THE TREASURY
Kaitohutohu Kaupapa Rawa

Reference: 20170041

24 April 2017

Thank you for your Official Information Act request, received on 13 February 2017. You requested:

> *"I request any and all advice or information provided by the Treasury to Ministers in the last 18 months concerning:*
> - *Risks to mortgagees arising from changes in the cost of borrowing (real, predicted, or hypothetical)*
> - *Flow-on effects on the housing market*
> - *Risks to financial stability arising from changes in the cost of borrowing (real, predicted, or hypothetical)*
> - *Flow on effects on the housing market, employment, and other key economic indicators"*

On 10 March 2017, I extended the time limit for deciding on your request by an additional 20 working days. The extension was required because of the consultation needed to make a decision on your request.

Information Being Released

Please find enclosed the following documents:

Item	Date	Document Description	Decision
1.	19 May 2016	Email to Minister of Finance's office	Release in full
2.	4 July 2016	Aide Memoire: Household Debt	Release in full
3.	29 August 2016	Email to Minister of Finance's office	Release in part
4.	13 September 2016	Email to Associate Minister of Finance's office	Release in part

I have decided to release the documents listed above, subject to information being withheld under one or more of the following sections of the Official Information Act, as applicable:

- personal contact details of officials, under section 9(2)(a) – to protect the privacy of natural persons, including deceased people, and

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- names and contact details of junior officials, under section 9(2)(g)(i) – to maintain the effective conduct of public affairs through the free and frank expression of opinions.

Information Publicly Available

The following information is also covered by your request and is publicly available on the Treasury website:

Item	Date	Document Description	Website Address
5.	September 2016	September Monthly Economic Indicator	http://www.treasury.govt.nz/economy/mei/archive/pdfs/mei-sep16.pdf
6.	22 December 2016	Previous Treasury OIA Response: 20160398: House Prices to Income – Chew Session discussion paper (document 5)	http://www.treasury.govt.nz/downloads/pdfs/oia/oia-20160398.pdf

Accordingly, I have declined your request for the documents listed in the above table under section 18(d) of the Official Information Act – the information requested is or will soon be publicly available.

Some relevant information has been removed from documents listed in the above table and should continue to be withheld under the Official Information Act, on the grounds described in the documents.

In making my decision, I have considered the public interest considerations in section 9(1) of the Official Information Act.

Please note that this letter (with your personal details removed) and enclosed documents may be published on the Treasury website.

This fully covers the information you requested. You have the right to ask the Ombudsman to investigate and review my decision.

Yours sincerely

Nick McNabb
Team Leader, Housing Affordability Policy

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From: Tracy Mears [TSY]
Sent: Thursday, 19 May 2016 2:29:58 PM
To: ^Parliament: Matt Burgess;^Parliament: David Kidson
Cc: Nick McNabb [TSY]
Subject: Interesting housing chart

[UNCLASSIFIED]

Hi Matt, David

I created this chart to show how you would expect house prices to change as a result of interest rate changes. Now normally you would think of this in terms of mortgage interest rates but I have used term deposit rates on the basis that investors with equity may be thinking about where they could "invest" their money. If term deposit rates fall, the yields on housing investment look attractive and investors bid up the price of housing.

The blue line is the estimate of the price of housing that, through that bidding-up process, investors are willing to pay so that the rental yield in Auckland is just equal to the term deposit rate. I then compared this to actual house price in Auckland. It is a reasonable approximation except during the last boom and the last couple of years.

If you also took into consideration the tax preference for the housing investment over the term deposit due to the potential non-taxable capital gain, or the ability to leverage and the tax advantages of that, then it is not surprising that even at current prices, housing looks like a good bet.

However, what is missing is potential future changes both to interest rates but also to supply. If interest rates increase and supply increases to the point where it decreases rents, then the amount investors are willing to pay for housing would fall.

Mark Blackmore suggested that the Minister may be interested in the chart so I thought I would send it across. I've also added Wellington and Canterbury below as comparators.

