

A Motley Crew interview on Australian House Prices

The [Motley Fool](#)'s international investing team will be visiting Australia for a week starting on February 15th, meeting with more than a dozen domestic companies to get a feel for what the Australian stock market has to offer. If you'd like to get their impressions, sign up for their [free dispatches here](#). Their overview piece on the trip itself is entitled "[One Last Giant Property Bubble](#)".

I'm one of the people they'll be interviewing, and as a prelude they posed 3 questions to me:

- Is Australia's housing bubble bigger than the one in the US?
- What would trigger a correction?
- Who would get hurt the worst?

In my typical fashion I supplied a thesis when a crib sheet was required, so my answers had to be edited somewhat for their site:

[The Next Bubble Coming From Down Under](#)

Here's the original full-length version.

Is Australia's housing bubble bigger than the one in the US?

The Australian housing bubble is categorically larger than the USA's, though in standard bubbology talk, the main reason that it is—that it was far more a pure speculation on prices than the American bubble—is touted as one of the reasons that "Australia is different" and a crash won't happen here.

Before I elaborate on that point, here's the data. The raw data for the US is the [Case-Shiller Index](#), while the recent raw data for Australia comes from the Australian Bureau of Statistics [established house price index](#). This has two series—one using 2003-04 as a base year, and the other 1986-87. I combine the two to produce a composite index from then till now.

For pre-1986 data, I use the numbers derived by an Australian academic [Nigel Stapledon in his PhD thesis](#), which used newspaper records to derive series for Sydney and Melbourne going back to 1860.

Figure 1 compares just the recent (post 1986 data), where Case-Shiller's base year is 2000 and the ABS's is 2003-04:

Figure 1

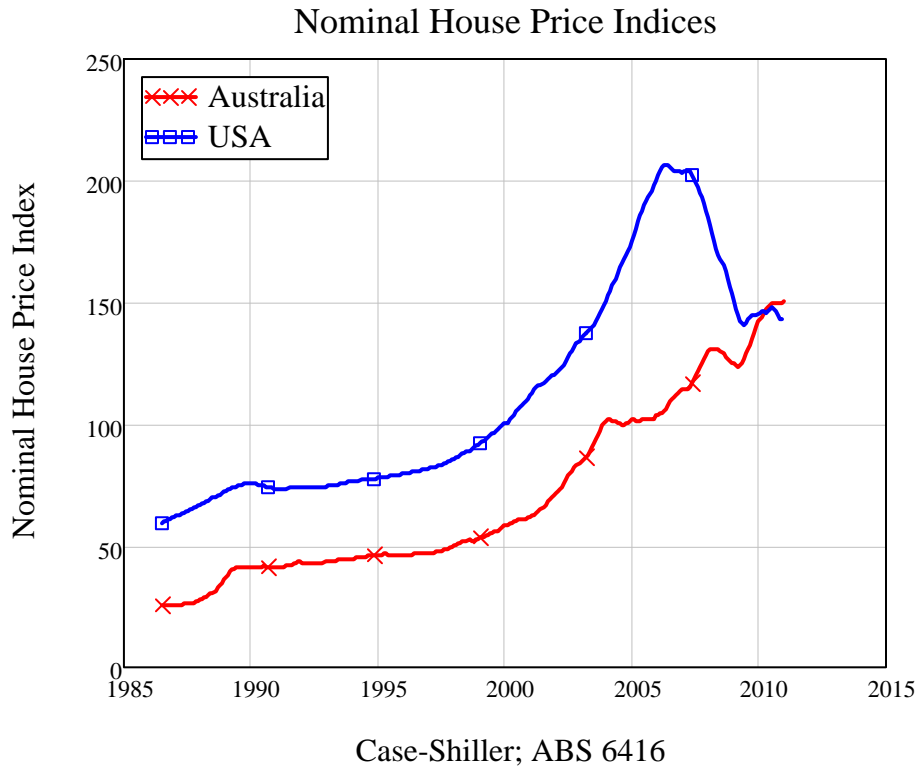
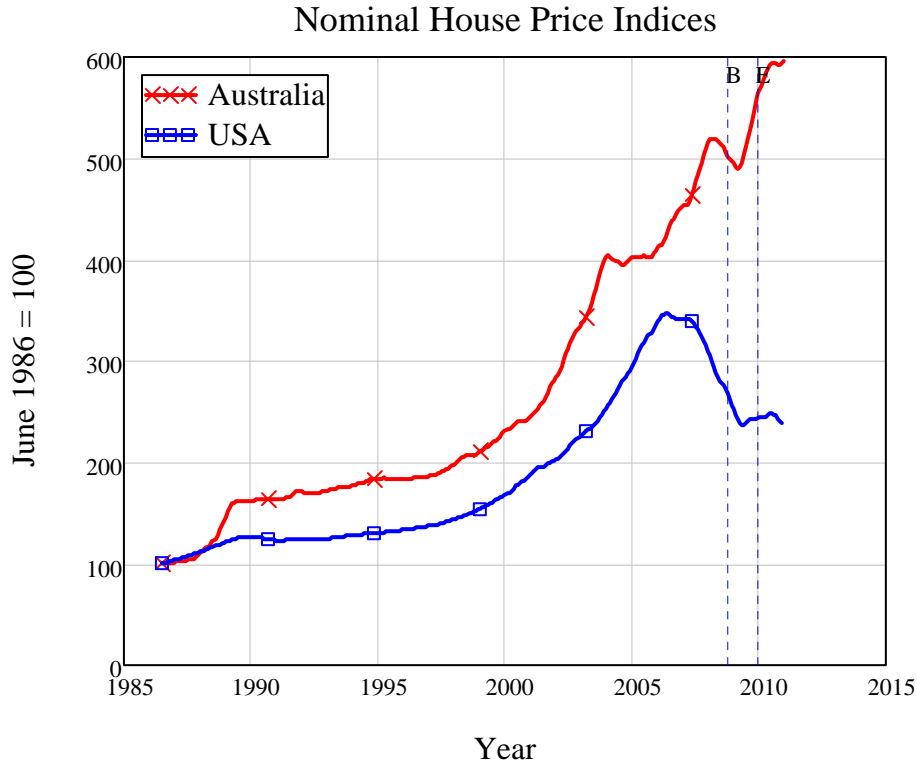


Figure 2 puts them to the same base year of 1986. It's now obvious that nominal house prices in Australia have risen far more than in the US since 1986: a factor of six increase, versus a peak of about a 3.5 increase in the USA (which has now fallen to less than a 2.5 times increase after the US bubble burst in 2006).

Figure 2

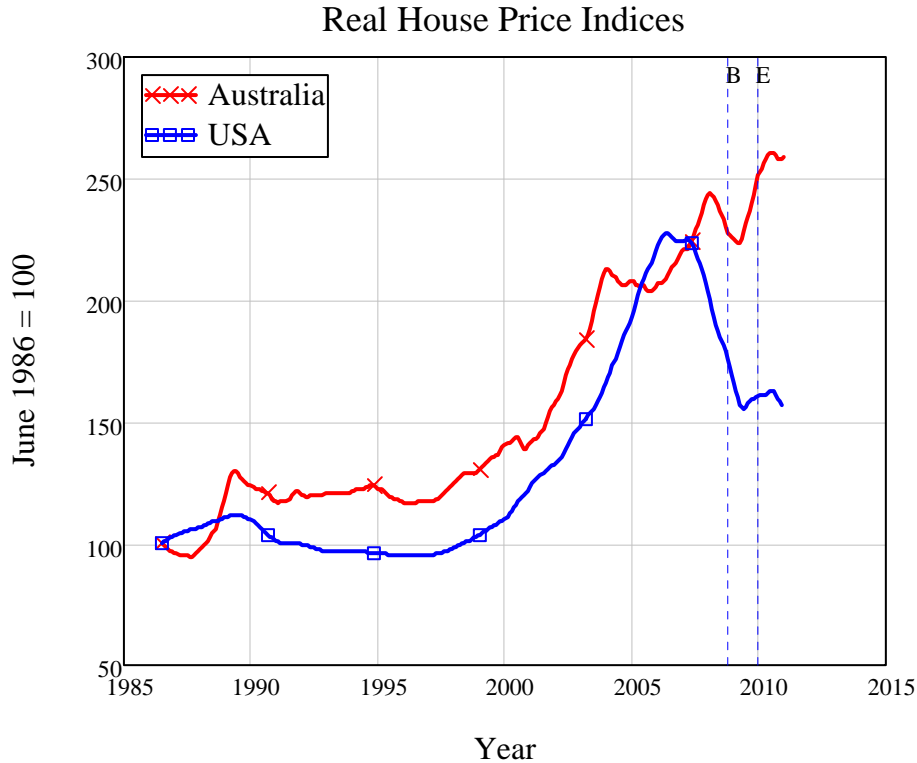


I also mark on it the beginning and end of the Australian government's contribution to this Ponzi Scheme, the most recent incarnation of its "First Home Owners Scheme", which gives first home buyers a cash grant towards their first purchase that is then levered up by a bank loan when they go shopping. For this reason I call it the "First Home Vendors Scheme", since the real recipients of the government largesse are the vendors who sell to these new entrants—and they get not merely the government money, but the levered amount that the banking sector throws on top of it.

When the "Global Financial Crisis" loomed (as the "Great Recession" is called DownUnder), the then Rudd Labor Government doubled this grant to \$14,000 for an existing property and tripled it to \$21,000 for a new one, in what they called the First Home Owners Boost, and which I nicknamed the First Home Vendors Boost (FHVB). The Scheme, which began in October 2008, was supposed to last 8 months but was extended to 14 months because it was "so successful".

Back to the data. Consumer price inflation has run at different speeds in the two economies, so real prices are the best for comparisons; Figure 3 deflates the Case-Shiller 20 city index by the US CPI, and the Australian data by its [CPI](#).

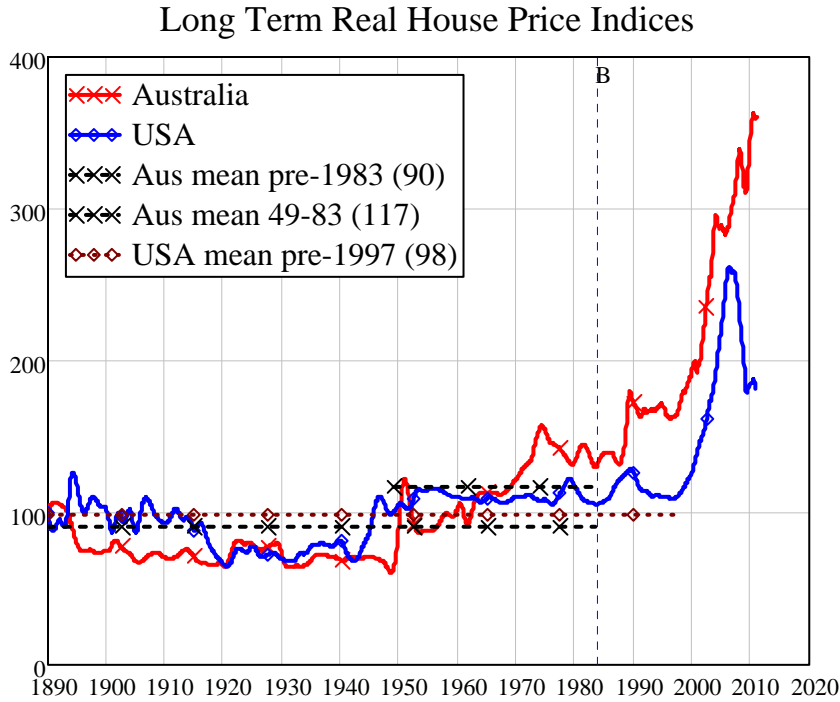
Figure 3



The intriguing aspect of this comparison is that the two bubbles tracked each other from 1997 till 2004 (with the Australian at a higher level since a mini-bubble back in 87-89 that I'll return to later), and then diverged. The Australian trend broke first, but then restarted just before the US bubble finally burst. The Australian bubble then broke again in 2008, only to be restart shortly after by the FHVB. It has recently topped out, with one quarter of falling prices (with the nominal index dropping 0.3%), and the latest rising by 0.7% (bear in mind however that the 0.3% fall for the September quarter was first shown as a 0.1% increase, and both figures are still subject to revision).

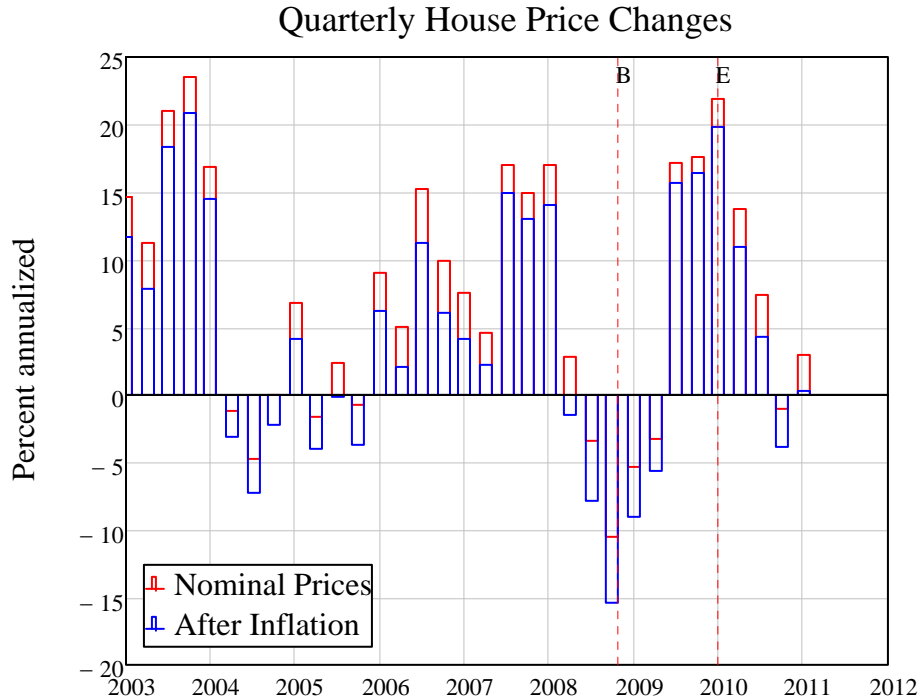
A final long-term comparison to see just how Australian and US house prices really compare uses Stapledon's data back to 1890, when the Case-Shiller Index began:

Figure 4



Whether this period marks the beginning of the end of the Australian house price bubble will only be clear in hindsight, but the volatility of the index is now extreme, and the impact of the FHVB on it is obvious in Figure 5.

