



DEEPER IN DEBT

Australia's Addiction to Borrowed Money

Dr Steve Keen

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DEEPER IN DEBT: AUSTRALIA'S ADDICTION TO BORROWED MONEY

Main Points

This report explains the dynamics of debt accumulation and the statistical evidence that our current borrowing trends cannot go on forever. The author outlines the probable economic consequences of the end of the debt binge, offers advice on how to cope with the debt hangover, and proposes reforms to prevent it happening again.

- » Despite the booms and busts in business and the housing market, since 1964 the ratio of Australia's private debt to GDP has grown by 4.2% every year, and is currently 156% of GDP. This exponential growth can't be sustained indefinitely.
- » The increase in national private debt accounted for more than 16% of GDP last year. This means that our economy currently relies on increased borrowing, rather than on actual income, for a sixth of its total activity. This is a big proportion – and it continues to grow. We can't afford to reduce our borrowing without economic pain – yet we have no choice but to do so if we want to bring debt growth under control.
- » After interest payments, households are poorer now than they were in 2002. Interest on mortgage and personal loan payments is more than negating the income increases in the last five years, leaving households worse off in real terms. (No wonder they don't feel that they've 'never had it so good'!)
- » The so-called 'housing boom' didn't build many houses – or create more homeowners. House prices have more than doubled in the last twenty years, far out-stripping increases in real wages and rental returns. And because debt has risen even faster than house prices, our net equity in our houses has fallen.
- » Rising house prices do not in themselves create wealth. While lucky or well-informed individuals can turn a profit from speculating on the housing market, society as a whole cannot. And we've blown a large chunk of our record borrowings on speculation.
- » A return to the crushing interest payment burden of 1990 (when interest payments were at 17%) is just 18 months away if current trends continue. Cutting interest rates is unlikely to work as well as it did the last time Australia's debt bubble burst.
- » Australia's level of irresponsible lending isn't as high as that which brought on the US subprime crisis, but because our rate of increase in debt is so much higher, the impact of any slowdown will be more severe here – and the pain will be much more widely spread.

Several reforms are suggested to deal with this serious long-term threat to household finances and Australia's economic stability. They include:

- » Better information gathering and a full public inquiry on Australia's household debt, taking in the impact of lending standards, housing affordability, negative gearing and capital gains tax;
- » Regulating lenders, not just deposit-takers. Regulators must uphold the principle that loans should be made based on the capacity to repay, not asset-price speculation;
- » Addressing the lack of public housing and the tenuous position of renters, to reduce the incentives for people to take on loans they can't afford; and
- » In the event of a debt-induced downturn, rethinking current policy approaches to inflation and government deficits.

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Introduction

“You load sixteen tons, and what do you get?
Another day older and deeper in debt” (Merle Travis, 1946)

A funny thing happened in 1964. Private debt, which had shown no particular trend since the end of World War II, suddenly began to rise at a noticeably faster pace than Australia’s GDP.

Had the trend died out, it would just be another notable but ultimately transient thing about the 1960s. But unlike other fads of that era, this one has persisted—for 43 years. Today, Australians are still borrowing more rapidly than Australia’s GDP is growing. Private debt is now equivalent to 156% of GDP, compared to under 25% in 1964. We are more than six times as indebted as we were when the Beatles began their dominance of the airwaves.

Superficially, one could blame the Baby Boomers for this—and there is one sense in which they are culpable. The first of the Baby Boomers turned 19 in 1964—and quite possibly stepped up from asking Dad for the car keys, to asking the Bank Manager for a car loan. Not having experienced the deprivations of the Great Depression and World War II, Baby Boomers certainly entertained debt much more lightly than their more conservative parents.

But there is much more to Australia’s debt bubble than intergenerational change. This report for the Centre for Policy Development delves into the dynamics behind the accumulation of private debt, to explain why debt has risen so much, what might finally tame it, and what the consequences might be of weaning Australia off its debt addiction.

The road to debt dependence

In 1964, Australia’s debt to GDP ratio, at 25%, was no higher than it had been a decade earlier.¹ Then, debt began to grow more than four per cent faster each year than GDP. While this caused a virtually imperceptible increase in the debt to GDP ratio each year in the 1960s, it became a runaway process over time—with the ratio doubling roughly every 17 years. In 1981, it hit 50%; by early 1999, it was 100%; and if the current trend

¹ There are some data reliability issues here: the debt data from 1953 till 1976 is annual and taken from RBA Occasional Paper No 10 Table 3.2; data from then on is monthly and taken from RBA Statistical Bulletin Table D02. GDP Data is annual from 1953 till 1960 and also taken from RBA Occasional Paper No 10 Table 3.2; since then it is quarterly and taken from RBA Statistical Bulletin Table G12. Some variability has been introduced by dividing debt data from the former series by nominal GDP data for the latter for the overlap period between 1960 and 1976, and this affects in particular the period between 1960 and 1964. For instance the debt to GDP ratio is 24.3% in the Figure below in 1964, but 27.3% in Occasional Paper No. 10. However sustained growth in the debt to GDP ratio clearly dates from 1964 in both series

continues, it will reach 200% of GDP by 2015.^{II}

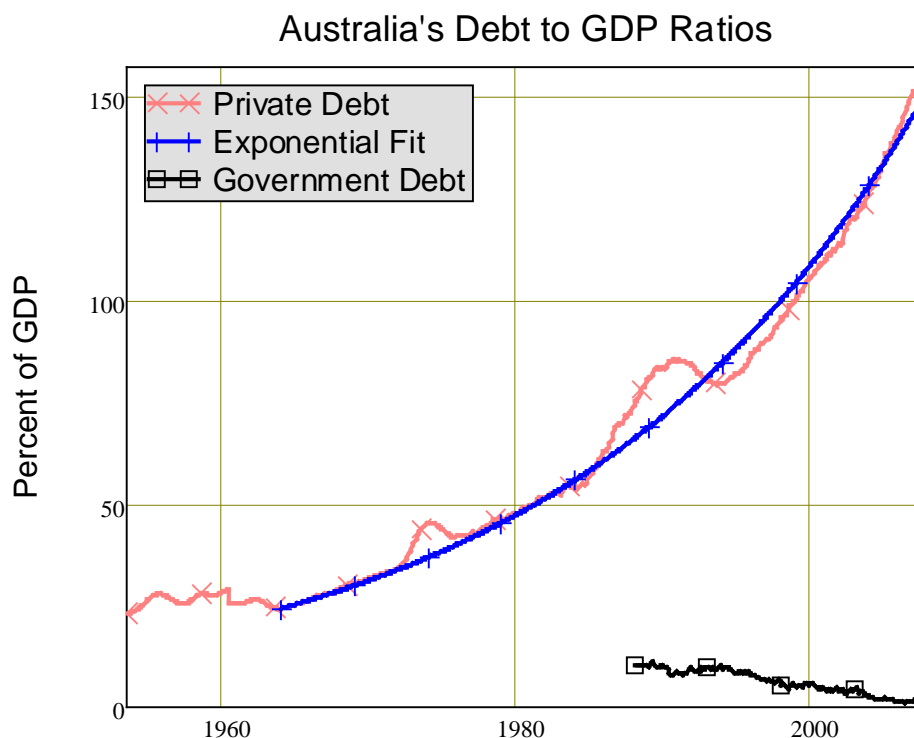


FIGURE 1: DEBT TO GDP

Of course, the private debt to GDP ratio can't keep increasing exponentially forever. The ratio must at least stabilise at some point, because if it doesn't, as this document shows, it will ultimately become impossible to service the debt. When the debt bubble bursts it will cause economic pain, simply because our economy has become so dependent on spending borrowed money.

It is possible to quantify just how addicted we are to debt. In any given year, total spending in the economy is the sum of incomes plus the increase in debt. The greater the ratio of debt to GDP—and the faster total debt is rising—the more spending is financed by increased borrowing, rather than by earnings.

40 years ago, this wasn't a problem: debt was much smaller than GDP, and each year's increase in debt made a relatively minor contribution to demand. Losing debt's contribution to spending would have made a relatively minor dent in economic activity. But as Figure 2A shows, that situation changed: as debt grew, each year's increase in debt contributed a larger and larger amount to aggregate spending. **In the last calendar year, increasing debt accounted for more than 16 % of total demand.**

II The comparison of government debt levels to private debt in Figure 1 should make it obvious that government debt has always been no more than a diversion from the main game of private debt. Even at its worst, government debt represented just over 11% of GDP—less than half the minimum level that private debt has ever represented. It is currently under two per cent of GDP.

March of:	\$ million				change in debt as % of		
	debt	gdp	debt ch.	sum	debt	gdp	sum
1957	2,937	11,605	57	11,662	2.0	0.5	0.5
1962	4,526	17,058	182	17,240	4.2	1.1	1.1
1967	7,190	25,739	871	26,610	13.8	3.4	3.3
1972	14,855	42,355	2094	44,449	16.4	4.9	4.7
1977	38,647	91,441	5860	97,301	17.9	6.4	6.0
1982	86,240	166,793	14,009	180,802	19.4	8.4	7.7
1987	189,826	271,735	30,170	301,905	18.9	11.1	10.0
1992	341,952	413,707	-4,981	408,726	-1.4	-1.2	-1.2
1997	488,427	538,115	41,629	579,744	9.3	7.7	7.2
2002	829,053	723,315	73,910	797,225	9.8	10.2	9.3
2007	1,562,422	1,024,656	196,896	1,221,552	14.4	19.2	16.1

FIGURE 2A: CONTRIBUTION TO SPENDING FROM GROWTH OF DEBT

Figure 2B visually emphasises how much our dependence on increasing debt has risen over time. In 1972, a huge 35% increase in debt contributed “only” 11.5% to total demand—because debt was then a mere 37% of GDP. In the last year, a much smaller increase of “only” 15% in debt generated over 16% of total demand—because aggregate private debt is now more than one and a half times our annual GDP. We have become so dependent on debt that we almost can’t afford to stop borrowing.

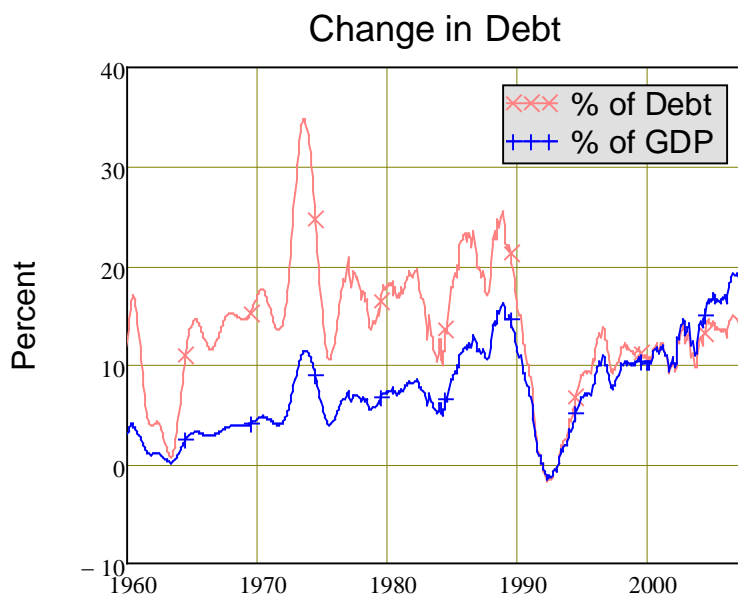


FIGURE 2B: CHANGE IN DEBT

But stop we must, because, if historical precedent is any guide we (both Australia as a whole, and the individuals who are actually liable to repay their loans) can’t afford to continue servicing the current level of debt—let alone any higher level. The debt servicing burden has only been higher for the one and a half years between March 1989 and September 1990—the period that marked the onset of Australia’s deepest post-WWII recession.

