interesting aspect of the last housing cycle was that despite an substantial increase in household borrowing, the rate of home ownership actually declined, while the share of the housing stock owned by landlords increased (Cheung 2011; Productivity Commission 2012). The rental market expanded and acted as a safety valve as owner-occupied housing became less affordable. In the New Zealand context, the rental market is dominated by numerous small investors owning 1-3 properties, rather than large-scale corporate or institutional investors (outside of retirement villages and student accommodation). Thus, the majority of borrowing for the purposes of investor housing shows up as household debt as opposed to business property lending. Moreover, with investor demand increasing over the last cycle and adding upward pressure on house prices, this leveraged borrowing would have also indirectly increased owner-occupier debt.

The attractiveness of housing assets as an investment class is influenced by the tax regime, although there is some debate about how significant this tax-favoured status is and the role of tax-related incentives in explaining both the increase in house prices and household debt. In particular, tax structures tend to change only quite slowly and did not change materially in the 2000s, while the housing boom over the same period. (in New Zealand and abroad) was one of the largest in modern history.

Most OECD countries' tax systems treat owner-occupied housing favourably relative to other assets through some combination of non-taxation of imputed rental incomes and capital gains, low property taxes or mortgage interest deductibility (Cheung, 2011). The New Zealand tax system exempts imputed rent and capital gains (unless related to 'trading' in houses) from tax, but also does not allow mortgage interest deductibility for owner-occupied housing. The lack of any comprehensive capital gains tax, or of inflation-indexing the tax treatment of interest implies that when inflation is positive there is an incentive to invest in assets that earn a nominal capital gain (such as property), since nominal returns on interest-bearing assets are taxed. Moreover, the collateral channel enables a borrower to more easily leverage up (relative to other assets), and so magnify returns.

For investors, rental income is taxed, but interest and other expenses are able to be deducted against income.¹¹ In addition, any losses can be deducted against other income at the marginal tax rate (thereby reducing overall tax liabilities, in a similar way to other unincorporated business activities). Investors also benefit from no capital gains tax if asset prices rise. That said, countries with a capital gains tax, or with a different tax treatment of housing, are not markedly different in their household debt experience over the last cycle.

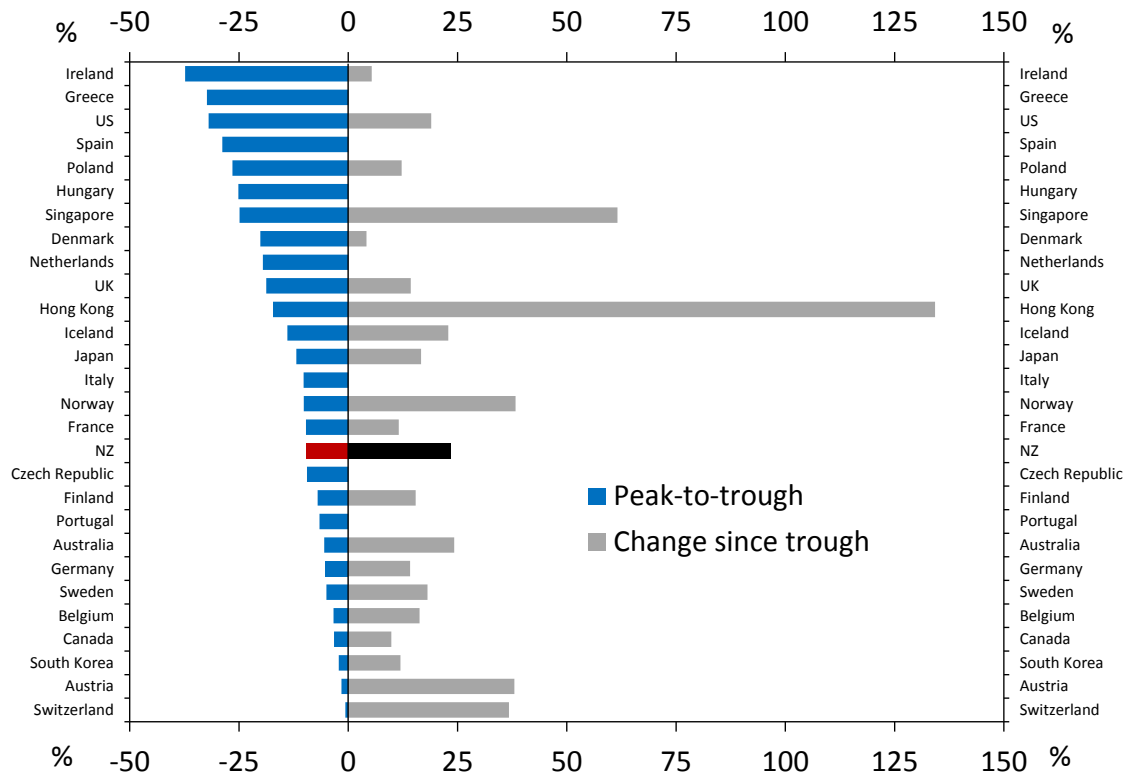
(figure 10), have reduced the value of household assets and this has been reflected in a reduction in net wealth overall, and negative equity in housing in severe cases.

