

# Inquiry into competition within the Australian banking sector

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## **Request to submit**

I thank the committee for inviting me to make a submission. As noted below, the focus of my submission is point (m) in the terms of reference, “any other related matter”, since as I argue below, past attempts to improve banking via increased competition have actually exacerbated the main problem in banking: the tendency for banks to fund speculative bubbles.

## **Executive Summary**

The major problems of the financial sector are macroeconomic and related to the level of debt, rather than microeconomic and related to the price of debt. These are that:

- (a) Banks have an innate desire to issue more debt than is good for the economy as a whole, and increased competition tends to exacerbate this tendency rather than control it;
- (b) As a consequence of (a), debt has grown inexorably relative to incomes until the financial crisis began. This expansion of debt caused the apparent boom prior to the crisis, while the slowdown in the rate of growth of debt is the predominant cause of the crisis itself;
- (c) Banks are lending too much to households and too little to business; and
- (d) Lending has been oriented towards financing speculation rather than investment and the working capital needs of business.

Increasing competition once again, without ensuring that lending is restrained relative to incomes, and that it is directed away from households and speculation and towards business and investment, would only exacerbate problems caused by earlier introductions of unbridled competition in the 1980s and 1990s.

The focus of policy on banking therefore needs to shift from the microeconomic issues of the degree of competitiveness and so on to the macroeconomic issues of the impact of debt on the economy. In particular, we need an effective means to control the banking sector’s tendency to create too much debt—a tendency that increased competition tends to make amplify rather than attenuate.

The one competitive reform I would suggest is to licence local banks to exclusively lend to small business to provide working capital, where lending cannot be secured against mortgaged property.

## Introduction

Economists and politicians have a tendency to perceive problems in banking as being ones of microeconomics and efficiency, because standard economic analysis regards banking and the level of private debt as having little or no macroeconomic implications.

This belief is reflected in the terms of reference for this inquiry, which has arisen because the general public and the non-bank business sector have been complaining about the impact of the banking sector on their lives and livelihoods. All of the terms of reference, save the catch-all final one of “(m) any other related matter”, consider microeconomic topics of such as “(a) ... competition, (b) .. products ... fees and charges...” and so on. The focus is on competition and the prices of the products that banks provide, rather than on the macroeconomic impact of banks and their fundamental product, which is debt-based money.

I believe that this conventional view is misinformed. Though the microeconomic issues are of some importance, they are trivial compared to the issues of the volume of debt that the banks create, and its effect upon macroeconomic performance and asset prices.

To establish this, I will first review the history of two previous attempts to reform the banking sector by increasing the level of competition. Both of these had only transient impacts upon the price of debt, but caused a lasting increase in the level of debt, and made the Australian macroeconomy even more subject to the deleterious dynamics of debt than it had been previously.

## The past failures of increased competition in the finance sector

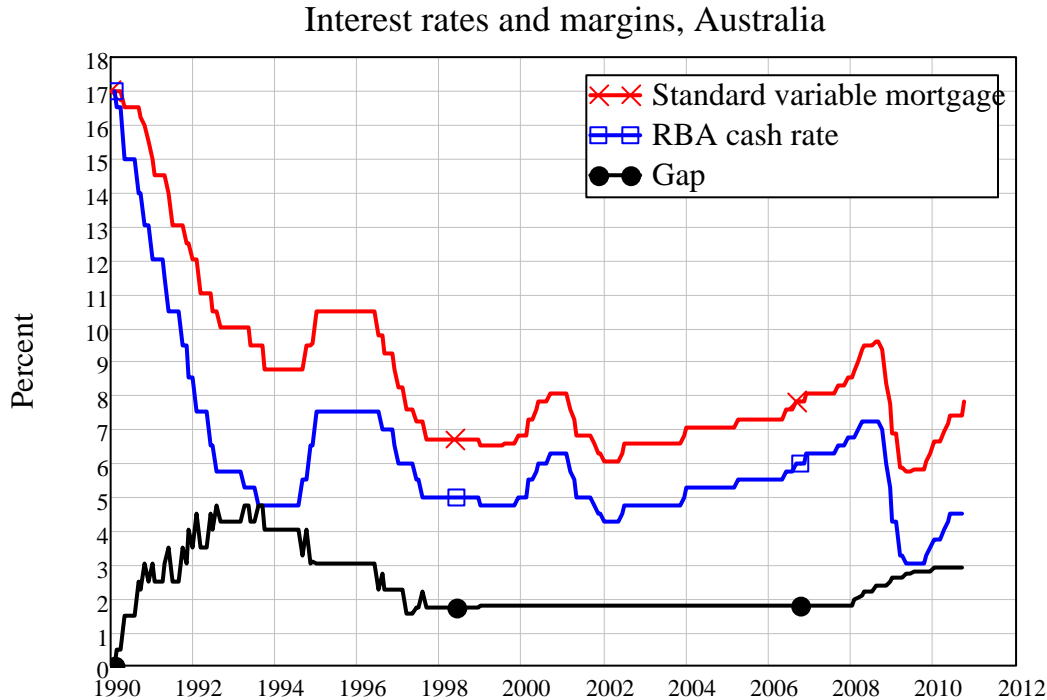
Recent criticism of banks has focused on the increase in variable mortgage rates by more than the RBA’s increase in the cash rate since the “Global Financial Crisis” (*GFC*)<sup>1</sup> hit in 2008. However, while the margin between mortgage rates and the cash rate has risen compared to post-Wallis Committee levels, it is still below the level that applied prior to the Wallis reforms, which encouraged a substantial expansion in mortgage lending competition by securitised lenders. As Figure 1 indicates, after the economy had recovered from “the recession we had to have”, but before the Wallis reforms were introduced, the margin varied between a low of 3 percent and a high of 5. It is now back to 3 percent.

Thus though the margin has increased substantially since the *GFC* hit (from 1.8 to 3 percent, a 67% increase in 2.7 years), this has only restored margins to what they were prior to the last time the finance sector was reformed to introduce more competition (in line with the recommendations of the Wallis Committee).

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<sup>1</sup> “The Global Financial Crisis” (and its acronym “the *GFC*”) is a peculiarly Australian expression. The US convention is to describe the current period as “The Great Recession”.

Figure 1: Relationship between mortgage rates and RBA cash rate since 1990



Then, as now, increased competition was expected to benefit customers via lower costs. The Wallis Committee described the competitive intent of its reforms in the following way:

The Inquiry has not pursued change for its own sake, but has sought an appropriate balance between achieving competitive outcomes and ensuring financial safety and market integrity. In particular, its recommendations seek to...:

- ensure that regulation of similar financial products is more consistent and promotes competition by improving comparability;
- introduce greater competitive neutrality across the financial system;
- establish more contestable, efficient, and fair financial markets resulting in reduced costs to consumers;
- provide more effective regulation for financial conglomerates which will also facilitate competition and efficiency; and
- facilitate the international competitiveness of the Australian financial system.

Precise prediction of the direction and performance of the financial system cannot be made. However, the Inquiry is confident that implementation of its recommendations will place Australia's financial institutions and markets in a strong position to adapt to change and to respond to the ever increasing competitive pressures which lie ahead. (Stan Wallis et al., 1997, p. 2)

The main competitive impact of the Wallis Committee recommendations was to accelerate the growth of securitised lending. As Figure 1 indicates, this did indeed reduce costs for consumers, in terms of the margin between official and market interest rates. But the transient nature of this competitive benefit, the fact that its unwinding coincided with the most severe international financial crisis since the Great Depression, and the public anger at banks today, indicates that competition did not function entirely in the manner expected by the Wallis Committee.

The markup on the cost of funds itself was lowered not so much by an increase in efficiency, as by a diminution of quality, as essential costs were cut in a competitive race for market share—a competition which also increased the aggregate housing loans to GDP ratio.

As the National Director of the *Australian Property Institute* noted to the House of Representatives hearing into *Home loan lending practices and processes*, detailed property valuations have been replaced by “drive by” checks that do no more than confirm via a “cursory glance” that a property had a dwelling on it:

what we have seen, particularly from a valuation point of view, is that the asset test that many of the ADIs state they undertake, they quite literally do not undertake. We do not have valuers going out doing asset tests on all loans that are undertaken by financial institutions. Some banks get their own either ex-managers to drive by to see if the actual house exists or we have a lower form of valuation being undertaken.

These days it is getting to the point where you actually have the valuer who would not actually even see if the house or asset existed in the first place. You have a drive-by which is at best a cursory glance to see if there is a property on the lot that has been purchased. (Mr Warner, Standing Committee On Economics Finance And Public Administration, 2007, p. 34)

Similarly, detailed evaluations of the borrower’s capacity to service a loan, and a commitment to keep loan repayments below 30% of gross borrower income, were replaced by automated checks that the borrower had sufficient income left after loan repayments to be just above the Henderson poverty line. As APRA’s General Manager for Industry and Technical Services, Heidi Richards, told the Committee:

Our research has also confirmed that ADIs have materially increased the maximum amount they are willing to lend to a given borrower. The increase has come about in a shift away from traditional debt-servicing ratios based on simple gross borrower income calculations. In the newer income surplus models borrowers are assumed to continue repaying their mortgage until they reach a minimum level of household expenditure, with these minimum levels often based on poverty level measures.

The traditional rule of thumb was that debt-servicing expenses should amount to no more than 30 per cent of gross borrower income but, based on a review of lending policies that APRA conducted last year, we found that loans with debt-servicing ratios above 30 per cent are now often well within ADIs’ policy

parameters. (Ms Richards, Standing Committee On Economics Finance And Public Administration, 2007, p. 5)

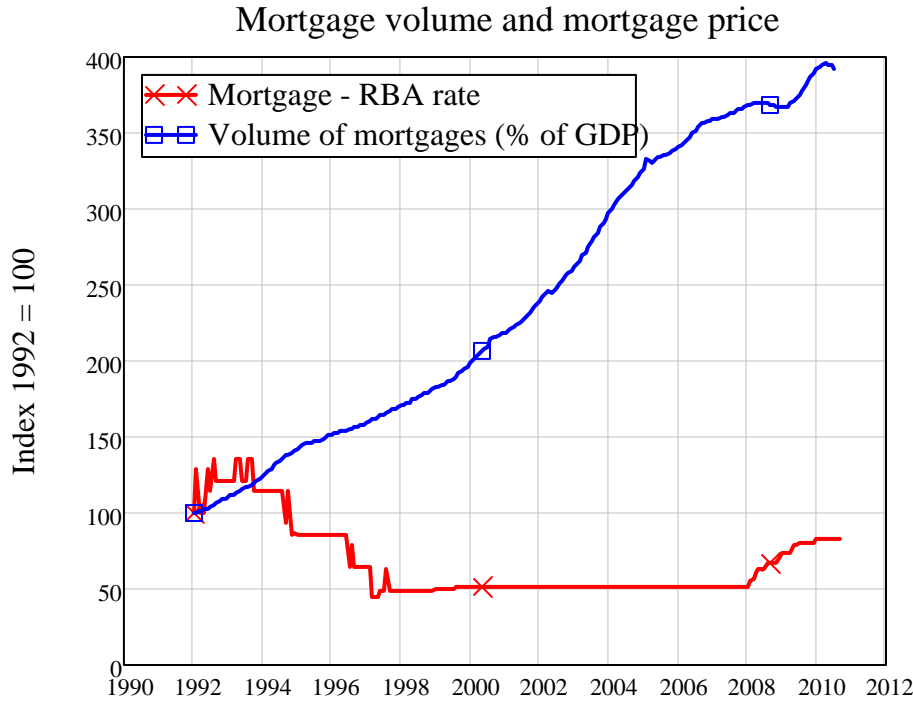
The lower margins between mortgage rates and the cash rate that consumers temporarily enjoyed between 1997 and 2008 were thus achieved largely through a drop in the quality of the mortgage product. This, and the dramatic increase in the level of debt, allowed loan to valuation ratios to blow out from the conservative 70% of the 1960s and early 1970s to the 97% levels on offer today.<sup>2</sup> This dramatic increase in the size of mortgages relative to incomes (and consequent drop in the initial equity that borrowers have in their properties) has meant an enormous increase in cost of servicing mortgages, despite lower margins. This is the main reason that banks are the subject of such intense public opprobrium today.

At the aggregate level, the drop in mortgage quality caused an explosion in unproductive lending to the household sector, the same phenomenon that in the USA fuelled an apparent boom known as “The Great Moderation”, which ended in the financial collapse that American economists now call “The Great Recession”. Though the margin between mortgage rates and the cash rate fell by 50 percent relative to 1992 levels, the volume of mortgages rose fourfold (see Figure 2). This increase in the volume of debt relative to GDP is the primary reason that bank profits have increased: had the impact of additional competition *only* been to affect the margin between the banks’ cost of funds and the RBA rate, then bank profits—and therefore the cost of debt to consumers—would be lower today than prior to the Wallis reforms.

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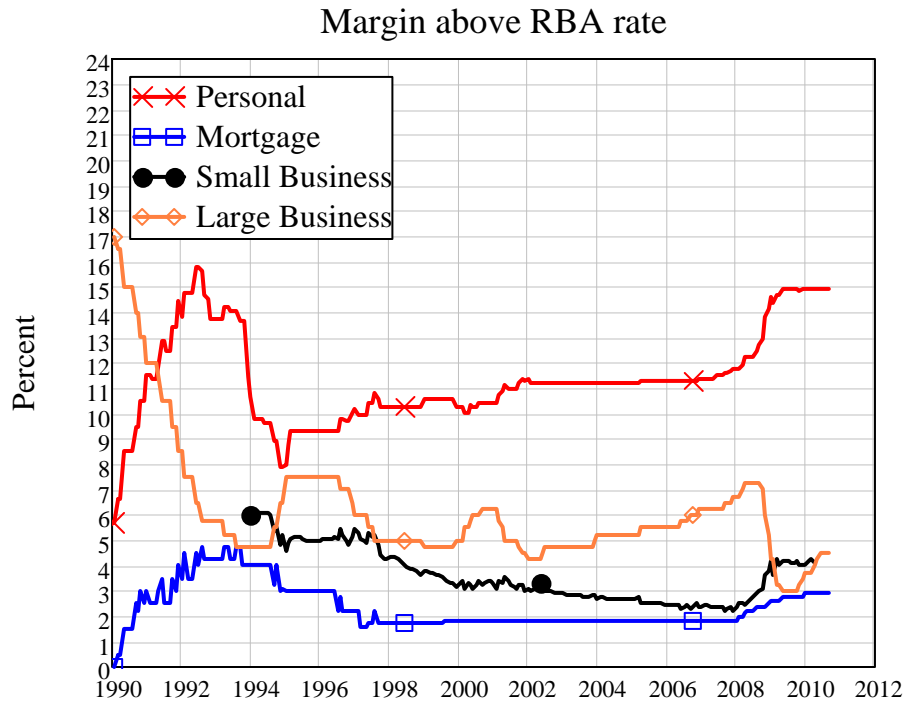
<sup>2</sup> As of November 30<sup>th</sup> 2010, the Commonwealth Bank was offering loans with a maximum LVR of up to 97%: “The maximum we will lend you is 95% of the valuation amount. We also add the Lenders Mortgage Insurance or a Low Deposit Premium to your loan (up to a maximum of 97%), so it doesn’t cost you anything upfront.”; see <http://www.commbank.com.au/personal/home-loans/loan-to-value-ratio.aspx>.

Figure 2: A halving of mortgage margins, a fourfold increase in volumes



In the aftermath of the financial crisis, all the securitised lenders have either collapsed, or have been taken over by the four major banks: competition has given way to oligopoly—as it did in the 1980s. Margins on all classes of loans (except those to large businesses) have risen, but only in the case of personal loans are these margins generally higher than applied in the pre-Wallis period. As Figure 3 indicates, though the recent focus has been on the 1.1% increase in the mortgage margin, the margin has risen most aggressively on personal loans—where it is up 3.7%—while the small business loan margin has risen 1.8%.

Figure 3: Margin of average loan rates above RBA rate

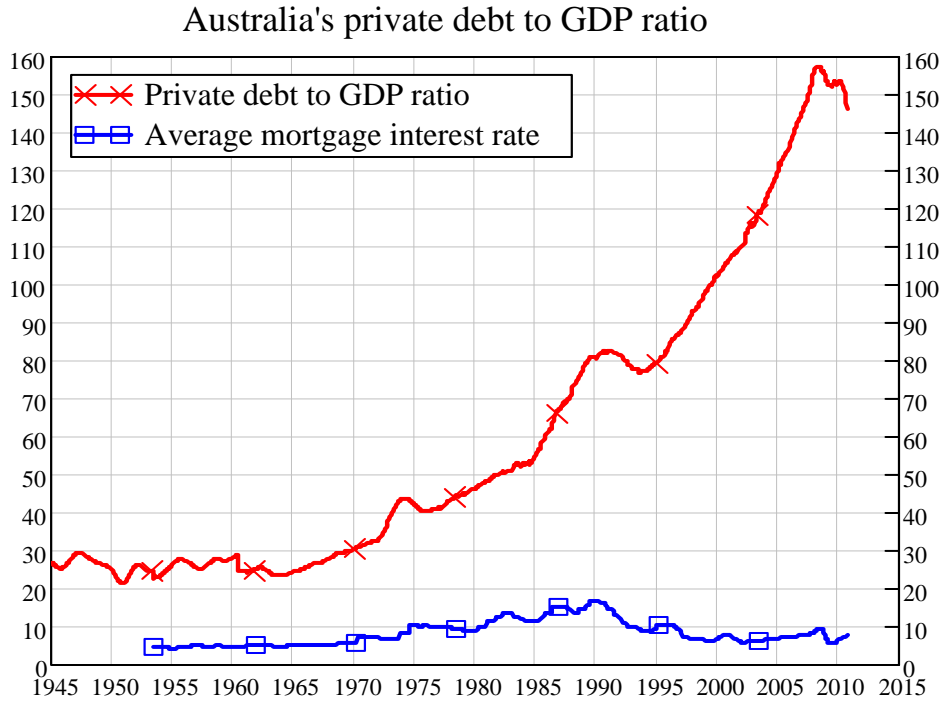


### Falling margins and rising volumes—too much debt

Competition thus initially reduced margins, only to have them rise once more—so that the benefits of competition proved transient.

The drop in the quality of loan assessment led to an explosion in the volume of debt, most of which financed speculation rather than investment. The lasting impact of the reforms was to sustain the tendency that the banking sector had already demonstrated even prior to the attempts by governments to reform it via increased competition, to increase the level of private debt compared to income. While interest rates have varied wildly and widely over time, the level of debt compared to GDP has risen almost inexorably prior to the Global Financial Crisis—after 20 years of stability between 1945 and 1965 (see Figure 4).