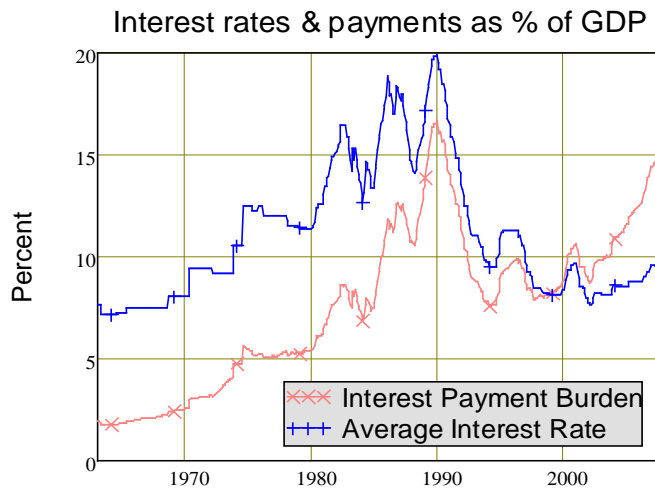


FIGURE 3: INTEREST RATES AND INTEREST BURDEN

Of course, there are those who will argue that “this time is different”, or that there are countervailing factors other than debt that have to be taken into account. The Reserve Bank emphasises that, while debt has risen, so too has the value of assets. When I asked Christopher Aylmer (Deputy Head of the Financial Stability Department of the RBA) whether “the trends in household debt compared to household income are sustainable”, he replied that:

Household debt cannot continue to grow the way it has. Mathematically it is true that it could continue to grow and your interest payments would be the size of GDP. But you have also got to look at the other side: your assets are also growing and the fact that the investment income will eventually be as big as GDP as well.¹

Superficially, this argument has legs. It is indeed true that Household assets substantially exceed Household debt, and that the value of assets has risen as debt has risen (see Figure 4).

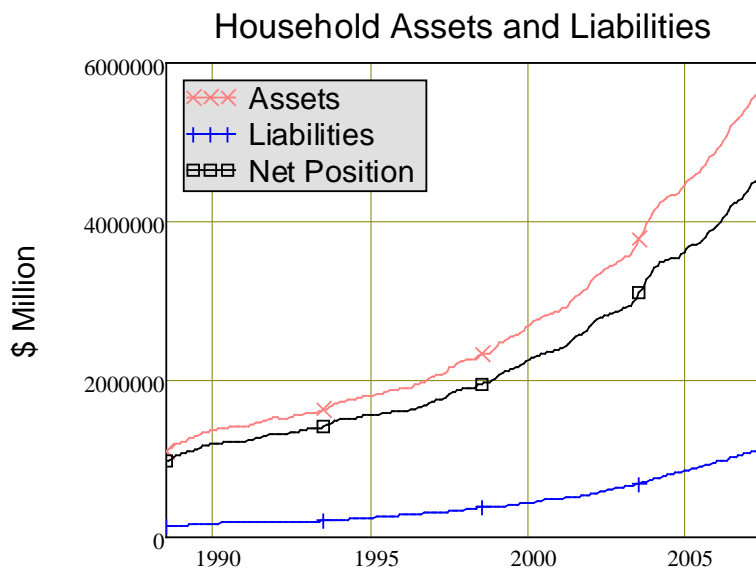


FIGURE 4: HOUSEHOLD ASSETS AND LIABILITIES

However, the value of Australia's household assets can rise in two fundamentally different ways: their quantity can increase, or their price. If the former applies, then Aylmer's deduction—that a rising quantity of assets will mean rising investment incomes—is *prima facie* correct. But if the latter applies, then there is no guarantee that rising asset prices will result in rising incomes. Though rising prices can be due in part to an increase in the quality of assets (larger or better homes), they can also be the side-effect of a speculative bubble, in which prices are driven higher by leveraged speculation.

The evidence is overwhelming that the latter is the case in Australia: the value of assets has increased, not based on real investment in building new homes or improving existing ones—which would increase the productive capacity of the economy, and thereby our ability to service debt—but instead based primarily on asset price speculation.

Speculation sets up a perverse feedback between debt and asset prices. Prices rise, not because the assets themselves have become more productive, but because the belief that they are going to continue to rise encourages people to borrow money to buy them, in the hope of selling them for a profit later. This can work for some individuals (and there are plenty of Australians who have become wealthy via speculation), and it can appear to work for society as a whole for some time as debt finances an illusory prosperity. But it has to fail at the aggregate level, precisely because it increases the level of debt without increasing the productive assets of the economy as a whole.

A close look at the data on debt financing for housing “investment” in Australia makes it obvious that the rise in the value of assets has been primarily driven by speculation, rather than by actual investment. Superficially, it appears that a “housing led recovery” got us out of the 1990s recession: annual lending for housing rose from six per cent of GDP in the depths of the recession, to well over 20% today (peaking at 25% of GDP in early 2004).

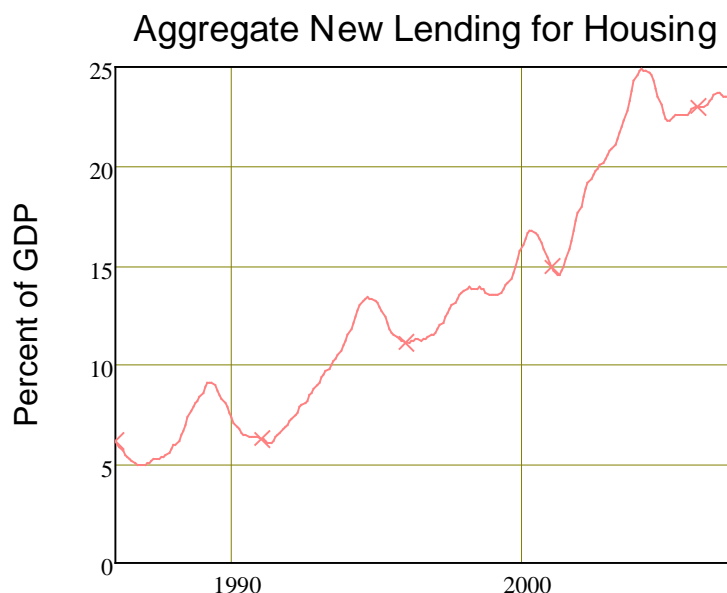


FIGURE 5A: HOUSING LENDING AS PER CENT OF GDP

This rise has been propelled by the growth of so-called investor borrowing, which has risen from under 20% of total lending for housing in the mid-1980s to over 30% today—and a high of 40% in late 2003. That also seems to indicate that investment in housing helped us recover from the 1990s recession.

But from this point on, the story unravels. If this debt had actually financed the building of houses and apartments, then why is there a rental crisis, so soon after the boom ended in NSW and Victoria?

Because the vast majority of the money borrowed by so-called investors was used, not to build new houses, but to speculate on the price of existing ones. Back in the mid-1980s, investors actually did, in general, invest: around 60% of lending to investors was used to finance construction. But as the 1990s housing bubble progressed, more and more of the investor dollar financed not investment, but speculation. By the end of the boom, less than ten per cent of borrowing actually financed construction. We were not investing, but gambling.

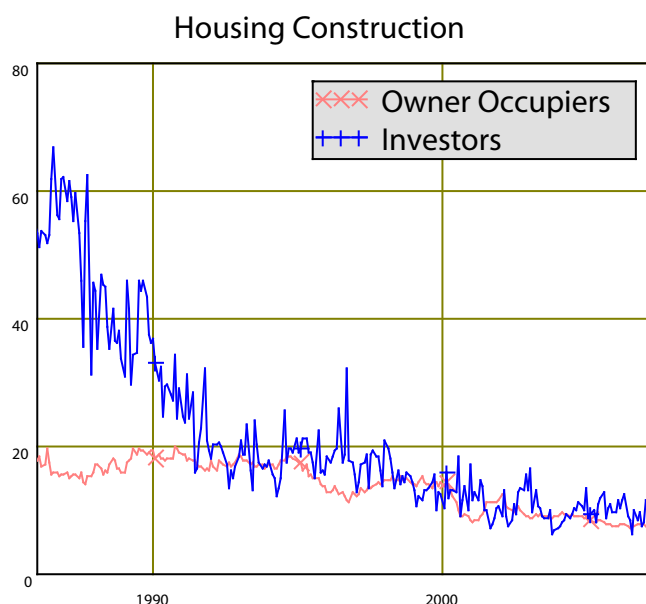


FIGURE 5C: CONSTRUCTION PER CENT OF HOUSING LENDING

This speculation became both cause and effect: it drove up prices, and encouraged yet more people to enter the game by borrowing money to buy on a rising market. Those who bought and sold as the price escalator was going up of course did very well; but society as a whole ended up with less affordable housing, and relatively few new houses, but substantially more debt.

Obviously, consumer prices haven't risen by anywhere near this much: the real price of housing has more than doubled in the last 20 years. The vast majority of that rise has occurred in two periods of rampant speculative excess: between October 1987 and March 1989—in the housing bubble that followed the 1987 stock market crash; and between March 1996 and January 2004.^{III}

III According to the most recent national figures, the bubble has continued to at least July 2007, but the national figure mixes static or falling prices in Sydney and Melbourne with still rising prices in Brisbane and Perth.

The increase in house prices has also far out-stripped the increase in real wages from 1990 until now—which goes a long way towards explaining why the elite perceptions of economic prosperity aren't shared by the battlers in the 'burbs (see Figure 12A).

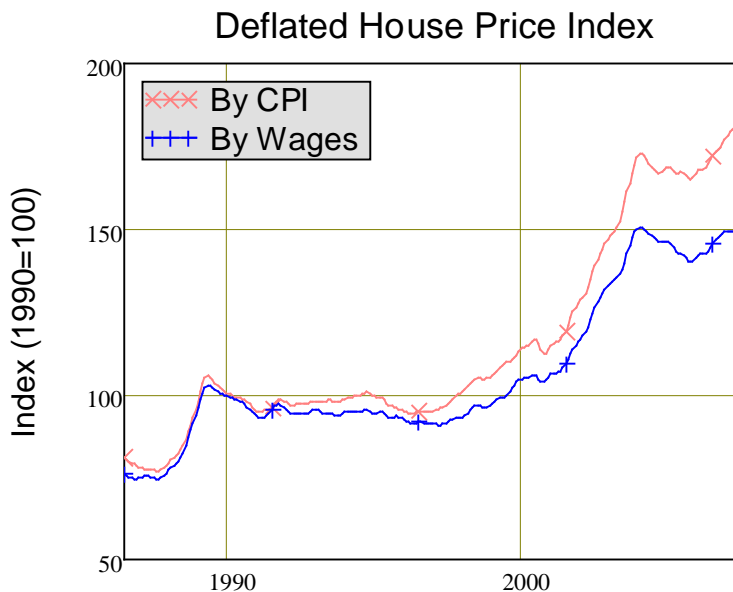


FIGURE 6B: HOUSE PRICE INDICES

The “housing boom” therefore certainly drove up the price (and possibly quality) half of the asset value equation, but it added very little to the quantity side: Australia’s stock of houses, relative to its population. If the boom had actually been a building boom, then there would have been an increase in the ratio of new housing construction to population growth. No such spike turns up in the data—in fact it appears that the biggest relative increase in house construction (compared to population growth) occurred during the less ebullient years of 93-95. Similarly, at 7.1% of GDP, dwelling investment was only marginally higher during 2000—when the supposed housing boom was in full swing—than it was during 1995—when we had just emerged from the 1990s recession. It was substantially below the maximum level ever recorded (8.1% of GDP in 1981).