Tracy

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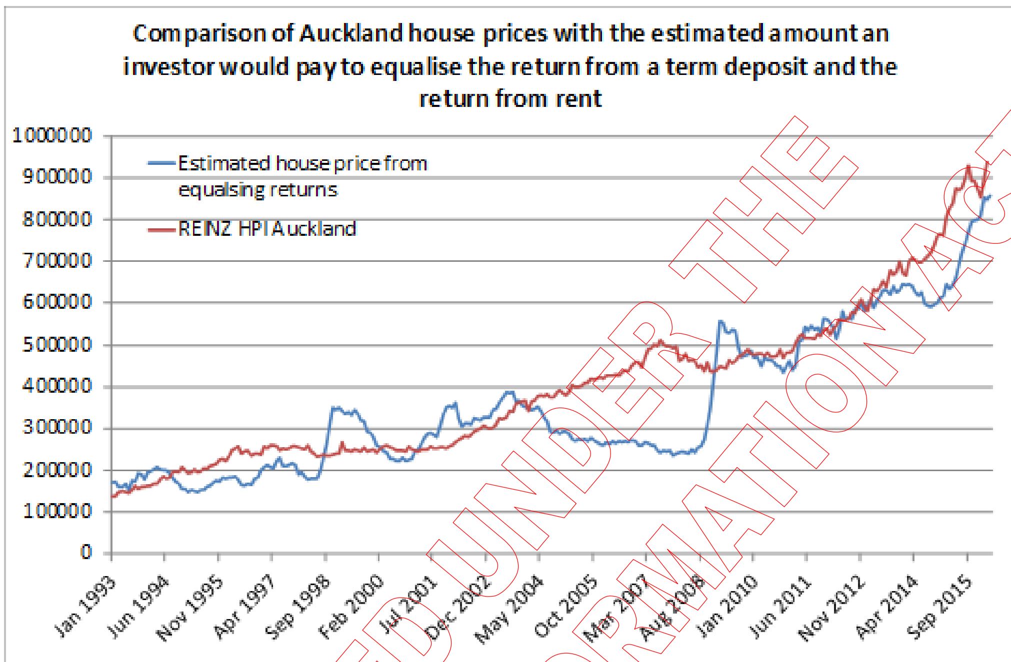

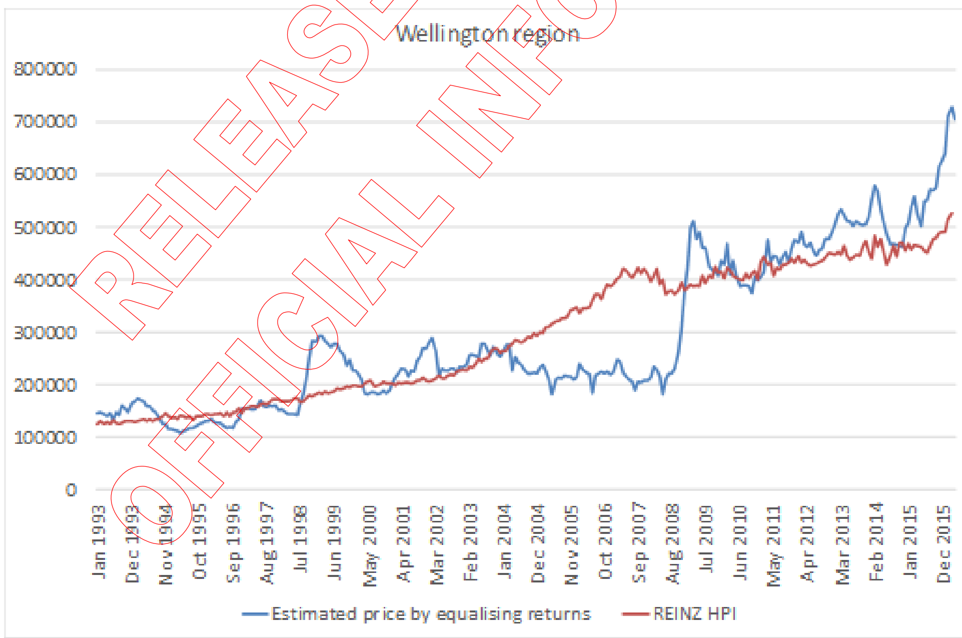

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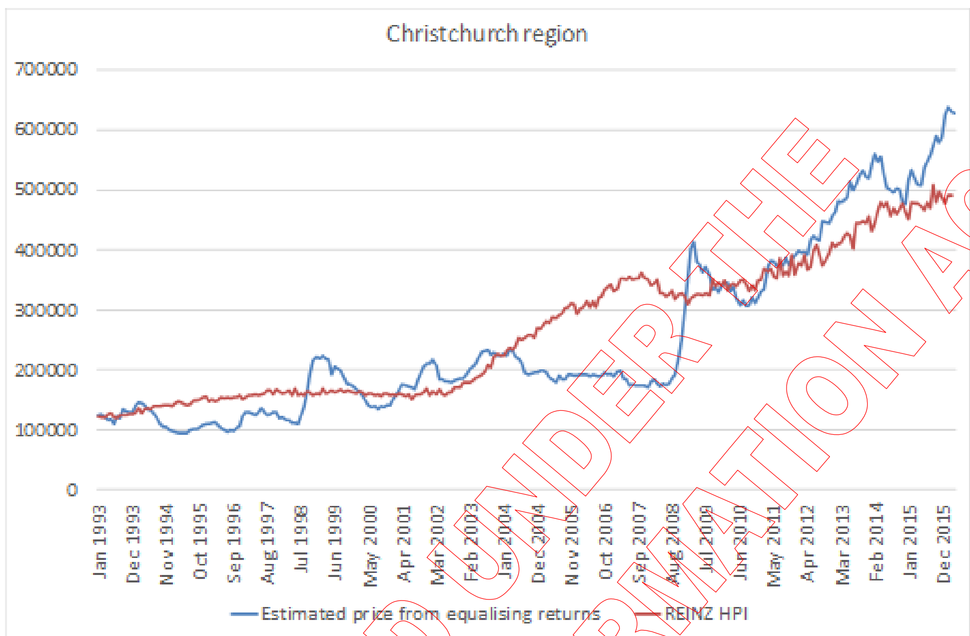