Figure 5



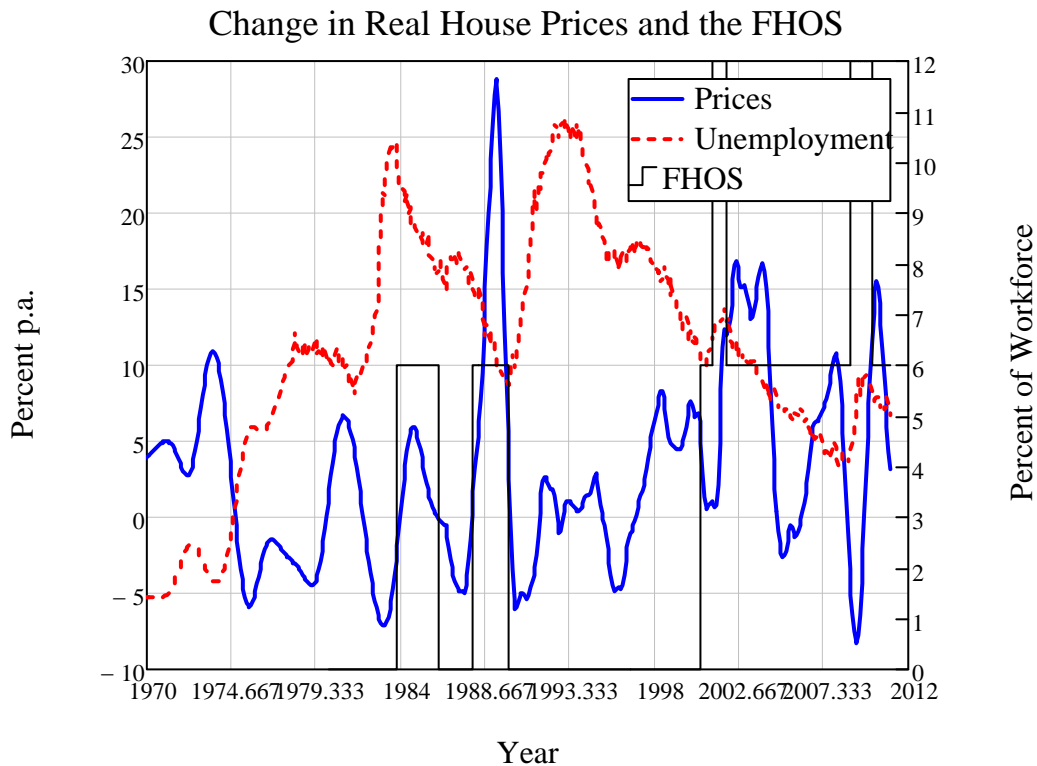
This is not a new phenomenon: though I apportion most blame for the Australian house price bubble to the finance sector, there's little doubt that the fuse itself was lit by the government's interventions via the First Home Owners Scheme, which began in 1983.

'This Government was elected . . . with a commitment to boost the nation's economy . . . Our housing policies are an essential element of our national recovery strategy . . . Our program is designed to achieve the dual objectives of ensuring that housing plays a key role in our economic recovery and ensuring that Australian families can gain access to adequate housing at a price they can afford.

The main elements of our program are . . . a new more effective scheme to assist low income home buyers - the first home owners' scheme . . . to get the housing industry moving without delay we removed the savings requirement from the existing home deposit assistance scheme . . .' (First Home Owners' Bill 1983)

This scheme has always been used as a means to stimulate the economy, and it's worked—but in much the same way that an anabolic steroid will help an athlete win a medal: it pumps up the performance at the event, only to leave the athlete with long term health problems in the future. From 1951 until the FHOS was introduced in 1983, the average quarterly increase in house prices was 0.07%—which is statistically indistinguishable from zero, given that the standard deviation was 1.73%.

Figure 6



After the Scheme was introduced, the average quarterly increase increased by more than a factor of ten to 0.94%, and the volatility rose as well. Since there have also been periods where the Scheme was removed and when it was doubled, it's possible to drill down further on its impact—and it's bleedingly obvious that it both increased house prices and their volatility.

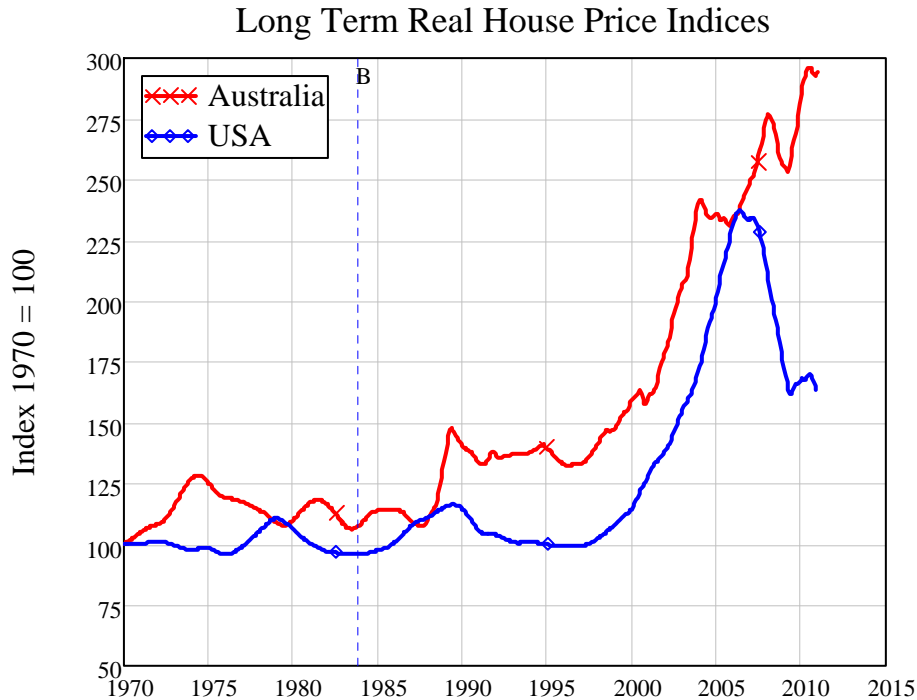
Table 1

Stats	Before FHOS	After FHOS	All Data	During FHOS	Between FHOS periods	When FHOS doubled
Mean	0.07%	0.94%	0.47%	2.17%	0.25%	3.10%
Min	-5.53%	-3.73%	-5.53%	-2.26%	-2.26%	-0.92%
Max	3.91%	7.86%	7.86%	7.86%	2.95%	4.93%
Std. Dev.	1.73%	2.17%	1.99%	2.71%	1.26%	1.83%
Count	131	110	241	25	51	7

Government interventions in this asset market make it very hard to work out a decent base year from which to compare Australian house prices to those in America. Prior to 1949, the Australian government enforced a rental ceiling, which kept house prices artificially low. Since 1983, it has run the First Home Vendors Scheme, which (along with other interventions like negative gearing) kept prices artificially high. I take 1970 as the best date for a comparison of the Australian and US house price indices, since it's halfway between when the price spurt caused by the abolition of the rental control scheme had petered out, and the new regime of keeping house prices high took over. So Figure 7 is my preferred

series comparing Australian and US house prices (with the B marking the introduction of the First Home Vendors Scheme):

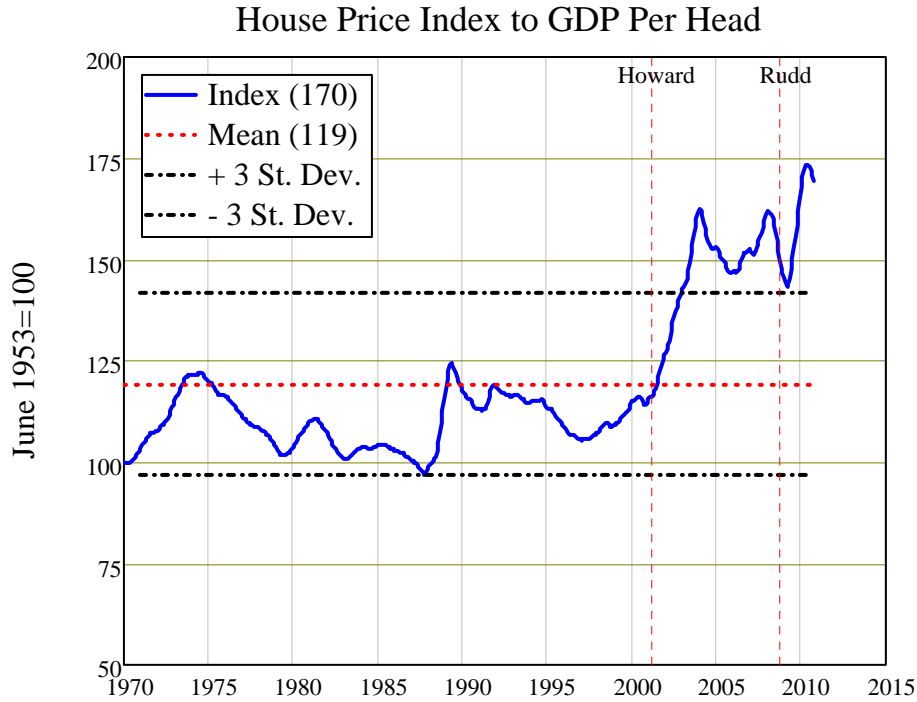
Figure 7



As tends to happen at the end of a bubble, when prices have been driven far higher than incomes, spruikers have claimed that Australian house prices are not really high when compared to incomes. The [Demographia](#) survey's comparison of median house prices to median incomes has been disparaged by spruikers who happily compare median house prices to average incomes, where those average incomes include imputed rental returns from owner-occupied dwellings, superannuation entitlements that can't be used to pay mortgage bills, etc.

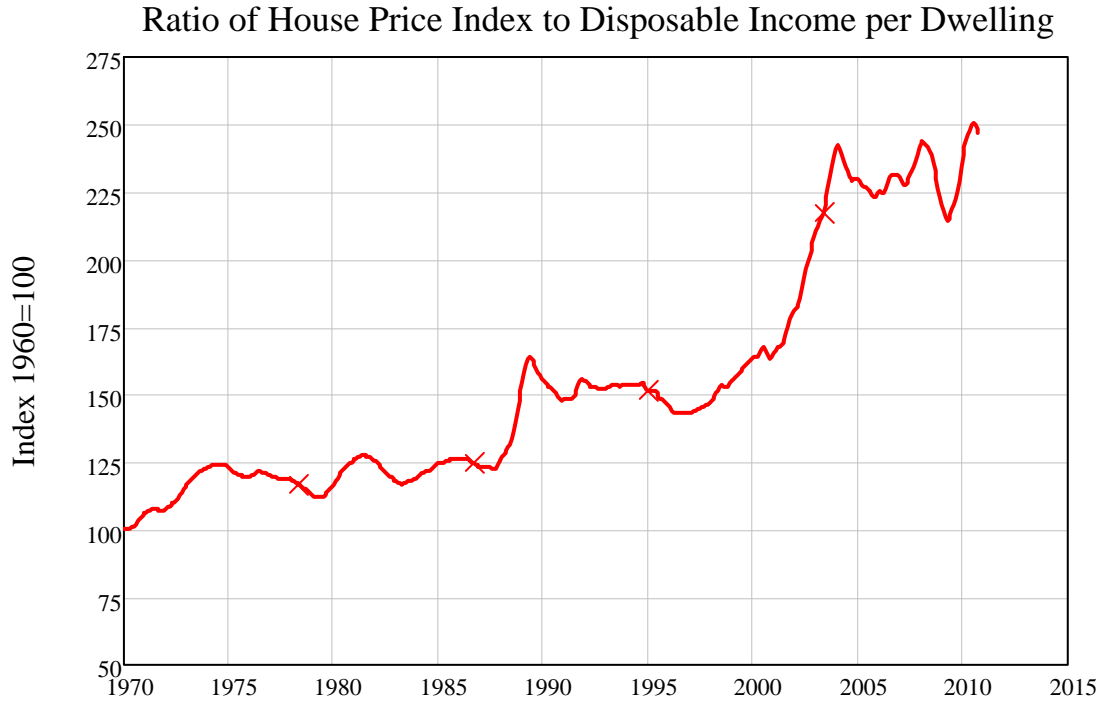
This tends to be an interminable debate about what should and what shouldn't be included, so I prefer to compare the house prices to the broadest possible measure of income: GDP per capita (which understates the problem because GDP includes imputed rental income from owner-occupied dwellings, which of course can't be used to pay the mortgage!). Starting from the same date, this yields the comparison of Australian house prices to income shown in Figure 8, on which basis Australian house prices are at least 50% overvalued, with all of the rise above the long term average occurring since first the Howard and then the Rudd government doubled the FHVB in response to fears of a recession.

Figure 8



Another take on affordability and whether housing is overvalued is to consider income per household, since it could be argued that the increase in women's participation in the workforce since 1970 has meant that two (or more) incomes are being earned per dwelling, making a higher price affordable. Figure 9 compares the house price index to household disposable income per dwelling (using the RBA table G12 for disposable income and ABS tables 4102 and 87520037 for the number of dwellings).

Figure 9



Spruikers claim that there have been significant demographic shifts, that houses now are bigger and better than those in 1970 and so on. However all of the increase in the house price to GDP per capita index above its average has occurred since 2001 (when Howard doubled the FHVB because of fear of a recession), and there has been no real change in Australian demographics since then, as Figure 10 and Figure 11 indicate.