What housing boom? What we had was a boom in debt, not a boom in building.

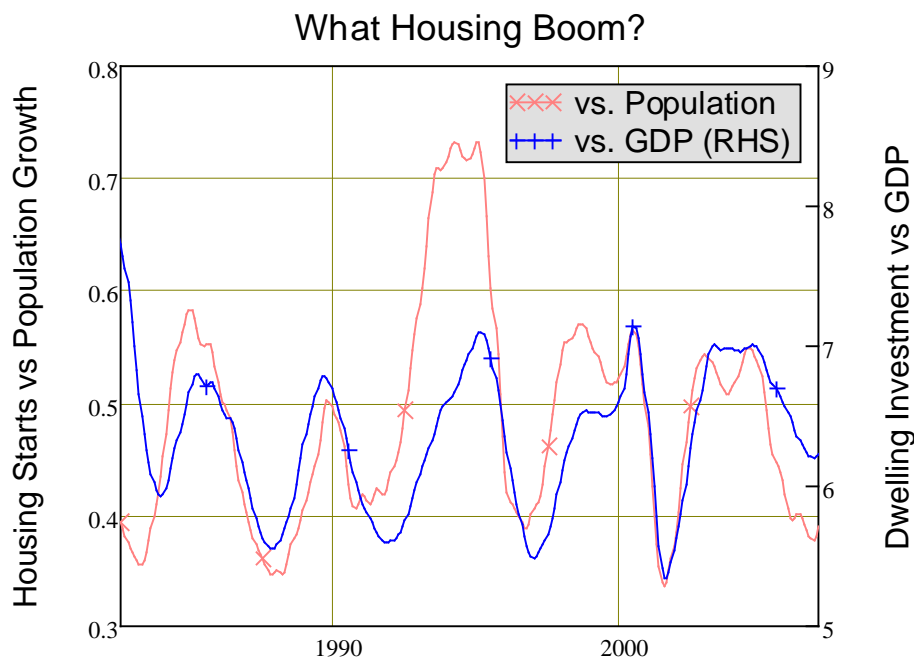


FIGURE 7: DWELLING INVESTMENT VS POPULATION AND GDP

The “rising asset values offset rising debt” argument thus contains a dangerous furphy: it risks confusing the quantity of assets with their monetary value. Assets are indeed the other side of the ledger, as Aylmer argued; but when it comes to balancing debt, it is not the price of assets that matter, but their quality, quantity, and revenue potential—and on this measure Australia is in the red.

Asset prices and debt levels are, therefore, not two sides of a healthy balance sheet, but two sides of the same speculative coin. Asset values have risen primarily because of a debt-financed speculative bubble. The dilemma we now face is that, while asset prices and debt levels go up during a bubble, they part company when it deflates.^{IV}

Australia’s last such asset deflationary experience occurred during “the recession we had to have”, in the aftermath of the huge business borrowing binge of the 1980s. Then, business debt was more than twice the size of household debt. But the subsequent bankruptcies of Bond, Skase, Connell and friends—and the sudden outbreak of financial prudence in the rest of the business community—radically reduced corporate debt levels. Only in 2007 has business debt reached the same proportion of GDP as it did in 1989—and given the lower interest rates that apply now, the debt financing burden on businesses now is substantially lower than it was in 1990.

This time round, households will bear the brunt of any asset price collapse. As Figure 8 shows, at the same time that lending to business hit saturation level and began to decline, lending to households started to accelerate.^V

IV There are of course other assets apart from houses—but my focus in this report is on debt, and this latest debt-fuelled speculative binge was clearly focused on households, as the disaggregated debt data shows.

V This data also suggests that it is to the supply side (lenders) rather than the demand side (borrowers) that we should look for the explanation of how the bubble has grown to this size (discussed in detail below).

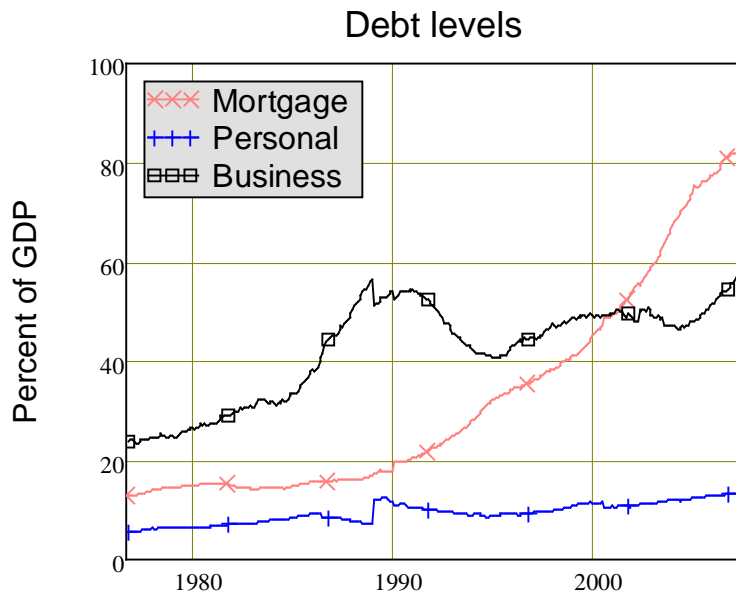


FIGURE 8: DISAGGREGATED DEBT LEVELS

The scale of this increase in lending to households is staggering. If the trend rate of growth in mortgage debt up to 1990 had persisted until today, the average mortgage would be less than one third its current size.

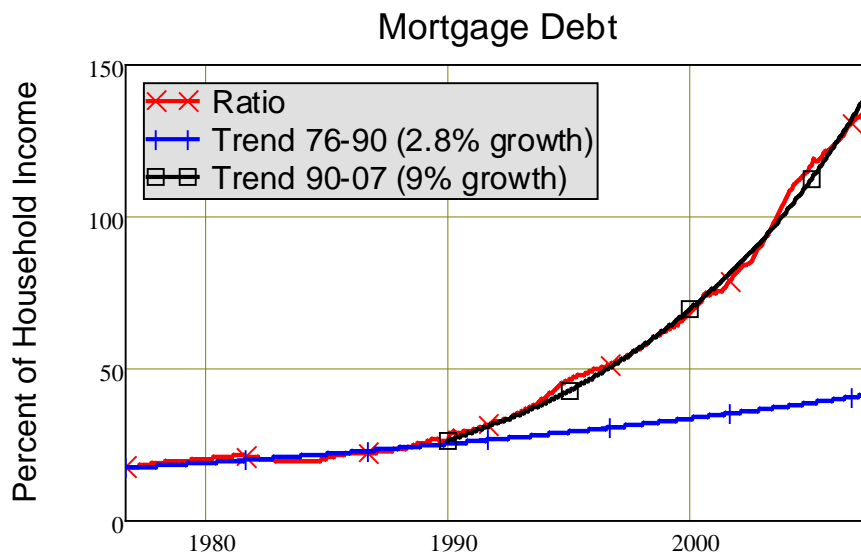


FIGURE 9: MORTGAGE DEBT

Even if we were to accept the view that mortgage debt is in some way justified by the increased value of houses, this logic doesn't apply to credit card debt. Yet it has also increased markedly. After showing only trivial upward trends between 1985 and 1995, credit card limits and balances began to rise rapidly, relative to Household Disposable Income. The current level of outstanding balances is almost four times what it would have been, had the pre-1995 trend continued.^{VI}

VI Some but not all of this increased usage may be due to factors such as the rise of reward schemes and online purchasing.

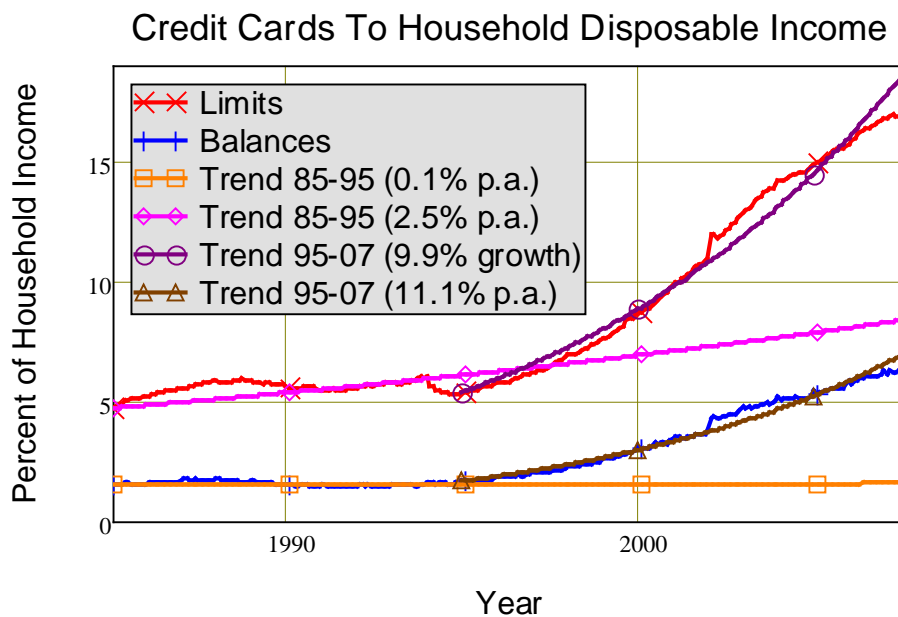


FIGURE 10: CREDIT CARD DEBT

Who's to blame?

So there has clearly been a disproportionate and unsustainable increase in household indebtedness. That leads to the obvious question: what has caused it? It is impossible to ascribe all of the blame for our current situation to a single culprit. However, upon examination of the data supporting each of the following popular explanations^{VII}, it is clear that we have systematically underestimated the importance of number 4.

1. Lower interest rates. The increase in debt is simply a rational response to the fact that credit is cheaper, and there's nothing to worry about;
2. Higher incomes. As our incomes have risen, household budgets have been in a better position to absorb higher debt-to-income ratios;
3. Profligate households. Gens X, Y, Z, and the always irresponsible Generation BB have mortgaged and charged themselves to the hilt, and they only have themselves to blame; and
4. Irresponsible lenders. They have enticed us into debt we can't manage, so it's really their fault.

Lower interest rates?

This causal candidate is the easiest to dismiss—which is unfortunate for at least two reasons. Firstly, if it

VII This is not an exhaustive list of the many explanations put forward for our current credit binge. I have omitted for example the (limited) role of population growth, the idea that stamp duties or state restrictions on development are to blame, etc. One obvious point to make is that the housing price boom has been global, despite for example France's falling population, and the USA's less stringent planning restrictions. There isn't space to address all the possible candidates here, however I will attempt to do so in an FAQs document that will be made available on the Centre for Policy Development's website and added to over time.

were true, then there genuinely would be no problem. But more importantly, it's unfortunate because this erroneous notion seems to be the view to which the Reserve Bank subscribes (or at least it used to, until events in the USA subprime market began to cause disruption here as well).