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Reference: T2016/1094 MC-1-0

Date: 4 July 2016

To: Minister of Finance
(Hon Bill English)

Deadline: None
(if any)

Aide Memoire: Household Debt

Summary:

Household debt levels have increased with aggregate debt-to-income reaching a new high of 163%. Some commentators have expressed concern at both the level of, and increases in, household debt.
Several factors mean the increases and current high levels of debt are not necessarily a concern from an aggregate economic performance perspective, namely that:

- both net wealth and net financial wealth have been increasing;
- low interest rates have meant declines in aggregate debt servicing; and
- leverage rates have fallen (although these are sensitive to house price developments).

However, the distribution of debt matters and new borrowers, in Auckland in particular, are likely taking on high levels of debt reflecting elevated housing prices. As a result there is likely to be a group of households who could be relatively exposed to changes in economic conditions such as employment or interest rates.

Domestic factors are not perceived as being likely to lead to aggregate distress, reflecting that domestically driven increases in interest rates would likely reflect relatively strong income and employment outcomes. However, higher debt levels increase vulnerability to external shocks.

While this note does not aim to comprehensively assess financial stability concerns the Reserve Bank continues to assess that the New Zealand financial system remains resilient. The analysis of debt contained in this note suggests that it remains appropriate that central economic forecasts are not unduly constrained by household debt levels.

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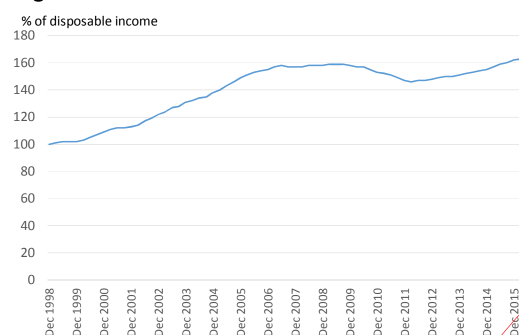
Analysis

Aggregate household debt levels have reached record levels

Figure 1: Household debt*



*includes rental property loans

Source: RBNZ

"New Zealand is sitting on a half-a-trillion-dollar debt bomb and Kiwis are increasingly treating their houses like cash machines, piling on the debt as they watch the value of their properties soar" says the NZ Herald.[1] Such quotes are representative of growing attention placed on debt levels and household debt levels in particular, with debt as a percentage of household income at its highest ever level and surpassing its GFC level peak.

Last year we briefed you on households' balance sheet data and the associated macroeconomic considerations. Since then an additional year's data has become available which shows that household debt levels have continued to increase. This note summarises the data, most recently released in June, and examines both sides of the argument that recent increases in debt will prove problematic for the economy.

At an aggregate level there are reasons to believe that debt levels remain manageable. At the individual level, there are likely to be subgroups of households that are more exposed. In particular, recent entrants to the Auckland property market are likely to have high debt levels relative to their incomes. This reflects rapid house price increases relative to incomes, in part due to low interest rates and a lack of supply relative to demand. However, high debt levels increase households' vulnerability to shocks in income, employment, and interest rates.

There are a number of considerations in determining whether this is a problem

From a macroeconomic perspective, it is not clear what levels of debt are "too high" or problematic, and the ability to take on debt plays an important role in enabling households to spread the cost of expensive assets, such as housing, across time. There are a number of important considerations:

- the ability of households to service the debt both now and in the future;
- the extent to which the assets used as collateral are fairly valued;
- the distribution of debt across households;
- the extent to which lending is concentrated on particular types of assets or assets in particular locations;
- the extent to which the above increases household and financial sector vulnerability to shocks.