Figure 4: The real reason that banking is a problem today is the blowout in the ratio of debt to GDP

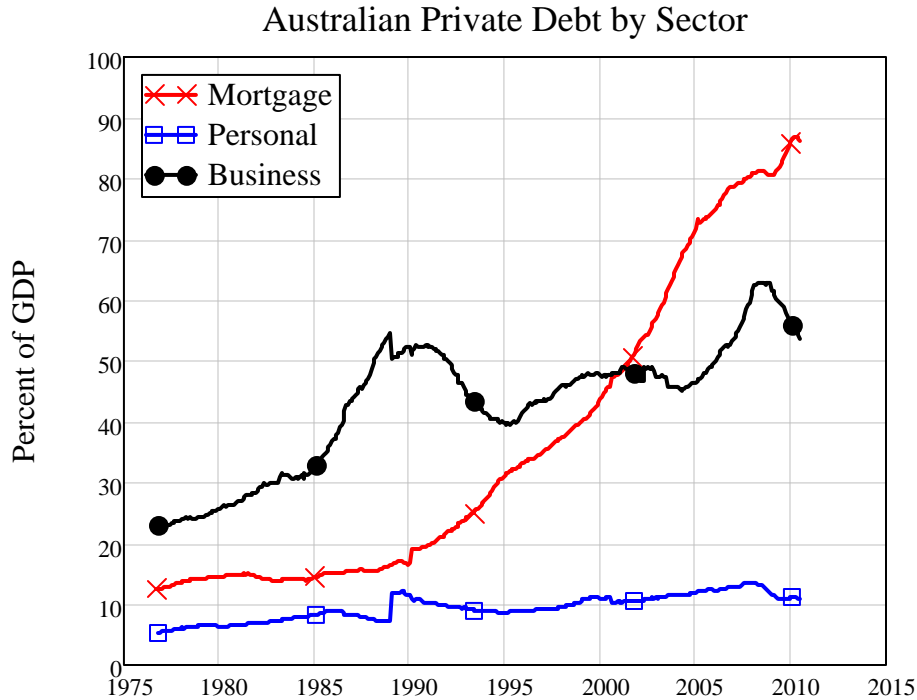


Though the drop in margins was transient, the increase in the volume of debt carried by the housing sector was substantial and, if not permanent, much more enduring: as Figure 5 indicates, whereas it would have taken a mere 2 months of GDP to repay all outstanding mortgage debt in 1990, it would take more than 10 months of GDP to do the same today.<sup>3</sup>

<sup>3</sup> The ratio of outstanding debt (measured in \$) to income per annum (measured in \$/year) tells you how many years of income it would take for the debt to be repaid.



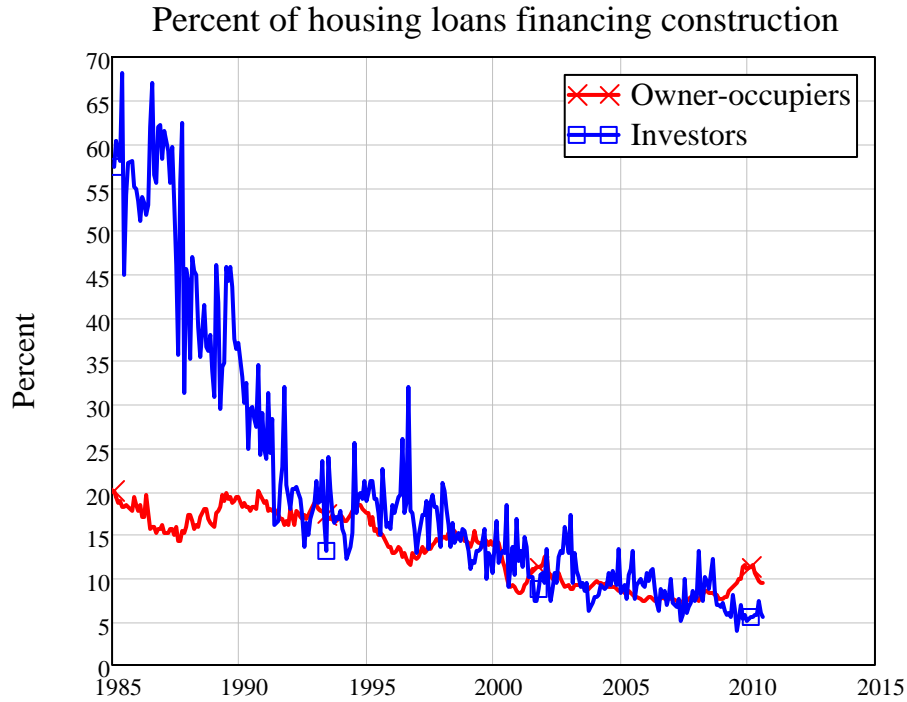
Figure 5: Varying sectoral debt levels over time



This increase in debt could have been productive had it increased the stock of housing, or improved its quality substantially. However though Australian houses have grown dramatically in size—resulting in so-called “McMansions”—the proportion of mortgage debt that has financed construction of new homes has fallen from 60 percent for investors in the late 1980s to barely 5 percent today, while the proportion of owner-occupier loans that financed construction has fallen from 20 percent to about ten percent (see Figure 6; the recent increase was clearly due to the tripling of the First Home Owners Grant for new dwelling construction, and that is now rapidly reversing since the Boost has terminated).

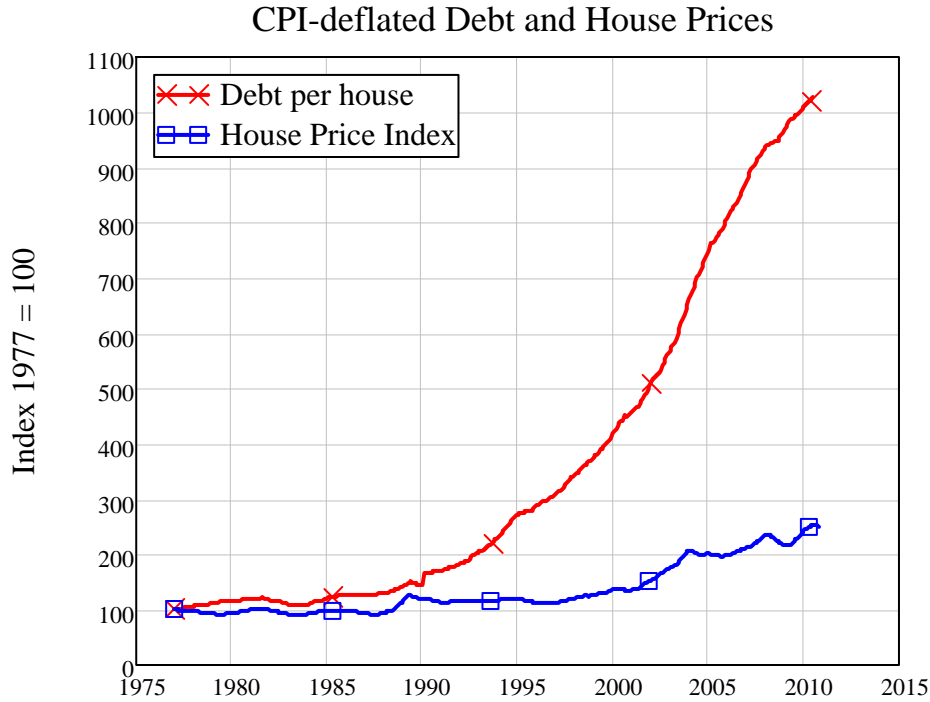
By implication, the vast majority of mortgage finance has financed speculation on the prices of existing properties, driving up house prices without adding to the housing stock of the country.

Figure 6: Percent of housing loans financing construction



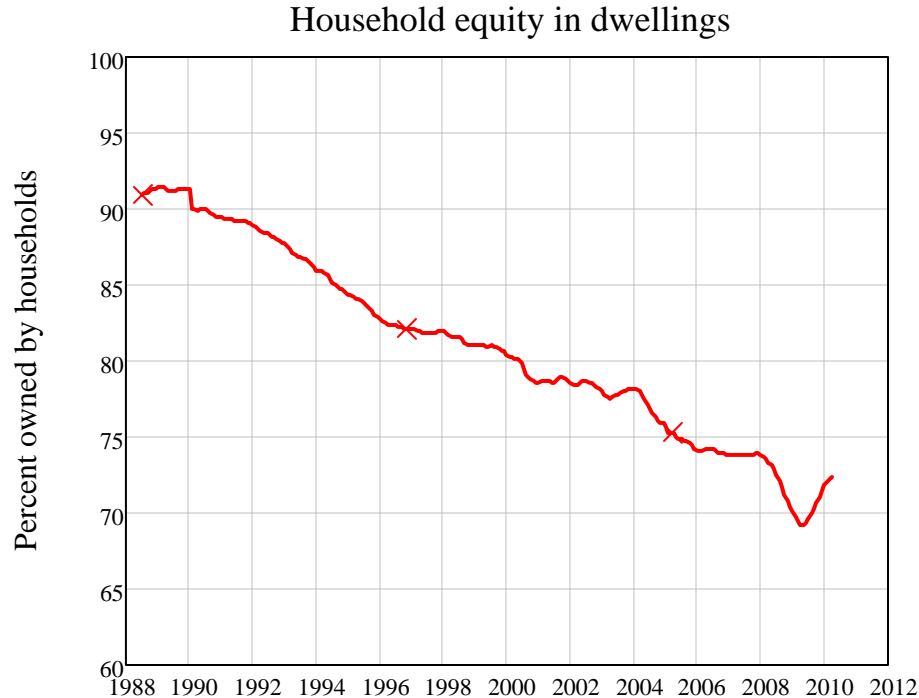
Though the increase in prices has made households feel wealthier, the increase in the real debt per house has far exceeded the increase in the CPI-deflated house price index. As Figure 7 shows, though house prices have risen by a factor of 2.5 in real terms since 1977, the CPI-deflated debt level has risen more than 4 times as much. The divergence between the debt level per house and house prices began in 1990—before the Wallis reforms were introduced—but the rate of divergence increased after Wallis encouraged the growth of securitized lending.

Figure 7: Increase in debt per house and house price



Thus even though house prices have risen substantially, household equity in houses has fallen over the last 2 decades—from above 90 percent in the late 1980s to under 70 percent (see Figure 8; the significant rise in the last two years has been caused by the increase in house prices sparked by the First Home Owners Boost). This equity is now extremely dependent on house prices remaining high, since though debt has driven house prices up, debt will not fall if house prices fall.

Figure 8: Value of household assets minus mortgage debt



As equity has fallen, the cost of entering the market has risen. Those who have recently entered the market have had to devote a prohibitive portion of their incomes to servicing their mortgage, while those considering entering must contemplate a daunting level of debt compared to their incomes.

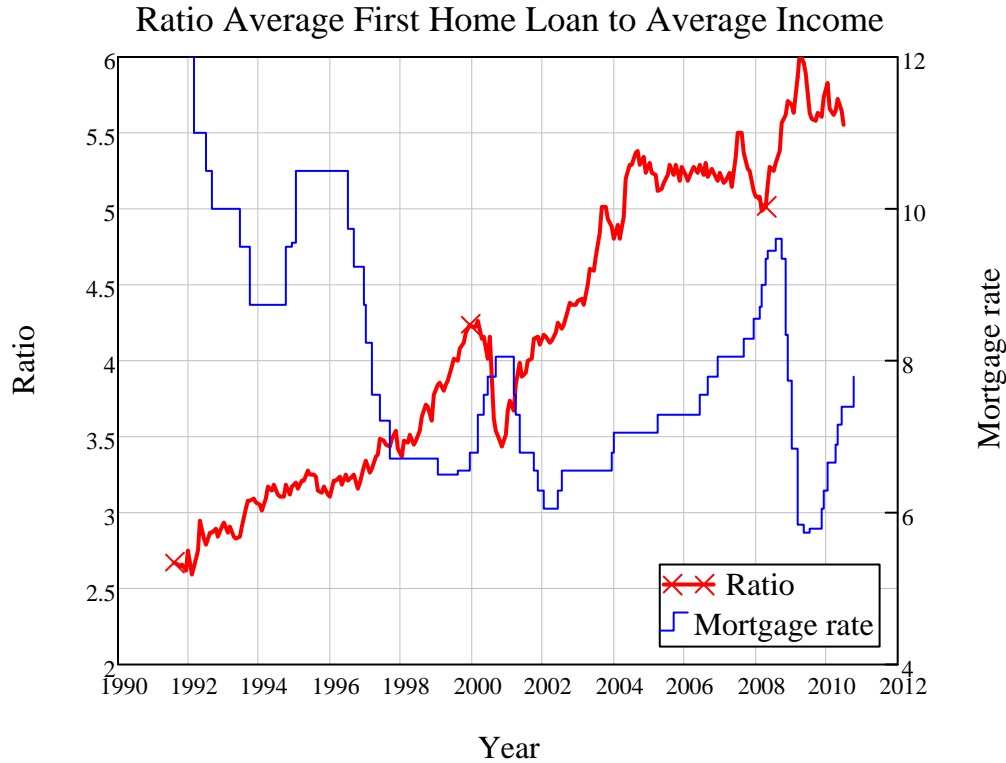
As a result, housing affordability has deteriorated sharply: the claim that many property lobbyists and banks make that it has not is simply absurd. Figure 9 shows the ratio of the average loan taken out by a first home buyer to the average wage, which has risen from just over 2.5 in 1992 to as much as 6 in 2009.

Some commentators have claimed that this rise in the size of mortgages compared to incomes was just a consequence of falling mortgage rates: as rates fell, the level of debt taken on rose, leaving the cost of servicing the debt constant. RBA Governor Glenn Stevens made precisely this claim to the *House of Representatives Standing Committee on Economics, Finance and Public Administration* in 2007:

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)

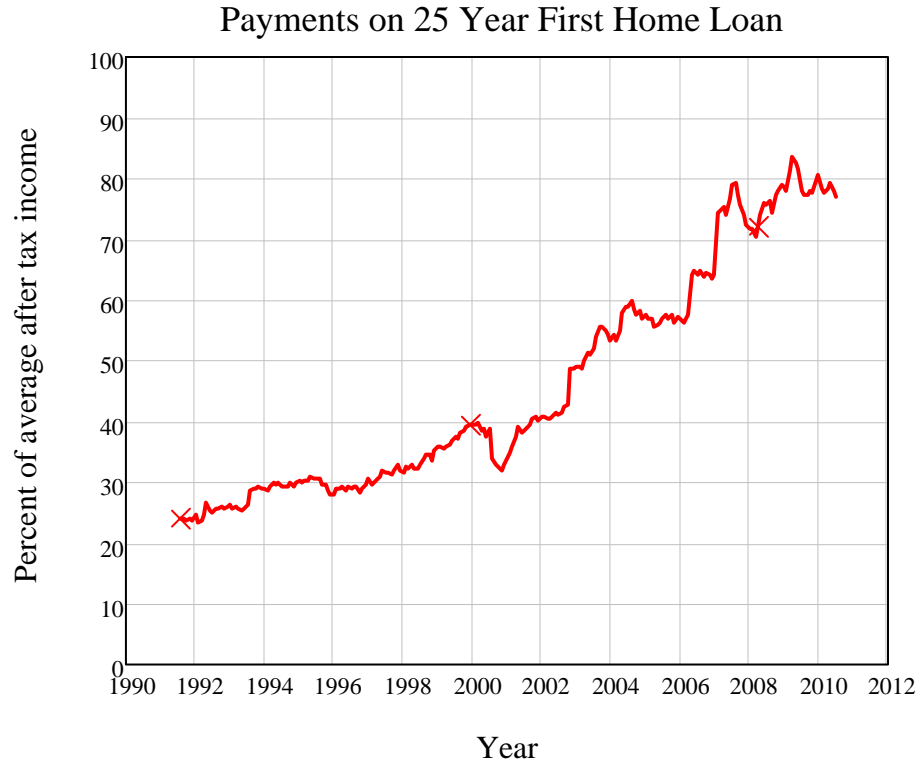
Though there were periods where this was the case, Figure 9 shows that in general this was not true. Debt levels did rise as rates generally fell from 1990-1998, but since then debt levels have almost doubled compared to incomes, while mortgage rates are higher now than then.

Figure 9: Ratio of the average first home loan to the average yearly wage



A focus on the interest costs of debt also understates the problem, since as debt levels rise relative to income the cost of paying down the principal over time rises more than the interest rate cost alone. On this basis it is undeniable that the increase in the volume of mortgages, which was the main lasting impact of increased competition, has made Australians worse off. Figure 10 shows that in 1996, prior to the Wallis reforms, the average first home loan could be serviced with 30 percent of the after tax salary of the average wage earner; today, the figure is 80 percent. It is no longer feasible for a single person on the average wage to buy a dwelling today, and even a couple has to devote more of their take home pay to servicing a mortgage than an individual did just 15 years ago.

Figure 10: 80 percent of the average wage needed to service a first home loan



The deleterious impacts of increased competition in lending to the household sector have clearly outweighed the benefits. The one benefit was that the margin between mortgage rates and the cash rate halved for a decade, but it has now reverted to three-quarters of the pre-Wallis value. Real house prices have doubled, making some households (especially those who own their houses outright) wealthier, but debt has increased fourfold, and in the aggregate household equity in property has fallen.

### **Competition's history of excess in banking**

A similar process applied the previous time that a massive boost to competition was introduced into the financial sector—in February 1985, when Paul Keating persuaded the Hawke Labor Government to introduce not merely 4 foreign banks into the Australian market, but sixteen. Then, lending to the business sector exploded, rising from 33% of GDP to 55% in just 4 years. Much of that lending was unproductive, financing the speculative activities of now acknowledged Ponzi merchants like Alan Bond, Christopher Skase and Laurie Connell.

In the aftermath of the Stock Market Crash of 1987 and the real estate bubble and bust that preceded the 1990s recession, all the foreign banks either withdrew from the market or had their operations taken over by the Big Four—one of which, Westpac, almost collapsed itself in 1992 when it recorded a \$1.6 billion loss.

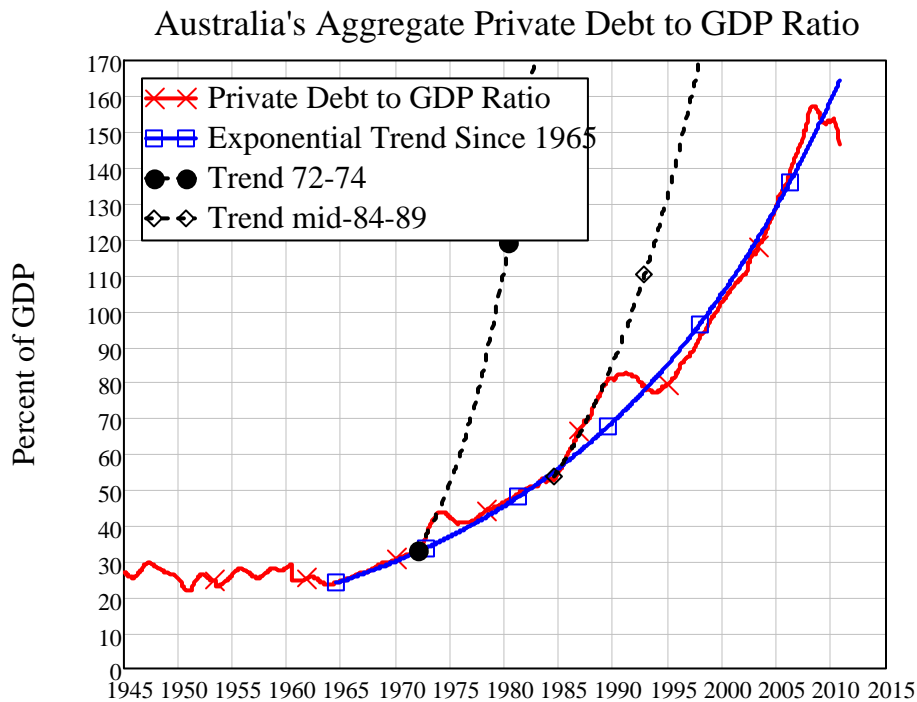
Increased competition in the financial sector has thus failed on two previous occasions to achieve the results its advocates expected. Instead on both occasions, the quality of loan evaluation dropped and

the volume of lending increased dramatically, with most of that lending funding speculation rather than investment.

