Westpac Institutional Bank

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Household debt: Why it has soared

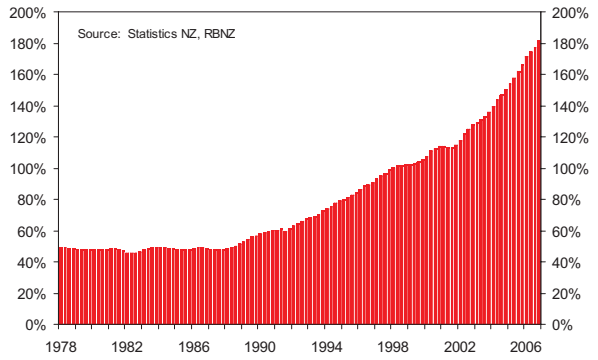
- **Since 1991, household debt has risen from 60% to 180% of disposable income.**
- **Nearly all the increase in the housing debt to household income ratio can be 'explained' by two factors: lower inflation and lower interest rates.**
- **Easier lending criteria could account for most of the balance.**
- **Unless interest rates, wage growth, or lending criteria take a step lower, the rapid build-up in debt has nearly run its course.**
- **Vulnerability of the household sector has increased, but by nowhere near as much as the debt-to-income ratio implies.**

Household debt has risen at a dizzying pace over the past 16 years. Household debt has increased from 60% of average household disposable income in 1991, to 180% currently. This looks like an alarming increase. But are these numbers really that scary? In this[1] and upcoming bulletins we will endeavour to identify why debt has risen so dramatically, discuss potential future trends, and gauge whether high debt is becoming a constraint.

Trends in household debt

Throughout the late 1970s and the bulk of the 1980s, household debt was fairly stable at around 50% of disposable income *(see Figure 1)*. Since 1991, household debt has increased by a compound rate of 11.7% p.a. Over the same period, household disposable income has only increased by an average of 3.8% p.a. This discrepancy in growth rates has resulted in a trebling of household debt relative to income. At 180%, NZ's household debt to income ratio is at the top end of the range compared to other developed economies.

Figure 1: NZ household debt / disposable income



The vast majority (92%) of household debt is housing related.[2] In the following, when we discuss developments in debt, we have chosen to focus on housing (mortgage) debt.

Stock and flow

Trends in the household debt to income ratio can be quite misleading as we are comparing a stock measure (debt) to a flow variable (income). Most household borrowing has been for housing, and house prices have increased strongly. Thus, on a balance sheet basis, the debt build-up looks nowhere near as extreme. The gearing ratio (i.e., the value of housing debt compared to the value of housing assets; both stock measures) has increased, but not nearly to the same extent *(see Figure 2)*. The gearing ratio has deteriorated from 17% to 25% between 1991 and today. This indicates that the household sector has increased their risk over the period.

[1] For the insights of this bulletin, we borrow heavily from two RBA papers: Household Debt: What the Data Show, March 2003 and Do Australian Households Borrow Too Much?, April 2003.

[2] A portion of this debt could be better classified as business debt as many small businesses in NZ use the family home as collateral for business borrowing.

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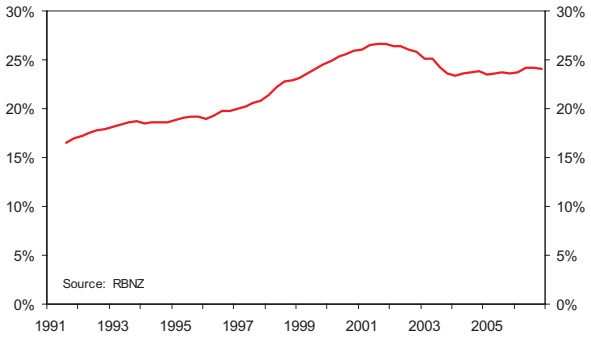
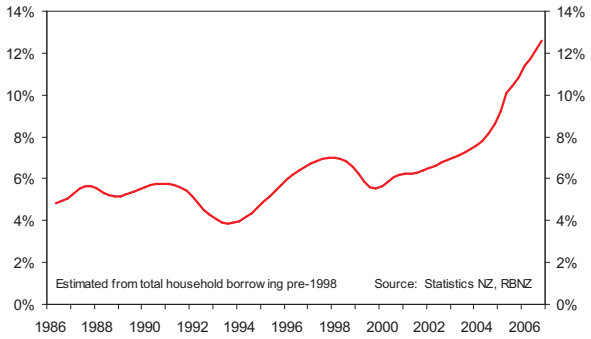
Figure 2: Gearing ratio
Housing debt, as % of housing assets



A key ratio from the household perspective is the debt-servicing ratio *(see Figure 3)*. This measures mortgage payments (interest plus required payment of principal) as a proportion of disposable income. This ratio has increased from 5 – 6% of disposable income throughout the late 1980s and 1990s, to 13% currently. Despite a reduction in average interest rates from the start to the end of the period, ballooning debt levels have dominated.