[1] http://www.nzherald.co.nz/personal-finance/news/article.cfm?c_id=12&objectid=11651648

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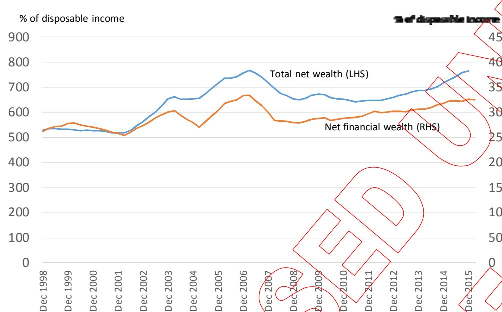
Concern has been raised that households have returned to 'borrow and spend' ways while others are more ambivalent noting that the ratio of debt to income has been stable over the past decade

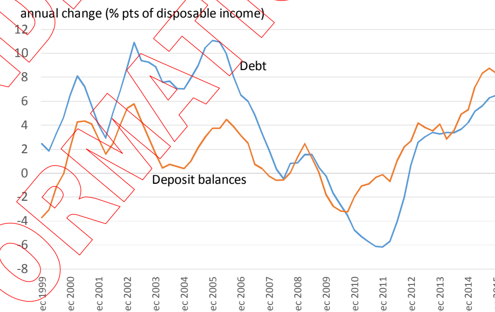
The vast majority (over 80%) of debt held by New Zealand households is housing loans while housing assets make up around half of the total value of household assets.[2] Figure 1 shows that household debt has increased from 146% of household disposable income in 2012 to 163% at the beginning of 2016. Different interpretations of the aggregate data over recent years are possible. One is that debt has started to trend up again and households have returned to their 'borrow to spend' ways.[3] Another is that debt to income has been fairly stable over the past decade, with debt to income currently around levels that prevailed over much of 2007 to 2009.

Figure 2: Household net wealth



Source: RBNZ

Figure 3: Growth in debt and deposits



Source: RBNZ

Household deposits have been growing faster than debt…

Figure 2 shows that the net wealth of households has also been increasing. Figure 3 illustrates that over the 2000s households consistently increased their aggregate borrowing by more than their aggregate deposit balances. Post the GFC deposit balances have generally increased by more than debt levels, including during the period when debt accumulation has accelerated.[4] For example between March 2015 and 2016 household deposit balances increased from 95% of annual disposable income to nearly 102% - an increase of 7 percentage points. Household debt increased from 157% of annual disposable income to 163% - an increase of 6 percentage points. This means that net wealth levels, which are also close to record

[2] A feature of improvements to household balance sheet statistics last year by the Reserve Bank was the incorporation of a wider range of assets and hence and increase in overall assets values. In particular equity in both unlisted incorporated businesses and unincorporated businesses was included. As a result housing assets now represent a lower share of overall assets than was reflected in earlier balance sheet measures. As of December 2015 households owned financial assets worth approximately the same as housing. Deposits represented just under a quarter of financial assets, with a little over 60% of financial assets being equity in incorporated and unincorporated businesses.

[3] For example Westpac comments that "The resulting debt-funded increases in household spending and strengthening in the housing market are helping to offset some of the weakness in other parts of the economy, particularly the dairying sector."

[4] This observation also holds if we consider financial assets in general, although there is more volatility in the period prior to and during the GFC, as share markets experienced significant price swings.

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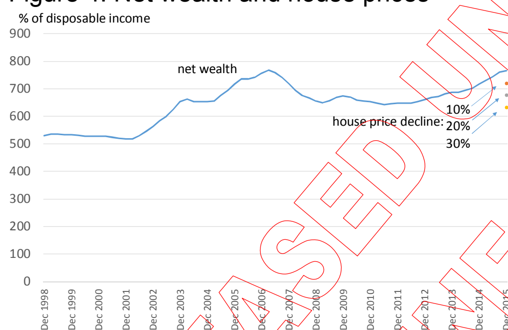
levels, are not solely the artefact of high house prices (although they have contributed). This is also illustrated in figure 4 which shows that if nationwide house prices were 20% lower than currently, net wealth levels would only decline back to around 2013 levels.[5]

... reflecting a change in saving behaviour by households

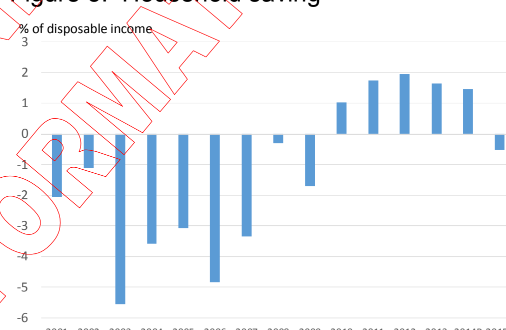
Stronger growth in deposit assets relative to debt is the balance sheet result of a change in the saving behaviour of households. Between 2010 and 2014 household saving was positive following negative rates over the 9 years prior. The most recent sectoral accounts from Statistics NZ showed that household saving fell in the year to March 2015, with households dissaving the equivalent of 0.5% of their disposable income (Figure 5). A large fall in farm income, which declined by 2.5%pts of disposable income, was an important contributor to the decline in saving.[6] Even with this most recent decline in saving, households are yet to return to the high rates of dissaving that occurred in the 2000s. Treasury's Budget forecasts show modest rates of positive saving by households across the forecast period.