Figure 10

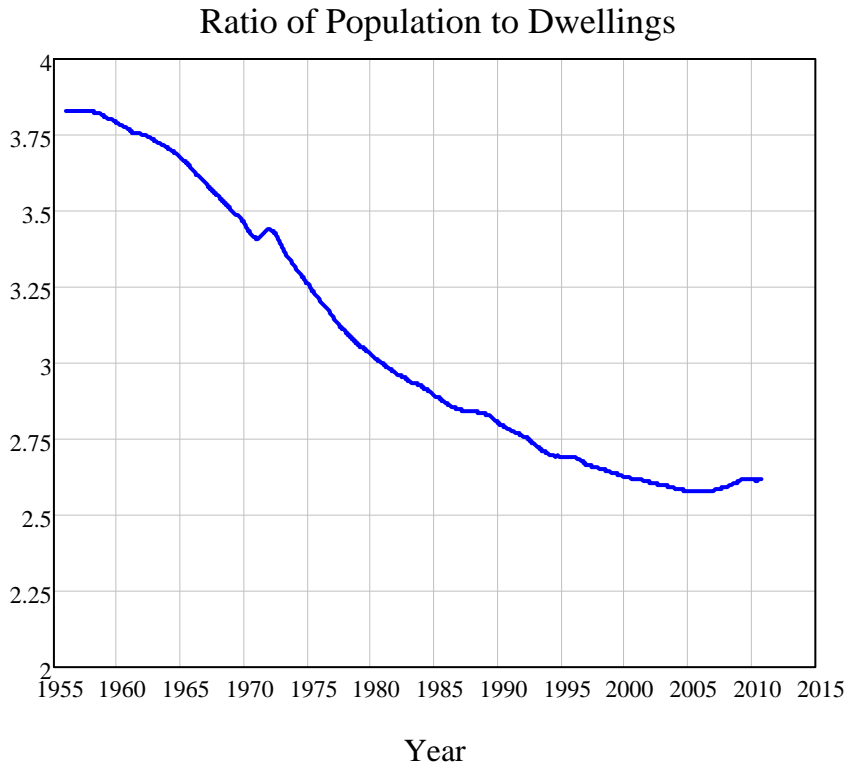
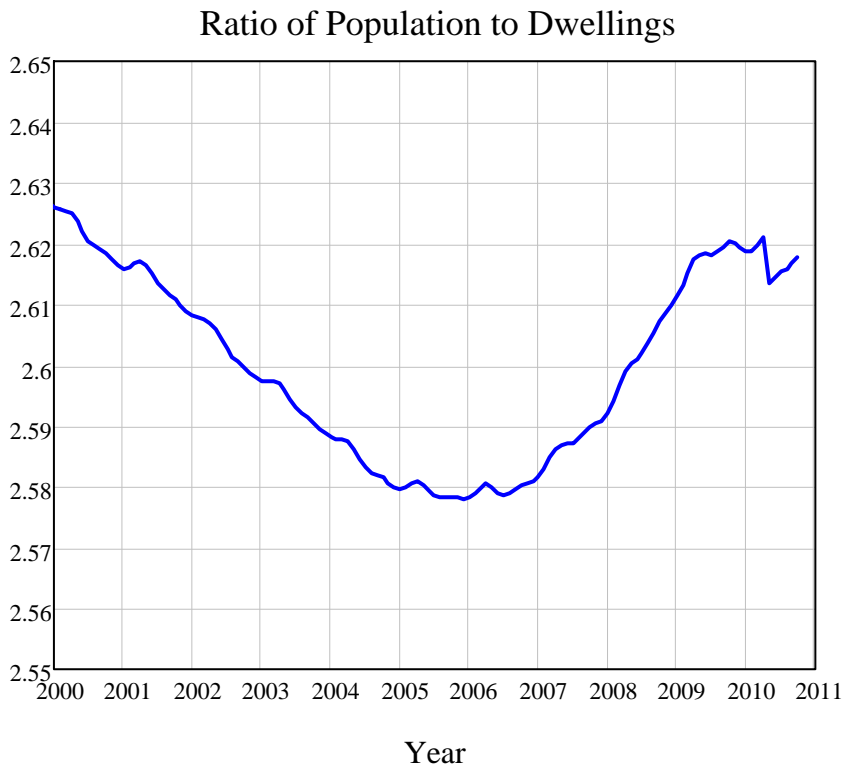


Figure 11: The period 2006-10 is the only one where population growth exceeded growth in dwellings



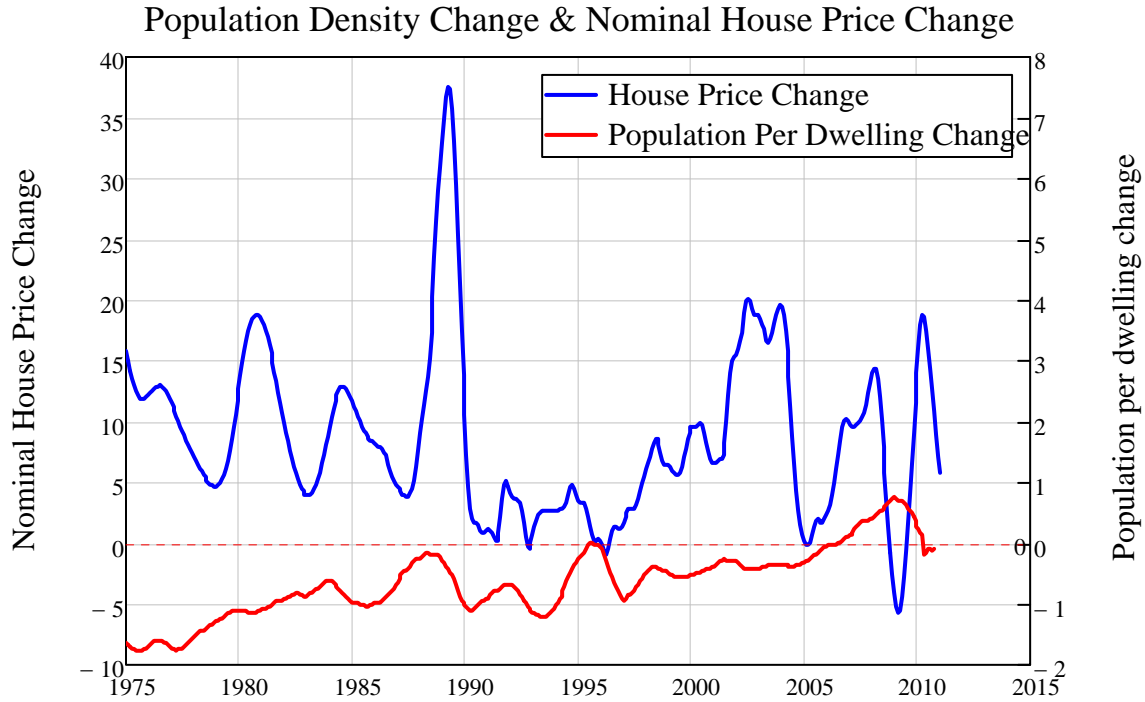
This is a good point to consider the usual spruiker case that house prices have risen because demand—driven by rising population—has exceeded supply. One of the most regularly cited justifications for this is the National Housing Supply Council report, which estimates the gap between supply and “underlying demand”.

‘ . . . the Council estimated a gap of around 85,000 dwellings between underlying demand for and supply of housing at 30 June 2008. The Council developed a methodology for measuring the gap based on selected measures of homelessness, including the number of marginal residents of caravan parks and the undersupply of private rental dwellings indicated by the rental vacancy rate. The measures used in the 2008 report were:

- *2008 gap size = additional private rental dwellings required in 2008 to increase the number of vacant private rental dwellings to 3 per cent of the total private rental stock*
- *+ dwellings required to accommodate people who are homeless and sleeping rough or staying with friends and relatives*
- *+ dwellings required to house marginal residents of caravan parks.’*
([National Housing Supply Council 2010](#), pages 65-66)

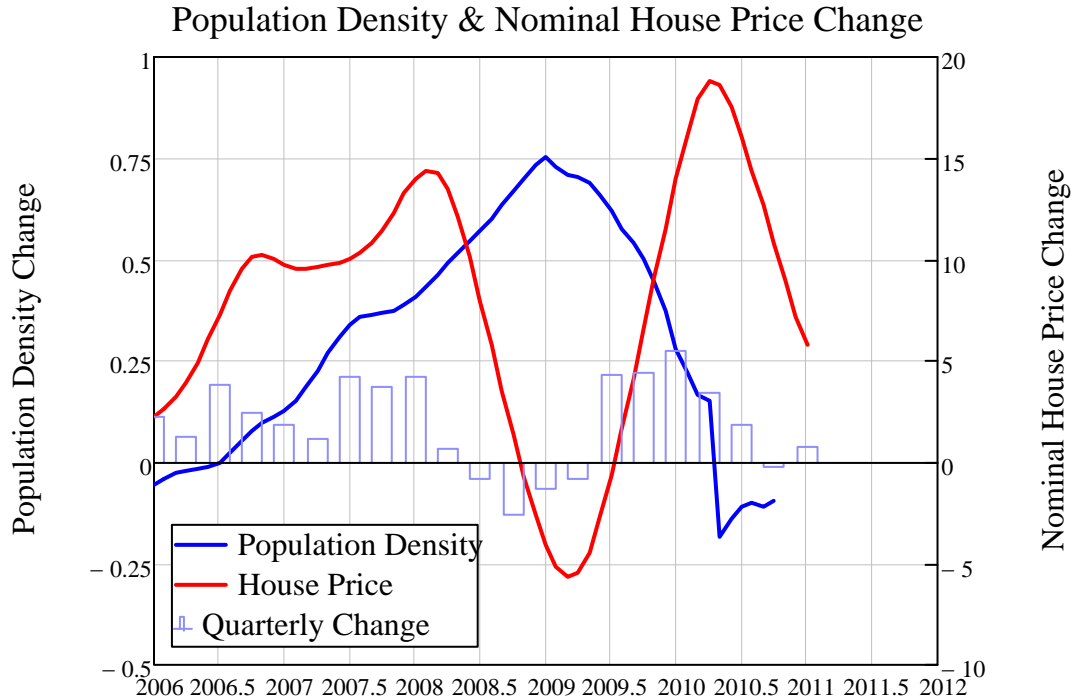
These are legitimate measures of a social need, but they’re not a measure of the market demand for housing! Figure 12 shows the correlation of changes in the number of Australians per house with changes in nominal house prices:

Figure 12



A falling ratio of people to houses—so that the housing stock was growing more rapidly than population—should have meant falling prices according to the standard "supply and demand" argument. But what about the one brief period where population was actually rising faster than the housing stock—between 2006 and 2010—and house prices also rose sharply?

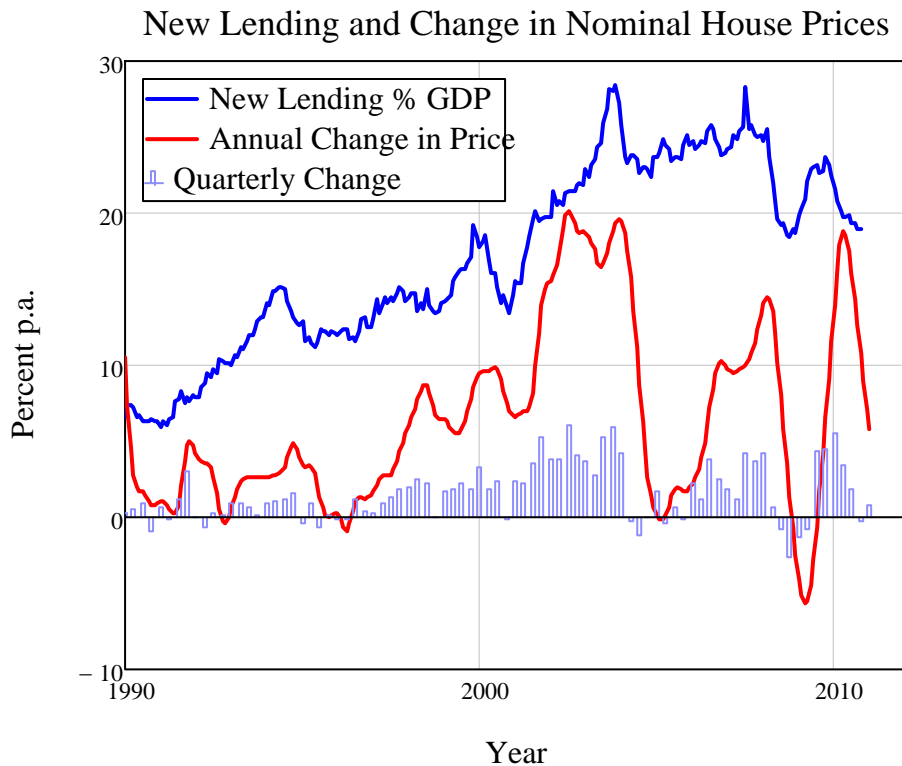
Figure 13



Whoops! The correlation is actually strongly negative: **minus** 0.56. Population dynamics gave spruikers a good story, but it wasn't what drove house prices up.

What did instead was debt. Demand for houses is not population increase: it's people with new mortgage loans. When you look at the relationship between new lending and the change in house prices, you finally start to see some serious long run correlations (as long as the data makes possible, anyway).

Figure 14



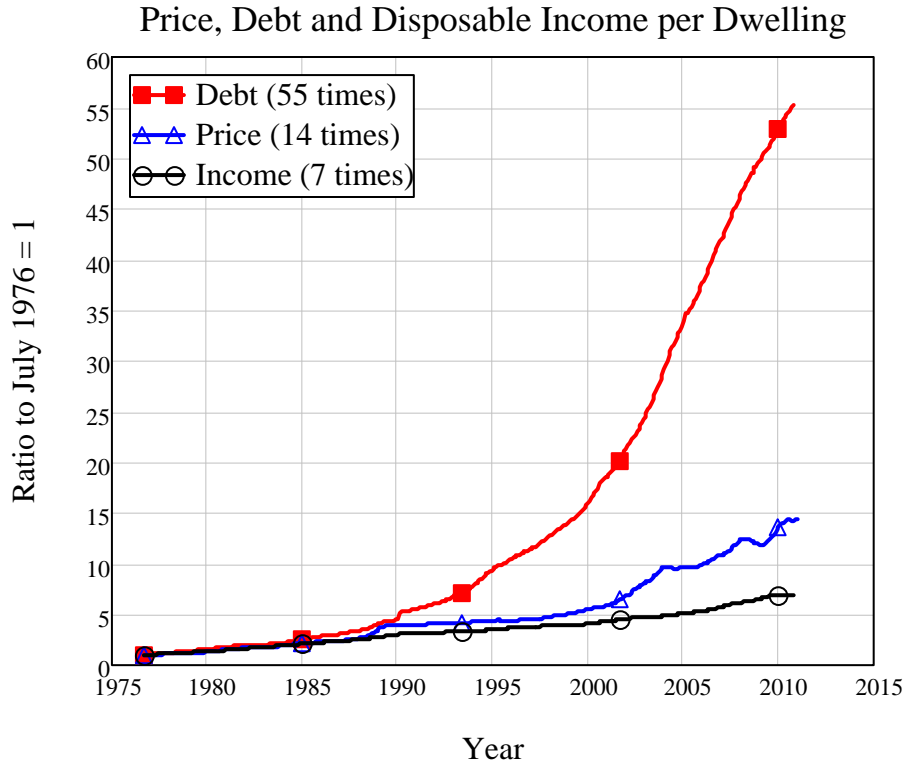
The correlation coefficient here is 0.53—rather better than the *minus* 0.06 that applies between change in population per dwelling and change in price over 1975-2010—and it improves when the trend of rising mortgage new debt to GDP is removed. So we’ve had a debt-driven housing bubble, just as has the USA, and it’s the dynamics of debt that will determine when and how it bursts—not demographics.