MP Sharon Bird put the following double-negative to Reserve Bank Governor Glenn Stevens when he appeared before the House of Representatives Standing Committee on Economics, Finance and Public Administration in February 2007:

 Ms Bird: Can I just clarify that you are not indicating that cheaply available credit has not influenced asset prices?

 Mr Stevens— *It does. I would not deny that for a moment. In fact, we have said that one of the big factors for why house prices rose a lot in the latter part of the 1990s and into the early part of this decade was that interest rates were very low. They were very low because inflation was low. **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.** It is not the only thing at work. Some of the other things that we referred to earlier have also been important, but low interest rates do encourage higher borrowing and they have encouraged higher house prices. I do not think there is any resiling from that.² (emphasis added)*

The implication of this statement is that, while debt has risen, it's simply kept the debt servicing burden constant.^{VIII} Interest rates fell, so people borrowed more, but overall the debt servicing burden remained constant.

At a very superficial level, it is possible to argue that the halving of interest rates since 1990 has allowed debt to double, thus keeping interest payments roughly constant as a proportion of GDP—see Figure 11A.

VIII Coincidentally, this answer also undermines the RBA's other argument, noted above, that the increase in debt is not a problem because the value of assets has also risen. If asset prices have risen because debt has risen, then there's circularity in the reasoning that increasing asset values offset the impact of higher debt. [NB: the circularity of this argument would not be a problem if the myth that housing prices never fall were true. Japan's post-bubble economy experience demonstrated that this is not the case—and now the USA is following suit.]

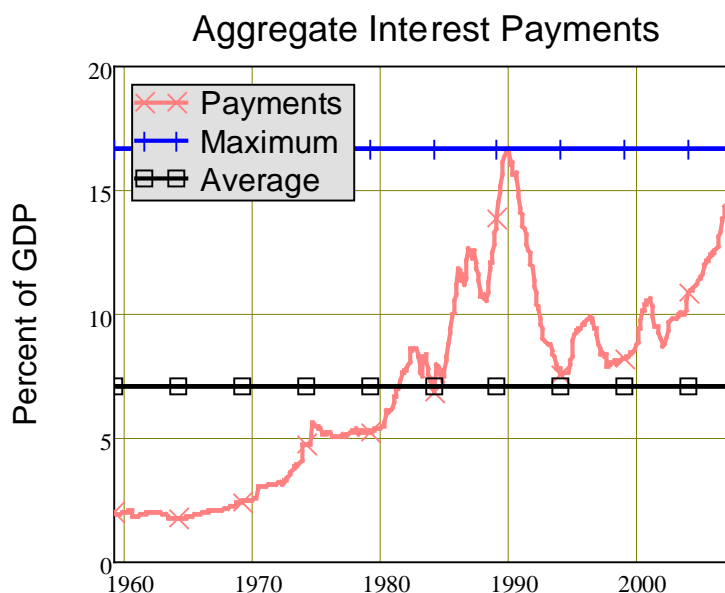


FIGURE 11A: AGGREGATE INTEREST PAYMENTS

However, the 1990 ratio was the highest in recorded history. That's hardly a comforting level to return to—especially since, as we all know, that experience was followed by “the recession we had to have”. It was also more than twice the long term average, and almost ten times the level that applied in 1964, before this long-run debt bubble began.

Disaggregating the interest payment data also challenges the proposition that the increase in debt was simply a rational response by borrowers to a lower level of interest rates. If it was, then all borrowing would have increased. But instead, business borrowing went down as interest rates fell, while household borrowing rose far more rapidly than interest rates dropped (see Figure 11B).

After the shock of 1990, when over 28% of Gross Operating Surplus was needed to pay its interest bill, business then put its financial house in order: by 1994, only ten per cent was needed. That remained the level right out until early 2002, when the first of the recent rises in official rates occurred. Shortly afterwards, business borrowing began to take off once more, in a belated response to the China Boom (see Figure 8). But even so, business debt today is only fractionally higher (as a proportion of Gross Operating Surplus) than it was in 1990, when interest rates were twice as high as today.

Households, on the other hand, benefited from the fall in mortgage rates from the 17% peak of 1990 to under 9 per cent by 1994, which reduced interest payments as a proportion of household disposable income by one per cent (from 4.5% to 3.5%). But starting precisely in 1990, mortgage debt began to blow out, and ultimately grew by over 450% (compared to income) between then and now (and it's still growing). Personal debt followed a later but very similar trajectory, so that aggregate household interest payments now absorb 15% of household disposable income, compared to eight per cent in 1990. In other words, lower interest rates cannot possibly account for all of the growth in household debt – the ‘rational response’ would have kept the debt servicing burden constant.

So, rates halve; businesses now spend half as much on servicing debt; households spend almost twice as much. Yes, in a simplistic way you could split the difference and call the level of interest payments constant. But that's rather like the income distribution joke about an island with a really high per capita income, on which half the population suddenly dies of starvation—because one was a millionaire and the other a pauper. In reality, it appears that business was badly scarred by the rates and debt squeeze of the 1980s, and rapidly reduced its debt levels (both voluntarily and by bankruptcies), while households, which were largely bystanders in the 1980s borrowing orgy, suddenly dived into the debt pool.

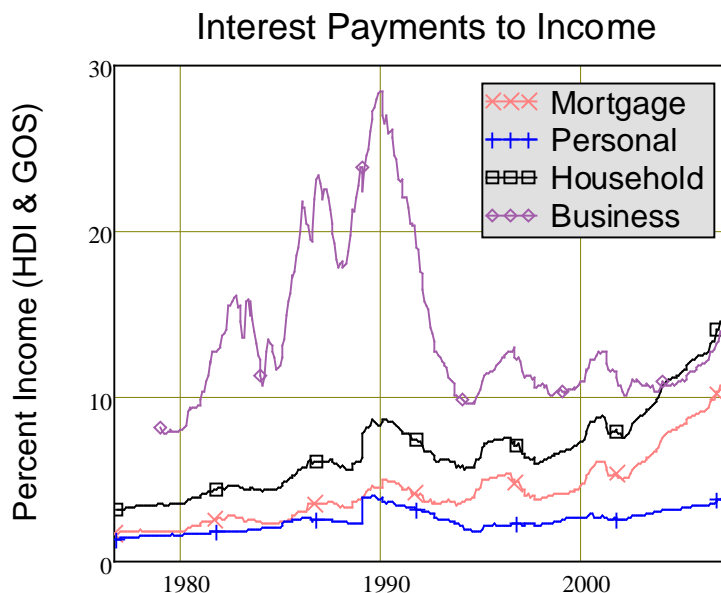


FIGURE 11B: DISAGGREGATED INTEREST PAYMENTS

Higher incomes allow us to support a higher debt burden

Since we can dispense with explanation #1, we can now look at the behaviour of households and of lenders. If the explanation lies with greater ability by households to manage the higher debt products which are being offered by a more mature lending market, then the real disposable income of households after interest payments should be equal to or higher than it was in the past.

However, the data does not support this claim. Figure 12A shows household inflation-adjusted disposable income, before and after interest payments on mortgages and personal loans. Once you adjust for inflation, **households on average are poorer after interest payments now than they were in 2002.**

So even if the better-debt-management explanation were true to some extent, the further increase in debt this decade has outrun the capacity of households and markets to manage it. This suggests the possibility that households may experience a painful debt-shock, similar to that now happening in the US.

Of course, this explanation also ignores the distributional issues: financiers live in households too, and interest (and fee) payments by some households become income for others. When the distributional impacts are accounted for, the debt burden on distressed households is even worse than the aggregate figures imply,

which helps to explain why housing repossessions are up in Sydney's Western suburbs.³ It may also go some way towards explaining the latest Roy Morgan Consumer Confidence Rating:

Fewer Australians, (33%, down 7%) say their personal financial situation is better now than it was last year, while 27% (up 4%) say they are now worse off.⁴

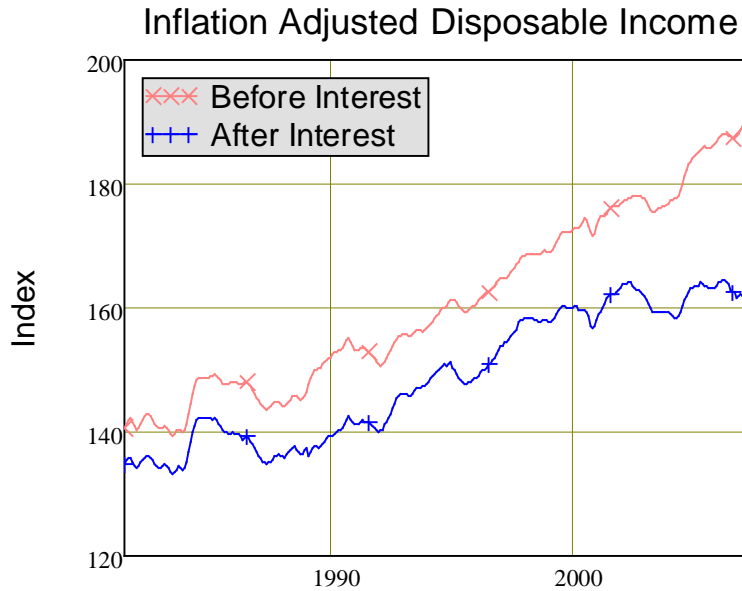


FIGURE 12A: INDEX OF REAL PER CAPITA HOUSEHOLD DISPOSABLE INCOME

The battler households in Western Sydney and Melbourne are unlikely to gain much of their income from shares or interest income: the dramatic shift in income from wages to profits (see Figure 13A) would have reduced their share of aggregate household disposable income significantly.

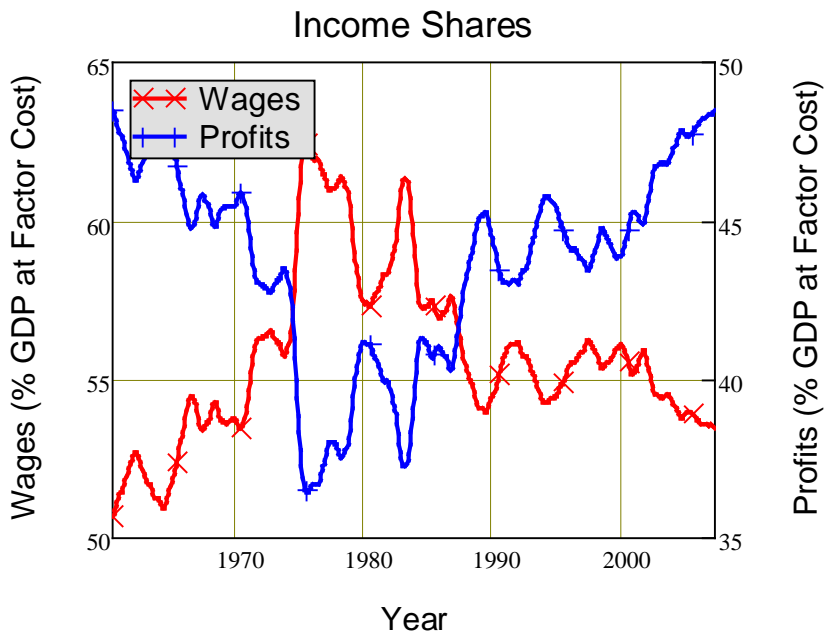


FIGURE 13A: DISTRIBUTION OF INCOME

It also pays to deconstruct the aggregate profit figures, because in a classic case of “some profits are more equal than others”, the shift in the wages-profits share since 1990 is itself partly due to the impact of rising debt levels. As Figure 13B illustrates, having shown no trend at all between 1960 and 1990, the share of income going to finance capital has suddenly blown out in the last 17 years, to almost four times the previous average.