The sector to which the lending was directed varied, as Figure 5 indicates: business debt more than doubled between 1977 and 1987, and then oscillated for the next twenty years, only to explode once more from 2005-2008 (when it funded some productive investment in minerals, but also the “leveraged buyout” frenzy that ended when the stock market crash began). Mortgage debt was constant throughout the late 70s and 80s, but then increased more than fivefold between 1990 and 2010.

The absence of any long term pattern in the sectoral data masks a very clear pattern in the aggregate data. For the first 20 years after WWII, private debt was constant at roughly 25 percent of GDP. From then on, the level of private debt compared to income has risen relentlessly, until a critical turning point was reached in early 2008. From mid-1964 until early 2008, the private debt to GDP ratio grew exponentially, reaching a peak of 157 percent of GDP in mid-2008. As Figure 11 indicates, calling this growth “exponential” is not mere hyperbole: the correlation of the actual ratio to a simple exponential growth rate of 4.2% p.a. is 0.993.

Figure 11: An inexorable increase in debt from 1965 until 2008



The only reason that this correlation is not even closer to a perfect 1 is the existence of two “super-bubbles” in 1972-77 and 1985-1994, and the recent topping-out of the ratio in March 2008.<sup>4</sup> This growth

<sup>4</sup> If the trends in 1972-74 and 84-89 had continued, private debt today would be respectively 130 times and 5 times GDP. Those rates of growth of debt had to stop, and the cessation of credit growth in the mid-1970s and early 1990s was the main cause of the subsequent recessions.

rate was sustained despite significant shifts in regulatory regimes, dramatic volatility in interest rates, and as noted earlier, significant shifts in the sectoral breakup of private debt.

This history should give pause to the current renewed enthusiasm for introducing more competition into the financial sector. If debt—the fundamental output of the banking sector—has grown inexorably despite dramatic changes in the structure of the financial sector and the economy over time, then is there something inherent to banking that leads to unrestrained growth in debt? And if increased competition had unintended deleterious consequences on previous occasions, what might be the consequences of enhancing competition again now, in the aftermath of a financial crisis? Is competition the panacea, as conventional economic analysis argues, or is it to some extent the problem in the financial sector?

### **Funding bubbles rather than productive enterprise**

Banking is clearly a vital function in a market economy, and much of what banks do is essential for commerce: providing working capital to firms, funding investment, enabling consumers to own their homes as an alternative to renting, and so on.

However banking also has potentially damaging consequences if it funds speculative activities rather than genuine investment on a large scale—as I argue that, based on the empirical data, it has. This negative side of banking is unlikely to be constrained by competition—in fact it is likely to be made worse by more competition.

This is because banking differs from commodity production—to which standard “supply and demand” analysis is normally applied—in ways that mean that it has an innate tendency to try to produce as much of its product (effectively, debt that simultaneously creates credit money) as it can entice its customers to take on. The only factor that can prevent this tendency leading to excessive debt levels is a limit to the willingness of its customers to borrow money.

If borrowers base their desired level of lending on either enhancing immediate consumption, or funding activities that may lead to income generation in the future, then debt will generally be constrained to sustainable levels—as occurred during the 1950s and early 1960s. If, however, borrowers go into debt to finance speculation about asset prices, then there is a potential for the level of borrowing to grow out of proportion to incomes and lead to a financial crisis.

An essential side-effect of this process is the creation of an asset price bubble from the positive feedback between rising levels of leverage and asset prices. Asset prices are driven up by debt-financed purchases of assets, and this rise in price entices more borrowers into debt. An increase in debt to income ratios therefore goes hand in hand with an asset price bubble. These bubbles ultimately burst for three main reasons:

1. Borrowing to buy existing assets adds to the debt burden of society without adding to its income generating capacity. The individuals who profit from rising asset prices are essentially Ponzi speculators whose “enterprise” is fundamentally loss-making. Ultimately they must fail, and this reality is masked only by rising asset prices. As soon as they falter, they are likely to go bankrupt;



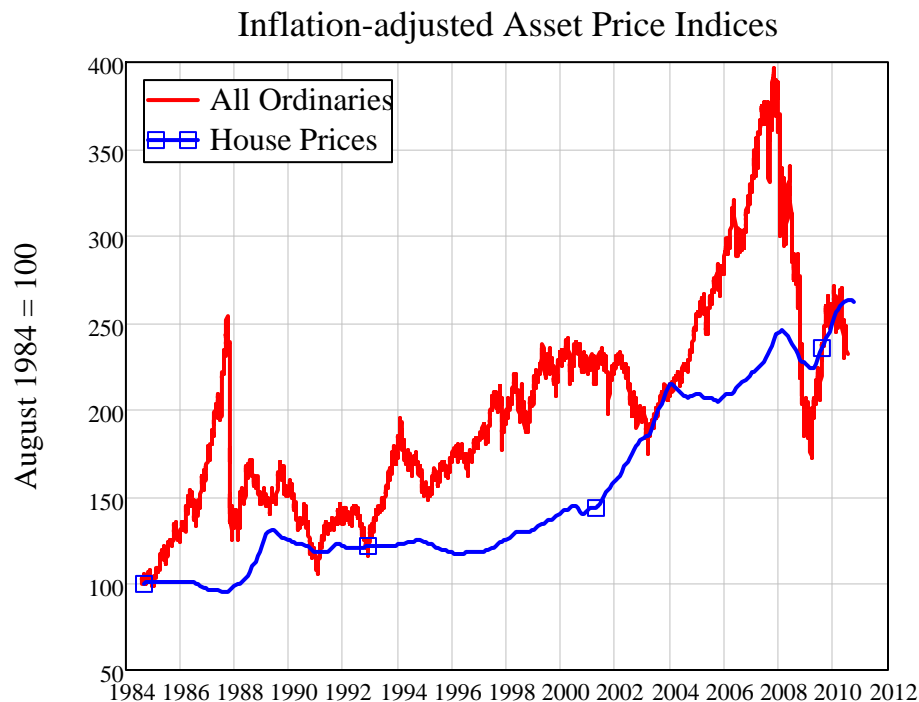
2. Price to income ratios get driven to levels that appear irrational even to insiders, leading to greater volatility, and eventually an asset price crash that ends the bubble; and
3. The levels of debt that existing speculators and new entrants need to undertake to continue driving the bubble becomes prohibitive compared to their income levels. The borrowing slows down, thus ending the positive feedback process that drives the bubble.

The danger in allowing increased competition in finance, without provisions to ensure that the lending is directed to productive uses, is that the sector's innate tendency to fund Ponzi schemes will be amplified by the pressure of competition.

### Competition in the 1980s—the stock market bubble and bust

In retrospect, this is clearly what occurred during the 1980s. The initial bubbles then were in shares and commercial property—though anyone who claimed there was a bubble before October 1987 was widely derided. The stock market bubble then burst spectacularly, as Figure 12 indicates, but in the aftermath, speculation shifted to residential property (thanks in no small measure to the government re-introducing the First Home Owners Grant to ward off a feared recession).<sup>5</sup> Prices rose 36% in real terms between October 1987 and March 1989, and then stagnated in real terms for the next decade.

Figure 12: Stock market bubbles of the 1980s and 2000s



<sup>5</sup> The First Home Owners Scheme was first developed and introduced by the Hawke Government primarily as a fiscal stimulus in 1983. See <http://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;orderBy=date-eLast;page=3;query=%22FIRST%20HOME%20OWNERS%20BILL%22%201983;rec=2;resCount=Default>

### Competition in the 1990s-2000s—housing and share market bubbles

The additional competition from securitized lenders that the Wallis Committee championed has had a similar effect, this time primarily on household debt and speculation on house prices.<sup>6</sup> Increased competition in finance has once again had the deleterious effect of funding speculation rather than productive investment, driving up debt levels and causing asset bubbles in both the share and the property markets.

Predictably, banks have denied that their activities have funded speculative bubbles.<sup>7</sup> With regard to housing, they assert that house prices reflect fundamental forces, on the basis of four propositions:

1. That the house price to income ratio in Australia is not as high as those who assert that there is a house price bubble claim it to be;
2. That there is an excess of demand for housing over supply in Australia, reflecting problems with regulation that have prevented the construction of new houses in line with underlying demand;
3. Strong population growth is driving up prices; and
4. That Australians have a preference to live near the coast and are willing to pay a premium to do so.

In order to establish my position that the banking sector has once again funded a speculative bubble, I need to consider these arguments in detail. As I show below, none of them stand up to close scrutiny.

### No house price bubble (and “Coastal living”)

The Commonwealth Bank made the following assertions that combine arguments 1 and 4 above:

- Australia the 4<sup>th</sup> least densely settled country in the world—83% live within 50 kms of the coast.
- Coastal locations demand a premium—Australia’s population concentration in capital/coastal cities distorts comparisons to other, more densely settled countries.
- Australia’s capital city house price to income ratio of 5.6 is consistent with coastal city metrics globally (Commonwealth Bank, 2010, p. 4)

These assertions were supported by the table shown in Figure 13:

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<sup>6</sup> Figure 12 makes it obvious that there was also a bubble in share prices from 2003-2008, which largely coincided with an expansion of lending to business after a decade of deleveraging by the business sector since the 1990s recession (and a substantial expansion of margin lending to the household sector).

<sup>7</sup> See <http://www.scribd.com/doc/40295862/AustralianHousing-October2010> for Westpac’s “Australian housing: the bubble myth” and [http://www.commbank.com.au/about-us/shareholders/pdfs/2010-asx/Australian\\_Residential\\_Housing\\_and\\_Mortgages\\_slide\\_pack\\_9\\_Sept\\_2010.pdf](http://www.commbank.com.au/about-us/shareholders/pdfs/2010-asx/Australian_Residential_Housing_and_Mortgages_slide_pack_9_Sept_2010.pdf) for the CBA’s document.

Figure 13: Commonwealth Bank coastal cities comparison table

<b>Coastal city comparison</b>		
		<b>House Price to Income</b>
Australia	Sydney	<b>6.2</b>
Australia	Melbourne	<b>5.7</b>
Australia	Brisbane	<b>4.7</b>
US	San Francisco	<b>7.0</b>
US	Los Angeles	<b>5.7</b>
US	New York	<b>7.0</b>
Canada	Vancouver	<b>9.3</b>
UK	Bristol-Bath	<b>6.1</b>
NZ	Auckland	<b>6.7</b>
NZ	Wellington	<b>5.8</b>

Source : Demographia; UBS

This table is a piece of blatant sophistry. Note that there are 2 sources given: Demographia (Wendell Cox and Hugh Pavletich, 2010) and UBS. All of the overseas city data points are taken from the Demographia survey, while all of the Australian cities are derived from UBS research. The differences between the Demographia data for all the cities in this table and the UBS-CBA data are shown in Table 1

**Table 1: CBA (Commonwealth Bank, 2010) and Demographia (Wendell Cox and Hugh Pavletich, 2010pp. 36-37) house price ratio comparison**

Country	City	House Price to Income Ratios			Unaffordability Rankings		
		Demographia	UBS-CBA	Difference	Demographia	UBS-CBA	Difference
Australia	Sydney	9.1	6.2	-32%	2	5	-3
Australia	Melbourne	8.0	5.0	-38%	3	9	-6
Australia	Brisbane	6.7	4.7	-30%	6	10	-4

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US	San Francisco	7.0	7.0	0%	4	2	2
US	Los Angeles	5.7	5.7	0%	10	8	2
US	New York	7.0	7.0	0%	5	3	2
Canada	Vancouver	9.3	9.3	0%	1	1	0
UK	Bristol-Bath	6.1	6.1	0%	8	6	2
NZ	Auckland	6.7	6.7	0%	7	4	3
NZ	Wellington	5.8	5.8	0%	9	7	2

The UBS-CBA document thus understates the house price to income ratio for Australian cities by 30 to 38 percent compared to the original Demographia document. It portrays Australian cities as falling in the middle of the range when, according to Demographia, Australian cities are amongst the most unaffordable in the world—in fact in Demographia’s comparison of 272 cities around the world, Sydney was the 2<sup>nd</sup> most expensive, behind only Vancouver.

There are, I believe, two main reasons why the CBA-UBS figures for Australia are so much lower than Demographia’s. Firstly, the Demographia survey compares median house prices to median incomes, whereas the CBA-UWS study compares median house prices to *average* incomes. Since income distribution is skewed, the average income substantially exceeds the median. Secondly, the Australian Bureau of Statistics includes income from property (including the imputed rental income from owner-occupied dwellings) when calculating the average income, whereas the median income relies on wage income only.

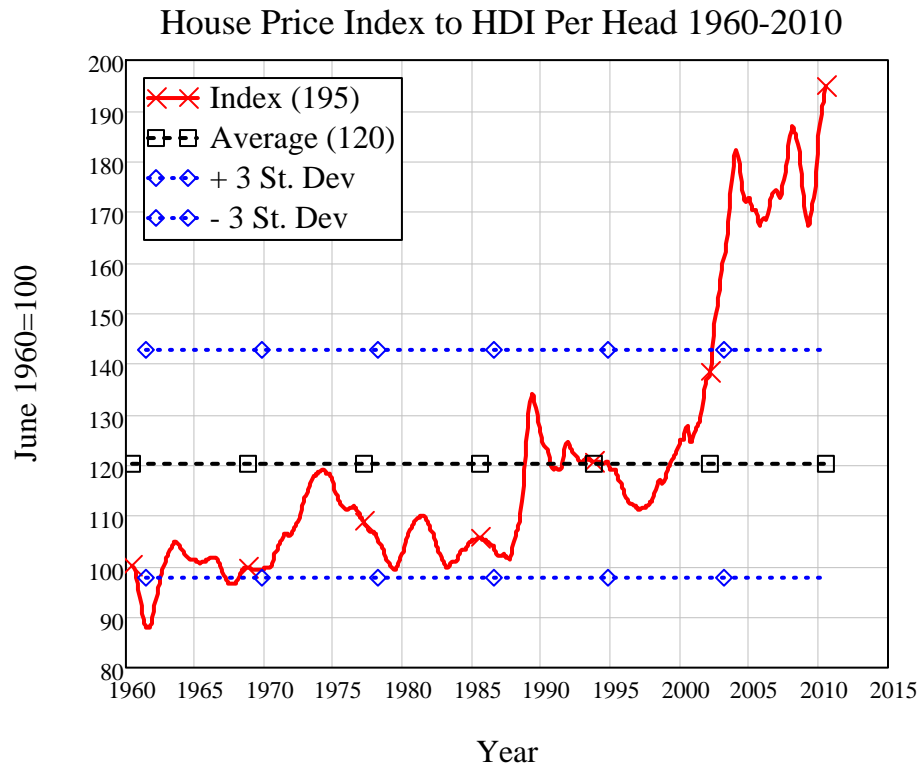
Had the CBA-UBS study applied the same transformations to the overseas data, then their figures for those cities would also have been substantially lower than the Demographia figures, and the relative expensiveness of Australian cities compared to coastal cities around the world—let alone land-locked ones—would have been obvious.

Including income from property in the income to which one compares property prices is also an inherently flawed approach: it will understate the price to income ratio when prices are rising (and, conversely, exaggerate the ratio when prices are falling). Property income derives primarily from the change in price, and this will be positive when prices are rising—making income larger than it would otherwise be. Using this data to conclude that there is not a house price bubble is turning a Nelsonian eye to the problem.

When one is not trying to not see a bubble, statistical evidence of it abounds. I will present three measures: the ratio of house prices to disposable income per head; the ratio of house prices to GDP per head; and the gross rental yield on Australian rental properties.

The house price to disposable income data shows a slow upward drift in this ratio from 1960 till 1997 (see Figure 14),<sup>8</sup> and then a takeoff of the ratio since then to ten standard deviations above its mean.<sup>9</sup>

Figure 14: House prices to disposable income--upward trend then bubble since 1997

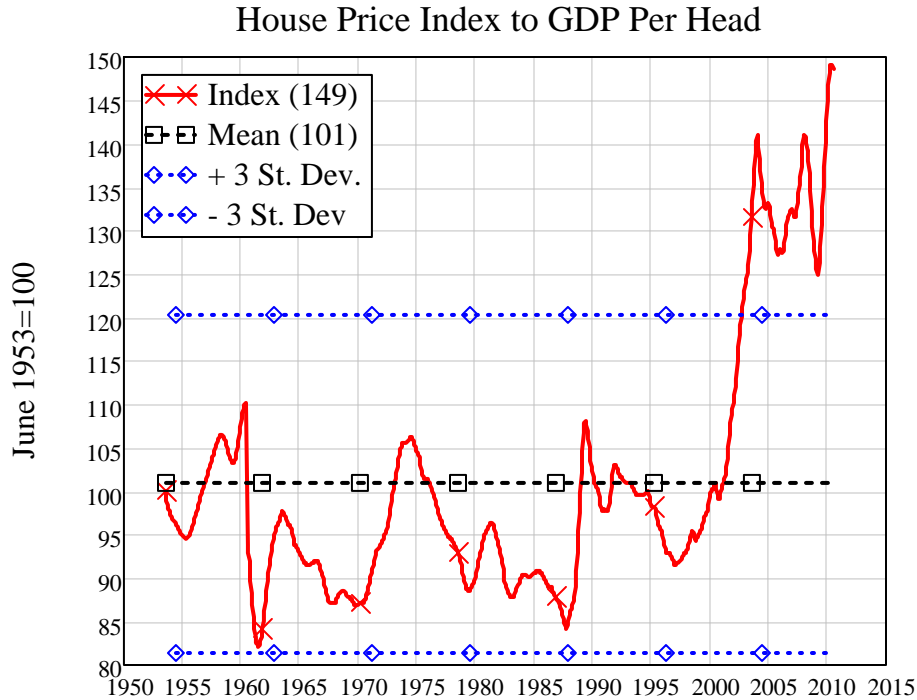


It could be argued that this series always shows a rising trend, and the acceleration in that trend is not conclusive evidence of a bubble. The house price to GDP per capita calculation, on the other hand, shows no trend between 1953 and 2000, but an explosion in the ratio since 1997 that has taken the ratio from under the mean to more than 7 standard deviations above the mean (see Figure 15). This and several other metrics indicate that (a) the house price bubble began in 1997 and (b) it has driven Australian house prices to a level at least 50% higher than historic levels.

<sup>8</sup> There was also one sharp upward movement in the property bubble that preceded the 1990s recession, driven by the First Home Owners Scheme.

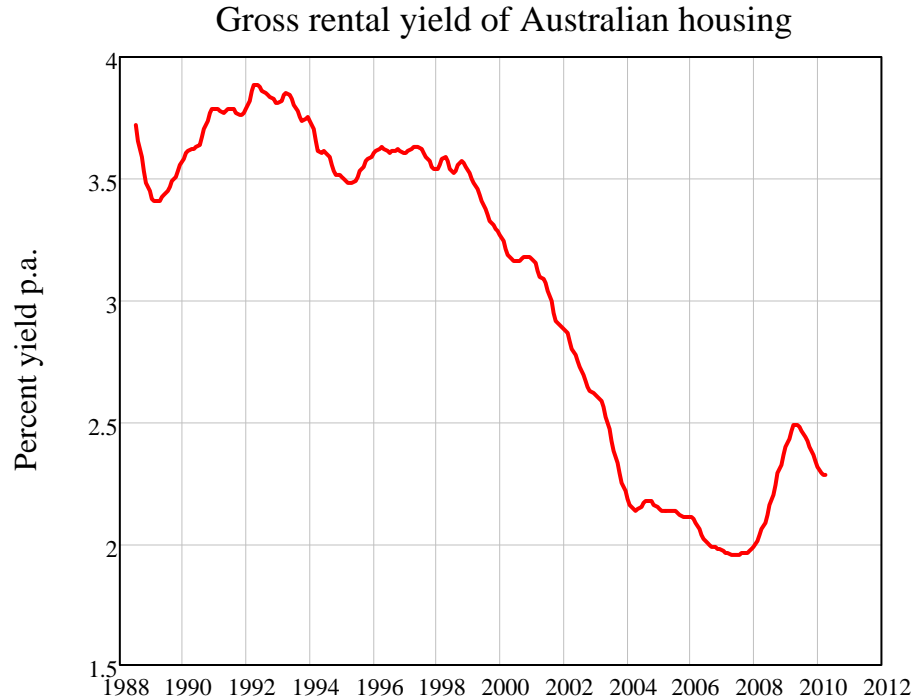
<sup>9</sup> Such a level of overvaluation is impossible if house prices follow a “Normal” or Gaussian distribution, and the fact that such a distribution was assumed by many economic models (and securitized instruments) is a major reason why the GFC itself occurred. Such overvaluations are quite possible if house prices follow a fractal or power law distribution—as earthquakes do, for example. See [http://en.wikipedia.org/wiki/Power\\_law](http://en.wikipedia.org/wiki/Power_law) for an explanation.