What would trigger a correction?

Ponzi Schemes ultimately fail under their own weight, because they involve paying early entrants more than they put in, while producing no profits with high running expenses. A debt-financed Ponzi Scheme can however appear to work for a long time, because the price of the object of the Scheme—in this case house prices—can rise so long as debt levels per house rise faster still.

That was clearly the case in Australia. Property spruikers focus on the price increases and ignore the debt, but the latter has risen far more than the former: nominal house prices are up by a factor of 15 over 1976, but debt per house has risen by a factor of 55 (Figure 15).

Figure 15



The turning point in that process appears to be nearby: both debt per dwelling to price (Figure 16) and debt per dwelling to disposable income (Figure 17) appear to be topping out.

Figure 16

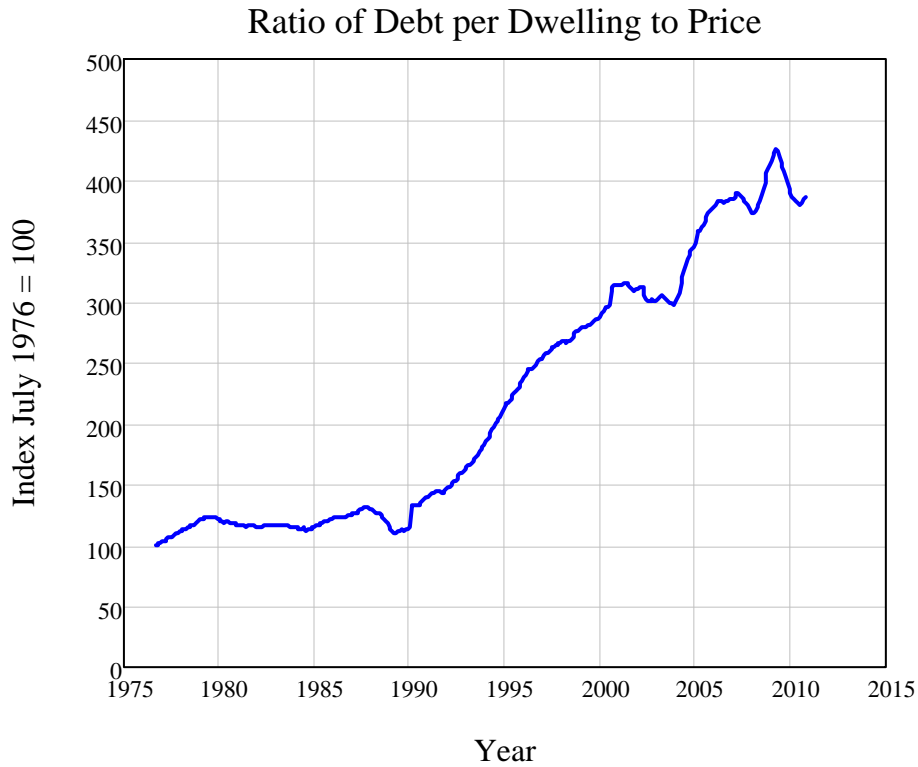


Figure 17

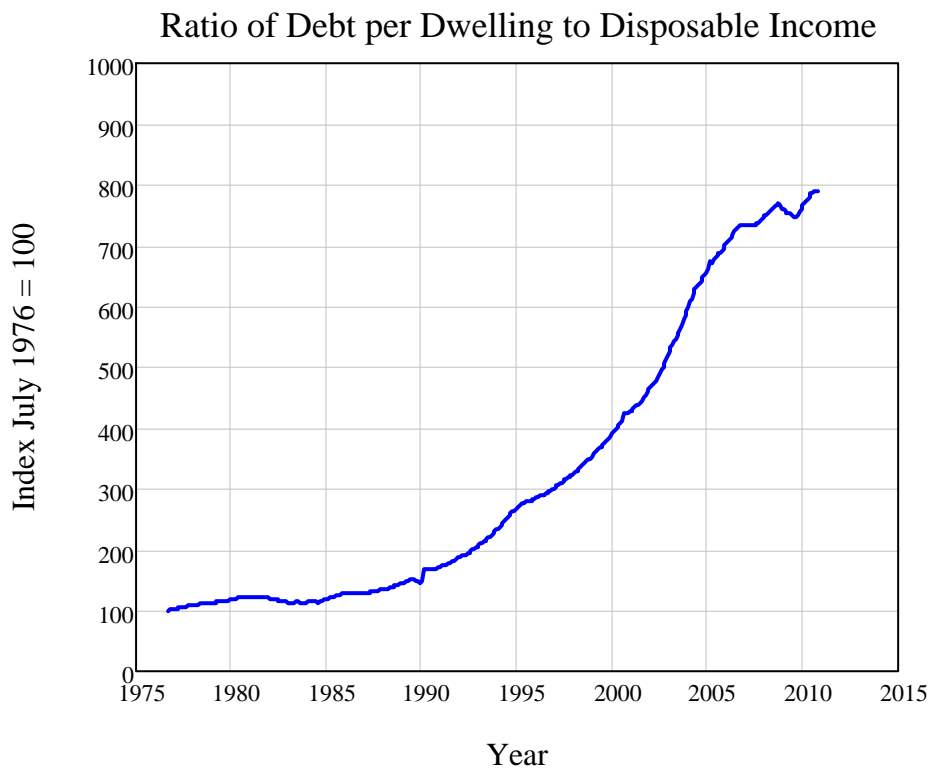
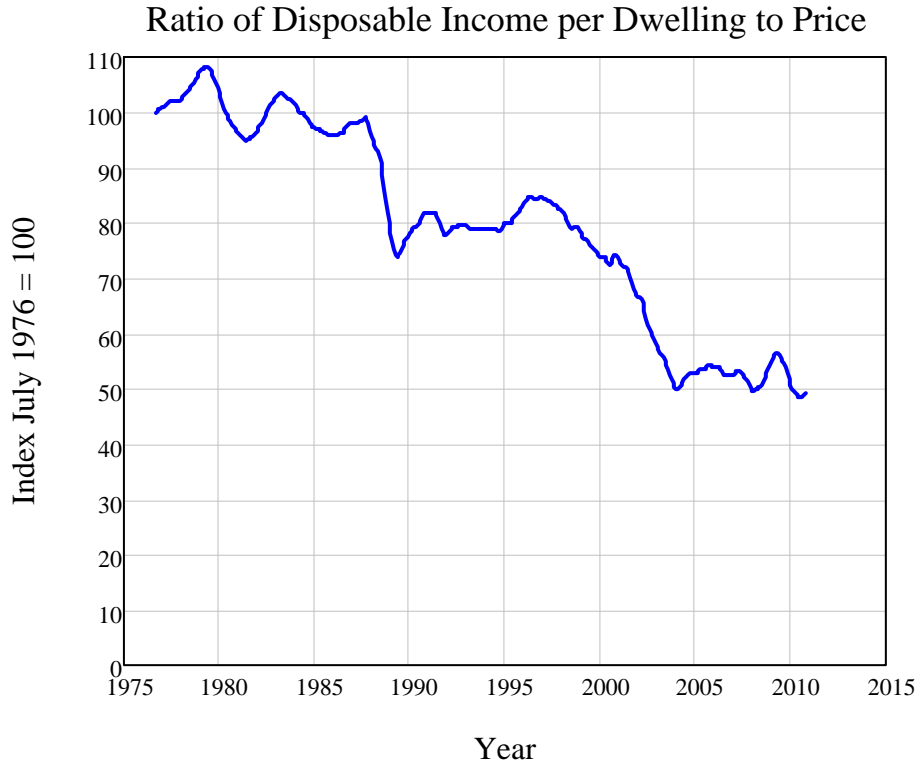
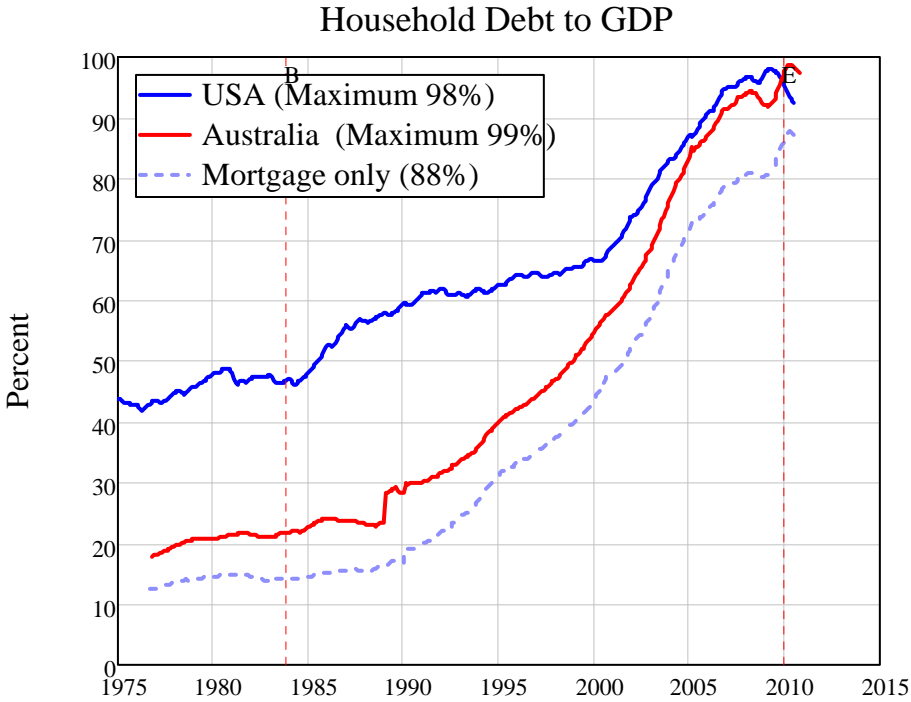


Figure 18



This underscores the fact that, just as in America, rising mortgage debt was the real fuel for rising house prices. Though Australia didn't have as widespread a Subprime phenomenon as the USA, and many more mortgages are held on the books of the banks, the level of mortgage debt actually rose faster and higher in Australia than in the USA (The vertical lines on Figure 19 identify when the First Home Vendors Scheme first began—in 1983—and when the recent doubling of it ceased—in January 2010; there is however still a \$7,000 grant for a first home buyer).

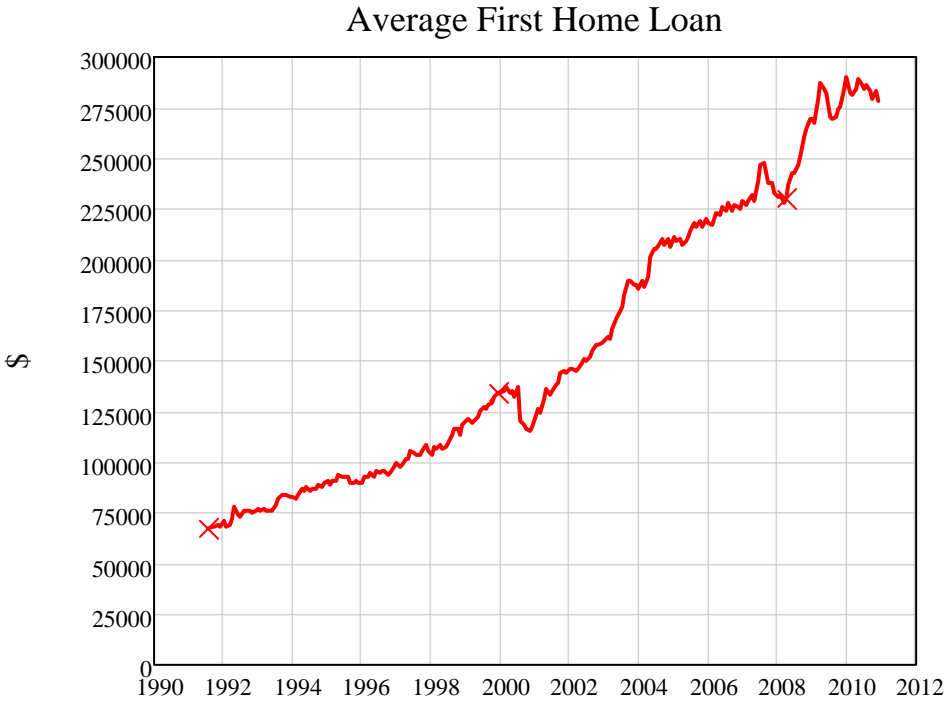
Figure 19



What will bring this bubble undone is its very success: having successfully driven house prices skywards, the cost of entry into the market is now prohibitive so that the flow of new entrants is drying up. Since the Scheme depends on a constant flow of new entrants, this alone will bring it unstuck. A gauge of just how difficult it is to get into the market is given by looking at the ratio of the average first home loan to the average income—when most first home buyers are going to have an income below the average.

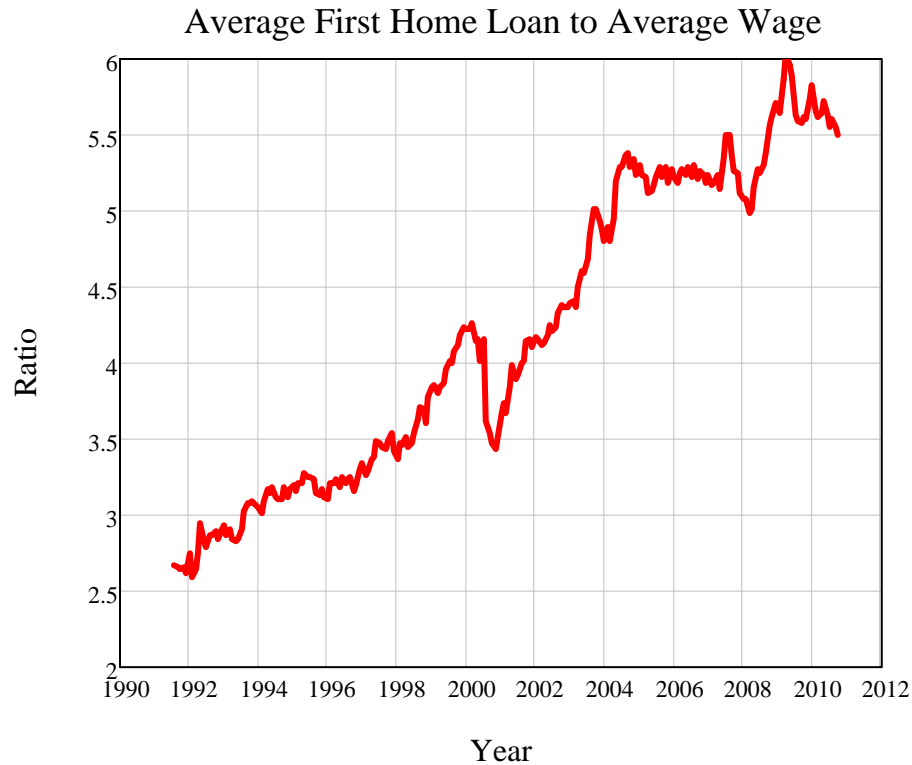
The average first home loan has risen fourfold in the last 2 decades, from \$75,000 to almost \$300,000 (Figure 20).