This is a potent indicator of the extent to which financial commitments are a drain upon the more productive sectors of the economy.

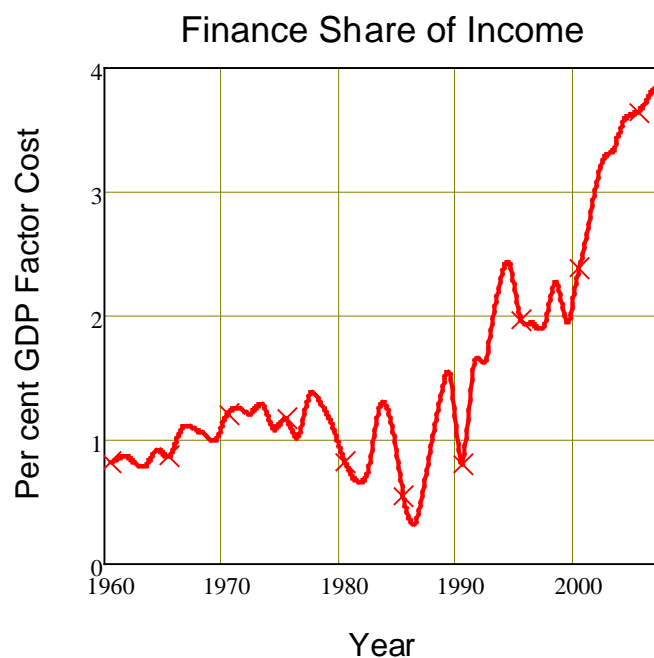


FIGURE 13B: FINANCE SHARE OF INCOME

Profligate households

So lenders have gained, while working households have suffered. But it is still possible that working households have been their own worst enemies (by indulging themselves in McMansions and plasma TVs on borrowed money, with no regard to the day of reckoning when the borrowed money would have to be repaid) and lenders could have been the innocent beneficiaries of their bad judgment.

This question can't be definitively answered simply by looking at the data. Instead, we have to delve into the dynamics of debt creation itself, which I do in the next section. However, the data does provide some guidance as to whether lenders or borrowers are to blame—and it points the finger at lenders.

As Figures 9 and 10 (above) show, there are trends in mortgage and personal loans, but they change significantly over time: there's no real trend in mortgage debt (as a percentage of GDP) until 1990, then it takes off; ditto with personal debt until 1995. Business debt has an obvious exponential trend from 1976 till 1989, but from then on the trend evaporates. These visual cues are confirmed by analysing the correlations

between the debt to GDP ratios, and simple exponential fits to the data (see Correlation Tables 2-4 in the source data in Appendix D).

No such equivocation is necessary with respect to aggregate debt: starting from 1964, the aggregate debt to GDP ratio has grown by 4.2% every year, and the correlation between the data and a simple exponential fit is a staggering 99% (see Correlation Table 1 below; additional tables are in Appendix D).^{IX} There is a higher correlation between the aggregate data and an exponential fit than any subdivision of the data into Business, Mortgage or Personal debt over the full term of the data. One persuasive explanation of this is that lenders were actively seeking out potential borrowers, and when a particular sub-group was exhausted as an avenue for profit growth based on an increase in debt, they moved on to another one.

According to conventional economic theory, borrowers—as rational, self-interested individuals—should choose an optimum level of debt, and it should have no time trend.^X At worst, the ratio of debt to income should move in the opposite direction to changes in the official rate of interest, to keep the debt repayment burden at some borrower-determined optimum level. So conventional economic analysis cannot make sense of either the obvious trend in the aggregate debt data, or of the logical implication of this trend: that the level of debt incurred is more strongly determined by lenders than borrowers. Therefore the conventional economic theory of money and debt must be missing something.

<i>Variable</i>	<i>All credit</i>	<i>All credit</i>	<i>Business</i>	<i>Mortgage</i>	<i>Personal</i>
Start date	1954	1965	1977	1977	1976
End date	2007	2007	2007	2007	2007
Growth rate	3	4	3	6	3
Correlation %	99	99	74	98	88.5

CORRELATION TABLE 1: DEBT TO GDP

Irresponsible lenders

Understanding the dynamics of debt creation necessitates an excursion into economic theory—both conventional and unconventional. For those who would prefer to avoid such suffering, the conclusion of this section is that lenders are primarily responsible for the explosion in debt and credit: a deregulated credit

IX There are problems with using standard statistics methods to analyse economic data, but such reservations do not justify ignoring regressions that return correlation coefficients like those in the tables below.

X There are some rational reasons for an upward trend over time. Housing could be a 'superior good', which we're willing to devote a higher proportion of our incomes to as our earnings increase; there could be limits on supply but not demand (e.g. "everyone wants to live in the inner city") – so it can continue to be a 'rational' decision by an individual borrower to increase their debt burden right up to the maximum that they can afford to service and still eat to purchase a home that they believe they *need*. But the rise in debt far exceeds the level that can be explained by such rational behaviours.

system will provide as much debt as it can up until such a time—as now—that the level of debt causes a financial crisis. For those who'd like to know more about how lenders actually create money through their loans, read on!

The standard story: “Deposits create loans”

The standard explanation of how money is generated argues that banks can only create credit if the government “kick starts” the system, effectively by creating cash that a citizen then takes to a bank for safe-keeping. Once the citizen has deposited that government-created “fiat” money, the banking system can create additional credit-based money via what is known as the “money multiplier” (see Appendix A for details).

This story has the banker sitting anxiously, waiting for a customer to walk in the door and make a deposit of government-created cash, before the banker can then begin the credit money creation process. Once the essential deposit has been made, the banking system can weave its money multiplier magic; but without the deposit, the banker—and the banking system—is impotent.

Does that sound like banking to you? It barely has credence as a description of the 1960s, let alone today's “would you like a \$25,000 credit limit with that?” world of banking.

A relatively new school of thought in economics (see the Bibliography) argues instead that banks have the power to create money, even in the complete absence of government money. In this “endogenous money” vision of how the financial system operates, rather than “deposits create loans, it is “loans create deposits”, and the mechanism is far more straightforward than the “money multiplier” story.

The real story: “Loans create deposits”

Think of your own credit card. If your balance is sufficiently below your limit, then you are completely at liberty to go to (say) Harvey Norman and buy a new widescreen TV. When you do, your debt to the bank is increased by the cost of the TV—and an equivalent amount of money is simultaneously created and deposited in Harvey Norman's bank account.

There is absolutely nothing stopping you from doing that, right out to your credit limit (apart from personal financial prudence!), and the same observation applies to every other credit card holder in Australia. If we all went out and did something similar tomorrow, we would increase the money supply by over seven per cent overnight. Taking advantage of the loans that we have every right to take out (the gap between our credit card balances and card limits) instantly and simultaneously creates both new debt and equivalent deposits in the accounts of the lucky retailers who swiped our cards.

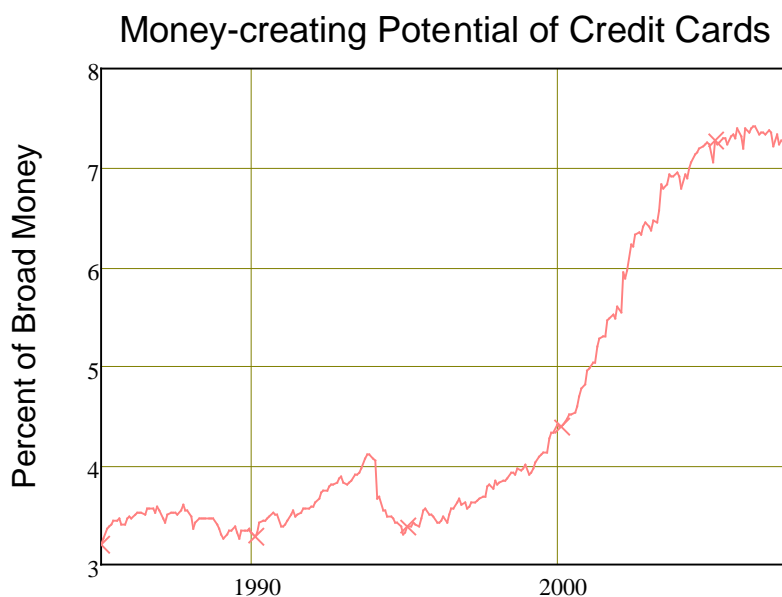


FIGURE 16A: CREDIT CARDS AND MONEY CREATION

The same mechanism applies to the financial system in general: loan-issuing entities grant their customers the capacity to create both money and debt simultaneously, without the need for a prior deposit of money to set the process off. That capacity exists in the contracts it ordinarily writes with borrowers to supply credit on demand.

If a small business expands its overdraft, it expands its debt to the bank and simultaneously creates an equivalent deposit in the account of whoever it made a payment to. Ditto at the “Big End of Town”, where most major corporations have a “Line of Credit” (normally with consortiums of banks). If a company expands its use of this facility, it increases its own debt to the bank(s) while simultaneously creating deposits in the accounts of those to whom it made payments.

Loans thus create deposits, and the process is instantaneous—unlike the time-lagged process described in the conventional “deposits create loans” story.

Of course, the “deposits create loans” process co-exists besides this “loans create deposits” mechanism, in that banks can use deposits of government-generated money (mainly cash these days—see Table 15B) to generate even more credit. But government-created money simply plays second-fiddle to the private money creation process—and it has clearly been a laggard as well, given the drift in the ratio over time.

Therefore the “money multiplier”, rather than being something the government has any influence over, is simply a measure of the extent to which credit-money creation dominates the fiat money system. If we did indeed all go out on a credit card splurge tomorrow, then Broad Money would rise seven per cent, the ratio of Broad Money to the Money Base—the so-called “Money Multiplier”—would leap by 1.5 overnight. And there is nothing the government could do to prevent it.

For better or for worse then, the private financial system is predominantly in control of the amount of credit money in the system, and the amount of credit it will create depends on the contracts it is willing to write, to provide credit to those who request it.

The better side of this—perhaps—is the degree of innovation this inspires credit providers to undertake. The worse side is that nothing short of a systemic crisis will limit the amount of credit money and debt that the financial system is willing to generate—if only it can find borrowers willing to bind themselves to pay the interest bill the debt commits them to. If you define responsible corporate behaviour as that which is sustainable over the long term for both the finance sector and its customers then most lenders are, by definition, irresponsible.^{XI}

The answer to the “who’s to blame” question is thus “irresponsible lenders”, rather than “profligate borrowers”. But that’s only half the story: a crisis can only eventuate if irresponsible lenders meet gullible borrowers. Unfortunately history gives us no reason to be confident that individual borrowers understand the system and their part in it well enough to make sensible and sustainable decisions. The fact that the financial system will lend as much as borrowers demand means that we can’t rely—as we have been doing—upon deregulation and self-regulation to control the financial system. But the system itself can’t get out of control unless there are other factors that entice borrowers to indulge in levels of debt that, ultimately, turn out to be ill-advised. Fortunately for the fraudulent and shonky operators who exist in any financial system, but unfortunately for the rest of us, those factors exist, and they’re at the very core of our modern economic system. They are the secondary market for assets, and in particular, the share and housing markets.