In a number of countries the fall in house prices has been accompanied by an increase in borrower defaults, some debt-relief measures, and a sharp reduction in household appetite for debt. Banks have also significantly tightened credit criteria for mortgage lending. Household deleveraging and the repair of balance sheets have been accompanied by a sharp slowdown in household spending on consumer goods and services, which has acted as a further drag on economic activity. In our sample there has been a fall in the stock of outstanding household debt in Ireland, Spain, Japan, US and Portugal since 2007 (figure 11), and a very modest increase in Greece, Germany, Iceland and the UK.

5 The global financial crisis and developments in household debt

The increase in household debt described in section 3.1 has given way to a painful period of household balance sheet restructuring in a number of economies since the GFC. On the asset side, large falls in house prices, which are still continuing in a number of countries

Figure 10
House price changes since the GFC

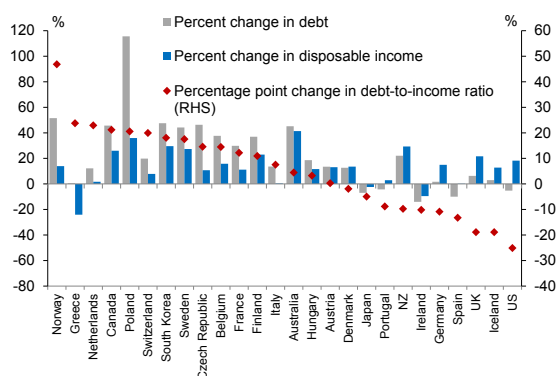


Source: BIS, Haver, Corelogic NZ.

Note: 'Peak' and 'trough' defined with respect to individual house price series for each country.

¹¹ The full amount of interest payments, including the inflation component, is allowed as a deduction against rental income. This can be thought of as an additional tax subsidy.

Figure 11
Household debt-to-income – change since 2007



Source: BIS, Central Bank of Iceland, Haver, RBNZ.

However, in most countries in our sample, the household debt-to-income ratio has increased further since 2007, albeit much less rapidly than in the pre-crisis period. The median change in the ratio is a six percentage point increase overall (and a 16 percentage point increase for the 16 countries where the ratio has risen). In countries where the level of debt has declined, or increased only modestly, the household debt-to-income ratio has also fallen, with the notable exception of Greece where there has been a sharp fall in household incomes over the past seven years which has boosted the ratio. The median decline in the household debt-to income ratio is 11 percentage points.

In New Zealand the debt-to-income ratio fell from a peak of 175 percent in 2008 to 160 percent in 2012. With the recovery in house prices, and loosening in lending standards, the debt ratio has increased somewhat and currently stands at 165 percent. New Zealand stands out among the 10 countries whose debt-to-income ratio has declined, given the size of the increase in household debt since 2007 and the even larger increase in household incomes.

6 Conclusion

In this article, developments in New Zealand household debt have been placed in a broad-ranging cross-country context. A new BIS database on private sector debt has helped facilitate this comparison. The run-up in household debt over the 2000s was large and

without historical precedent in New Zealand. However, many other countries also experienced a similar increase in household indebtedness over the past decade, tied to developments in housing markets. The level of debt of the New Zealand household sector appears to be on the high side internationally, although a cross-country ranking of indebtedness is subject both to various measurement issues and to interpretation.

Rapid house price growth looms large as a key factor explaining the run-up in debt (which itself is tied to a number of factors such as migration cycles, lower real and nominal borrowing costs, and supply constraints). Less obvious is whether the level of New Zealand household indebtedness – currently 165 percent of disposable income – is ‘sustainable’ in some long-run sense, or what the distribution of debt across different types of borrowers implies about the vulnerability of households to economic shocks.

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