Figure 20



This rise has far outstripped increases in all incomes, let alone wages, which have lagged increases in productivity in Australia as they have in the USA. In 1992, the average first home loan was 2.5 times the average before tax yearly wage income. Now it is 5.5 times as much, and it briefly reached 6 times annual income during the frenzy caused by the Rudd Government's doubling of the FHVG (Figure 21).

Figure 21



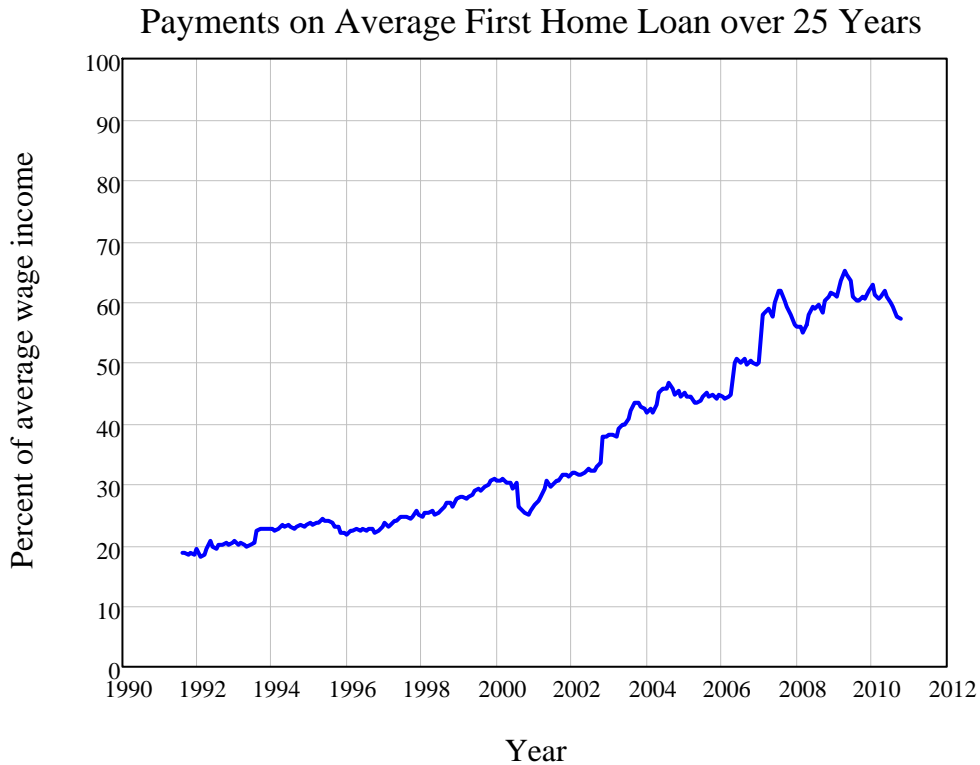
Spruikers also claim that this increased debt burden just reflects lower interest rates. Even the Governor of the Reserve Bank of Australia made such a claim:

The rough statistic that I have quoted many times was that the average rate of interest was about half; that meant you could service twice as big a debt. Guess what? That is exactly what occurred, and that had a very profound effect on asset values.
(Glenn Stevens, [remarks to the House of Representatives Standing Committee on Economics Finance and Public Administration](#), 2007, p. 26)

Let's see how well this argument stacks up against reality by considering the servicing cost on a typical 25-year floating interest rate mortgage in Australia as a percentage of the pre-tax earnings of Australian workers.

The result is pretty stark: in 1992, servicing the average first home loan took under 20 percent of the pre-tax income of the average wage earner. Now it takes 60 percent. Since the average tax rate on

Figure 22

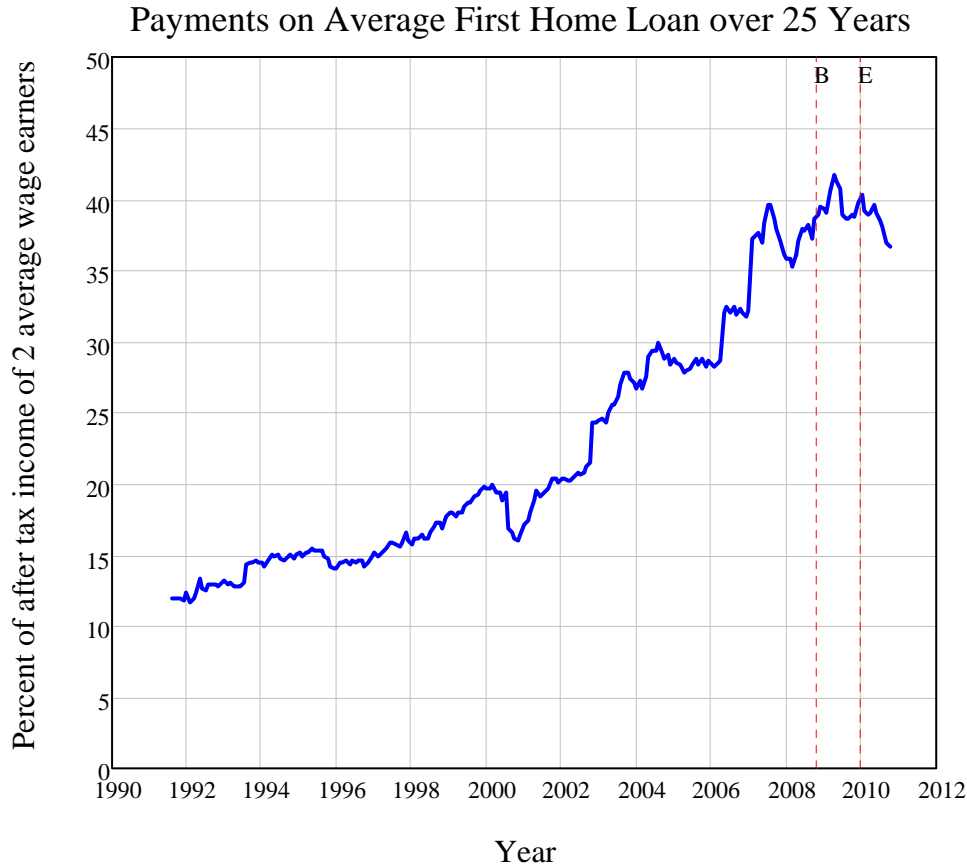


workers is about 22%, and since payments on your own home can't be written off against tax in Australia, this means that the average wage earner would have only 20% of his/her income left for all other expenses after paying the mortgage.

Clearly it's no longer possible for a single wage earner to buy the median house in Australia—and even a 2 bedroom apartment is out of the question. But what about a couple—what have they got left for expenses after paying taxes and the mortgage?

Back in 1992, this was a doddle: paying the mortgage took just 12 percent of the family budget. Now it takes 37 percent. For those unfortunate couples who took out a home loan while the FHVB was in operation, it takes as much as 42 percent of their combined after tax income.

Figure 23



So the bubble will collapse because it has been too successful—and the government's doubling of the FHVG has added to this because it encouraged new entrants who may have waited till 2011 to buy in during 2009 instead. There are less first home buyers entering at the bottom of the escalator (Figure 24), and they are taking out smaller loans, while the trend in other loans is also headed down (Figure 25).

Figure 24

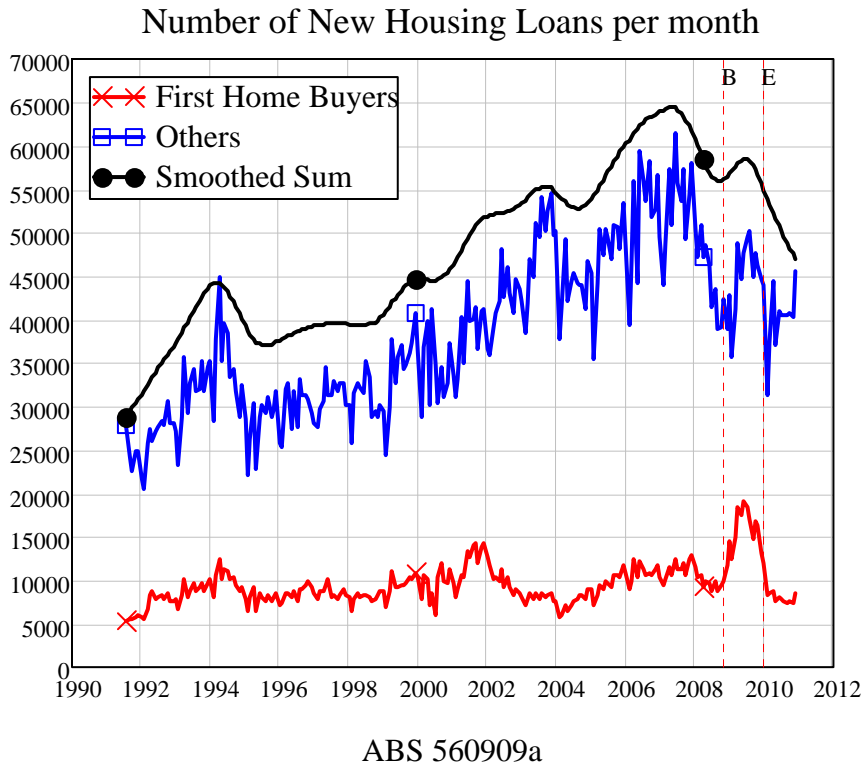
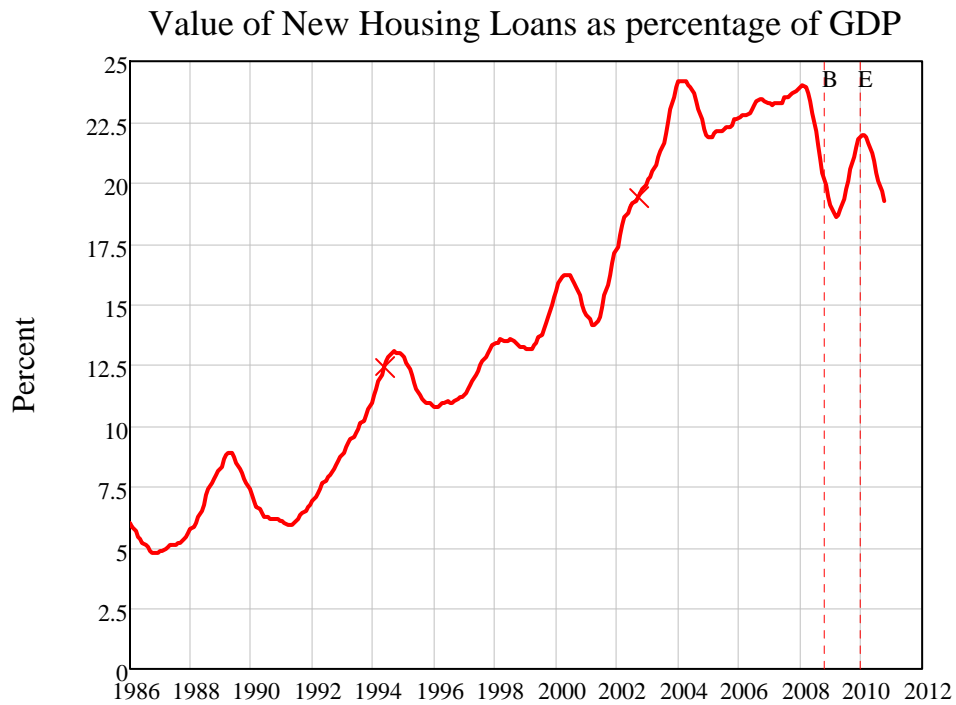


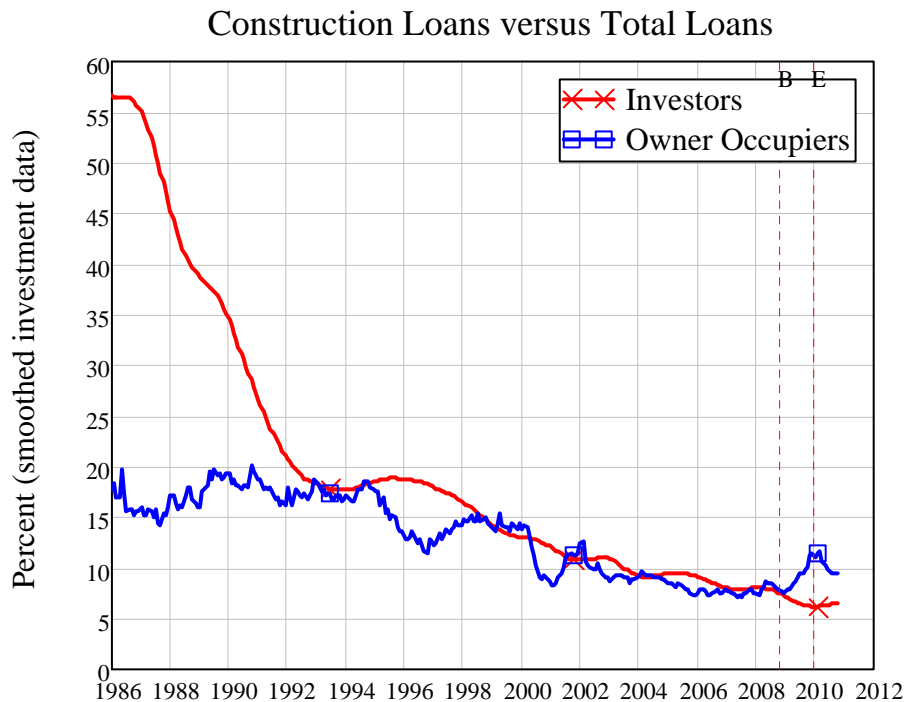
Figure 25



So the volume of unsold properties is mounting and the time to sell is increasing. This normally precedes the beginning of a downturn in house prices—since most vendors initially refuse to accept offers below their reservation prices.