The “fallacy of composition” that supports the speculative bubble

Over the last 25 years, shares and property have regularly swapped billing as the topic du jour at any well-to-do Australian dinner party. From 1983 till 1987, it was shares; then with the 1987 Stock Market Crash, only impolite persons discussed them—property was the new talking point. After a lull during which Paul Keating’s intemperate use of words filled the void, shares took over in 1995 (though nowhere near as much as they did in the USA) until the “Tech Wreck” arrived mid-2000, when the property bubble reappeared, stronger than ever.

XI For the technically minded, the mechanics of the private money creation process, and the basis for this conclusion of innate irresponsibility, are explored in Appendix A.

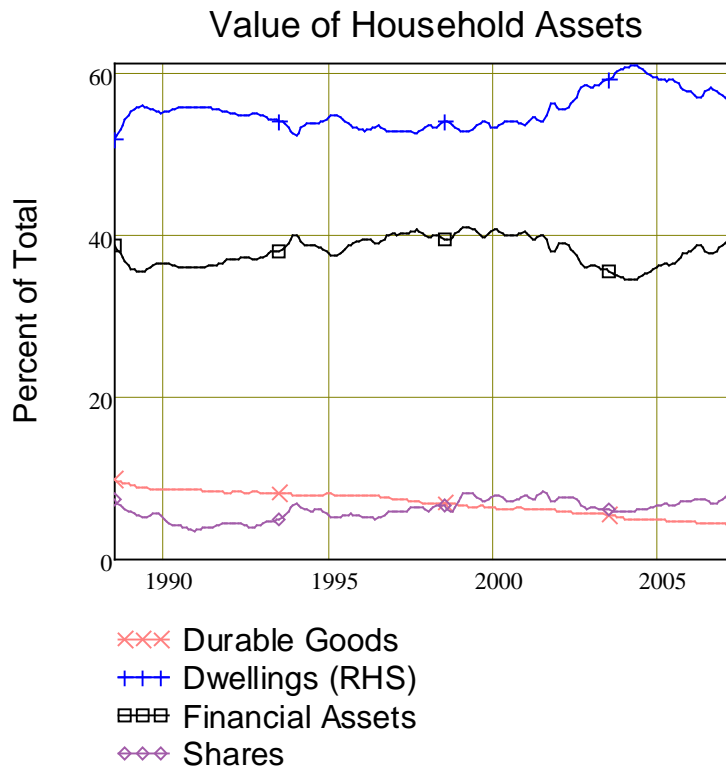


FIGURE 17A: HOUSEHOLD ASSETS—THE AGGREGATE PICTURE

The sheer volatility of these asset sub-classes is masked in the aggregate data, so it's worth breaking them out individually to emphasise just how volatile they have been (see Appendix D for breakout graphs). Throughout the last 20 years, the one constant is that we have devalued, relatively speaking, physical commodities: while some commentators might decry us as a consumption-obsessed culture, the reality is that we are obsessed, not with commodities, but with assets.

Despite attempts by some well meaning politicians to make us into “a nation of shareholders”, Australians still see “bricks and mortar” as the soul of investment. This can be explained by many things: not least the emotional attraction of the perceived security of owning your own home, especially in an environment where public housing is scarce and rental contracts strongly favour the landlord (as discussed under ‘Policy recommendations’). The dwellings share of total household assets reached what may be its all-time apogee in early 2004.

“Financial Assets” are a grab-bag that includes bank deposits, life insurance and pension funds, and unfunded superannuation claims, as well as shares. Despite the emphasis placed on the share market, shares make up less than 20% of the total; deposits have trended down from 30% to 20%, while life insurance and pensions have trended up from 30% to 50% (see Tables 17D&E online for the details). Rather like a modern-day celebrity, shares are relatively tiny, over-rated, and hyper-volatile.

The irony of our fluctuating fixation on different classes of assets is that, after 20 years, the relative valuation of what we have inside our houses, compared to what we have outside, has moved not one zot. In 1998,

our houses plus contents made up 61.3% of our aggregate worth; in 2007, they make up 60.6%—we've just shifted the household balance from whitegoods to bricks and mortar.

What has moved—and by a lot more than one zot—is the ratio of assets to income. We have virtually doubled the ratio over the last 20 years, and not by increasing the quantity of assets (which could be a good thing) but primarily by bidding up their values in a debt-financed speculative frenzy. What superficially looks like a plus—an increase in our assets—is, on closer inspection, a sign of mass delusion. Nowhere is this more obvious than in the housing market.

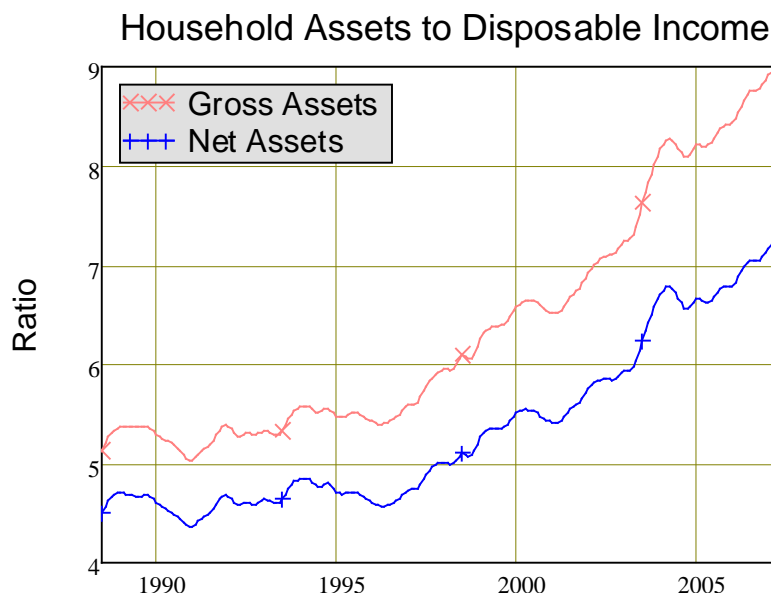


FIGURE 18: AN APPARENT RISE IN WEALTH

Our obsession with housing

For a country so firmly sold on the dream of home ownership, the good news is that we have built some houses in the last decade: the number of houses in Australia has increased at a rate of about 1.7% p.a. since 1996. **Our rate of home ownership however, dropped slightly between 1996 and 2006** (the percentage of houses either owned outright or being purchased went from 66 to 65).⁵ In fact our home ownership rates have hovered around 70% for several decades.⁶ But nonetheless, by 2005 (the last year for which housing stock data was available), there were 17% more houses than in 1996.

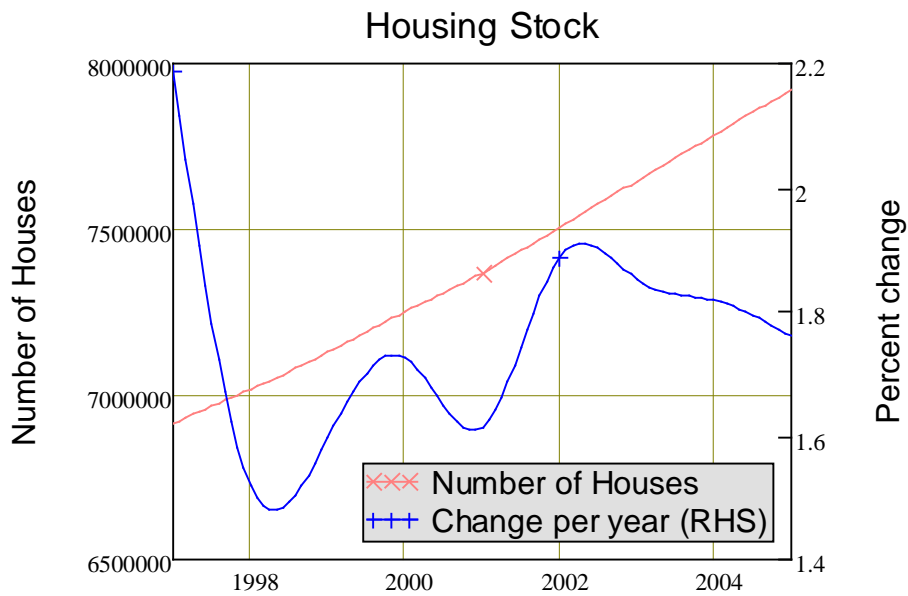


FIGURE 19A: A REASONABLE INCREASE IN THE NUMBER OF HOUSES

However, that is nothing compared to the increase in the price of housing over the same period: it has risen 128% (See the source data in Appendix D for the index in Chart 19B). A comparison of the rate of change of value to the rate of change of quantity, as well as the ratio of rental income to interest payments (see Figure 19E) makes it obvious that what we were doing in the last decade was speculating on the price of houses—not building or investing in them. The rate of increase in housing stock is virtually a flat line, compared to the rate of change of prices—which looks more like the heartbeat of a dancer on ecstasy.

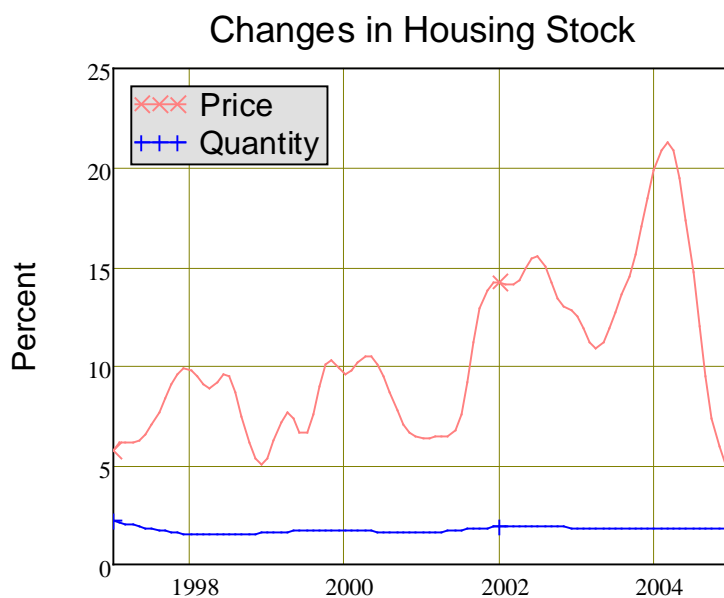


FIGURE 19C: STEADY BUILDING VOLUMES, BUT VOLATILE PRICES

Of course, the drug fuelling the house price dance is not ecstasy, but debt. While the party drives prices ever higher, it pumps debt further still. House prices are two and a half times what they were in 1996; but mortgage debt is five times what it was.

Can the party and the euphoria last forever, or will it end with feelings, not of euphoria, but depression?

