Bubble, Schmubble

House prices have been pushed up by tax rates and interest rates

- **Current house prices are justified by the fundamentals.**
- **Increasing the top tax rate to 39c pushed up house values by 17%.**
- **Lower long-term interest rates increased the value of property by 20%.**

House prices have doubled in five years, but they are not materially overvalued. Rather, house prices have risen for good reason. This bulletin explains the role of two key drivers in the recent house price boom – higher tax rates and lower interest rates. The increase in the top tax rate increased the attractiveness of property for investors, pushing up prices by about 17%. The fall in long-term interest rates made it cheaper to take out a mortgage, meaning people could bid more for property to the tune of 20%. Together, tax rates and interest rates explain more than a third of the house price increase this decade.

Our analysis uses a method of valuing property according to its "investment value", or what the property could be worth to an investor. This is similar to the valuation method commonly used for shares or other assets. Essentially, the value an investor attaches to a property depends on[1]:

- The rent received
- Expenses incurred
- Mortgage interest paid
- Tax rebates received from losses
- The expected capital gain

We estimate that the investor value of property was $168,000 in 1999, based on the interest rates, tax rates, and rents that prevailed at the time. The actual median selling price was $160,000, so property was slightly undervalued. As of December 2006, the investor value of property was $326,000, versus the median sale price of $322,000. Property is now more-or-less fairly valued.

The investment value of property has implications for all prospective home buyers, not just investors. If the investment value of property is higher than actual selling prices, investors will tend to enter the market en masse, quickly bidding up the price. Equally, if actual selling prices are above the investment value of property, then investors will tend to exit the market. With fewer willing buyers, there would be downward pressure on house prices.

How tax rates affect property values

Every investor knows that there are huge tax benefits to owning a rental property. Here is how it works. Most landlords make a loss on their rental properties, since the rent does not cover the mortgage interest and expenses. This loss can be offset against other income, effectively

Table: The investor value of housing under various scenarios

	Annual Rent	Interest Rate	Expected Capital Gain	Tax Rate	Investor Value of Property
1999 conditions	10,261	9%	5.3%	33%	**$168,000**
Current conditions	10,600	8%	6%	39%	**$326,000**
Scenario 1: Lower tax rate	**11,550**	8%	6%	**33%**	**$278,000**
Scenario 2: Lower interest rate	10,600	**7.5%**	6%	39%	**$381,000**
Scenario 3: Higher interest rate	10,600	**8.5%**	6%	39%	**$285,000**

In each scenario, an investor with a 95% mortgage will make the same 6.2% p.a. expected return on equity.

Economic Research New Zealand +64 4 470 8250 bodonovan@westpac.co.nz Sydney +61 2 9284 8372 London +44 20 7621 7620

www.wib.westpac.co.nz

reducing the landlord's taxable income. The landlord receives a tax rebate on rental losses *at their marginal tax rate*. If the marginal tax rate goes up, the tax rebate goes up. For example, consider a highly leveraged landlord with a large mortgage, who makes a tax-deductible loss of $30,000 on a rental property. If the landlord's marginal tax rate were 33%, the tax rebate from this loss would be $9,900. But if the top marginal rate of income tax rose to 39%, suddenly the tax rebate would rise to $11,700. The higher rate of tax means the rental property is worth an extra $1,800 in tax rebates *every year* to a high-income investor.

A high-income person would be willing to pay a lot to secure a tax break of $1,800 per year, especially given that they can borrow most of the money required and probably see property as a good investment anyway. No wonder kiwis have been investing in property! And no wonder would-be first home buyers have struggled. If a first home buyer wishes to purchase a property, they must first outbid a high-income investor who is chasing a tax break.

Our calculations suggest that the change in the top tax rate pushed the value of property up by 17%, and at the same time held rents down by about 8%.[2] It took a long time for property prices to rise, but today we would say that the increased tax breaks are fully priced into property valuations.