Figure 4: Net wealth and house prices



Source: RBNZ + authors calculations

Figure 5: Household saving



Source: Statistics NZ

Low interest rates have meant declines in aggregate debt servicing

As noted above, the ability of households to service their debt levels is an important consideration in determining whether debt levels are a concern. Figure 6 shows debt servicing rates at the aggregate level. Debt servicing (including principal repayments) peaked at 20% of disposable income in 2008. As interest rates have fallen debt servicing costs declined to 15.5% of disposable income in 2013 and currently sit just below 17%. Debt servicing costs have been fairly static over the past year, with falling interest rates slightly outweighing higher debt levels.

[5] In this figure only house prices fall – no adjustments are made to the value of other assets or incomes. It will therefore underestimate the impact on net wealth if a common shock also affects the value of financial assets. Falls in income would provide a partial offset as the figures are shown a percentage of disposable income, but would nevertheless still represent undesirable outcomes.

[6] Strong farm income contributed to positive rates of saving between 2010 and 2014 but was not the only reason.

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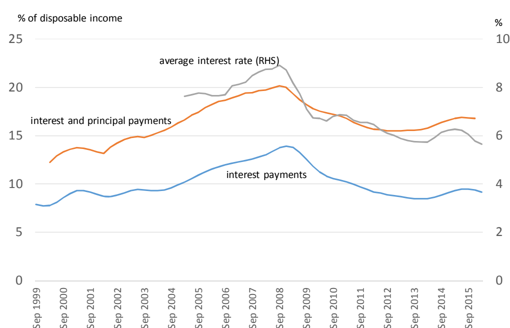
Figure 6: Debt servicing and interest rates



Source: RBNZ

Figure 7: Housing debt to asset value

Figures include the value of and loans against rental properties

Source: RBNZ + authors calculations

The future evolution of debt servicing rates will be influenced by both the accumulation of debt and interest rate developments. With current market mortgage rates below the average interest rate currently being paid it is likely that average interest rates will continue to decline over the year ahead. Future increases in interest rates would increase debt-servicing rates. Whether this results in debt servicing rates exceeding previous highs will depend on the extent and timing of interest rate increases.

Aggregate housing leverage has fallen but would be sensitive to falls in house prices

Figure 7 shows that while debt levels have been increasing, the overall extent to which the housing stock is leveraged (the value of housing loans compared to the value of housing) has fallen back to levels (at around 24%) that prevailed about a decade ago, after peaking at just under 29% in 2009. The increase to this peak reflected falls in the value of housing assets between March 2008 and 2009 combined with modest increases in housing debt. The more recent decline is not particularly surprising in an environment of rising house prices as for most households the value of their asset will be increasing while their mortgage will fall slightly - unless they actively increase their borrowing. A fall in average house prices of around 16% would see housing debt to asset ratios return to their 2009 level.

At the aggregate level there are reasons that limit concern

So far this note has examined aggregate national level data. At the aggregate level debt has increased to historically high levels. However, the data discussed so far would suggest this rise need not be a significant source of concern at this stage given:

- the accumulation of debt has to date not been the result of sustained dissaving;
- debt servicing levels are well within historical ranges with the potential for further falls.
- net wealth, including net financial wealth, has been increasing;
- housing debt to asset ratios have fallen.

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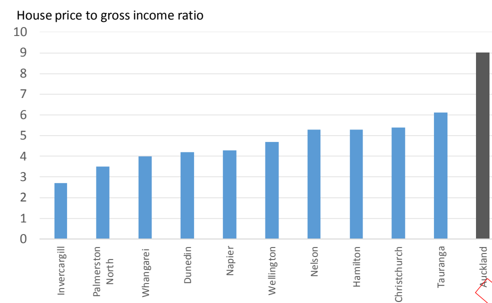
But distribution of debt may matter, if concentrated in groups of households

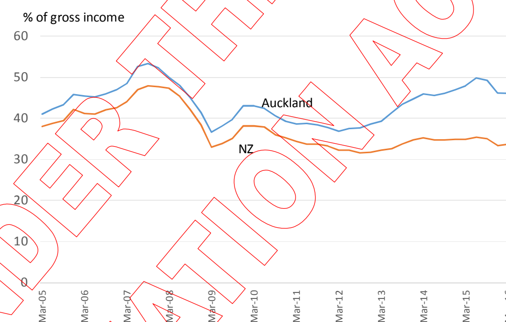
Nevertheless, the distribution of debt across households matters because if debt is concentrated in certain groups of households then, while aggregate measures such as debt servicing may look sustainable, there may be groups that are particularly at risk should shocks to asset (house) prices or incomes occur.