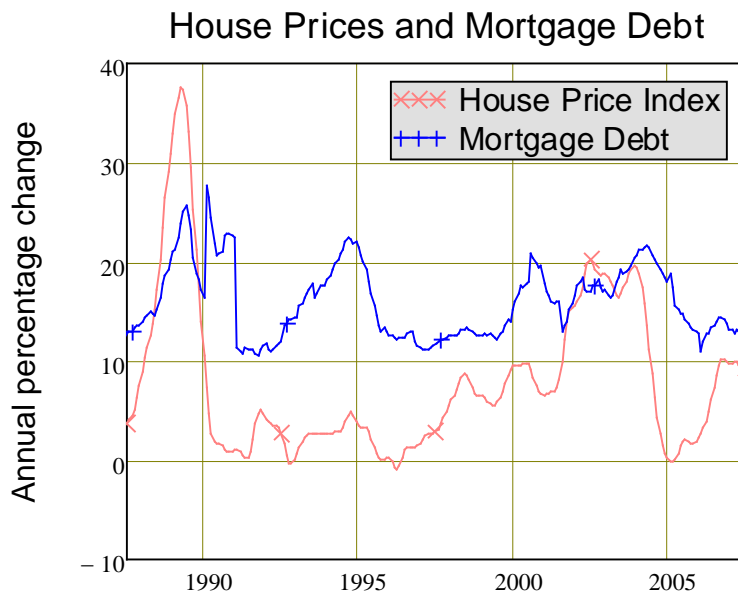


FIGURE 19D: DEBT BUBBLING ABOVE THE PRICE BUBBLE

Prices and debt: illusion and reality

There's no doubt that the debt is real: the mortgages exist, and have to be financed. When you say "I owe \$300,000 on this house", you literally mean that you have a debt of that size, secured against your property, which requires you to pay a regular interest payment, based on that debt, to a financial institution. Though economists conventionally describe such issues as belonging to the monetary rather than the "real" economy, there are few things more real than a mortgage.

But what about the alleged value of the house against which that mortgage is secured—and the aggregate value of all houses? Is it really true that the average house now is worth two and a half times what it was just 11 years ago?

Not on your nellie! The imputed increase in the value of houses is an illusion: it is a "paper profit" that could never be realised in practice, because the housing market is not sufficiently liquid. The price index is computed by applying the most recent sales data to all comparable houses; it assumes that, if all those houses were put up for sale at once, they would fetch the same price.

If houses turned over as quickly as manufactured goods do, this wouldn't be a problem: the annual sales volume of manufactures far exceeds the stock outstanding at any one time (in 2004, the ratio of annual sales to stock was 23:1). There's no major problem in valuing the outstanding stock of manufactures at the price that goods are currently selling for, as the ABS does.

But to apply the same standard to estimate housing wealth is nonsense, because, to use this figure as the RBA does—to say that the increase in asset values counterbalances the increase in debt—implies that the entire housing stock could be liquidated for that amount of money at once.

Of course, that isn't true: liquidation of the entire stock of houses today would bring house prices crashing down—the apparent gap between asset values and debt would disappear. If we are to compare assets to debt, then the comparison has to be modified to compare the stream of income the assets generate to the stream of interest payments that the debt obliges us to meet. There are two ways that this can be done: by developing a measure of asset values based on the income those assets actually generate (the return on investment); or by developing an index that adjusts the value of assets based on how liquid those assets are.

An income-based index of the value of housing stock would not be a pretty sight, certainly when compared to the enormous surplus of household assets over liabilities that is shown in Figure 4. We can get some idea of what it would look like from Figure 19E, which shows the flow of rents (actual rents plus implicit rents calculated for owner-occupied housing). **Rather than showing that the value of dwellings far exceeds the debt secured against them and is ever growing, it would show that the gap peaked in 2000, and is now closing rapidly.**

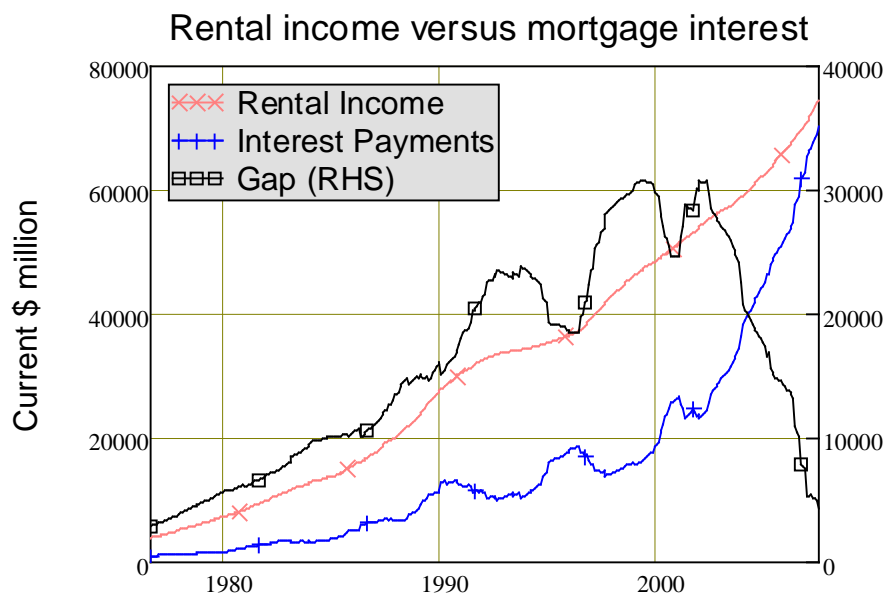


FIGURE 19E: THE REAL VALUE OF DWELLINGS?

Unfortunately however, the ABS measures the value of dwellings the same way that people in general value assets, simply by multiplying the stock of houses by the average market price—and they calculate the latter simply by asking owners what they think their houses would sell for! The ABS measure thus ignores both the true income-earning capacity of houses, and their illiquidity.

You can ignore illiquidity to some extent when valuing your own home; but as a society, we can't ignore it when valuing the aggregate stock of houses—because the current sale price depends on only a tiny fraction of houses actually being sold at any one time. Even at the peak of the recent boom, less than nine per cent of the

housing stock was sold each year^{XII}—yet financing that tiny fraction of sales increased mortgage debt by \$92 billion. The market is actually much narrower than people think: it only sustains momentum if just a tiny fraction of potential participants actually take part. If we all tried to “cash in our chips” at once, the housing market would collapse.

That is indeed why the valuation of assets in general is so volatile and so fragile, and why price bubbles in asset markets always do collapse:

- » the debt that fuels the price bubble rises faster than prices;
- » maintaining the bubble requires a further increase in debt that participants are ultimately either unwilling or unable to finance; and
- » they—and the crowd that has been standing on the sidelines watching their apparent wealth accelerate—rush to sell at the peak of the bubble. The flood of new sellers bursts the bubble—but leaves the debt intact.

We may not have reached bursting point for the housing bubble yet—such points are only obvious in hindsight in housing, since the sales process is so lengthy, and the market so disaggregated (compared to the sharemarket). But we must get there at some point, for one or more of the following three reasons:

- » the super-exponential increase in debt that has caused the house price bubble has substantially eroded the net equity that Australians have in their houses, leaving less room to extract more equity via further increases in leverage;
- » the rise in prices can only continue if new buyers are willing to take on even more debt than the previous cohort did, yet both prices and debt servicing costs are already well into record territory relative to incomes; and
- » the perception that the bubble may have peaked will cause potential buyers to remain on the sidelines, while simultaneously encouraging anxious and opportunistic sellers to sell now to convert paper profits into actual ones.^{XIII}

Of these three reasons, the most important is number two, because it marks this as a classic “Ponzi Scheme” that is now due for bursting (see Appendix B for the story of Ponzi and his original scheme).

XII The sales to stock ratio in manufacturing is more than 250 times the ratio for the housing market—see Figure 20B in Appendix D.

XIII The anxious seller factor is often the most important in a standard bubble, but is likely to be least important here, given how illiquid the property market is.

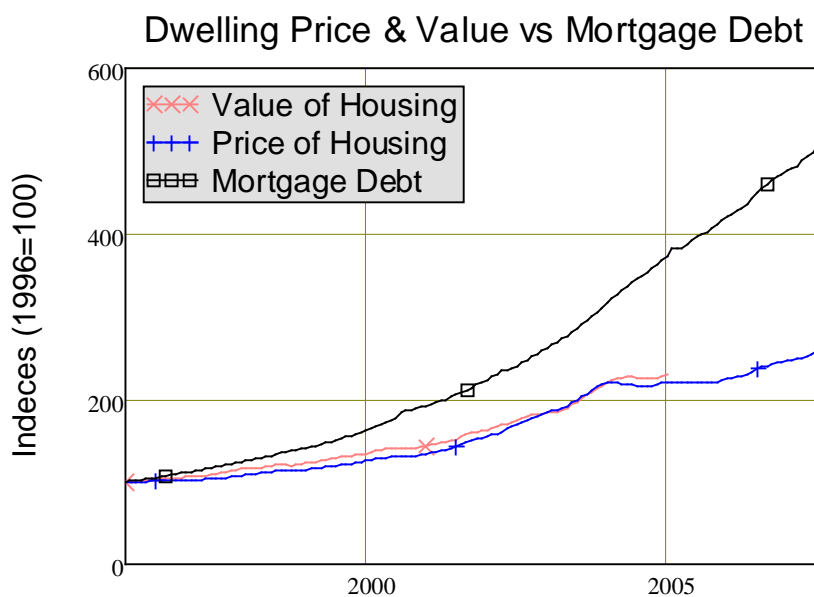


FIGURE 20A: DEBT TRUMPS PRICES

Australian Real Estate: the 80% Ponzi Scheme

A Ponzi Scheme is in essence a scam to make money while actually producing nothing, through the transfer of funds from later entrants in the scheme to earlier ones. As such, it is at best a “zero sum game”—normally substantially less than zero sum, when the costs of the promoters are deducted (and even more so when, as they normally do, the promoters abscond with as much of the loot as they can lift). It can work only for a subset of those who get involved—and normally a very small subset. It works because either:

- » some participants directly transfer money to others (Type I), or
- » some participants borrow money, hand the borrowed funds over to other participants, and then have to meet the debt repayment commitments out of their own income (Type II).

Ponzi's own scheme was the former, and purer type. Money was made by transferring money from later depositors to earlier ones, which could work only so long as deposits by later entrants grew faster than Ponzi's obligations to those who had deposited 45 days earlier – and so long as his customers did not become too “anxious”, as noted above.

There is no necessity for real estate to be a Ponzi Scheme. If the industry produces houses to rent or sell to a growing population, or reconfigures them to suit its changing composition over time, or even helps people relocate from one area to another as their living circumstances change, then it is as worthwhile and as valid an industry as any other. But the more it is focused, not upon growth, reconfiguration or relocation, but upon reshuffling the ownership of the existing stock of houses simply for speculative reasons, the more it resembles a Ponzi Scheme.

Australian real estate has become progressively more Ponzi-like over time as the proportion of borrowing used to finance actual housing construction dropped, relative to that used to re-purchase existing houses.

Given that the proportion of borrowing that is used to finance actual housing investment has dropped to just 7% of the total, it could be described as 93% Ponzi; but that of course is an exaggeration, since part of the purchase of existing housing reflects a genuine need for some owner-occupiers to relocate (and, shock horror, there are some landlords who actually make a profit from renting).

A better guide to its Ponzi status probably comes from Figure 5A, which shows the ratio of housing lending to GDP. The gap between its lowest level—in 1987—and its highest gives some gauge of the level of speculation in real estate.^{XIV} Even at its lowest, part would have represented speculation rather than relocation; but if, for argument's sake, we treat the lowest level as representing pure relocation, renovation, etc., and the margin above as speculation, then Australian real estate is 80% Ponzi.