Figure 15: House prices to GDP per capita



The low rental on renting in Australia makes it obvious that “investors” in this industry are seeking capital gain rather than income—and are therefore primarily speculators rather than genuine investors (see Figure 16). The rental yield hovered around 3.5 percent—low, but not trivial—between 1998 when records became available, and 1997, when the previous two measures also indicate that the most recent bubble began. Since then the average yields fell to a low of under 2 percent as house prices rose far more than did rents—and the recovery in the ratio to a not quite so abysmal 2.5% was entirely due to the fall in house prices that preceded the Rudd Government’s introduction of the First Home Owners Boost.

Figure 16: Rental yields are well below deposit rates, let alone loan rates



Therefore, to put it politely, bank arguments that there is no house price bubble in Australia (and the CBA-UBS table in particular) are duplicitous and misleading—even when one makes an “apples to apples” comparison of Australian house prices to coastal cities overseas, we still have amongst the most expensive housing in the world. But the argument that we should only consider coastal cities is also nonsense.

The proposition that coastal cities command a premium begs the question: compared to what? In countries like the USA, the answer is easy: compared to land-locked cities where the vast majority of the population lives. But in Australia, there is no inland market over which a premium can be charged (apart from Canberra, which, at a price to income ratio of 5.8, is the 228<sup>th</sup> least affordable city in the world out of the 272 in the on the Demographia survey). In Australia, if you live in a city, then you either live on the coast or in Canberra: there is no non-coastal city market over which coastal cities can command a premium.

### “Underlying demand”

The argument that there is an underlying shortage of housing, and that this is why house prices are high, is also easily dismissed. The supply shortage is derived from estimates developed by the National Housing Supply Council.

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, pp. 65-66)

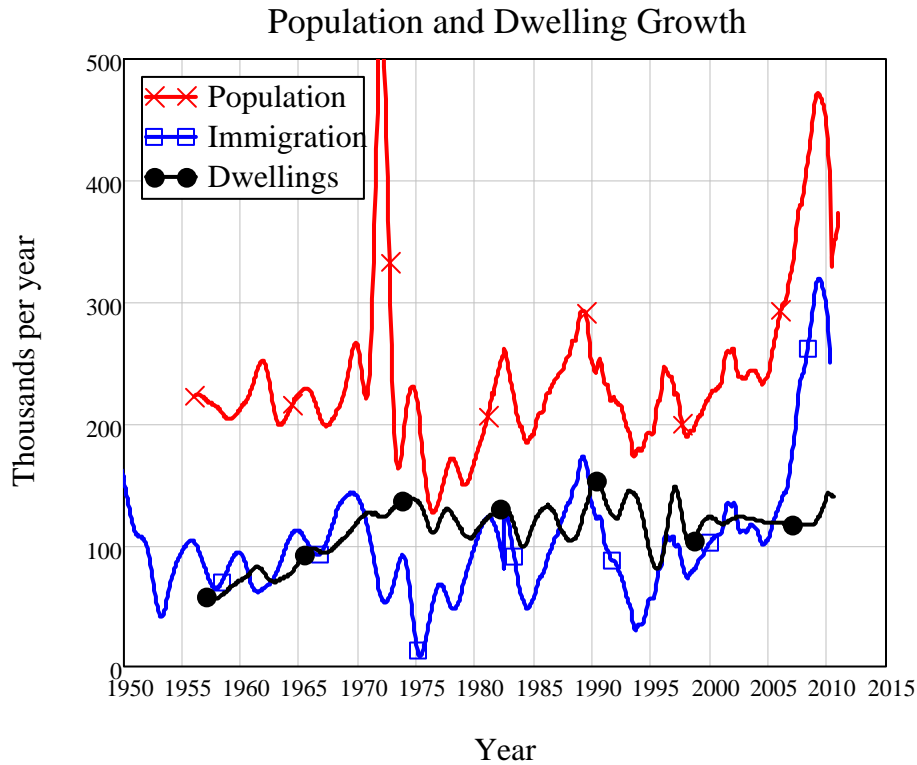
These measures—especially the last two—express a *social* need for additional housing. But they are in no way express a *market demand* for housing, Frankly, if you believe that house prices are being driven up by either homeless people or “marginal residents of caravan parks”, then I have a Bridge or two I’d like to sell you.

### Population pressure

The population pressure argument does appear superficially convincing—like any story that gives rise to a Ponzi Scheme—but it is simply not supported by the data. While the assertions that Australia didn’t have an overbuilding spree like those in the USA or China, that our population growth rate exceeds the OECD average, and that it spiked recently when house prices were rising sharply are all true, population growth per se bears no correlation to changes in house prices.

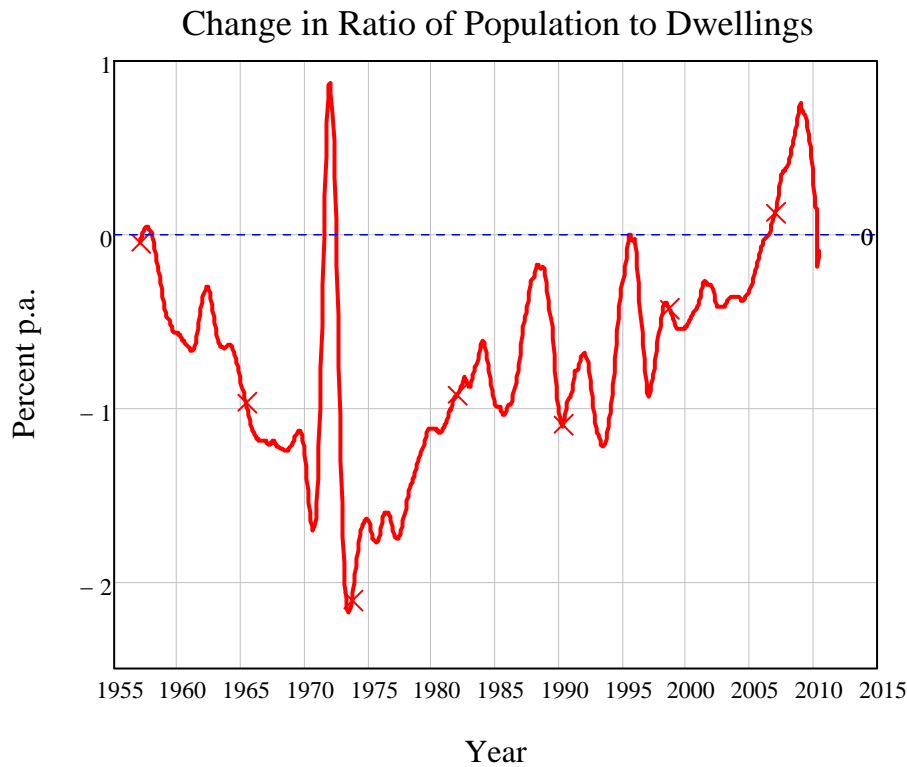


Figure 17: Absolute growth levels of population, immigration and dwellings



If the argument that a shortage of new houses relative to population growth is the cause of rising house prices were true, then Australia should have experienced falling house prices between 1955 and 2006—because for this entire period the rate of growth of new dwellings exceeded the rate of growth of population (see Figure 18).

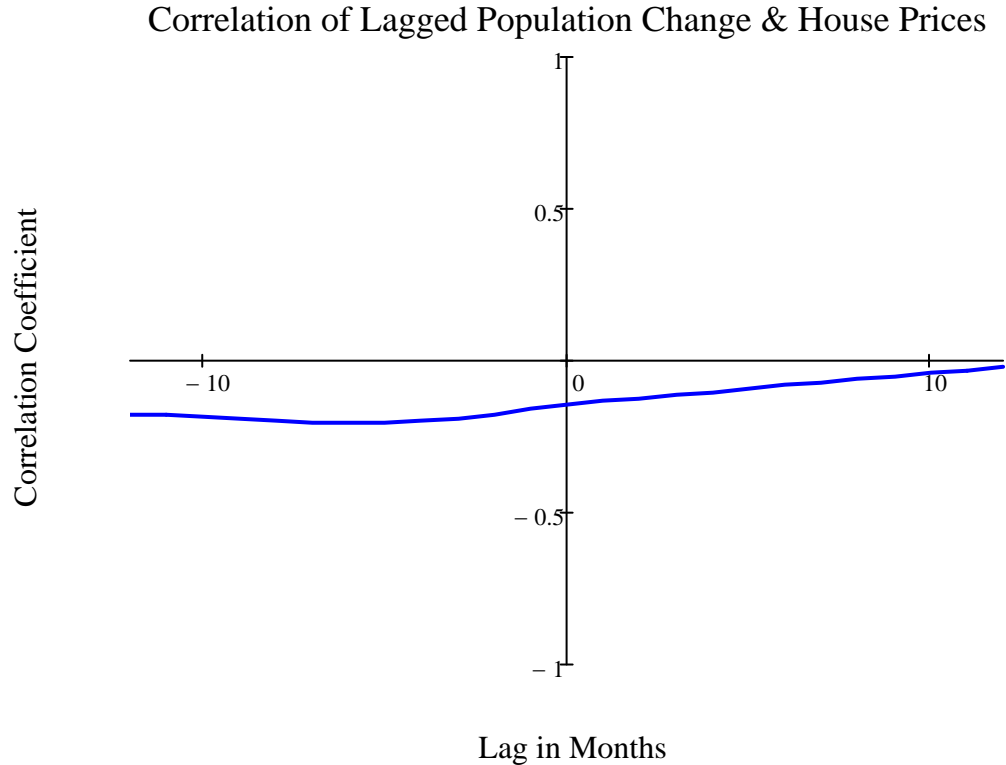
Figure 18: Falling ratio of population to dwellings for all years except 2006-2010



Over the long term, the correlation between population growth and change in house prices is effectively zero.<sup>10</sup> Lagging house price change behind population change—to test the argument that population growth causes price change, but with a lag—does not improve the correlation (see Figure 19). The correlation between change in population and change in house prices remains negative.

<sup>10</sup> It is actually minus 0.06—both trivial and the wrong sign.

Figure 19: There is no correlation between population growth and house prices, even when time lags are considered

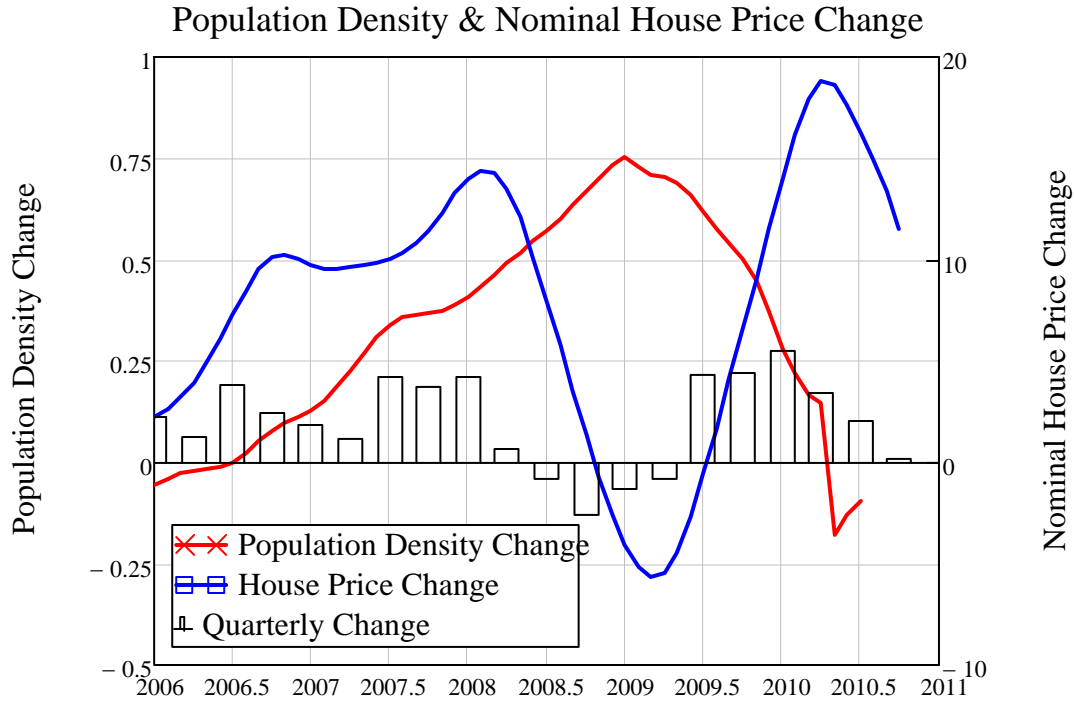


Even during the one period when the rate of growth of population exceeded the rate of growth of population,<sup>11</sup> the change in house prices is uncorrelated with the change in population and population density (see Figure 20).<sup>12</sup>

<sup>11</sup> The apparent spike in the ratio in 1972-73 was an artifact of the decision to finally count Australia's aboriginal population in the census.

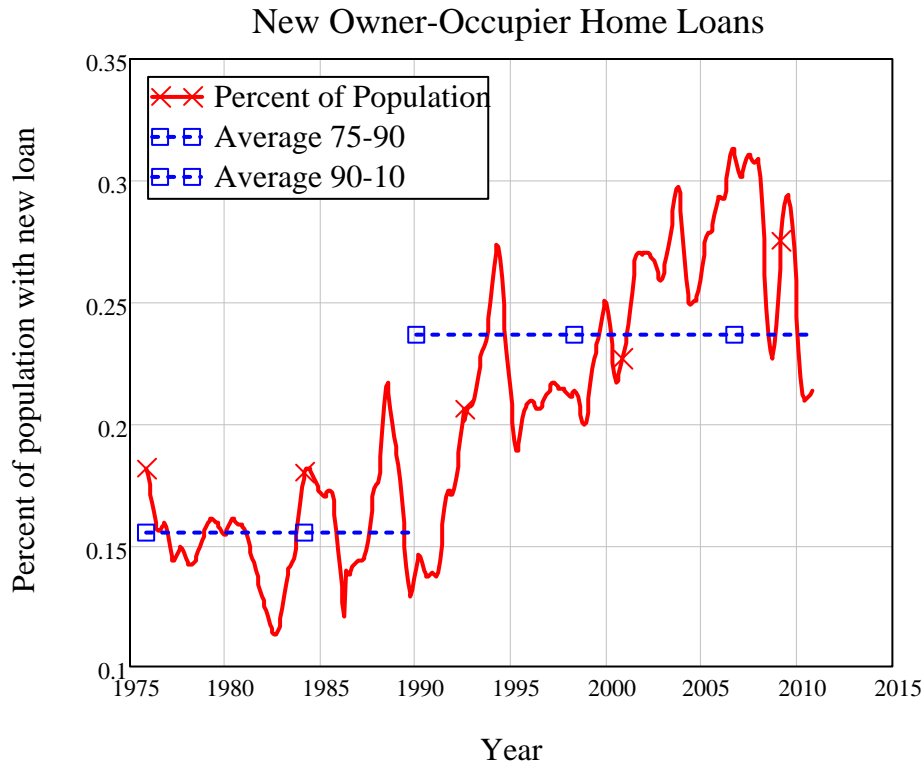
<sup>12</sup> It is actually minus 0.55—large but the wrong sign, effectively arguing that house prices *fall* when population growth increases.

Figure 20: A negative correlation between population and house prices



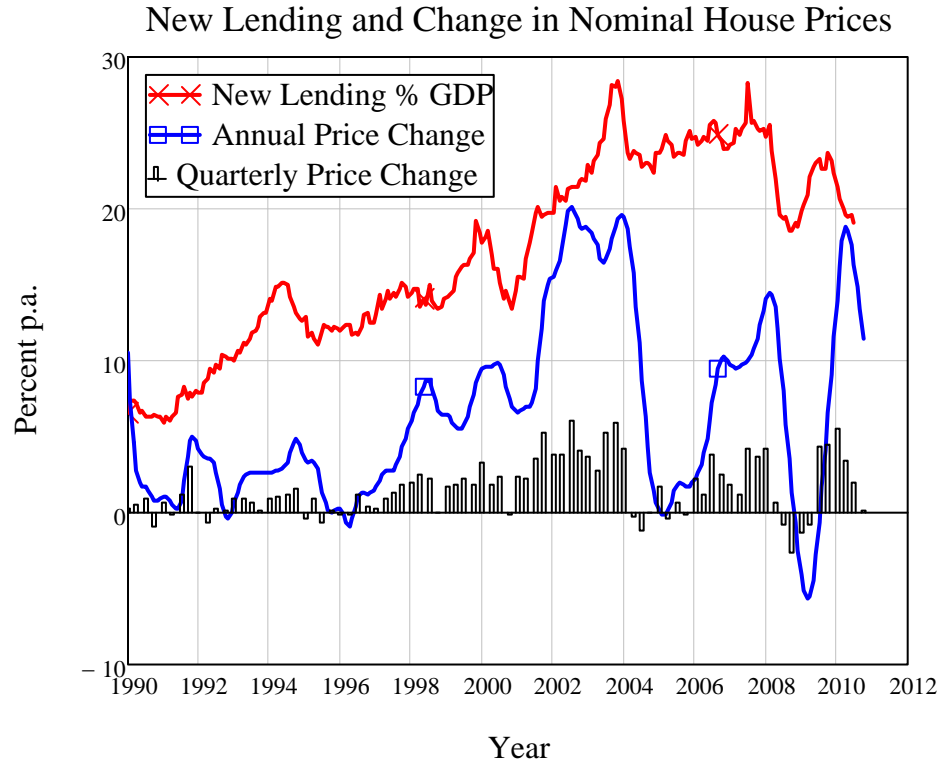
The simple reason that population change doesn't determine house price movements is that the real market demand for housing is given fundamentally by the number of people who have recently taken out a mortgage, This can vary radically as a proportion of the population, swamping variations in the rate of population growth itself (see Figure 21).

Figure 21: Volatility of new owner occupier loans as percent of population



The two factors that do have a strong causal correlation with changes in house prices are the volume of new lending, and government manipulation of the market via the First Home Owners Grant. The latter will—I hope—be the subject of a separate inquiry one day. The former demonstrates that the key factor in determining house prices is the growth rate of mortgage debt: the correlation is strong (0.56), and new lending leads price change by about 3-6 months (see Figure 22).

Figure 22: The growth in mortgage debt is the key determinant of house price changes



### Unregulated banking has financed Ponzi Schemes rather than investment

The data thus clearly shows that, on the two previous occasions where competition in banking was intensified, the result was an increase in lending for speculative rather than productive purposes.