Of course, tax rates can change. If the top tax rate was reduced to 33%, the investor value would fall to $272,000 for the average house. (Assuming an 8% increase in rents to partially compensate landlords for the reduced tax break). Actual selling prices would not necessarily fall immediately, but investors would certainly lose their enthusiasm, creating a downturn in some parts of the property market.[3]

How interest rates affect property values

With lower long-term interest rates now than in the 1990s, it is cheaper to borrow money for purchasing property. From an investor perspective, lower interest rates spell lower costs and greater profits. Since mortgage interest is often an investor's main expense, small movements in long-run interest rates can have big effects. Between 1999 and 2007, 5-year mortgage rates fell from 9% to 8%. We estimate that this increased the investor value of property by almost 20%.

Future changes to long-run interest rates could have an equally large effect on the value of property – a 1 percentage point increase in the long-run interest rate, if it were viewed as permanent, could push the value of property down by 20%. Now, before you panic about Dr Bollard's recent OCR hikes, we are talking about long-run interest rates here. Transitory changes to shorter-term interest rates don't have much effect on property prices – investors tend to focus on the long term.

Have higher taxes made monetary policy less effective?

Interest rate changes have less impact on property investors when tax rates are higher. That is because property investors can use tax rebates to claim back a portion of any increase in mortgage interest. When the tax rate went up, the tax rebate went up. So a one percentage point increase in the interest rate now pushes up a high-income investor's *after-tax* costs by just 0.61%. The other 0.39% is claimed back as a tax rebate.

Meanwhile, owner-occupiers feel the full impact of interest rate increases, because owner-occupiers' mortgage interest is not tax deductible. Equally, the *decreases* in mortgage rates between the 1990s and now have actually benefited owner-occupiers more than investors.

The great unknown: long-run capital gains

Capital gains are the last piece in the puzzle behind the investor value of housing. To justify current house prices, investors must realise a long-run capital gain of 6% per annum. That seems reasonable to us. The historical average increase in house prices is inflation plus 3.3% per annum. Inflation expectations are currently around 2.7%. Current house prices are not based on unrealistic expectations of capital gain.

Of course, expected long-run capital gains can also be influenced by market sentiment. Buoyant expectations of future capital gains have helped to push up house prices in recent years, and a downturn in market sentiment could push house prices down. That is why property investment is such a risky investment – you can be certain of the year-to-year costs, but you can never be sure of the future capital gain!

Does the theory work in practice?

We recognise that not all property investors are on the top tax rate, although many are. We also recognise that not all landlords have large mortgages. Finally, most properties are bought by owner-occupiers, not investors. But none of this invalidates our work. Auctions and house tenders are won by the highest bidder, not the average bidder. If a sophisticated property investor values a property highly because of the associated tax breaks, he or she will submit a high tender or bid highly at auction. The investor may not win the auction, but whoever does win must place an even higher bid. So the price of property is certainly influenced by what an investor would be willing to pay.

Figure 1 plots the investor value of property versus actual house prices. Actual house prices tend to move much more slowly and steadily than the investor value, so the two are not always exactly equal. But over the long term, prices do tend to reflect the investor value.