Figure 8: House prices to income



Source: RBNZ

Figure 9: Representative new buyer debt servicing ratios



Source: RBNZ

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High Auckland house prices mean new entrants need to take on high debt levels

Rapid house price growth in Auckland has seen the average Auckland house sell for around 9 times the average Auckland household income, around 1.5 times the ratio anywhere else in the country and more than double those in a number of regions (Figure 8). In general, Auckland house prices are mostly reflective of fundamentals associated with population growth, low interest rates and slow supply growth. But it is also likely that the resulting market conditions appear to be creating some unrealistic expectations about these fundamental drivers over the long term.

Representative new buyer debt serving costs in Auckland are elevated despite low interest rates…

One area of concern is the extent to which some households may be accumulating liabilities to an extent that makes them particularly vulnerable to changes in interest rates or other economic circumstances. Figure 9 shows information contained in the most recent Financial Stability Report and shows the debt servicing costs of a household that purchases an average value house on an average household income with a 20% deposit. In Auckland around 46% of the average income is required. If interest rates were to return to a 10 year average of 6.7% then this debt-servicing ratio would increase to 57% - exceeding the previous peak of 53% in 2007.

… but in practice a lot of buyers will have higher incomes

The extent to which these calculations point to actual risks is dependent on how representative the “representative buyers” are. For example, if the typical buyer tends to have a higher than average income, then the level of the debt servicing ratios will be overstated. Analytical work by the Reserve Bank covering buyers during the 2005 to 2013 period highlighted that new buyers on average had disposable incomes that were

around 40% higher than the overall median.[7] This may suggest that for a lot of new buyers, debt servicing rates may not be as high as in figure 9, however the broad trend (towards record high servicing) is likely to still be apparent. In addition, there may be concerns about housing affordability and equity considerations associated with home ownership that are not considered in this note.

Investors are representing an increased share of Auckland buyers

The Reserve Bank's loan-to-value restrictions have been implemented to limit risk to the financial sector and economy more generally should a significant shock to house prices occur. Greater restrictions apply to investors, who make up a larger share of house purchasers in Auckland and have higher average debt to income ratios. Despite these measures, the share of total house purchases in Auckland by investors has increased from around 33% in 2007 to 42% in 2016.

Domestic factors are unlikely to lead to aggregate distress…

Almost by definition, higher debt levels mean that households are more exposed to increases in interest rates. Should we be concerned by this? An important factor would be the driver and timing of any interest rate shock. Domestically driven increases in interest rates via increases to the OCR will be dependent on inflationary pressures increasing as domestic activity grows. This is likely to be associated with stronger nominal income growth and an improving labour market. Higher rates of debt mean that monetary policy may be more effective in influencing demand with interest rates not needing to rise as much as in the past. However, individual circumstances will mean that such developments will affect households in different ways.

… but external shocks could prove more problematic

An external shock that leads to a rapid and sustained large increase in bank funding costs would be more of a concern, particularly if it is associated with weaker demand and increased unemployment. At present the Reserve Bank still has policy room to respond (via the OCR) and it is likely that exchange rate adjustment would provide some buffer as well. Historically, losses associated with household mortgages have not generally driven bank losses in downturns. However, current debt levels exceed those in the past. The experience of the United Kingdom and Ireland also highlighted that investors experienced higher loan default rates than owner occupiers.

Overall, at the macroeconomic level there are reasons to limit concern about household debt developments, while being cognisant of the risks. This is consistent with central forecast tracks that are not unduly constrained by household debt levels as well as assessments that the New Zealand financial system remains resilient. The Budget Economic and Fiscal Update 2016 noted:

[7] "Vulnerability of new mortgage borrowers prior to the introduction of the LVR speed limit: Insights from the Household Economic Survey" by Ashley Dunstan and Hayden Skilling (AN2015/02)

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"While faster house price growth presents a positive risk for economic activity, a sharp fall in Auckland house prices from an elevated level presents a downside risk to household wealth and therefore consumption, although this is unlikely without a major external trigger given the presence of strong economic fundamentals supporting demand. In addition, potentially higher household debt relative to disposable income presents a risk to financial stability as households will be more vulnerable to interest rate increases."

Peter Mawson, Senior Analyst, Macroeconomic & Fiscal Policy, 04 917 6288
Mark Vink, Manager, Macroeconomic & Fiscal Policy, 04 917 6006

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From: s9(2)(g)(i) [TSY]
Sent: Monday, 29 August 2016 1:01:37 PM
To: tony.dejong@treasury.govt.nz
Cc: ^Parliament: David Kidson;^Parliament: Andrew Falloon;Nick McNabb [TSY];Tracy Mears [TSY];s9(2)(g)(i) ;Brendon Riches [TSY]
Subject: RE: House Price Stats