While the boost in lending was taking place, aggregate demand increased—as explained later—which made the economy appear buoyant. But when the buoyant lending came to an end, an economic crisis ensued, since the lending predominantly drove asset prices higher (rather than adding to the level or productivity of assets).

The end result was an increased level of debt compared to income, with little to show for the increased gearing save more expensive assets. That is the main reason why banks are “on the nose” today. To amplify competition a third time, without heeding these lessons of the past, would be a serious mistake.

What we should do instead is:

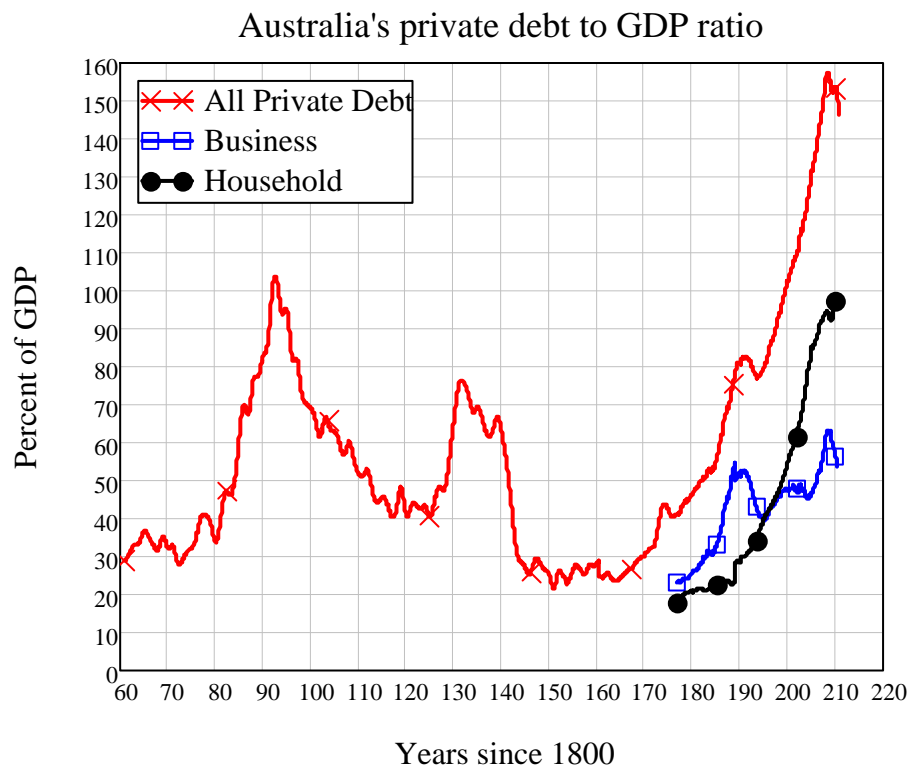
1. Properly identify the problems in the sector, rather than assuming that, whatever the problems might be, more competition will fix them; and
2. Tailor the reforms to the problems, so that there is at least some chance the proposed solutions will make things better rather than worse.

## The macro-dynamics of debt

As outlined above, the key problem with the banking sector is that it has created too much debt, and that the majority of this debt has funded speculation rather than productive investment.

This problem has been exacerbated by reforms that have been based on a naïve faith in deregulated markets, but the problem itself is an endemic one, as the historical record attests. As Figure 23 emphasises, the private debt to GDP level today dwarfs anything previously experienced in Australia, but there have also been two previous lesser debt bubbles that both ended in serious Depressions (Chay Fisher and Christopher Kent, 1999).

Figure 23: Australia's private debt to GDP ratio over the very long term



Most economists pay little if any attention to this ratio—and most were therefore caught completely unawares when the Global Financial Crisis hit. By way of contrast, this ratio and its derivatives are crucial to my analysis (Steve Keen, 1995), and to that of the handful of other economists around the world who anticipated the GFC (Dirk J Bezemer, 2009, Dirk J. Bezemer, 2010, Edward Fullbrook, 2010).

An instance of the sanguine way that most economists think about private debt is given by RBA Deputy Governor Ric Battellino's observations on the extraordinary level of household debt as at September 2007 (when it was 94% of GDP):

“The factors that have facilitated the rise in debt over the past couple of decades – the stability in economic conditions and the continued flow of innovations coming from a competitive and dynamic financial system – remain in place.

While ever this is the case, households are likely to continue to take advantage of unused capacity to increase debt. This is not to say that there won't be cycles when credit grows slowly for a time, or even falls, but these cycles are likely to take place around a rising trend. Eventually, household debt will reach a point where it is in some form of equilibrium relative to GDP or income, but the evidence suggests that this point is higher than current levels." (Ric Battellino, 2007, p. 20)

I am not so sanguine, firstly because the historical record shows that when private debt reaches a peak, it does not remain at an equilibrium level but goes into reverse (see Figure 23), and secondly because even if debt did reach "some sort of equilibrium relative to GDP or income", this would cause a large *fall* in aggregate demand.

This point is not considered by the vast majority of economists<sup>13</sup> because they believe that the level of debt has no impact on macroeconomic outcomes. Ben Bernanke provides a good illustration of this in his dismissal of Fisher's argument (Irving Fisher, 1933) that the Great Depression was caused by "debt-deflation":

Fisher's idea was less influential in academic circles, though, because of the counterargument that debt-deflation represented no more than a redistribution from one group (debtors) to another (creditors). Absent implausibly large differences in marginal spending propensities among the groups, it was suggested, pure redistributions should have no significant macroeconomic effects." (Ben S. Bernanke, 2000, p. 24)

Bernanke's conventional argument is false because it ignores the role that changes in debt play in determining aggregate demand. In the equilibrium perspective that virtually defines conventional economic theory (known as "neoclassical economics"), debt is merely a redistribution of spending power from one person (the lender) to another (the borrower). But in the real world (and in the non-orthodox "Financial Instability Hypothesis": Hyman P. Minsky, 1982), the aggregate level of debt can expand or contract, and this change in the aggregate level of debt does have macroeconomic effects because it alters aggregate spending power.

In a nutshell, aggregate demand is the sum of GDP *plus the change in debt* (Steve Keen, 2009a, c, d), and for this reason a simple stabilization of the debt to GDP ratio can cause a recession.

This can be illustrated using a simple example. Consider an economy with a nominal GDP of \$1 trillion, which is growing at 10% per annum, where half (5%) is real growth and half is inflation. The economy also has a private debt level of \$1.25 trillion that is growing at 20% p.a. Total spending in the economy

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<sup>13</sup> Whether they know it or not, most economists belong to the "Neoclassical" school of thought. Two relevant characteristics of this school is that it ignores the role of private debt in aggregate demand, and asserts that economic analysis is best conducted in "real" terms rather than nominal ones.



that year will therefore be \$1.25 trillion, consisting of \$1 trillion from GDP and \$250 billion from the increase in debt.<sup>14</sup>

Then assume that GDP continues to grow at the same rate, so that it is \$1.1 trillion the year after, and that the rate of growth slows down to 10% per annum—the same speed as the rate of growth of nominal GDP, so that the debt ratio remains constant at 150%, the level it reached in Year 1.

Total aggregate demand will therefore be \$1.25 trillion—the sum of the \$1.1 trillion GDP and the 10% increase in debt from its level of \$1.5 trillion. This is the same level of nominal demand as the year before—but since there has been 5% inflation, the level of real demand has *fallen* by \$60 billion. This is enough to cause a recession (if the impact is felt entirely by the sale of goods and services), or a sharp fall in asset prices, or some combination of the two.

This hypothetical example—summarised in Table 2—is a milder version of what actually occurred in 2008 and caused the Global Financial Crisis. The actual experiences of the USA and Australia are summarized in Table 3 and Table 4 respectively.<sup>15</sup>

**Table 2: Hypothetical example of impact of debt to GDP ratio reaching equilibrium**

Variable/year	Year 1	Year 2
Nominal GDP	\$1,000	\$1,100
Growth rate of nominal GDP (%)	10%	10%
Real growth rate (%)	5%	5%
Inflation rate (%)	5%	5%
Private debt	\$1,250	\$1,500
Growth rate of private debt (%)	20%	10%
Change in private debt	\$250	\$150
Nominal aggregate demand (GDP + change in debt)	\$1,250	\$1,250
Real aggregate demand (in Year 1 terms)	\$1,250	\$1,190

In the USA, the rate of growth of debt did not merely slow but actually turned negative: therefore the change in debt actually subtracted from aggregate demand, rather than adding to it. But as illustrated

<sup>14</sup> This aggregate demand is spread across all markets, both goods & services and asset markets.

<sup>15</sup> The percentage values for change in real GDP are derived from a separate chain-weighted data series, so that the percentages shown for changes in nominal GDP, real GDP and the rate of inflation are slightly inconsistent. The dates shown are also year-end, so the data for 2010 refers to data for the calendar year ending on December 31<sup>st</sup> 2009.

by the hypothetical situation in Table 2, the mere slowdown in the rate of growth of debt prior to the year ending in January 2010 was enough to start “The Great Recession” in 2008-09.

In the year ending in 2008, America’s GDP was \$14.34 trillion, and the growth in private debt was \$4.04 trillion, so that private sector aggregate demand was \$18.38 trillion. In the year ending in 2009, nominal GDP was slightly higher at \$14.35 trillion, but the growth in debt was only \$1.45 trillion (the rate of growth of debt had slowed from 11.1% p.a. to 3.6% p.a.). Private sector aggregate demand was thus \$15.8 trillion—a fourteen percent fall from the year before.

The increase in government debt attenuated the fall in total aggregate demand to some extent, but this still fell 9% over the year, and America’s asset markets, commodity markets, and unemployment took a huge hit.

The following year saw the slowdown in the rate of growth of debt turn into absolute deleveraging, with private debt falling by \$1.86 trillion (falling mortgage debt contributed \$220 billion of this). Private sector aggregate demand was thus \$12.55 trillion, compared to \$18.38 trillion just two years earlier.

**Table 3: Deleveraging in the USA**

Variable\Year	2006	2007	2008	2009	2010
GDP	12,915,600	13,611,500	<b>14,337,900</b>	<b>14,347,300</b>	14,453,800
Change in Nominal GDP	6.3%	5.4%	5.3%	0.1%	0.7%
Change in Real GDP	2.7%	2.4%	2.5%	-1.9%	0.1%
Inflation Rate	4.0%	2.1%	4.3%	0.0%	2.6%
Private Debt	33,196,817	36,553,385	40,596,586	42,045,481	40,185,976
Debt Growth Rate	9.6%	10.1%	11.1%	3.6%	-4.4%
Change in Debt	2,914,187	3,356,568	<b>4,043,201</b>	<b>1,448,895</b>	-1,859,505
GDP + Change in Private Debt	15,829,787	16,968,068	<b>18,381,101</b>	<b>15,796,195</b>	12,594,295
Change in Private Aggregate Demand	0.0%	7.2%	8.3%	-14.1%	-20.3%
Government Debt	6,556,391	6,893,467	7,321,592	8,615,051	10,167,585
Change in Government Debt	478,851	337,076	428,125	1,293,459	1,552,534
GDP + Change in Total Debt	16,308,638	17,305,144	18,809,226	17,089,654	14,146,829
Change in Total Aggregate Demand	0.0%	6.1%	8.7%	-9.1%	-17.2%

Mortgage Debt	10,042,429	11,157,757	11,954,054	11,903,391	11,683,114
Change in Mortgage Debt	1,179,274	1,115,328	<b>796,297</b>	<b>-50,663</b>	<b>-220,277</b>

Australia suffered a reduction in aggregate demand as well from the slowdown in the rate of growth of private debt in the year ending in 2008. GDP was \$1.13 trillion, while the increase in private debt that year was \$260 billion—so that private sector aggregate demand was \$1.39 trillion. GDP grew to \$1.24 trillion the next year, while the growth of debt slowed substantially to \$134 billion. The sum was \$1.37 trillion, slightly less in nominal terms than the year before.

Table 4: Avoiding deleveraging in Australia

Variable\Year	2006	2007	2008	2009	2010
GDP	966,032	1,039,953	<b>1,134,431</b>	<b>1,237,884</b>	1,257,016
Change in Nominal GDP	8.1%	7.7%	9.1%	9.1%	1.5%
Change in Real GDP	3.2%	2.6%	4.8%	2.3%	1.3%
Inflation Rate	2.8%	3.3%	3.0%	3.7%	2.1%
Private Debt	1,321,900	1,510,600	1,770,149	1,904,640	1,915,384
Debt Growth Rate	13.5%	14.3%	17.2%	7.6%	0.6%
Change in Debt	157,420	188,700	<b>259,549</b>	<b>134,491</b>	10,744
GDP + Change in Private Debt	1,123,452	1,228,653	<b>1,393,980</b>	<b>1,372,375</b>	1,267,760
Change in Private Aggregate Demand	0.0%	9.4%	13.5%	-1.5%	-7.6%
Government Debt	14,973	17,174	20,871	32,140	69,749
Change in Government Debt	-5,553	2,201	3,697	11,269	37,609
GDP + Change in Total Debt	1,117,899	1,230,854	1,397,677	1,383,644	1,305,369
Change in Total Aggregate Demand	0.0%	10.1%	13.6%	-1.0%	-5.7%
Mortgage Debt	722,844	819,095	916,897	998,628	1,076,425
Change in Mortgage Debt	81,618	96,251	<b>97,802</b>	<b>81,731</b>	<b>77,797</b>

### The implications for economic performance of excessive private debt

From this debt-driven perspective, these macro-economic implications of debt are far more important than the microeconomic issue of the cost of debt. But since Australia has apparently done so well during

the GFC, these macroeconomic issues have been far less dominant here than in the rest of the world. It is therefore important to consider why Australia differed from the rest of the world: was there something unique about Australia which meant the GFC didn't happen here, or are the macroeconomic implications of the GFC still relevant to us? We can get some guidance from comparing the Australian experience to the US one.

There are three major differences between Australia and the USA, which in turn are by far the major reasons why Australia's economic performance was so much better than America's:

- a) While Australia's debt to GDP level is unprecedented in its own history, the USA's is higher still;
- b) Deleveraging as such did not occur in Australia—though this almost guarantees that it will occur in the future; and
- c) Growth in mortgage debt continued, largely under the influence of government policy.<sup>16</sup>

Were the current private debt to GDP ratio unremarkable, these factors would be generally positive—a handy boost to credit-driven demand would have helped us sidestep a recession, with only minor long term consequences. But since private debt is at unprecedented levels, these short term gains in 2009-2010 imply that a reversal of our economic fortunes in 2011 is possible, if private sector deleveraging commences here. To explain why, I need to provide more detail on each of those three distinguishing factors between the USA and Australia.

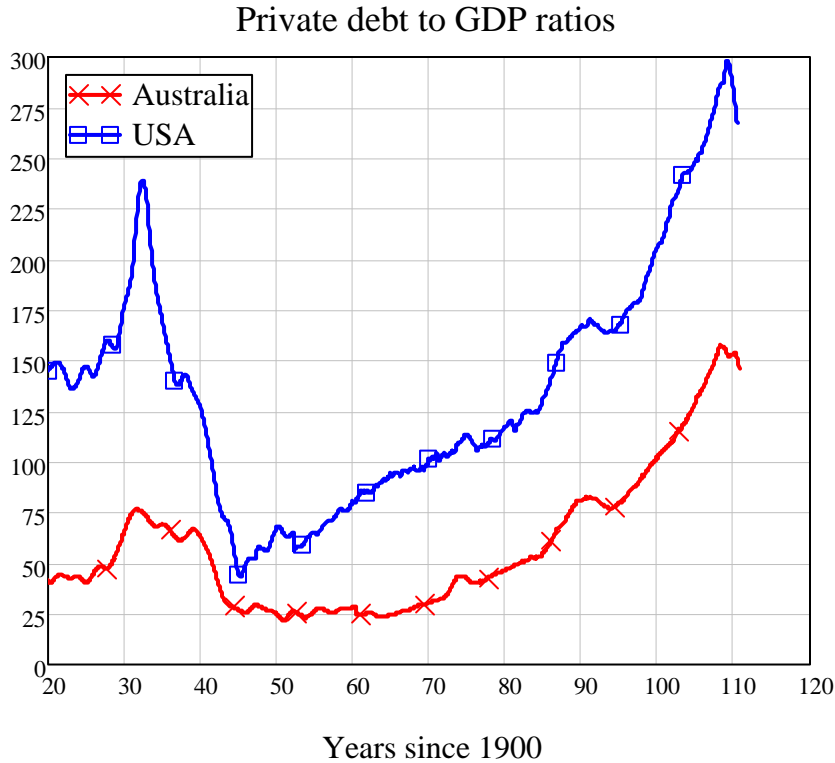
### Level of Debt

Figure 24 shows both how much greater America's private debt level is that Australia's, and also shows that America is rapidly deleveraging now. Thus even though Australia's debt-driven boost to aggregate demand was larger in 2008 than America's—since private debt grew 17.2% that year in Australia, versus 11.1% in the USA—the sheer scale of the USA's debt compared to its GDP means that its dependence on rising debt was even more extreme than ours. It also meant that when the debt went into reverse, the depressing impact of this was greater for the USA than Australia.

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<sup>16</sup> The Rudd Government's First Home Owners Boost reversed a trend for mortgage debt to fall as a percentage of GDP that began in mid-2008. Instead, there was a \$100 billion increase in mortgage debt over what it would have been without The Boost (see Figure 30 for the trends in private debt, and the impact of the FHOB on mortgage debt).