Figure 1: The investor value of houses versus median selling prices

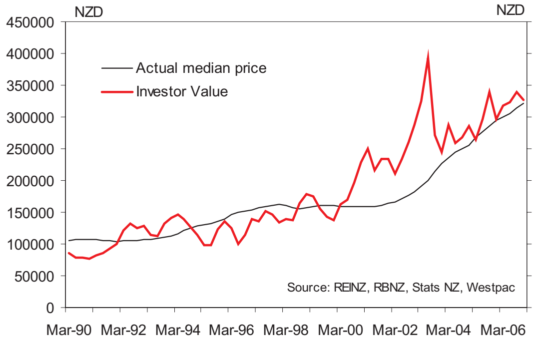
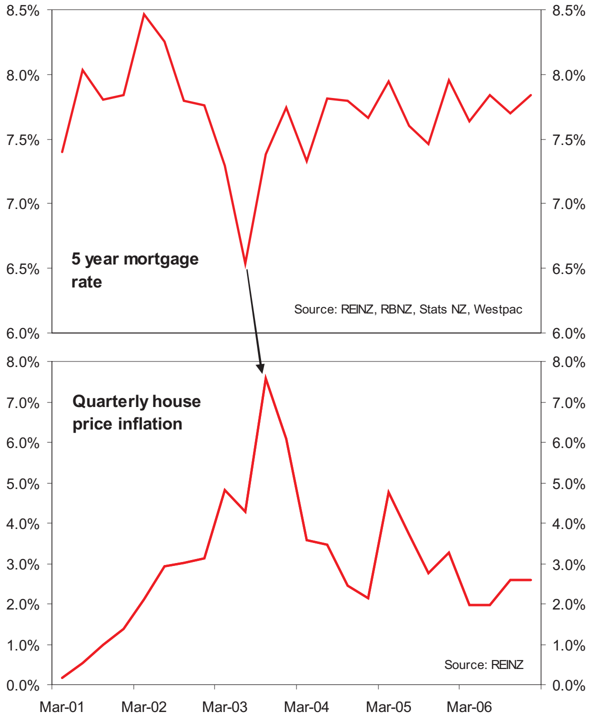


Figure 2: Low mortgage rates fuelled house price boom in 2003



The peak of the current house price boom in 2003 was a very interesting episode – Figure 2 gives a closer look at what happened. In mid-2003, 5-year mortgage rates fell by almost a 1½%. The Reserve Bank Governor was cutting interest rates and appeared much more dovish than his predecessor. In addition, world financial markets were experiencing jitters about deflation. The unusually sharp fall in long-term interest rates inflated the investor value of housing to astronomical levels. Not surprisingly, house prices rocketed, with house prices rising by 7% in the very next quarter. By the end of 2003 the Reserve Bank had changed its perspective and was shifting back to a hiking bias. Mortgage rates rose, the investor value of housing fell, and house price inflation slowed.

Lessons

The pessimists during the current house price boom were wrong. The rise in house prices was an adjustment to a new set of fundamentals, not a bubble. Any investor who managed to lock in his/her mortgage at 6.5% in 2003 would have made "a killing" even if capital gains had been limited to 5% per annum. The fact that house price inflation actually rose to 24% was just an added bonus! It is no wonder properties were being snapped up by investors, and no wonder hapless would-be home buyers watched in dismay as prices rose well beyond their reach.

Nowadays the adjustment period is over. House prices appear to be roughly in line with the fundamentals. But there are still big risks for investors. If the fundamentals change, the investor value of housing will change. To us, the main risks are a fall in the top tax rate, or an increase in long-term interest rates. Either could reduce the investor value of housing. And a reduction in the investor value of housing could lead to a downturn in the housing market as a whole.

Brendan O'Donovan, Chief Economist, Ph: (64-4) 470 8250
Dominick Stephens, Economist, Ph: (64-4) 381 1414

[1] The valuation method is similar to the "user cost of housing" outlined in the OECD Economic's Department's Working Paper No. 475 (Girouard N, M Kennedy, P van den Norrd and C Andre, "Recent House Price Developments: The Role of Fundamentals.") However, the OECD paper did not fully allow for the tax treatment of rental property in New Zealand. A landlord should be willing to buy a property as long as:

$$\text{Rent}(1-t) + \text{Price}*\pi^e \geq \text{Price}(i+f)(1-t),$$

where t is the marginal tax rate, π^e is the long run expected rate of capital gain on property, i is the mortgage interest rate, and f is other costs. Solving for the maximum price an investor would be willing to pay gives:

$$\text{Price} = \text{Rent}(1-t) \,/\, ((i+f)(1-t) - \pi^e)$$

For more details on the data, please refer to our bulletin ***"Rent Apart"***, 6 March 2006.

[2] Rents are currently low because of the increased tax break landlords are enjoying. An 8% increase would return rents to their 1990s level as a proportion of the average wage. See Westpac Bulletin entitled ***"Rent Apart"***, dated 6 March 2007, for details.

[3] The lower end of the market would be the most affected – rentals and first homes. The top end of the real estate market may actually benefit from a reduction in the top tax rate.