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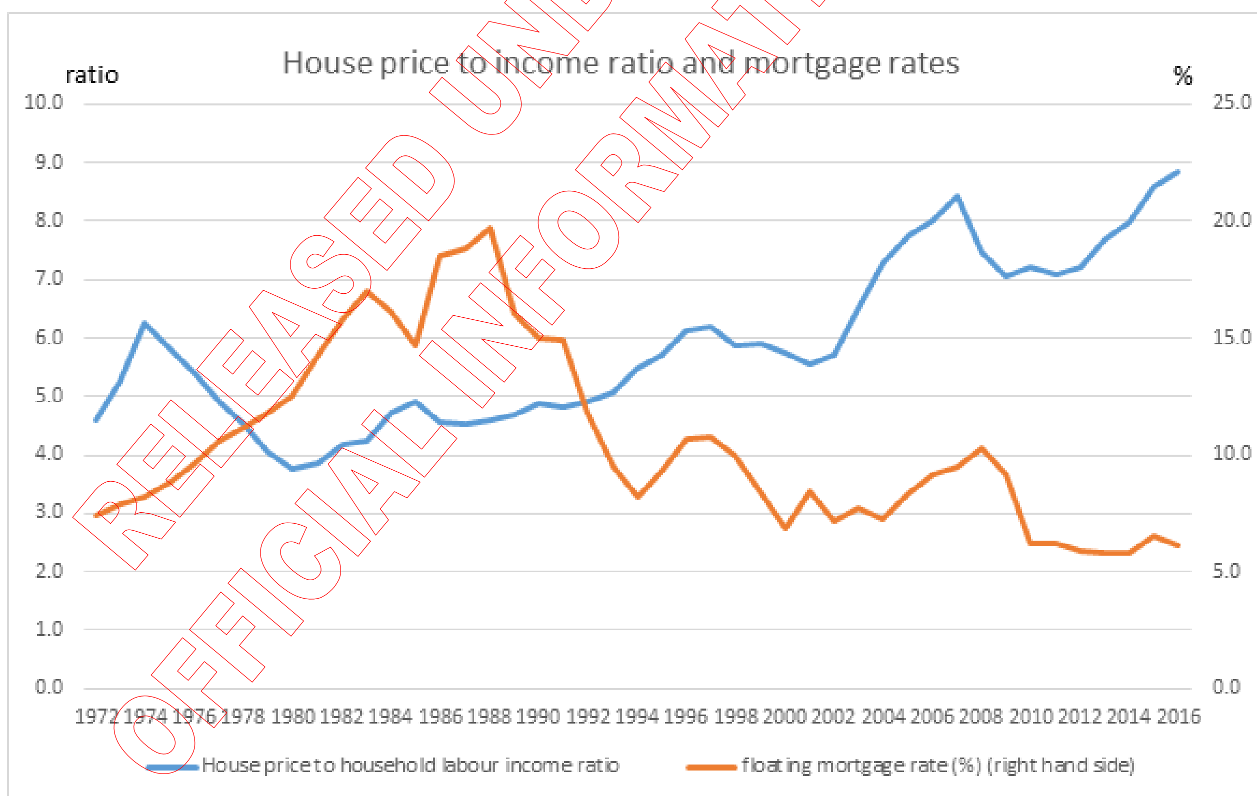
[IN-CONFIDENCE]

Hi Tony,

Below is the graph as requested:



Note that:

- The data is year to March. The recent falls in mortgage rates since March 2016 quarter will not be reflected here.
- The data assumes constant average household size of 2.7 (as in 2013 Census). This is likely to overestimate the house price to household labour income ratio in the early years where average household size was larger.

Sources:

- The nominal house price is based on StatsNZ long-term data and QV house price index.

- Household labour income is based on StatsNZ figures.
- The floating mortgage rates come from RBNZ figures.

Please let me know if you need anything further.

Ngā mihi,
s9(2)(g)(i)

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From: s9(2)(g)(i)
Sent: Tuesday, 13 September 2016 4:16:19 p.m.
To: Matt Burgess
Cc: Peter Mawson [TSY]; Nick McNabb [TSY]; Andreas Heuser [TSY]; Chris Parker [TSY]; Lucy Greig [TSY]
Subject: RE: House prices

[IN-CONFIDENCE]

Hi Matt,

We've pulled together the updated chart with sensitivities, copied below.

The chart is relatively crude in that we have adjusted the interest rate using percentage points, so the impact on the equalised return is significant in a low interest rate environment (as has been the case since 2009) compared to a higher interest rate environment. These calculations also assume that rental returns remain static over time. Interest rates and the corresponding opportunity cost of capital are just one of the factors that influence housing prices (as the A3 notes). While interest rates (combined with rental market developments) are consistent with moves in house prices, it isn't something that needs to be automatic but reflects a multitude of supply and other demand factors.

More generally, this chart ignores the cost of debt servicing for leveraged investors (it treats a house as if owned with 100% equity) and that an investor's alternative form of investment is a term deposit, which may not be a realistic assumption. It also ignores debt, tax, expenses and risk.