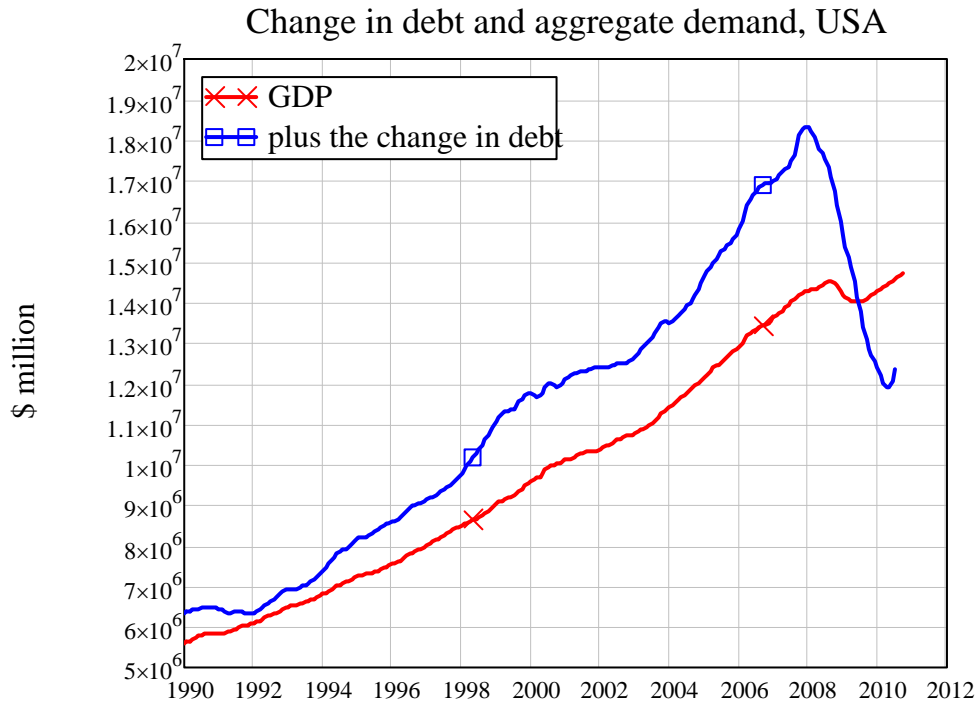
Figure 24: The USA's private debt to GDP ratio is significantly larger than Australia's



**The rate of change of debt—no deleveraging here**

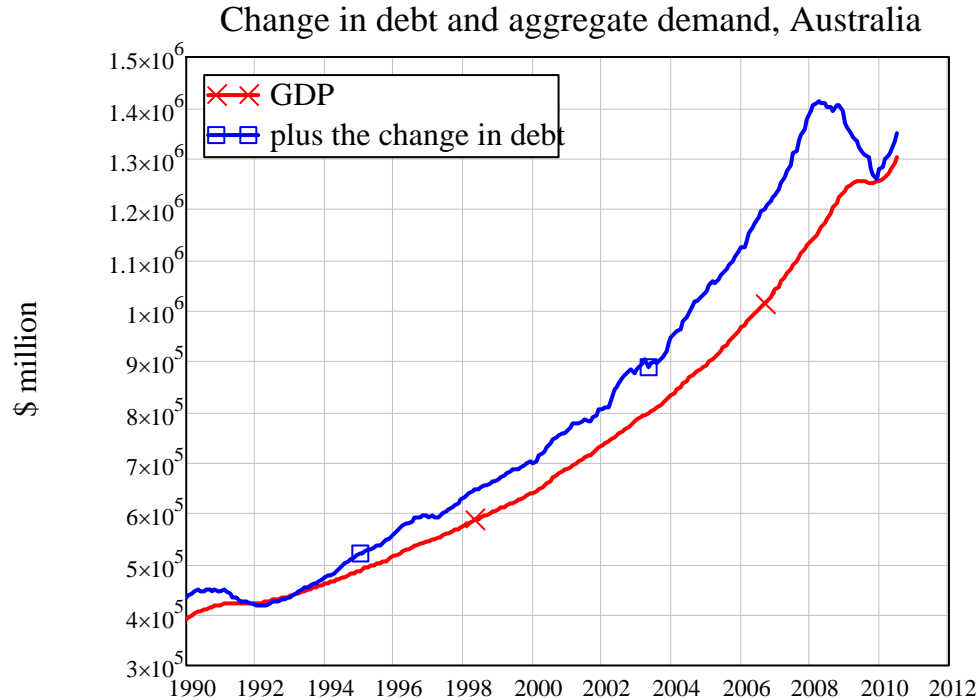
The fundamental cause of the GFC was the bursting of a global debt bubble. With the growth of debt going from positive to negative—so that we went from rising debt adding to aggregate demand, to falling debt subtracting from aggregate demand (see Figure 25)—what had appeared to be a period of stellar economic performance gave way to the biggest economic crisis since the Great Depression.

Figure 25: The GFC was the first time the change in debt reduced aggregate demand since the Great Depression



Australia, on the other hand, avoided a serious downturn because deleveraging was stalled, and in fact turned around—so that rising debt once again added to aggregate demand. While America and the rest of the world had a deleveraging-driven crisis, Australia avoided the crisis by releveraging on the back of a renewed property bubble (see Figure 26).

Figure 26: Australia abruptly stopped deleveraging in 2010



Since economic activity and employment in a market economy is demand-driven, deleveraging in the USA (and elsewhere in the OECD) caused a serious recession, while Australia's releveraging boosted aggregate demand and resulted in it experiencing only a very mild downturn.<sup>17</sup>

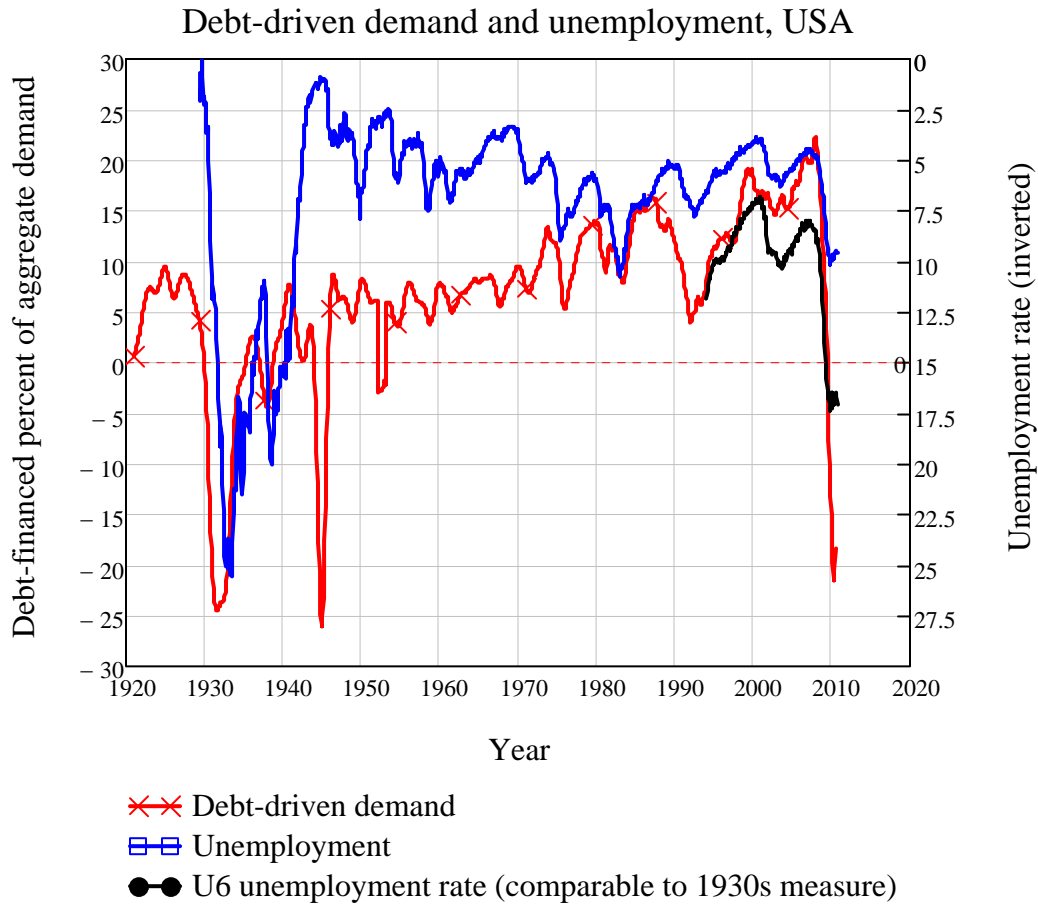
The pivotal role of the change in private debt in determining economic activity is easily seen in Figure 27, which correlates the debt-driven fraction of aggregate demand<sup>18</sup> with the unemployment rate.<sup>19</sup> This figure shows why it is not hyperbole to compare the current crisis to the Great Depression, since this is the only time since then that the debt-contribution to aggregate demand has turned negative (the apparent negatives in 1945 were due respectively to the ending of WWII, and a break in the statistical series). The correlation with unemployment points out the "Ponzi" nature of the US's economic performance in both the Great Depression and recently: when debt grew, unemployment fell, and vice versa—with disastrous consequences—when deleveraging struck. In the Great Depression the correlation was -0.76; across the whole of 1955 till now, the correlation was -0.36; and in the last 20 years, when the private debt has surpassed the Great Depression level, the correlation was -0.9.

<sup>17</sup> I expect that this will prove to be only a delaying tactic, since deleveraging from today's unprecedented level of debt is almost inevitable.

<sup>18</sup> Defined as the change in debt, divided by the sum of GDP plus the change in debt.

<sup>19</sup> To make the correlation easier to see, the unemployment rate (graphed on the right hand axis) is inverted, so that zero unemployment is at the top of the graph, and 30 percent unemployment at the bottom.

Figure 27: Debt driven-demand and unemployment, USA



I’ve used the same vertical scales for the Australian data (Figure 28) as the American to emphasise both differences and similarities between the two countries.

Firstly, both GDP and the change in debt determine aggregate demand, and with its lower level of debt during the 1950s and 1960s, the debt-driven fraction of aggregate demand was far less important in Australia than in America. The correlation over 1955-2010 was 0.25, which is both small and the wrong sign, showing that the debt contribution to demand was swamped by that of GDP—which is the sign of a well-functioning economy.

Secondly however, this difference disappeared as Australia’s debt to GDP ratio grew exponentially from 1965. Between 1990 and today, the correlation is significant, the correct sign for the causal argument I am making here, and large at -0.82. So by the time the GFC hit, the debt-driven component of aggregate demand was almost as dominant in Australia as it was in the USA.

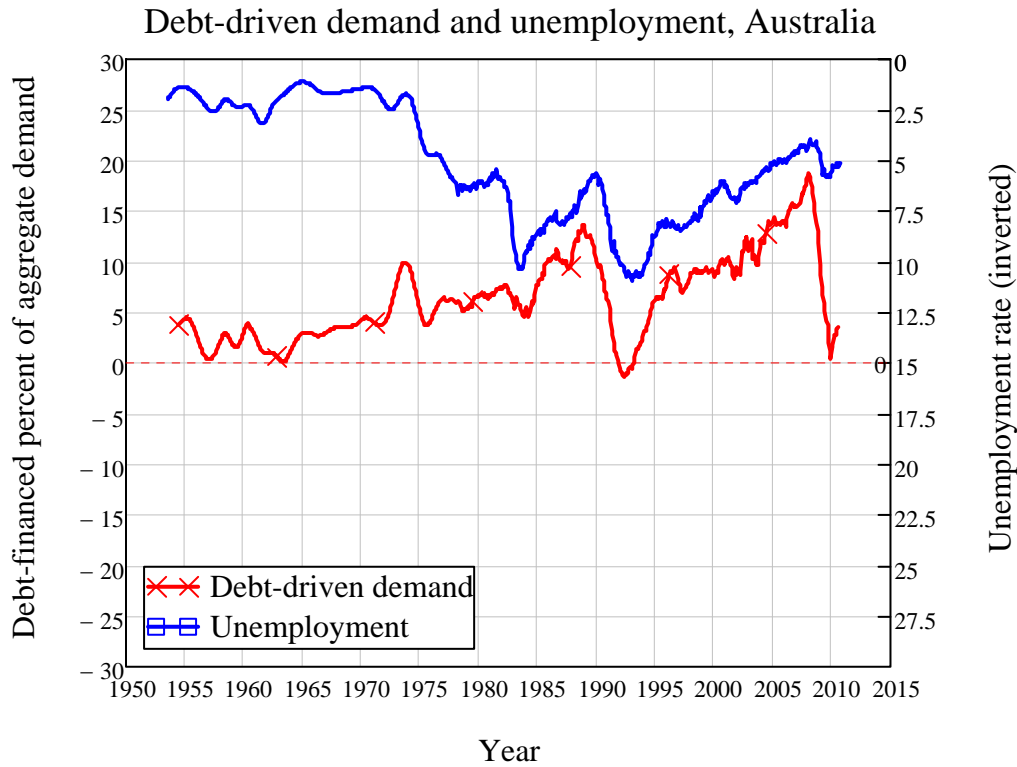
Thirdly, we avoided a serious downturn, not by having an economy that was fundamentally different to the USA’s,<sup>20</sup> but by preventing deleveraging. Whereas during the 1990s recession, absolute deleveraging

<sup>20</sup> Though our role as a commodity-exporter to China was also undoubtedly a positive for us.



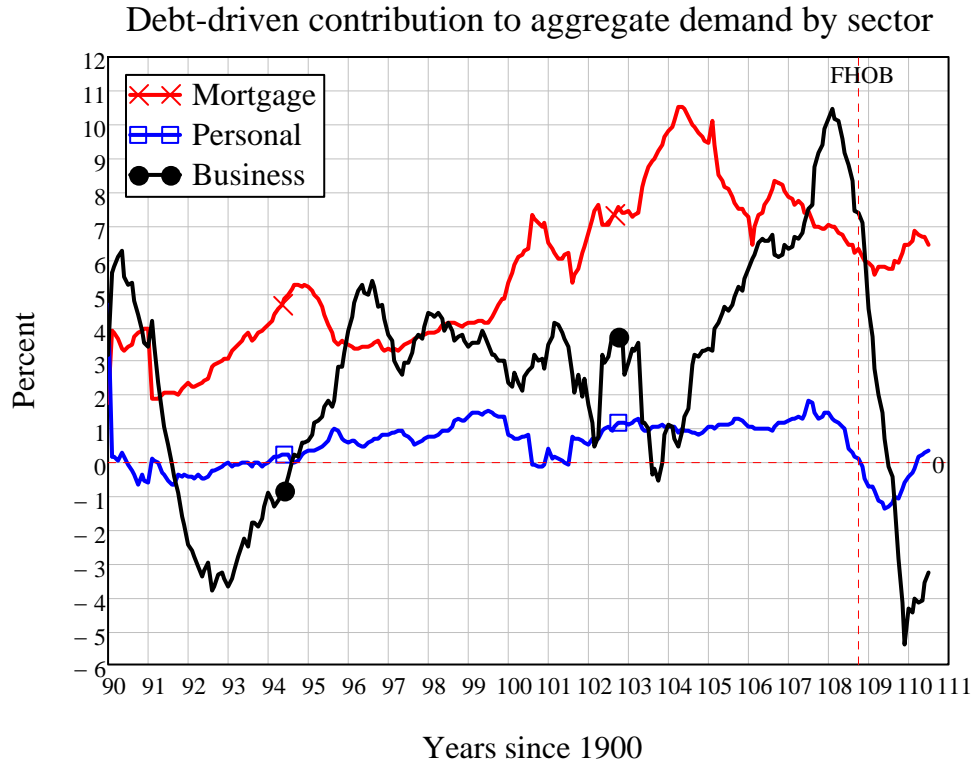
did occur (and unemployment exceeded 10 percent) during the GFC, deleveraging was prevented solely because a government policy—the First Home Owners Boost—encouraged Australian households to go on a debt-binge.

Figure 28: Debt-driven demand and unemployment, Australia



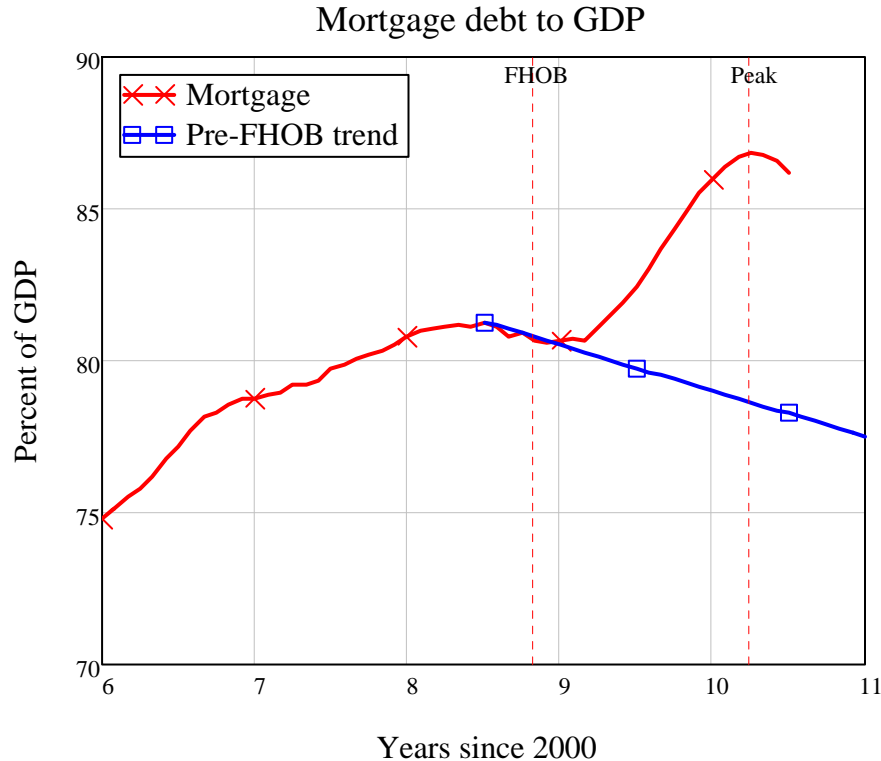
The business sector, whose debt had been growing strongly in the leadup to the GFC, delevered at a faster pace than it did during “the recession we had to have”, when the debt fraction of aggregate demand briefly turned negative. On the other hand, mortgage debt rose strongly. Australia’s avoidance of deleveraging was therefore entirely due to the growth in mortgage debt (see Figure 29).

Figure 29: Debt-driven demand by sector



This growth in mortgage debt would not have come about without the First Home Owners Boost (see Figure 30). Prior to that policy being introduced, mortgage debt was on track to fall by about 2% of GDP between mid-2008 and March 2010. Instead, it rose by over 6% of GDP. This effectively added \$100 billion in debt-financed expenditure to the Australian economy—a larger boost to aggregate demand than either the Rudd Government’s stimulus program, or the impact on household disposable income of the RBA’s rate cuts.

Figure 30: The impact of the FHOB on the trend in mortgage debt



The great danger for the future is that this policy success in 2008-09 has set Australia up for a greater policy dilemma in future when the household sector joins the business sector in deleveraging. That this may already be happening can be seen by considering the third aspect of private debt, the “credit impulse”: the impact of the acceleration or deceleration of debt on the change in aggregate demand.

### The credit impulse

The fact that aggregate demand is the sum of GDP plus the change in debt means that the change in aggregate demand is the sum of the change in GDP *plus the acceleration of debt*.<sup>21</sup> Just as the debt contribution to demand is highly correlated with the level of employment, the acceleration of debt—or the credit impulse, which is defined as the change in the change in debt divided by GDP (Michael Biggs et al., 2010)—is highly correlated with the change in employment.