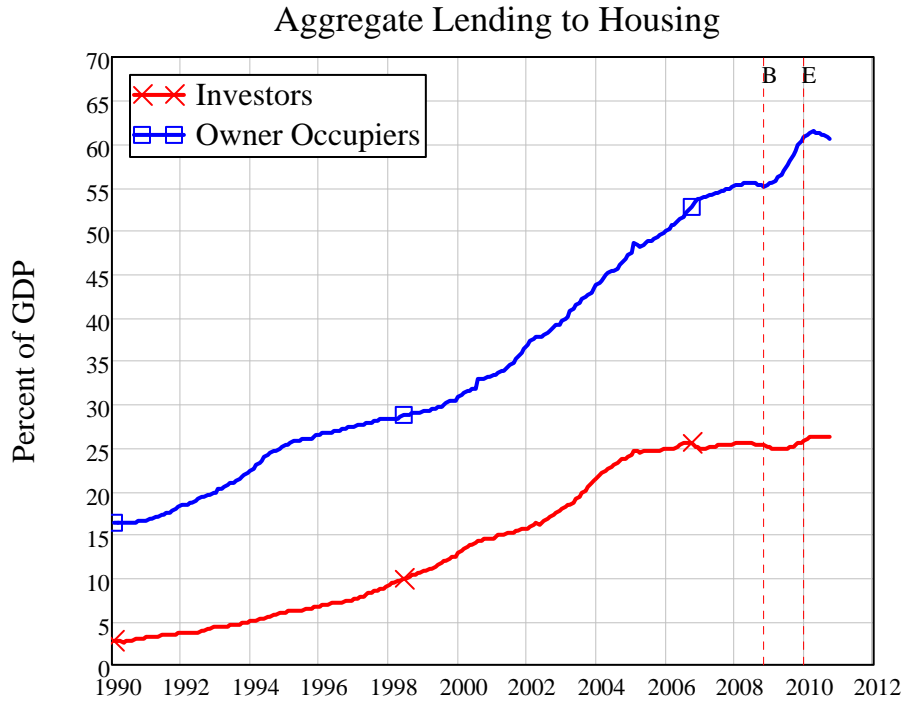
One reason that is often advanced as to why Australia won't suffer a US-style housing price crash is that there hasn't been a huge building boom here. The factoid is definitely true; but the obverse interpretation is that Australia's housing finance has been even more speculative in nature than the USA's. The fraction of total borrowing that has financed investment-oriented construction versus speculation-oriented purchases of existing properties by investors has fallen from almost 60 percent in the mid-80s to under 10 percent now. In fact, "investors" in the Australian market now invest less than owner-occupiers do—though the recent spurt in the fraction of owner-occupier loans supporting construction from the all-time low of under 8 percent to just over 11.5% was probably an artifact of the tripling of the First Home Owners Boost for those building their own home.

Figure 26



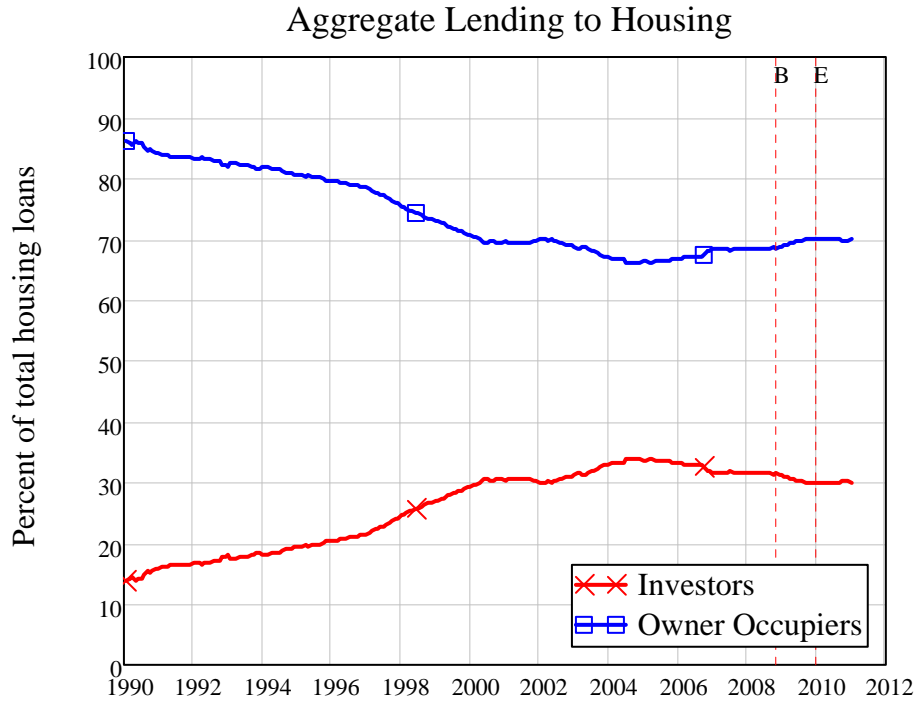
In the aggregate now, less than 10 cents in every borrowed dollar builds a new home. This does mean that there isn't an overhang of newly completed properties on the Australian market. But conversely, the huge proportion of "investors" who have bought in solely to achieve capital gains means that the investor side of the market is very fragile": any sustained pause in price increases means these investors face mounting losses.

Figure 27



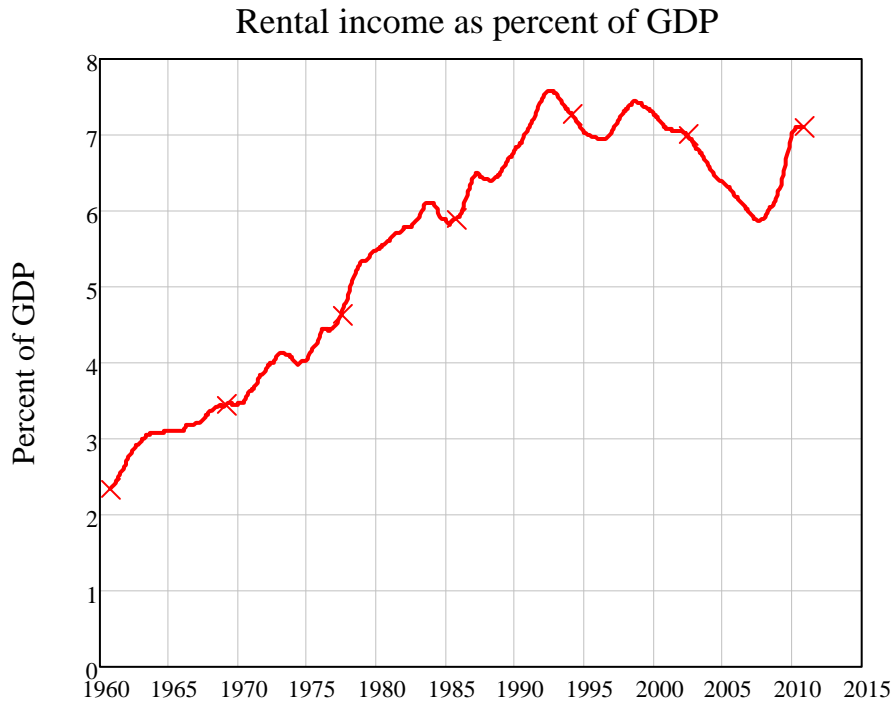
The increase in the number of "investors" relative to owner-occupiers played a major role in driving up house prices. The rise in "Mum and Dad investors", as they were termed, saw investor borrowing rise from about 15% of total mortgages in 1990 to over 30 percent since 2000.

Figure 28



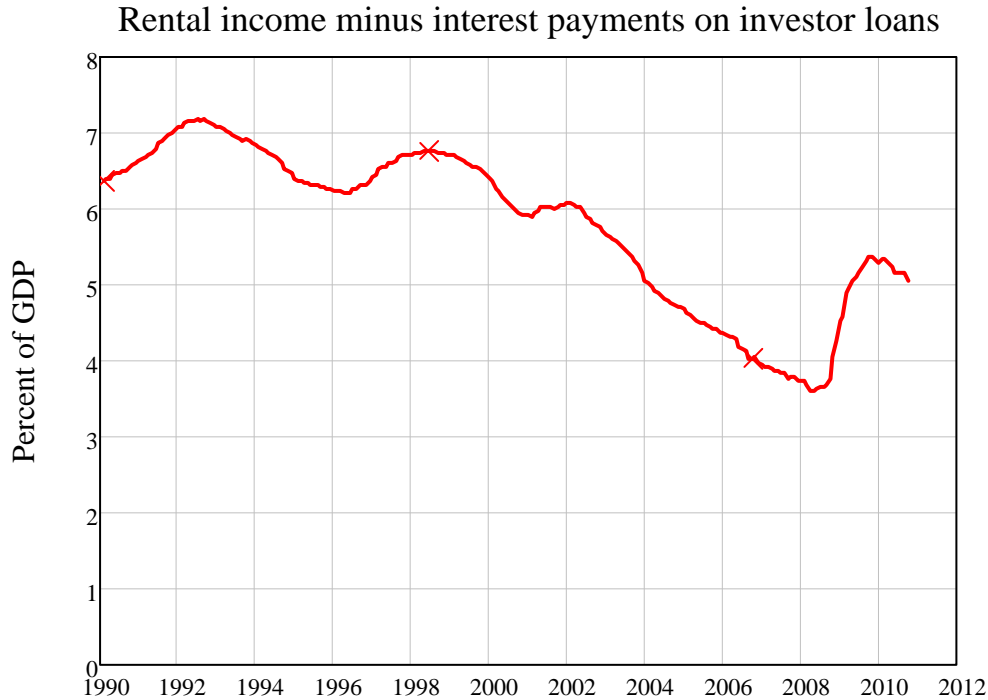
Predictably, the rise in “investors” as a proportion of total borrowing saw rental income top out and begin to fall.

Figure 29



Most "investors" declare losses on their income tax (which is subsidised by the Australian scheme known as negative gearing, where property speculators can write off losses on servicing rental properties against all other income). However this ruse is only worthwhile if asset price inflation more than compensates for the taxpayre-subsidised losses made while owning a property. So the investor proportion of the market is likely to add to supply if there is a sustained period of flat prices, since their losses will mount in the meantime.

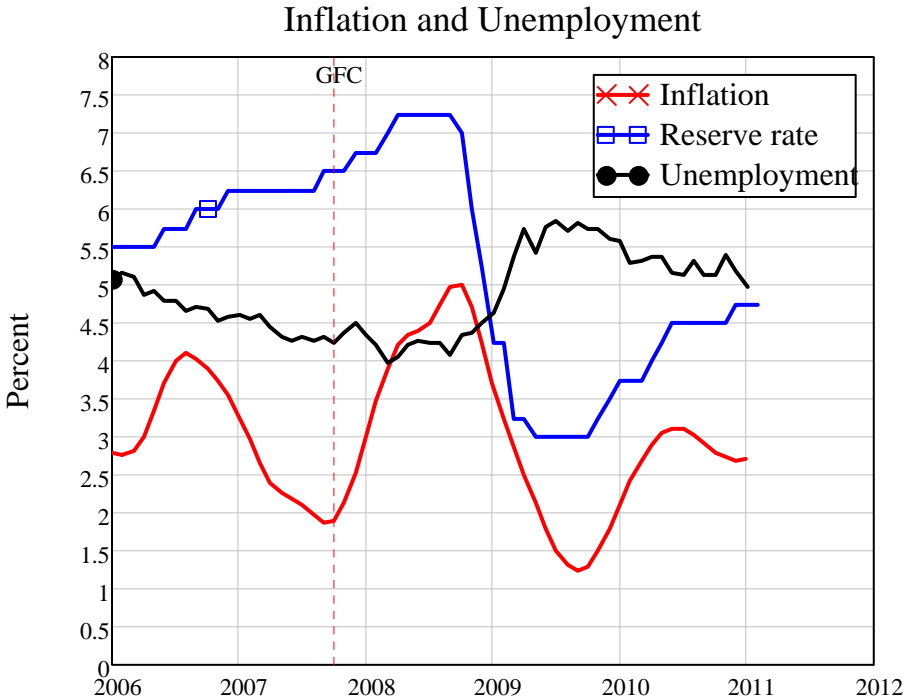
Figure 30



On top of this there are the usual "exogenous" factors: further increases in interest rates by the RBA, and the prospect of a slowdown in China.

The RBA is convinced, by the boom in China and its neoclassical models of the economy, that capacity constraints lie just ahead for Australia, and that therefore it has to increase interest rates to contain inflation. This is a classic application of the "Taylor Equation" approach to monetary policy that pretty accurately defined its behavior before and well into the GFC—taking September 2007 as the start of the global crisis ([the US Fed began slashing its rate that month](#)).

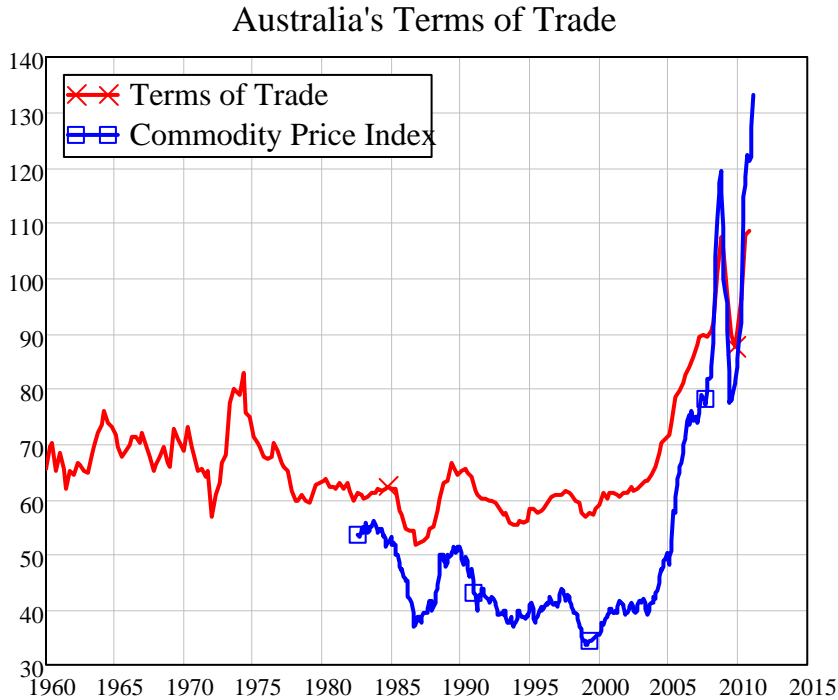
Figure 31



The recent floods and cyclones in Victoria and Queensland are wildcards that will drive up food prices, and the global bubble in commodity prices will also play through, but overall I expect that the RBA's expectations of inflation caused by capacity constraints will not pan out—for reasons that I expand on below under the Credit Impulse. I think they may well put rates up once more, but will then be forced to start cutting them.