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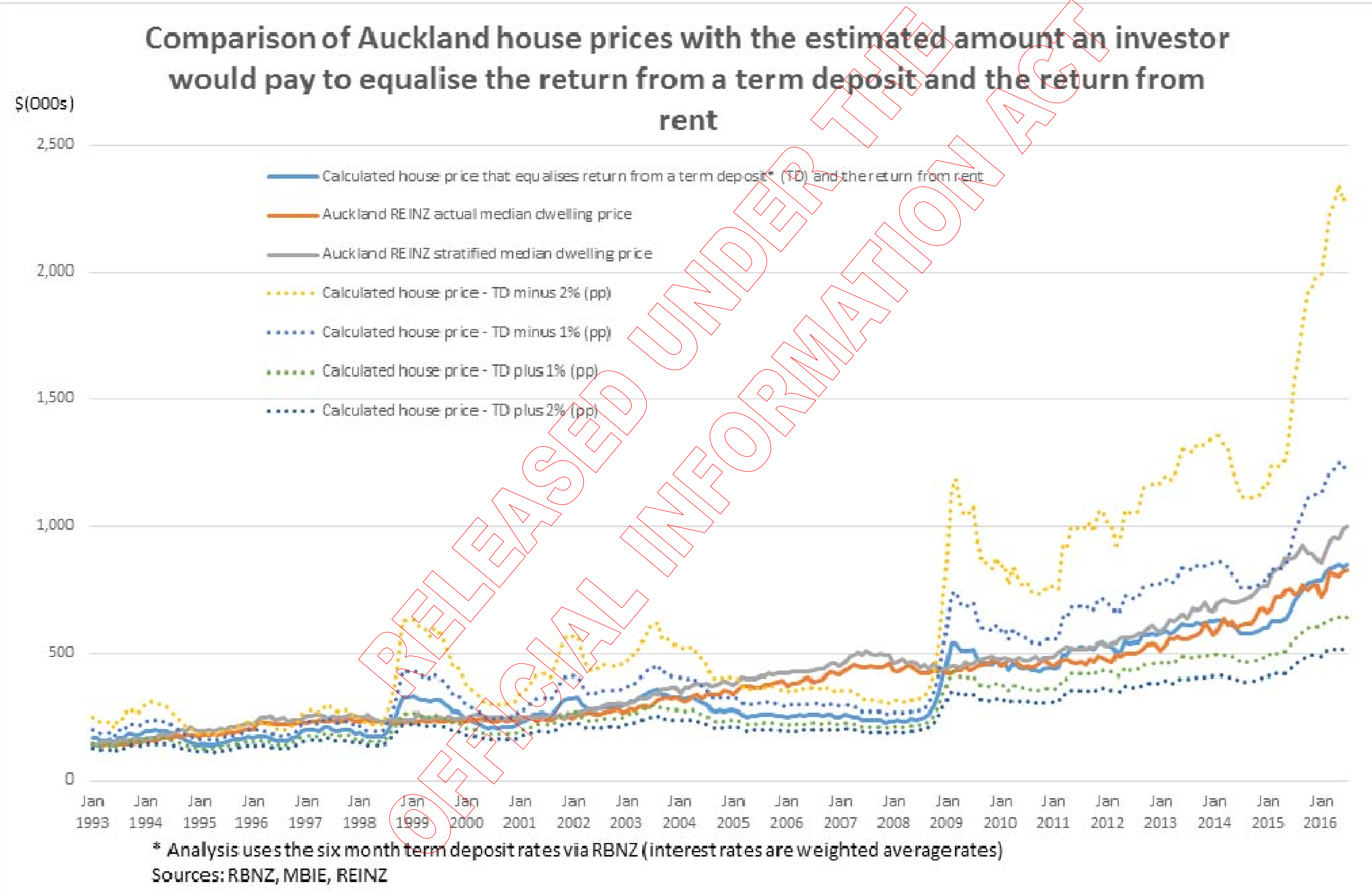

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s9(2)(g)(i) Housing | **The Treasury**
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From: Matt Burgess [mailto:Matt.Burgess@parliament.govt.nz]
Sent: Friday, 9 September 2016 4:40 p.m.
To: Peter Mawson [TSY] <Peter.Mawson@treasury.govt.nz>
Cc: ^Parliament: David Kidson <David.Kidson@parliament.govt.nz>
Subject: House prices

Peter thanks for the A3s. I realise the meeting was pulled together at short notice and there's only so much that can be achieved in that time. Given it's been pushed back a couple of days, would it be possible to use the model that sits behind the chart on page 1 top right "equalise the return" to understand house price sensitivity to interest rates? In other words, use it to show house price paths (or just current prices) at actual interest rates path, and then scenarios at +1% interest rates, +2%, -1%, -2% etc?
Matt

Matt Burgess | **Senior Economic Advisor**
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