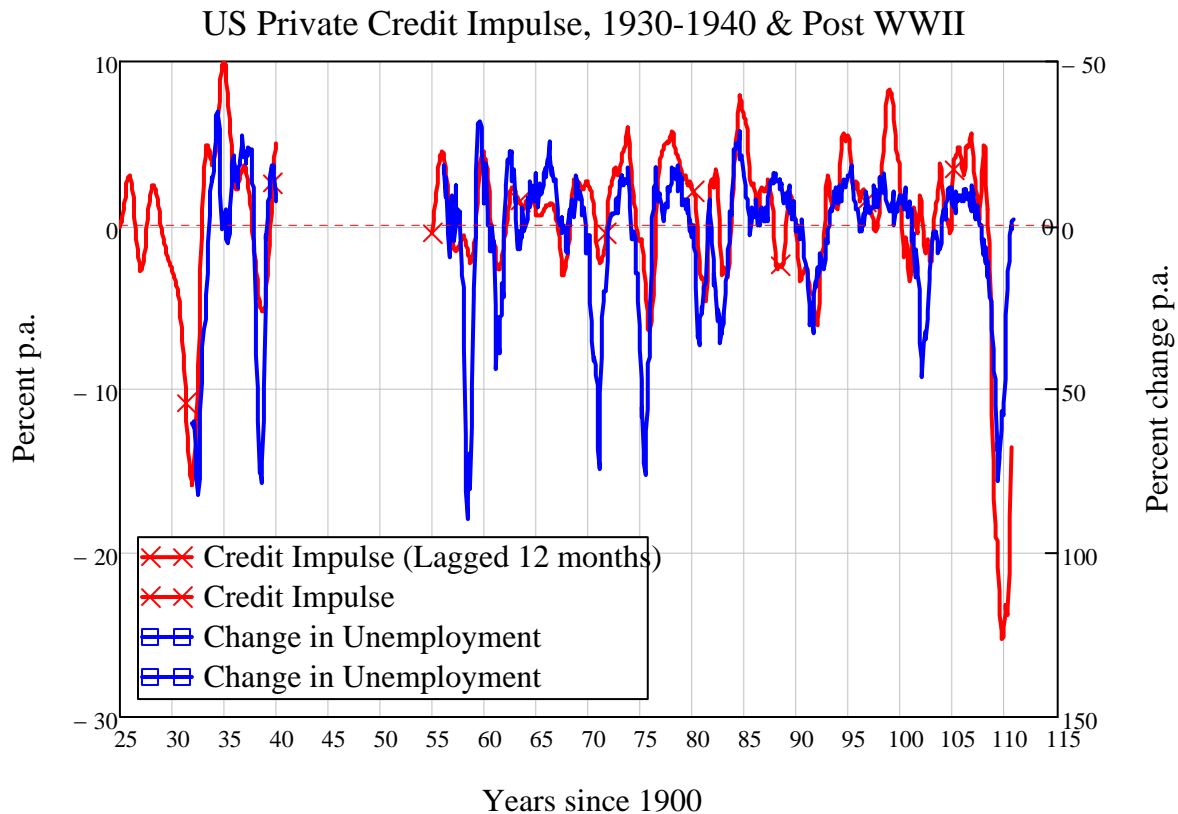
In stark contrast to the assumption made by Bernanke and most neoclassical economists—that debt only has macroeconomic implications if the distribution of debt affects consumption (to cite a recent paper by Krugman, “It follows that the level of debt matters only if the distribution of that debt matters, if highly indebted players face different constraints from players with low debt”, Gauti B. Eggertsson and Paul Krugman, 2010, p. 3)—the sheer scale of debt, its rate of change, and whether it is accelerating or decelerating, have very significant impacts on the macroeconomy. If Bernanke, Krugman and other

<sup>21</sup> This is akin to the role of inventories in GDP: production in any one year will sales plus the change in inventories; the change in GDP will therefore be the change in sales plus the acceleration in inventories. This makes inventories a particularly volatile contributor to change in the economy, and the same applies to debt.

neoclassicals were correct, the correlations between the acceleration in debt and the change in unemployment should be insignificant.

Instead, the correlation is highly significant, large, persistent, and causal, since it leads changes in employment and GDP by about 3 months. The correlation during the Great Depression was -0.72; over the whole post-WWII period from 1955 the correlation was -0.59, and since 1990 it was -0.82 (see Figure 31).<sup>22</sup>

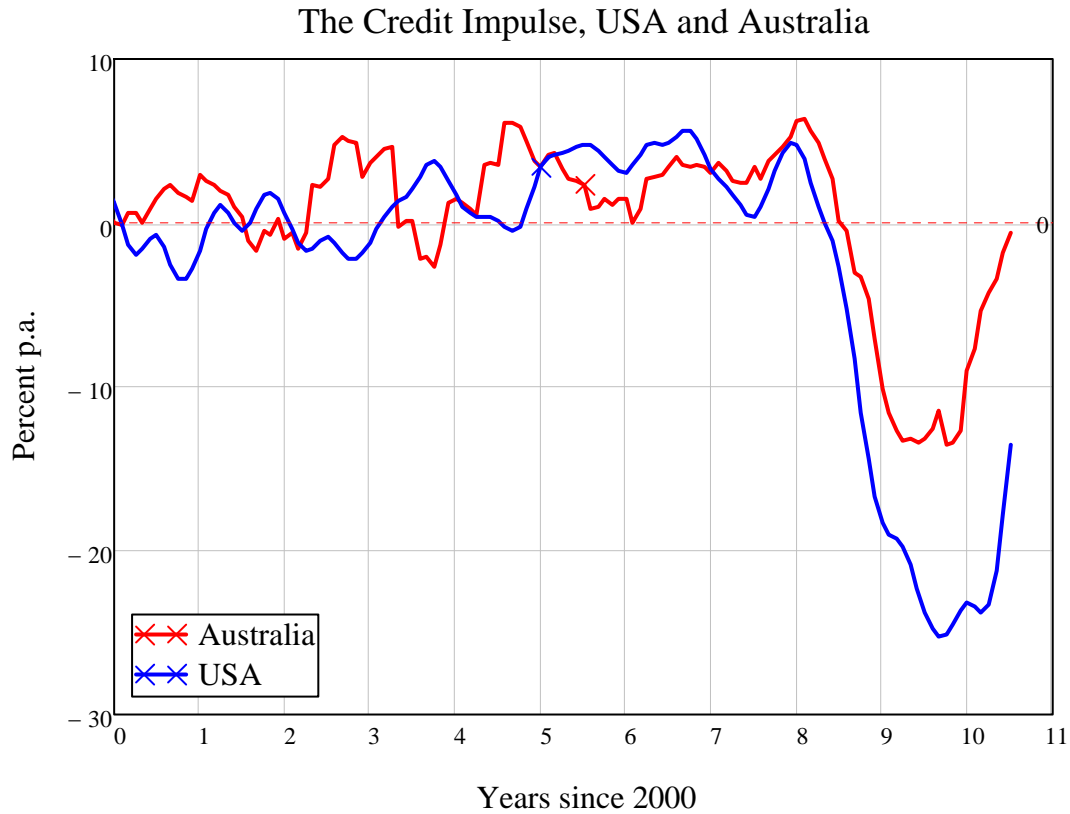
Figure 31: Deceleration of US debt in the GFC more extreme than in Great Depression



The comparison of Australia with the USA during the GFC confirms that Australia had a milder GFC by having a milder negative credit impulse, and by reversing it before the USA did (Figure 32).

<sup>22</sup> The negative sign means that an acceleration in debt causes a fall in unemployment.

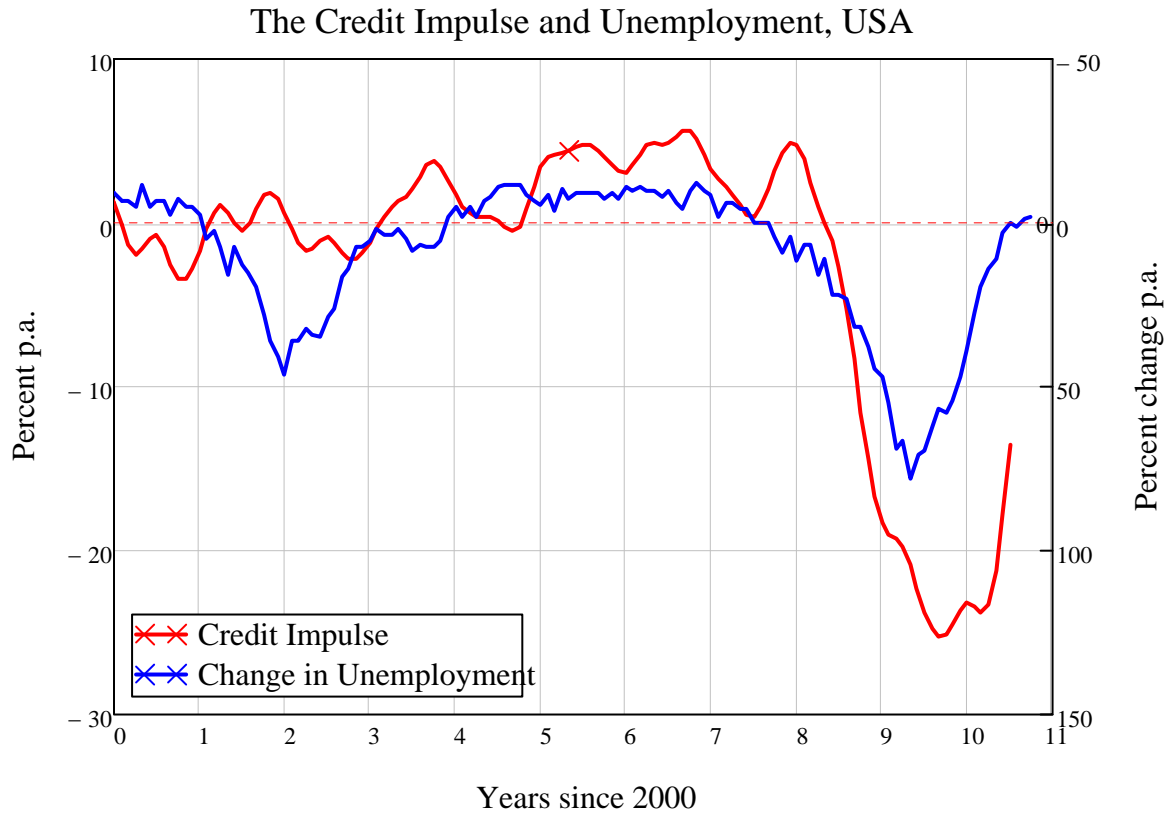
Figure 32: Australia's credit impulse was milder and reversed earlier than did the USA's



The size of the negative credit impulse in 2008-2010 in America was the major cause of the sharp increase in unemployment, and the recent improvements have been due to the credit impulse turning less negative (see Figure 33).<sup>23</sup>

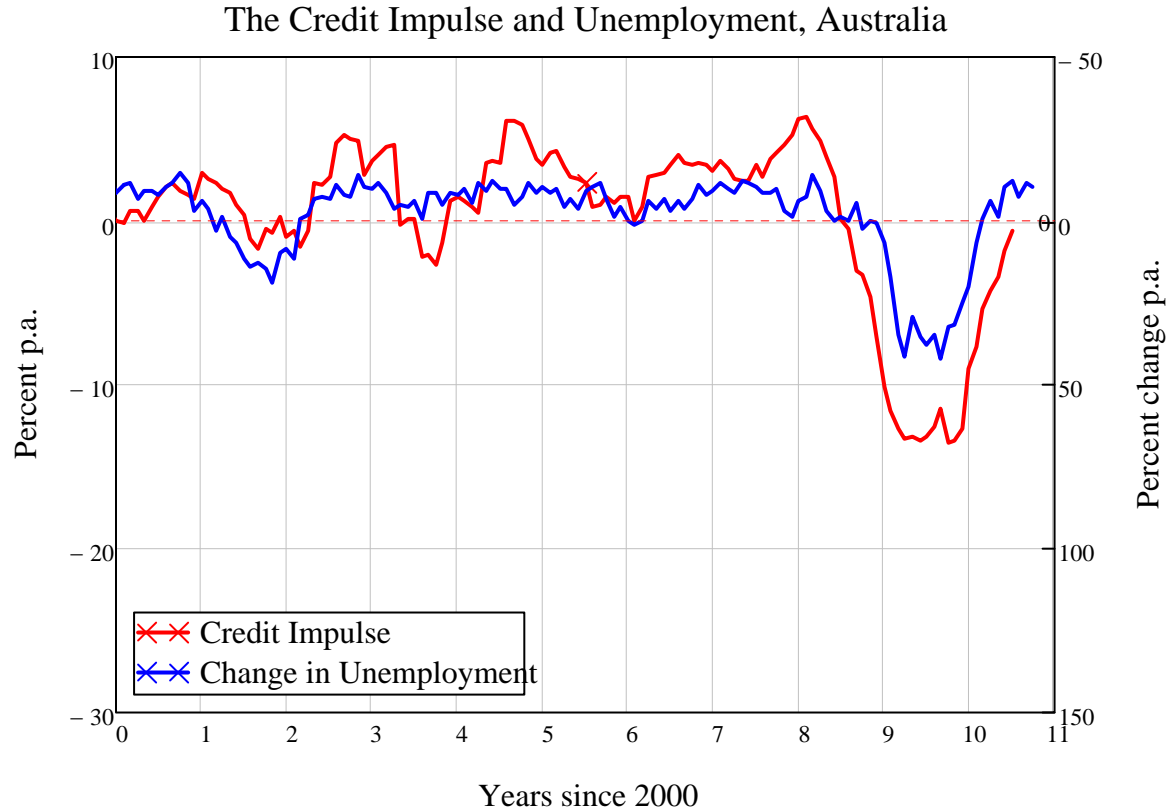
<sup>23</sup> The data here is annual—the credit impulse is the change in the change in debt over the previous year. Monthly data—the change in the change in debt over a month—is therefore positive when the annual credit impulse is rising, as in the period from late 2009 till now.

Figure 33: The USA's large negative credit impulse caused a large increase in unemployment, since mildly reversed



Australia's milder recession and current—though apparently faltering—recovery has been due to its negative credit impulse being smaller than in the USA, and being reversed earlier (see Figure 34).

Figure 34: Australia's smaller negative credit impulse meant a smaller downturn



At a superficial level, this implies an easy solution to an economic downturn: if the economy slows down, encourage the growth of credit, and the economy will recover. Effectively, this is how Australia and most of the OECD has overcome past recessions: by expanding the level of private debt even more and causing a new debt-driven boom to replace the old one.

The problem with this solution is that it necessarily involves a rising level of debt compared to income over time. At some point, this will result in a level of debt which is so large compared to income that many economic agents refuse to take on any more debt. The credit impulse therefore turns negative and a major crisis ensues—a Depression.

In late 2005, I formed the belief that we had reached such a point in the credit cycle, which is why I went public with my views that a serious economic crisis was imminent (along with a handful of other non-orthodox economists; for details see Dirk J Bezemer, 2009, Dirk J. Bezemer, 2010, Edward Fullbrook, 2010). The occurrence of the Global Financial Crisis, against the expectations of the vast majority of economists, vindicated my analysis.

Australia's apparent avoidance of the crisis has led to my analysis carrying less weight in Australia than overseas. However as outlined above, Australia's avoidance of a serious downturn to date has largely occurred because it delayed the process of deleveraging. In effect, we avoided the GFC by recreating the conditions that caused it: an asset price bubble caused by rampant lending to the household sector.

## Implications for competition policy

Attempting to increase competition in the banking sector once more could risk continuing this process of an ever-increasing level of debt causing apparent prosperity, at the expense of guaranteeing a future severe deleveraging-driven contraction.

However an equally probable outcome, given the excessive and unprecedented level of household debt (higher than that prevailing in the USA—see Figure 35—and with a much higher debt servicing cost—see Figure 36), is that new competitors will fail to gain a foothold in the market, because the market will now shrink rather than expand as the house price bubble deflates.

The likelihood that the level of household debt will fall is reason enough to be less than enthusiastic about the benefits of increased competition in the banking sector—since in the past this has led to rising levels of debt. It is also hard to contemplate how increased competition could be consistent with falling debt volumes—such a phenomenon is more likely to mean consolidation in the sector rather than an increased number of players fighting over a smaller pie.

Figure 35: Australian household debt compared to GDP is now 5% higher than America's

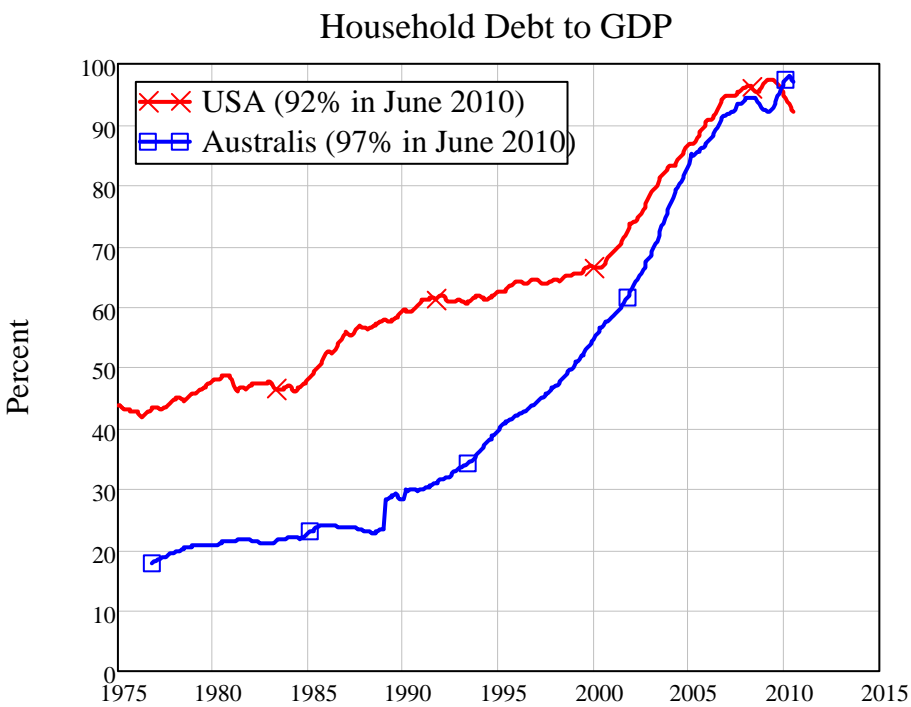
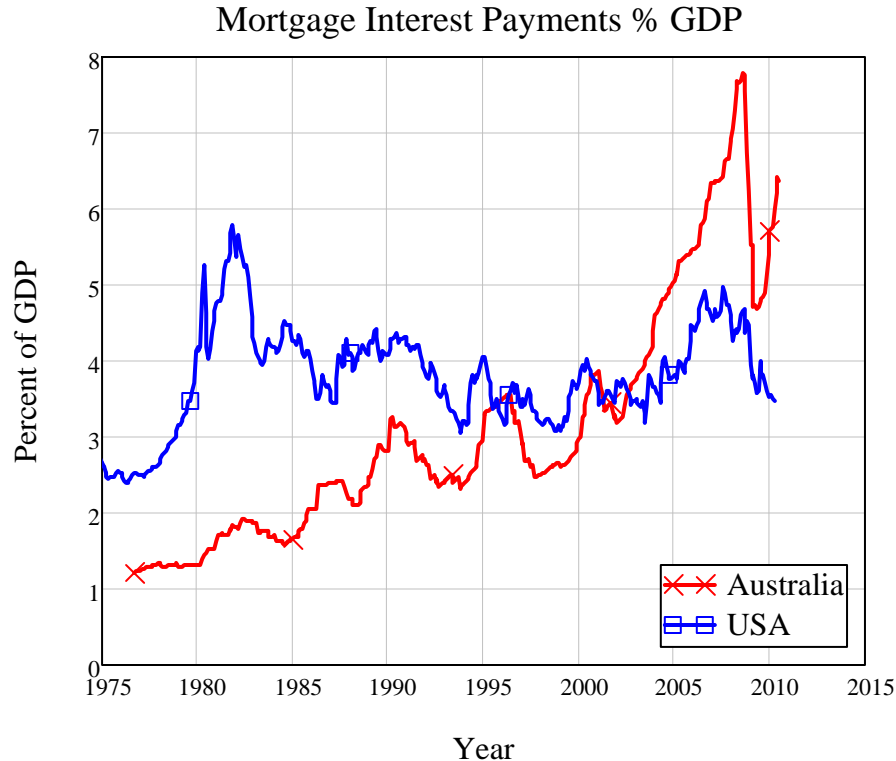




Figure 36: Interest on mortgages cost 6.5% of GDP here versus under 4% in the USA



### A lack of competition, or a lack of control?

The preceding analysis shows that the problem with banking is not so much a lack of competition, as a lack of control over the level of lending. The question then is whether increased competition would provide the control needed over the level of lending.

The historical record is decidedly that it will not: as shown above, both previous policy-inspired increases in competition caused a blowout in debt levels. Competition is not the solution to the social and economic problems caused by the banking sector.