China is another wildcard for Australia. It is clearly the reason that our terms of trade, and especially the prices for (and volumes of) our exports of minerals, are the highest they have ever been.

Figure 32



I don't know enough about China today to make an informed comment here, but my feeling is that China's growth can't be sustained, and that the Chinese authorities will do the best they can to secure other sources of minerals. Certainly I wouldn't advise extrapolating the current incredible prices (or volumes) for our minerals forward, which does make Australia's economic performance particularly susceptible to a change in our fortunes with China.

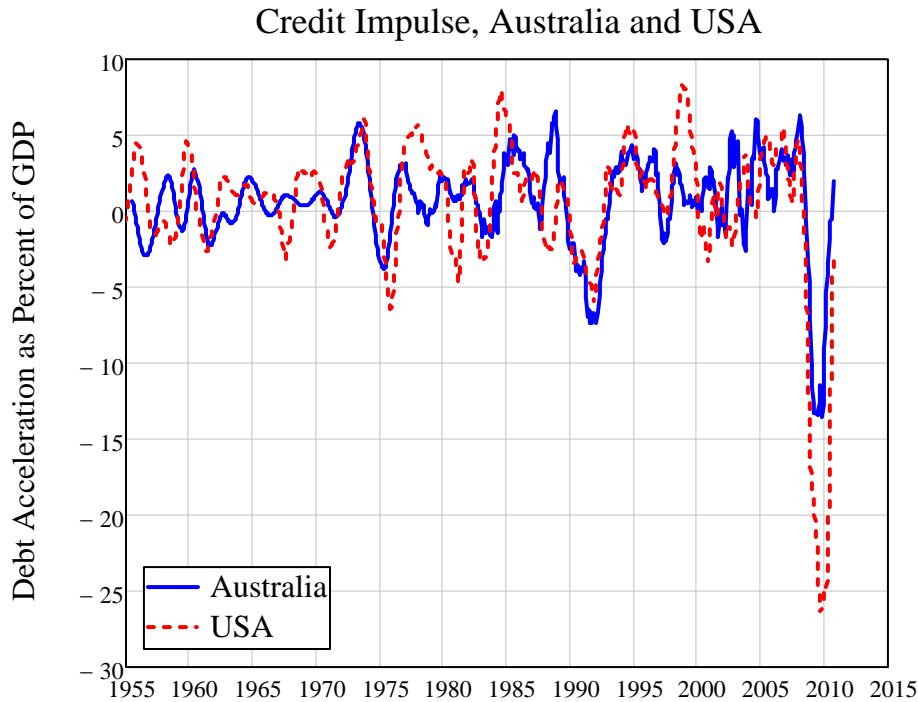
My focus is on the endogenous force: credit expanding faster than both incomes and asset prices is what drove asset prices up, and the failure of credit to continue growing faster than income is all that is needed to set the reverse process of declining asset prices in train—while leaving the debt in place.

The Credit Impulse

The key factor behind not just the property bubble, but Australia's apparently outstanding performance during the Global Financial Crisis—is what [Biggs, Meyer and Pick](#) christened "The Credit Impulse". In contrast to neoclassical economics, I have a credit-oriented analysis of capitalism in which aggregate demand is derived not merely from incomes but from the change in debt. On this basis, the change in aggregate demand will reflect both the change in incomes (GDP) and the change in the change in debt: so the acceleration or deceleration of debt levels adds or subtracts from the change in aggregate demand. This affects both economic performance and hence employment, and asset price change—since from this perspective, aggregate demand is spent purchasing both new goods and services and existing assets.

The collapse in the Credit Impulse was the factor that made the Great Recession great for the USA. The much smaller collapse in the Australian Credit Impulse—and that it turned positive again on a yearly basis in early 2010—is the primary reason why the downturn was so much milder in Australia.

Figure 33



The correlation of the Credit Impulse with change in employment over the long term is high:

Figure 34

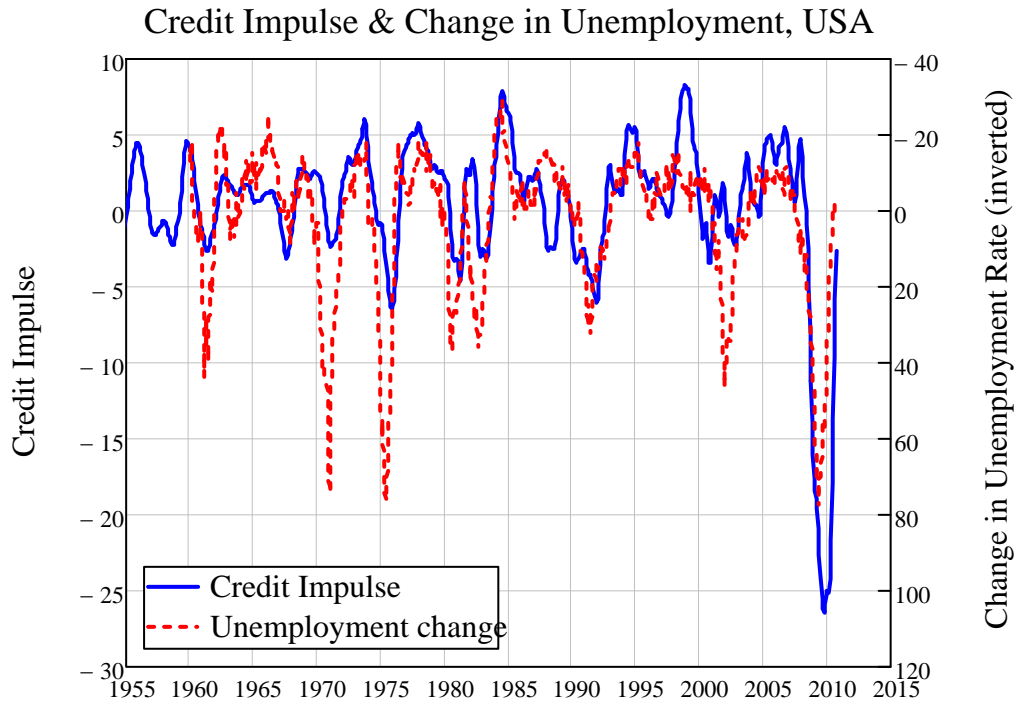
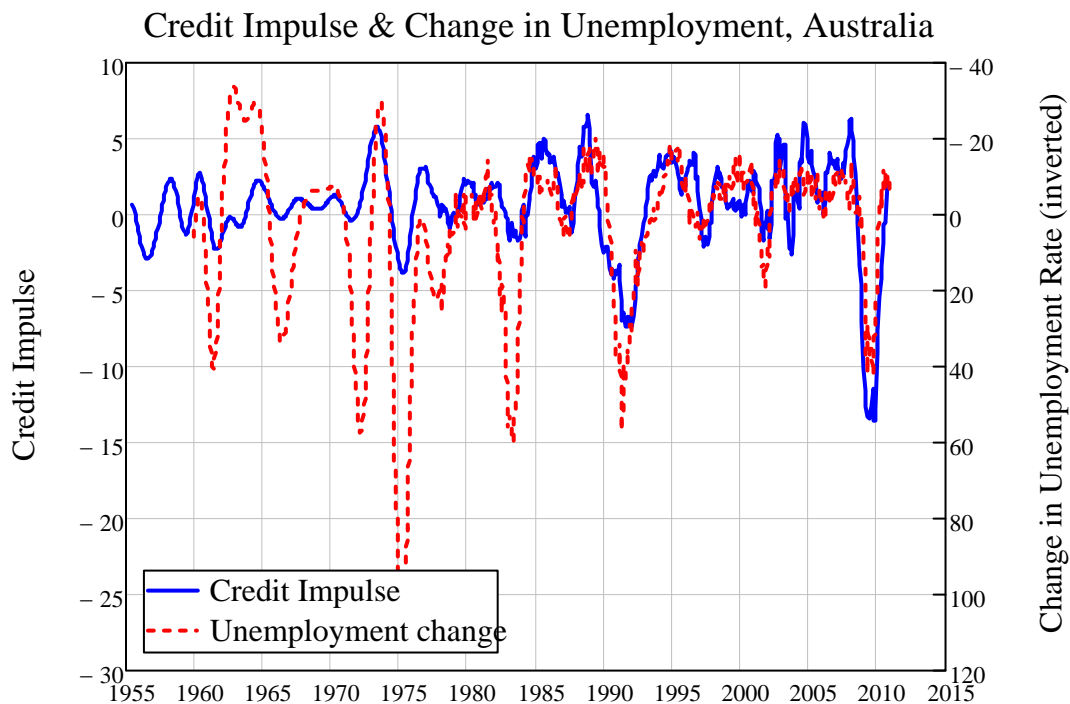
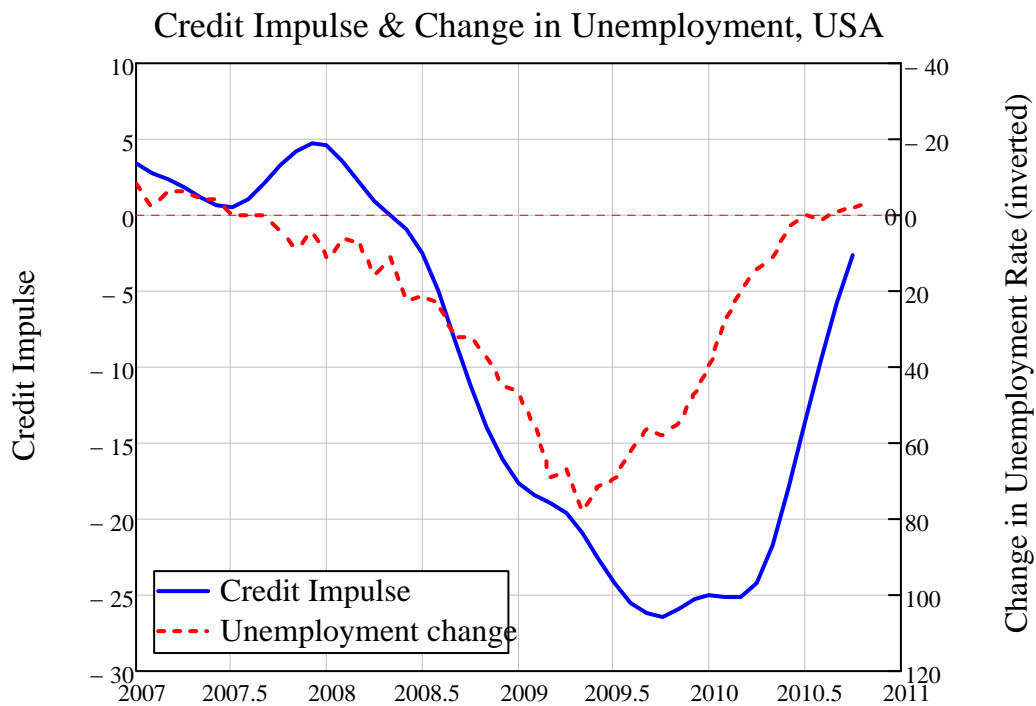


Figure 35



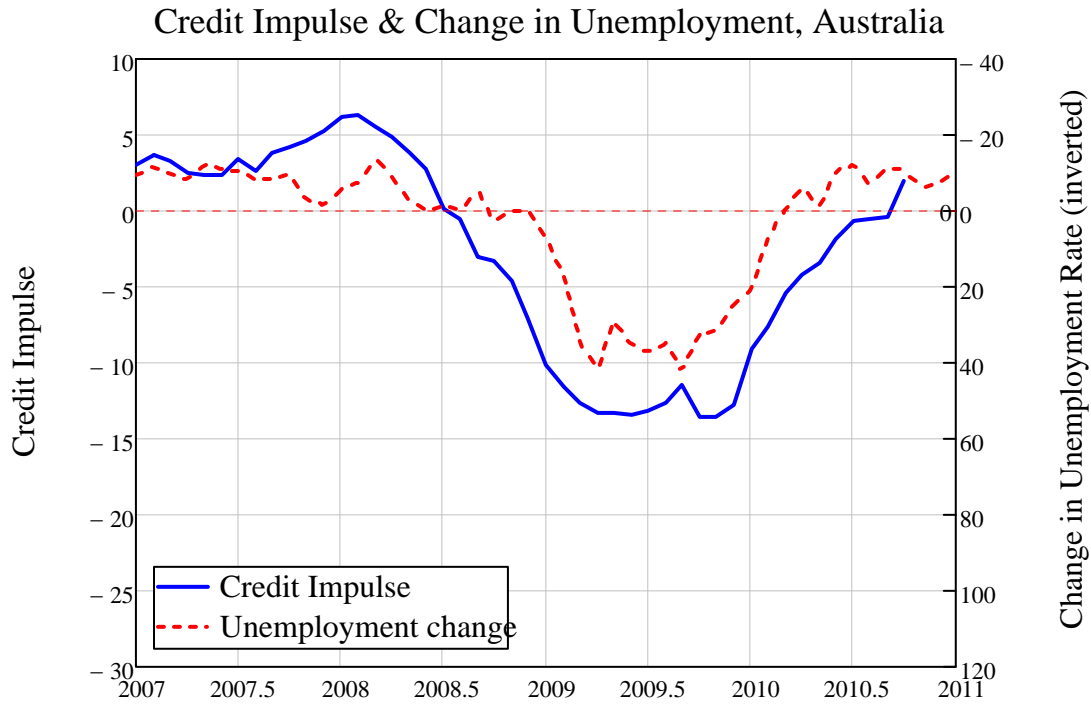
It's even more marked over the crisis itself, though clouded by the impact of massive government interventions via fiscal policy and, in the USA, quantitative easing. The severity of the downturn in the USA was directly attributable to how quickly accelerating debt gave way to decelerating debt, and the decline in the rate of deceleration has been a major factor in attenuating the crisis more recently. Though this sounds paradoxical and counter-intuitive, it follows from the logic that aggregate demand is the sum of GDP plus the change in debt: since the change in aggregate demand is the sum of the change in GDP plus the change in the change in debt, a slowdown in how fast debt is falling can actually boost aggregate demand. That is apparent in the US data from mid 2009—when the recession was officially regarded as having ended.