Figure 3: Debt-servicing ratio
Housing interest paid, as % of household disposable income



The problem with both the gearing and interest cover measures is that they are an average across the whole household sector. They say nothing about the distribution of debt across households.[3]

What's behind the rising debt?

The main factors which led to the rise in the household debt to income ratio are lower interest rates (meaning that households can take on a bigger quantum of debt while leaving debt servicing constant as a proportion of income) and lower inflation (and hence wage inflation, which means that debt is not eroded as quickly as a proportion of income).

Other factors which have led to an increase in the debt ratio include:

- Financial deregulation (e.g., resulting in easier lending criteria, reduced margins, consolidation of total household debt onto the mortgage, redraw facilities on mortgages etc).
- A small increase in the proportion of rental properties, with rental properties tending to be financed at a higher gearing ratio due to tax deductibility of interest payments.
- An increase in risk appetite (due to lower variability in output[4], employment, inflation, and interest rates in the economy).

We have endeavoured to quantify how much of the increase in the aggregate household debt to income ratio is due to lower interest rates and lower inflation/wage growth. To isolate the impact of these two factors we assume households can (and initially do) borrow up to a level where interest and principal payments constitute 30% of disposable income.[5] To account for loans of different ages, we calculated average debt ratios over a 25 year period.

Lower interest rates allow a higher maximum amount to be leant, whereas lower wage growth results in slower decline in the debt ratio for a given household. Table 1 displays the results.

The table is standardised so that the top left cell (representing conditions in the second half of the 1980s, interest rates at 17% and income growth of 11%) is set to 1. Each combination of lower interest rates and/or income is a multiple thereof. The figure in bold represents today's conditions. Thus, the combined impact of lower interest rates and wage growth is to increase the aggregate ratio of housing debt to income 2.4 fold.

It takes a long time (e.g., 25 years) for the full effect to flow through. However, the bulk of the increase in the debt to income ratio comes through more quickly because in the early life of a loan, debt servicing is mostly interest rather than principal repayment. The average life of a New Zealand mortgage is around 7 – 8 years (implying regular opportunity for individual households to alter debt), so we judge that most of the stimulus to household debt levels from lower inflation and interest rates has already flowed through.

[3] According to the 2003/2004 Household Economic Survey, 32% of households rented, 31% had a mortgage and 37% owned their homes freehold. The gearing ratio of those with debt (assuming all rental properties are debt funded and the same average house value applies across all ownership groups) is currently 41%. We estimate that average debt-servicing of households with mortgage debt is 20% of disposable income. But it is the distribution of that debt that is all important. Both the gearing and debt servicing ratios of those with debt are similar to those in Australia.

[4] Average variance of NZ quarterly output growth has dropped dramatically, from 1.0% in the late 1980's/1990's to 0.38% in the 2000's.

[5] Other assumptions include all mortgages being 25 year table, unchanged demographics / life cycle (the most debt intensive cohorts are where the household head is aged 30 – 45), and a constant proportion of households with debt.

Table 1: Implied aggregate debt to income ratios (relative to late 1980s level)

Interest	Nominal Income Growth (%)					
Rates (%)	11	9	7	5	4	3
17	1.00	1.12	1.27	1.46	1.58	1.71
15	1.10	1.24	1.40	1.61	1.73	1.87
13	1.23	1.37	1.55	1.78	1.91	2.07
11	1.38	1.54	1.73	1.98	2.13	2.30
9	1.57	1.74	1.96	2.23	2.39	2.58
8	1.68	1.86	2.09	**2.38**	2.55	2.74
7	1.80	2.00	2.24	2.54	2.72	2.92
5	2.10	2.32	2.59	2.93	3.13	3.36

In addition, we have proxied the impact of easier lending criteria by increasing the allowable initial servicing on a loan from 30 to 35% of income. Then the combined impact of lower interest rates, lower wage growth, and easier lending criteria is a 2.8 fold increase in the housing debt to income ratio. The debt ratio began the 1990's at around 60%. A 2.8 fold increase would take it to 170% compared to the current actual read of 180%.

Table 2: Implied aggregate debt to income ratios (relative to late 1980s level) assuming maximum debt servicing has been lifted to 35% of income.

Interest	Nominal Income Growth (%)					
Rates (%)	11	9	7	5	4	3
17	1.00	1.12	1.27	1.46	1.58	1.71
8	1.96	2.17	2.44	**2.77**	2.97	3.13

Nearly all the increase in the housing debt to household income ratio can be 'explained' by two factors: lower inflation and lower interest rates. Less restrictive lending criteria could easily explain the balance. Unless interest rates, or wage growth, or lending criteria take another step lower, this analysis suggests that the rapid build-up in debt that has occurred over the past 16 years may have nearly run its course.

A clear implication of our analysis is that the rapid increase in debt (and by extension the housing boom) should not be feared. Most of it has occurred as a consequence of good macroeconomic policy. Lower and less volatile inflation, interest rates and output have been the root cause of the transition to higher debt levels.

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