Why then are politicians and economists recommending more competition for banking? To some degree this is because of they tend to apply the standard “supply and demand” model to banking—and therefore to argue that if the industry is the subject of complaints, it must be because it is too monopolistic. Unfortunately however, the “supply and demand” model is a false guide to the operations of the banking sector. So too is the “money multiplier” theory of how credit money is created that is still taught in economics textbooks, despite being found to be empirically false over the last 3 decades.

One of the main reasons that the world is now mired in a seemingly never-ending series of financial crises is because of the application of appealing but false models of how banking behaves. It is therefore important for policy-makers—like the members of this Committee—to have an accurate understanding of how the sector they are attempting to reform actually operates.

The conventional “money multiplier” model argues that the creation of credit money begins with an injection of government-created “Base Money”, which is then deposited by an individual in a bank account. The bank then retains a portion of this—the so-called Reserve Ratio—and lends the rest. A process of re-depositing and re-lending then occurs, at the end of which the total amount of money created is equal to the Base Money injection divided by the Reserve Ratio.

Were this model accurate, then we would find that there was a time lag between the creation of Base Money ( $M_0$ ) and the creation of Credit Money ( $M_2 - M_0$ ). But in fact the lag has been found to be the other way around: credit money is created first, followed by changes in base money. As Nobel Prize winners Kydland and Prescott put it:

There is no evidence that either the monetary base or  $M_1$  leads the cycle, although some economists still believe this monetary myth. Both the monetary base and  $M_1$  series are generally procyclical and, if anything, the monetary base lags the cycle slightly... The difference of  $M_2 - M_1$  leads the cycle by even more than  $M_2$ , with the lead being about three quarters. (Finn E. Kydland and Edward C. Prescott, 1990, p. 12)

A more realistic perspective on banking is the “endogenous money” theory, and its implications are that deregulated, competitive banking has an innate tendency to cause financial crises of the kind the global economy is now experiencing. As Basil Moore put it, the essence of this model is the observation that

"In the real world banks extend credit, creating deposits in the process, and look for the reserves later" ((Basil J. Moore, 1979, p. 539) citing (Alan R. Holmes, 1969, p. 73); see also more recently (Piti Disyatat, 2010, "loans drive deposits rather than the other way around", p. 7)).

This empirical reality makes it easy to understand a fundamental point: that banks have an innate tendency to want to create as much debt as possible, and the only effective stop to this is not competition between banks, but institutional reforms that limit the willingness of borrowers to take on debt for speculative purposes.

I have constructed models of a pure credit economy to illustrate this point (Steve Keen, 2009a, b, c, d, 2008, 2010); rather than reproducing these here I have put a model which enables these points to be illustrated in a dynamic simulation (see Figure 37 for a sample output) on my blog at the page <http://www.debtdeflation.com/blogs/policy-documents/>. The model and modeling software can be downloaded directly from the following link:

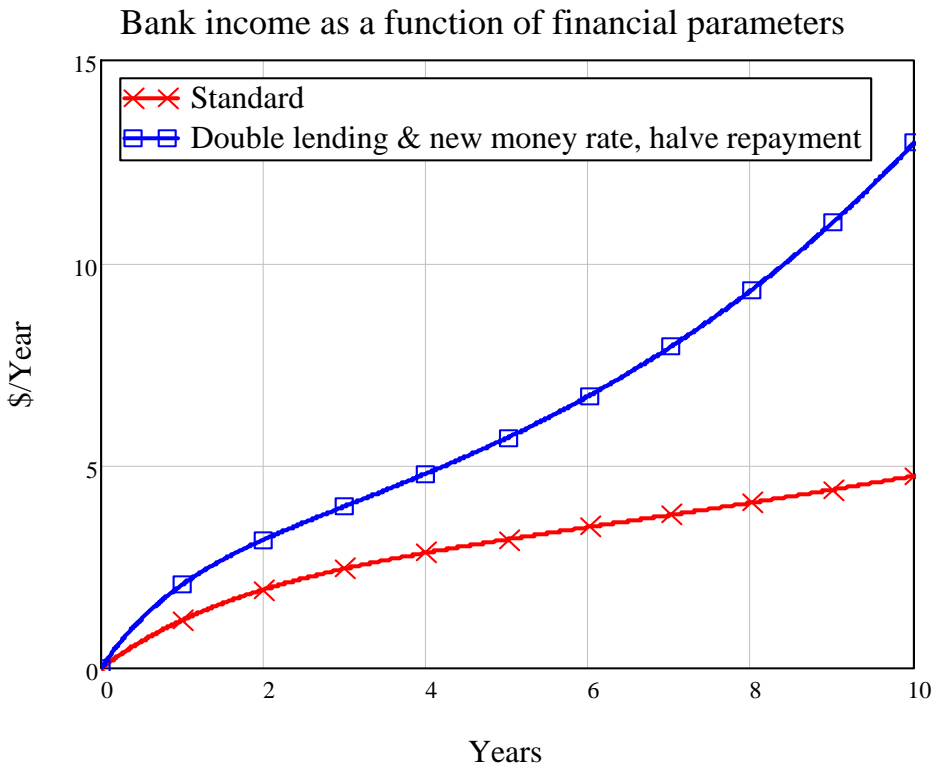
<http://www.debtdeflation.com/blogs/wp-content/uploads/2010/12/KeenDynamicModel.zip>.

Figure 37: Sample output from dynamic modelling program with variations in lending variables



Figure 38 illustrates the basic insight of this endogenous money perspective: bank income increases if more debt is created. This tendency will not be reduced by increasing competition: instead, as the historical record of Australian banking has illustrated, an increase in competition will often amplify this tendency as the competition for market share leads all banks to search out avenues to market debt.

Figure 38: Bank income increases with faster lending, more rapid money creation, and slower loans repayment



The easiest way to do so is to fund speculation on asset prices, since that weakens the one effective control on the amount of debt that banks can create, the willingness of firms and households to go into debt.

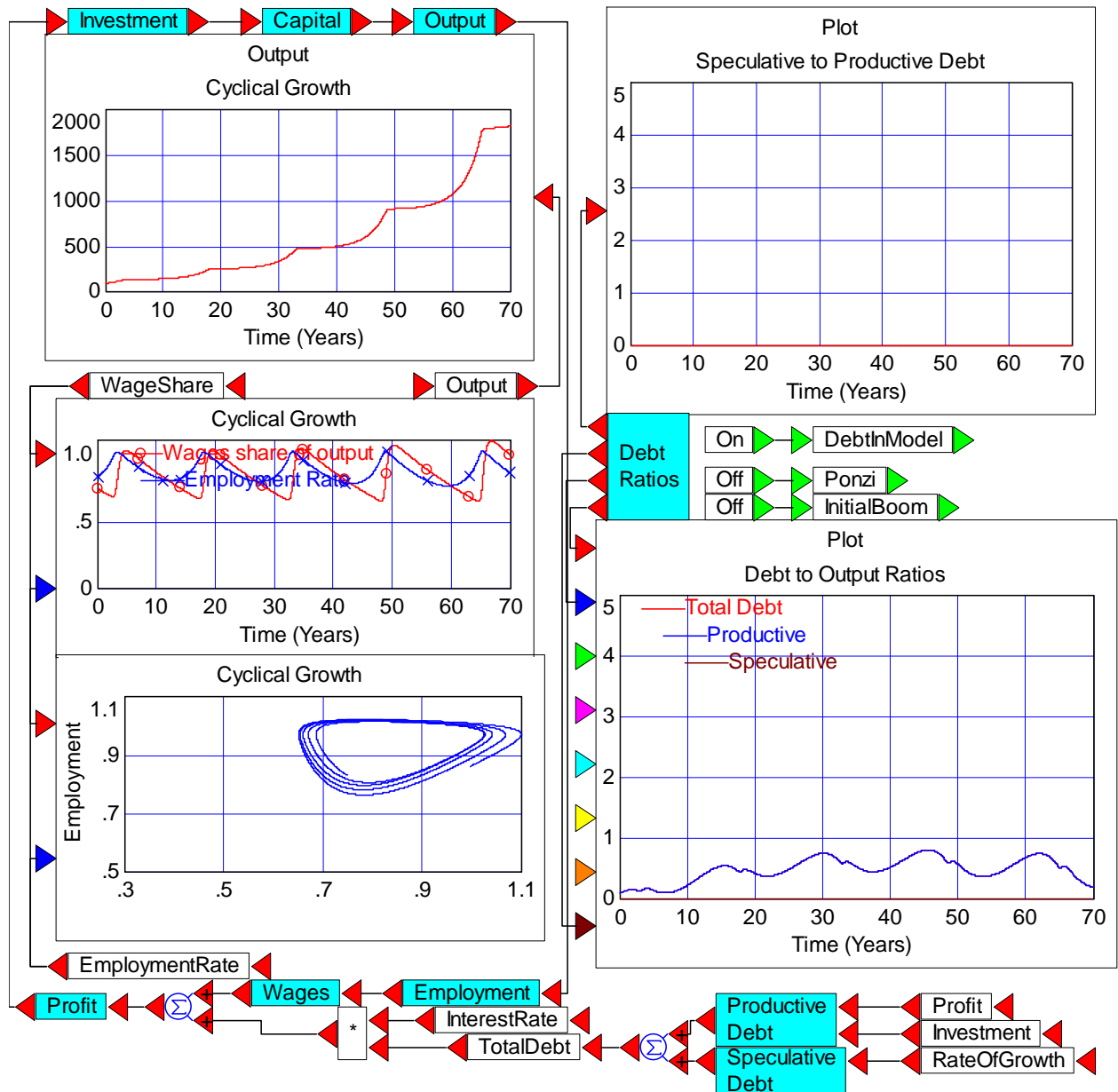
If firms and households limit their borrowing to what they can reasonably anticipate servicing from income, then broadly speaking debt would not become a problem. Though there will always be firms who borrow with unrealistic expectations of profit, and prodigal households who live beyond their means, by and large these will be peripheral issues if borrowing is income-based.

But when borrowing becomes based instead on expectations of profiting from rising asset prices (“asset-based lending”), then a positive feedback loop is set up that, almost inevitably, leads to a blowout in debt levels and an eventual financial crisis. Rising debt levels themselves drive up asset prices, individuals accept a higher debt to income ratio than they otherwise would in the belief that debt can be repaid from the proceeds of asset sales, and an actual boom is generated in the economy as the increase in debt spurs aggregate demand. Once such an apparent “virtuous circle” is in train, it is almost impossible to stop, since virtually everyone in society has an interest in its continuance: the banks,

stockbrokers and real estate agents because their profits are higher, the general public because they feel wealthier as asset prices rise (and some of them do profit from buying and selling on a rising market), and even the government because the Ponzi boom generated by rising private debt makes it seem to be a “good economic manager”.

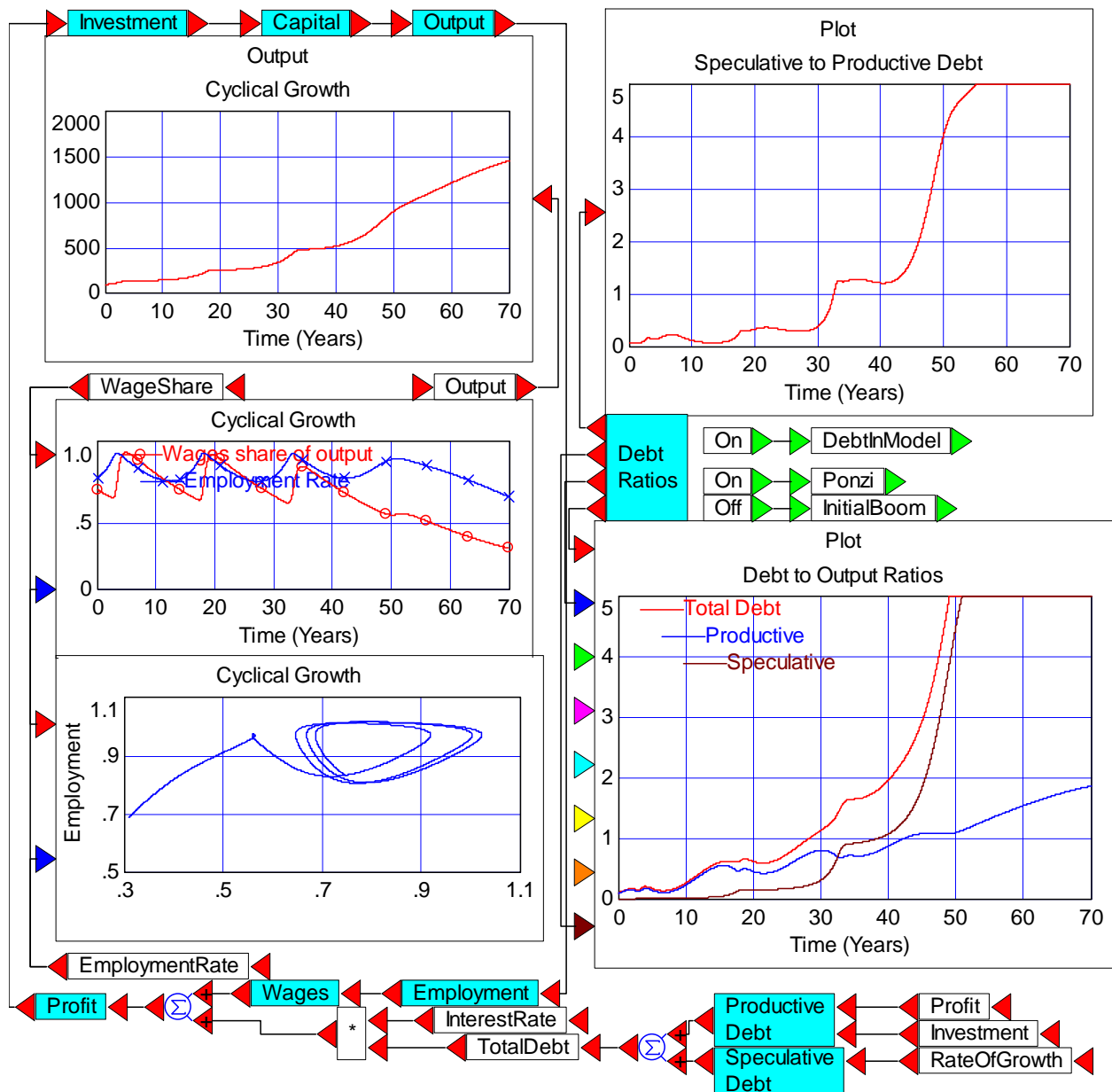
But the boom must ultimately end in a crisis, because it drives up debt levels without adding to the economy’s income-generating capacity. Ultimately, a level of debt will be incurred that cannot be serviced, and the economy will collapse into a Depression. I have modeled this process in another more technical paper (Steve Keen, 2009d). Two sample outputs from this model are shown in Figure 39 and Figure 40. Without asset-based lending, though the debt level rises, it does not get out of hand and cause a crisis.

Figure 39: a debt-financed pure credit economy without asset-based lending



With asset-based lending however, speculative lending eventually predominates over productive investment and eventually, after a series of financial cycles, the level of debt overwhelms the economy.

Figure 40: a debt-financed pure credit economy with asset-based lending



**Conclusion: the problem is not microeconomic, and competition is not the solution**

Since the main problems with the banking sector relate to the amount of debt it generates and the macroeconomic problems these cause, the solution lies not with microeconomic reforms—and especially not with increased competition, which exacerbates the underlying problem of excessive debt—but with institutional reforms and macroeconomic policy.

From the experience of the Great Depression itself, it is clear that regulatory reform is not enough to prevent bank lending getting out of hand. Reforms such as the Glass Steagall Act may temporarily usher

in a period of stability. But if the reforms leave open the possibility of funding asset-price speculation, then banks will do this and in the process, undermine the reforms. The public will gain a temporary benefit from the lending as it expands economic activity, bank power will rise with rising debt, and ultimately—as we saw in 1999—the very reforms themselves will be abolished.

Something more permanent is required, and it has to, in my opinion, tackle the willingness of borrowers to take on debt, rather than attempting to limit bank willingness to lend—since I see this as rather like trying to stop the tides coming in.

I have developed two basic reform ideas, both of which I know I have Buckley's Chance of having implemented at present—especially in Australia, since the dominant perception here is that we have in fact avoided the problems that have beset the rest of the world.<sup>24</sup> However unless I put these ideas into circulation now, there will never be any chance of having them implemented, even when attitudes to the financial crisis are much more melancholy than today.

## Reform Proposals

My proposals are, in one sense, “microeconomic reforms”, since they are redefinitions of fundamental components of everyday contracts rather than grand regulatory schemes to control banking, or fiscal or monetary policy recommendations to counter the excesses of the banking sector. However, I am sure they are not the kind of microeconomic reforms the Committee had in mind—and nor are they likely to be adopted.

These proposals are:

1. To redefine shares so that, when purchased from a company, they last indefinitely as they do today, but once they are sold to a secondary purchaser, they have a defined lifetime of 50 years, after which they expire (I call this a Jubilee Share proposal); and
2. To base lending for property on the rental income (actual or imputed) of the property being purchased, and to limit the debt that can be secured against a property to ten times its annual rental income.

The object of both reforms is to make leveraged speculation on asset prices much less likely than it is today.

The vast majority of trades on share markets are of speculators selling to other speculators, with valuations ostensibly based on the net present value of expected future dividend flows, but in reality based on the “Greater Fool” principle, where rising debt funds the Greater Fool. If instead shares on the secondary market provided dividends for up to 50 years, but after that date had a value of zero, it is far less likely that share purchases would be undertaken with borrowed money. Valuations would then be

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<sup>24</sup> I have been told that the RBA and Treasury now prefer to speak of the “North Atlantic Economic Crisis” rather than the “Global Financial Crisis”, to emphasise that the crisis did not strike Australia.



actually based on conservative estimates of future dividend flows up until expiry, leading to much less volatile share prices and much less speculation.

Such a change would also encourage capital formation via the share market, since the only means to secure a perpetual dividend flow would be to provide money directly to a company via an initial public offering.

The property reform would break the positive feedback loop that currently exists between leverage and property prices: prices rise because some borrowers are willing to take on more leverage to trump other borrowers, and the increased leverage drives prices up, feeding back into the leverage-price bubble process.

With this reform, all would-be purchasers would be on equal footing with respect to their level of debt-financed spending, and the only way to trump another buyer would be to put more non-debt-financed money into purchasing a property.

Though I know there is no prospect of these reforms being adopted, I nonetheless recommend that Senators at least ponder them. The Global Financial Crisis is not going away any time soon, because its fundamental cause is still with us—an excessive level of private sector debt, generated by a financial sector that was happier funding Ponzi Schemes than it was doing the more difficult work of financing productive investment. Only when the intractability of the crisis without fundamental reforms becomes apparent, will proposals like these that actually go to the heart of the problem be considered.

In the meantime, I expect that mistaken ideas—such as that the problem is excessive margins rather than excessive debt, and that additional competition will solve this problem—are more likely to be proposed by Inquiries such as this one. I remain opposed to unstructured attempts to increase competition in the banking sector, but there is one competitive reform that I would support: introducing lenders whose sole purpose is to provide small business with working capital. At present, small business is being squeezed by higher loan margins more than all other sectors,<sup>25</sup> and much small business lending is actually secured against and based on the property owned by small business owners, rather than on their businesses and cash flows, as it should be.

A competitive reform that encouraged lending to this sector—to finance actual business activity—would be worthwhile. Any other approach that relied simply on increased competition to fix the sector's ills would either fail to work—given the current excessive level of debt—or make our problems worse.

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<sup>25</sup> The margin on personal loans is higher than that on small business loans, but the margin on mortgages is substantially lower, and these constitute the bulk of household debt—see Figure 3 on page 7.

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