Figure 36



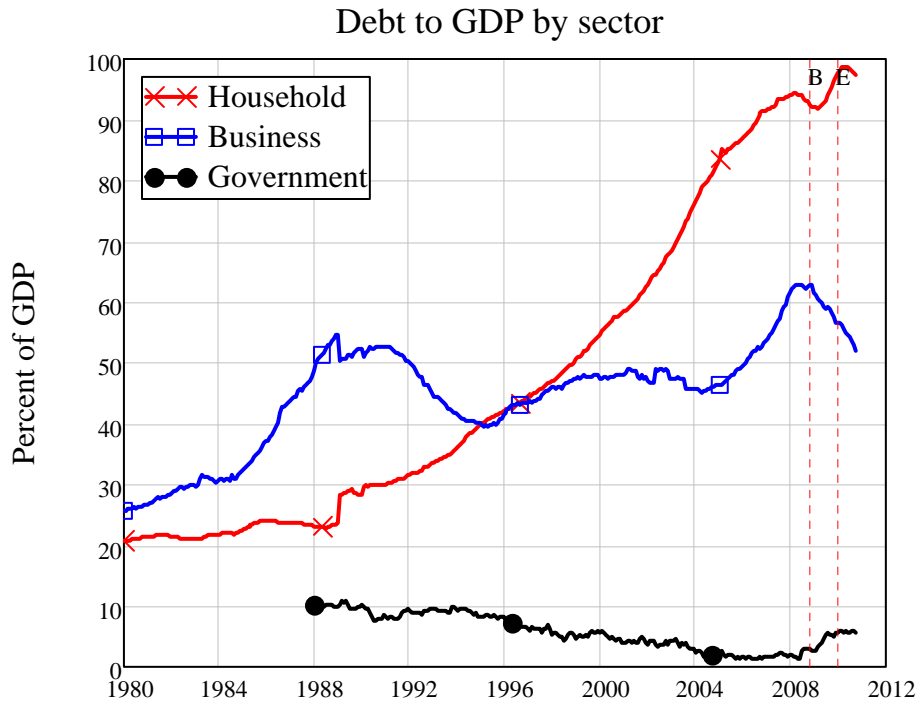
The same qualitative phenomenon applies in Australia, though with much different magnitudes. Firstly the deceleration in debt—the change in the Credit Impulse from positive to negative—was not nearly as large, and it was reversed more rapidly.

Figure 37



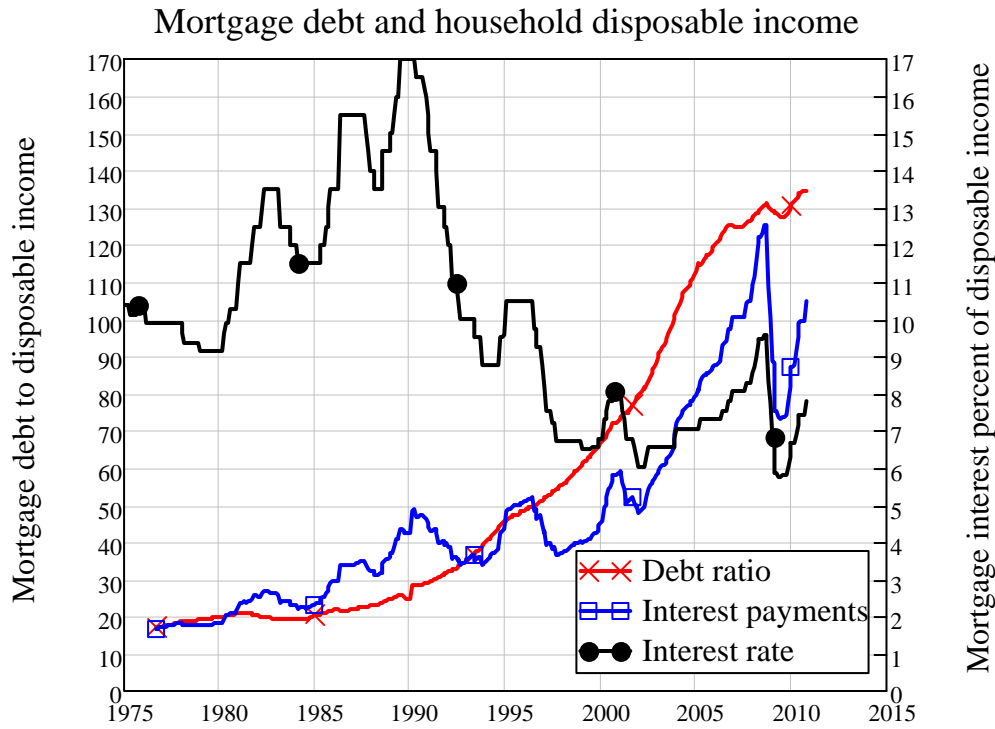
However the main mechanism for achieving that result—stopping the Credit Impulse turning extremely negative, and pushing it back into positive territory—was the First Home Vendors Scheme. As a result of that Scheme, households did not delever—instead they took on substantially more debt, with the mortgage debt to GDP level rising by 6 percent. This more than counterbalanced dramatic deleveraging by the private sector.

Figure 38



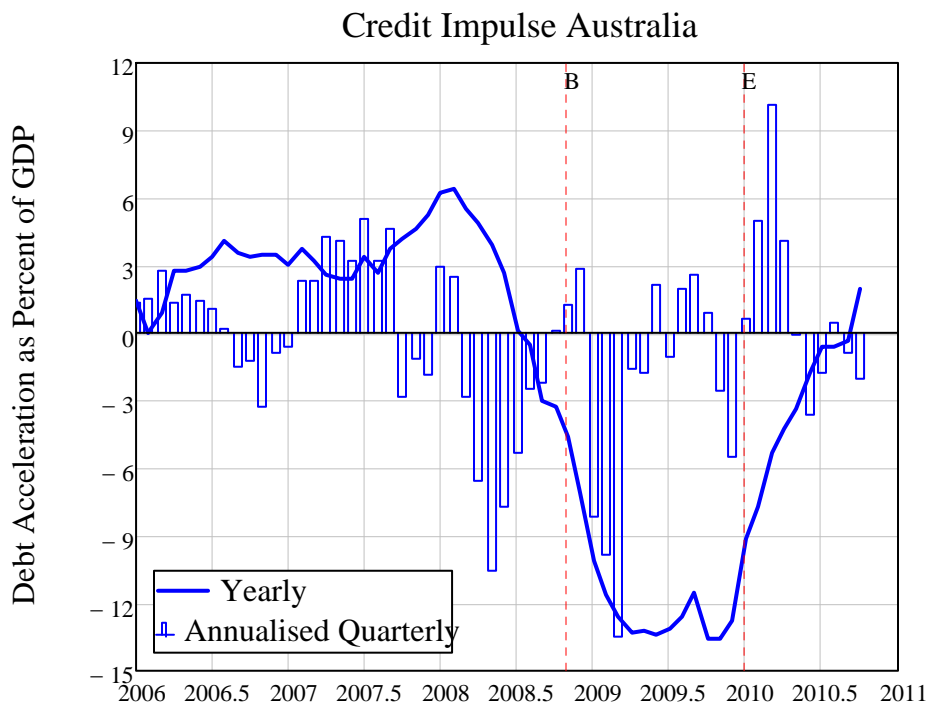
This can't continue, because the household sector is already more indebted than its US counterpart, and the debt servicing costs in Australia are far higher courtesy of our much higher mortgage interest rates.

Figure 39



The quarterly data on the Credit Impulse implies that this is now turning negative again.

Figure 40



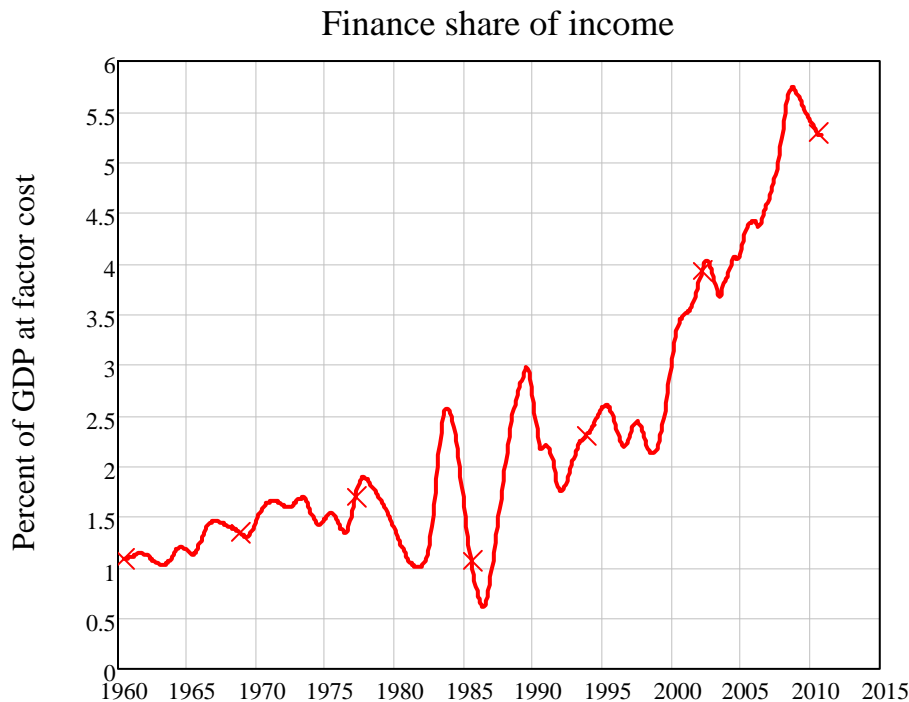
This trend is likely to continue. The artificial boost to the rate of growth of mortgage debt caused by the FHVB is gone, households are indebted beyond anything ever seen before, and high interest rates are killing consumer spending. This in turn will cause a fall in aggregate demand that has to be worn by both consumer and asset markets. The former effect will contribute to rising unemployment—countering the positive boost to employment from the China trade—while the latter will reduce debt-financed demand for housing.

Who would get hurt the worst?

The most obvious losers from a price downturn will be the buyers enticed into the market by the FHVB, many of whom began with 5% equity and who can therefore be easily thrown into negative equity territory by even a small price fall.

This won't lead to "jingle mail" defaults in Australia because our housing loans are full recourse. But since a trigger for the downturn will be a decline in aggregate demand as the Credit Impulse turns negative, unemployment will rise—certainly in NSW and Victoria that don't directly benefit from exports to China—and this will cause forced sales, though a lesser rise in bankruptcy sales than in the USA.

Figure 41



The second obvious group of losers will be the banks themselves, who have dramatically increased their share of profits via the huge increase in mortgage debt. A decline in mortgage originations will reduce their profitability, and their solvency since mortgages now constitute the more than a third of total bank assets and over half of all banks loans.

Figure 42

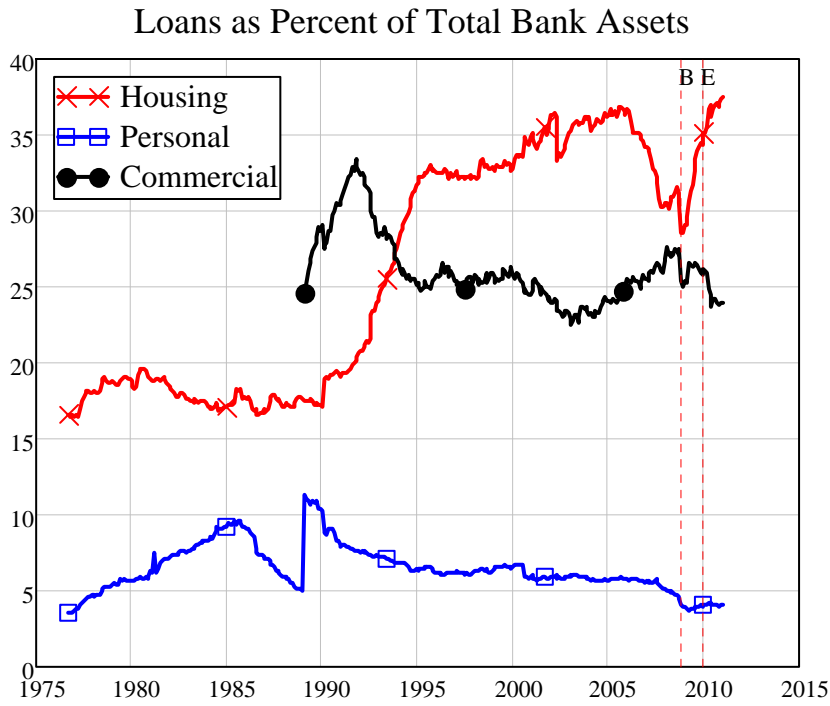
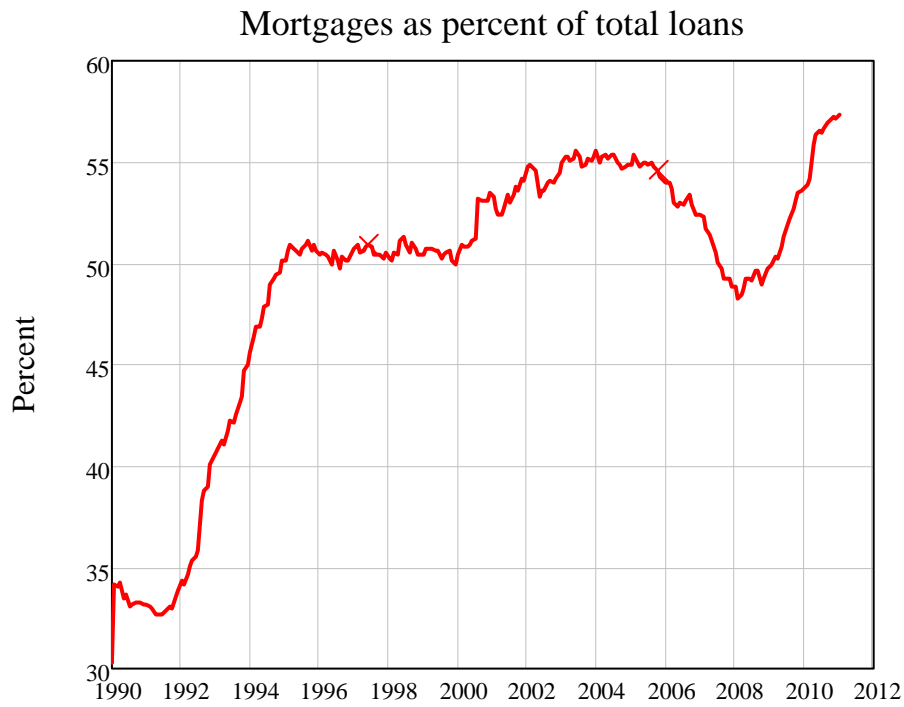


Figure 43



Australian banks assert that they are well capitalised and that a downturn in house prices would have little impact on their liquidity, let alone their solvency. That claim has proven false after the fact of a property price crash everywhere else on the planet, and I expect Australia to be no different.

Figure 44