Obviously real estate is a Type II Scheme: it works because later entrants are willing to borrow larger amounts of money than earlier entrants, and when they purchase, they pay that (plus some of their own funds) over to the earlier cohort. The Scheme's promoters and financiers (real estate agents and lenders) cream off both fees and interest income in the process.

It's not quite true that nothing is being produced—some of the houses are rented out, and owner-occupiers get a stream of residential services in return for their debt payments, simply by living in their houses. But ultimately the Scheme can only be kept alive by sustained borrowing, and sure enough, **debt has risen much faster than house prices, so that our net equity in housing has fallen, even as asset values and prices have risen.**

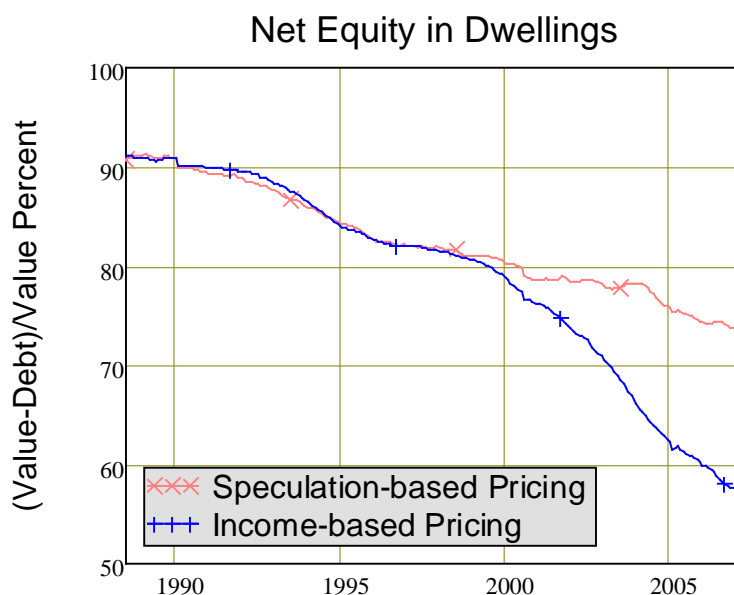


FIGURE 21A: RISING VALUE BUT COLLAPSING EQUITY

XIV The data set on which it is based only goes back till 1986, but it reached its lowest level in 1987 when the overwhelming focus of speculation was the stock market, rather than real estate.

Our obsession fuels our addiction: why we believe that we're borrowing to invest

There are two aspects of the Real Estate Ponzi Scheme which make it appear temptingly sound. The first is the perceived gap between the notional value of real estate, and the mortgage debt owed on it. The second is the belief that the price of real estate will always rise faster than either commodity prices or incomes. The two factors of course compound on each other, but the former has more appeal to the lenders, the latter to the borrowers.

In the gap between apparent equity and debt, lenders see a margin which superficially ensures that, if a particular borrower fails to meet the mortgage commitments, the secured property can be sold to recoup their losses. Borrowers see a reservoir of wealth that can be tapped either for consumption now, or as a base to finance leveraged speculation on other assets.

The expected permanent margin between the inflation rate for real estate and commodities is the main engine of the scheme. The belief that this can exist forever is a classic fallacy of composition: **while an individual can successfully make a fortune from a lifetime of buying and selling capital assets, society as a whole cannot.** Ultimately, the only way that society as a whole can pay for capital assets is via income—especially if those assets are being purchased using borrowed money. A permanent disconnect between real estate prices and commodity prices is thus impossible, because ultimately the source of all income is the sale of commodities. But a disconnect can develop for an extended period of time, especially if, historically, gearing levels were quite low—as they were in 1950s Australia.

Are we at bursting point?

Of course, this is not Australia's first housing bubble: previous ones have deflated, only to be followed by another.^{xv} However, none of the post-WWII bubbles have pushed the Ponzi indicators anywhere near as far as has this last one. The two strongest indicators that it is due for not merely a cyclical but a secular bust are the dwindling steam in the Scheme's two main boiler rooms: the margin between apparent equity and debt, and the historic level of the debt servicing burden.

Firstly, when this bubble began in 1990, mortgage debt was equivalent to less than ten per cent of the imputed value of dwellings, and Australia's net equity in housing was therefore very high. During the bubble, since mortgage debt rose far more than house prices, the mortgage debt to equity ratio is now over 26%, and net equity in housing has fallen to under 75% (see Figure 21A).

XV The 1989 burst is probably the one most remembered today—see Figure 19D for the price data—but there were earlier ones. The bursting of a combined stock and real estate bubble in 1973 is somewhat forgotten, but its echo remains in one of the two obvious blips in the debt to GDP ratio in Figure 1; there was one in the Great Depression; and the long forgotten bursting of 1890s Melbourne bubble may be the biggest in our history—see Fisher and Kent's excellent discussion of this.

While this is still an apparently wide margin between assets and equity, as noted earlier, the asset valuation side of the equation ignores the illiquidity of houses. A 75% margin gives a much lower buffer to lenders in the event of default than the previous 92% margin did: should defaults and forced sales accelerate and necessitate a substantially higher volume of sales relative to housing stock, the “illiquidity trap” aspect of the housing market could bite, driving housing prices substantially lower.

That net equity in housing has fallen even with respect to unrealistic asset prices is part proof that real estate is a Ponzi Scheme. But the situation is even worse when one considers the income-based valuation of housing: using that measure, the erosion of equity has been so great that the net equity cover has fallen to under 60%.

Secondly, though we have yet to return to the crushing interest payment burden of 1990 (when the cash rate was 17%, and the weighted average interest rate was 20%), we are well within cooee of that level. Without cuts in interest rates, we’ll be there within 18 months—if debt continues to grow as fast as it has in the last three years (compared to GDP).

We know what happened the last time the interest burden reached that level. To believe that it won’t happen again, we have to hope that somehow the distribution of the burden will lessen the aggregate impact. Last time, the burden on households was a mere 8.6%t of disposable income, whereas businesses had to devote over 28% of Gross Operating Surplus (GOS) to paying interest on outstanding debt. Today, business has it relatively easy, at 14.5% of GOS. But households have to devote 15 cents out of every disposable income dollar to interest payments—a historically unprecedented level. Can they cope with 16 and 2/3rd cents in the dollar? They’re going to have to, if Australia’s Ponzi Scheme is going to continue.

But what happens if they can’t cope?

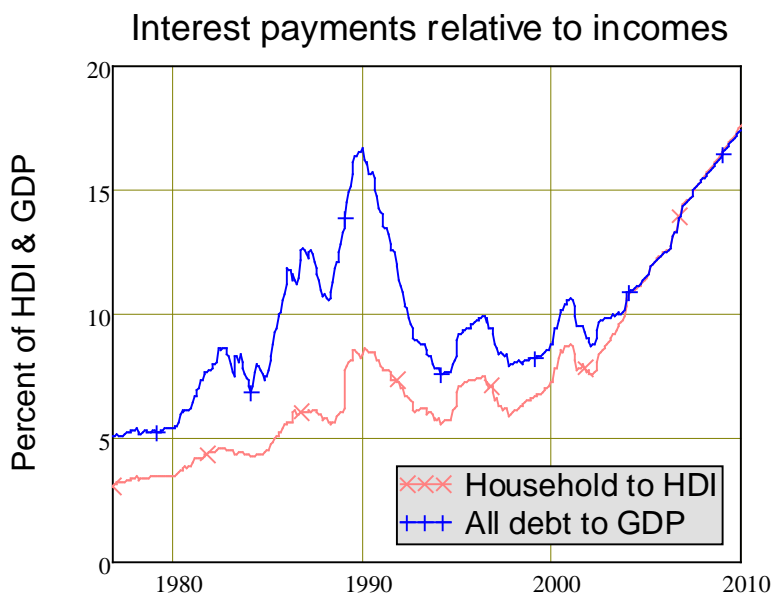


FIGURE 21B: HISTORICALLY HIGH INTEREST REPAYMENT BURDENS

Can we avoid a bust by cutting interest rates?

The last time that debt drove the Australian economy to the wall, we got out of it by drastically cutting interest rates. When the Australian economy tanked in 1990, the government rapidly reversed its previous rises in official rates, and simultaneously, businesses reduced their debt levels so much that Australia's debt to GDP ratio actually fell for two and a half years. By then, households had well and truly taken the borrowing baton over off business, and Australia's debt addiction continued unabated.

If the interest repayment level of 1990 really is "the wall" for Australia, and the economy goes into recession once more due to excessive debt, can we nonetheless "do it again"? Can we simply cut interest rates, return to the good times, and keep on borrowing regardless?

The short answer is "yes": Obviously, if interest rates fall, the debt financing burden falls too. If rates fall low enough, interest payments will become manageable again for all but the least worthy borrowers, and both the economy and our debt addiction can "return to normal".

The long answer includes the rider "but this can't go on forever". To see why, we need to read the roadmap of Australia's complicated debt and interest rate journey of the last 40 years.

Figure 22A provides that roadmap. The horizontal axis shows the debt to GDP ratio; the vertical shows average interest rates. Obviously, many combinations of interest rates and the debt ratio will result in the same proportion of GDP going to interest payments: the smooth lines on the graph show three such "interest payment isobars". The one closest to the axes shows combinations of average interest rates and the debt ratio that cause interest payments to account for 2% of GDP; the next shows the combinations that cause an 8% payment level; and the one furthest out shows 16.7%—the peak level that applied back in 1990.

The black line plots the actual debt and interest rate path that Australia has taken between 1959 and today, while the solid red symbols on this route mark the decades 1970 through to 2000, as well as the present day. Though on first glance it looks like the walk of a "drunken sailor", there is a pattern to it.

The period from 1959 to 1970 involved relatively tiny movements in both debt and interest rates—though both generally increased. From 1970 till 1980, interest rates rose by over 40% (from 8 to 11.5%), while the debt to output ratio rose even more—by 52% (from 31% of GDP to 48%).

The decade of the 1980s made the previous decades seem like standing still: both interest rates and the debt ratio rose by 75% (rates rose from 11.4% to 20%; the debt ratio rose from 48% to 83%).

Then all hell broke loose. Having driven official rates up in an attempt to restrain the speculative boom of the 1980s, the government dropped them even more rapidly as the economy plunged into recession. Simultaneously, the debt to GDP ratio fell, as the worst corporate cowboys of that era went bankrupt, and the corporate survivors suddenly discovered financial prudence.

By early 1994, this retreat from high rates and debt had reduced the interest payment burden to under 8% of GDP—the level it had been when the 1980s bubble began in 1984. The economy was growing once more, and the RBA began to move official rates up again, to a peak of 7.5% just prior to the 1996 election—and commercial rates moved in concert, peaking at 11.3%. The debt ratio then began to rise in earnest once more: having fallen from 85% in 1990 to 79% in late 1993, the current bubble began in earnest, as the ratio all but doubled in the next 14 years. Now the RBA is once again pushing up rates—to control what it sees as a dangerous rise in inflation—and once again we’re approaching that 16.7% pain barrier.

This history gives some “rules of thumb” about what to expect in the future. I’ve already drawn the implication from the 1990s recession that a debt repayment burden of 16.7% is unsustainable; it can also be argued that a burden of 8% is low enough to both revive a debt-stressed economy, and entice borrowers back into the debt market. In effect, if 16.7% is the ceiling at which debt servicing will trigger a recession, then 8% is the level at which our debt binges begin.

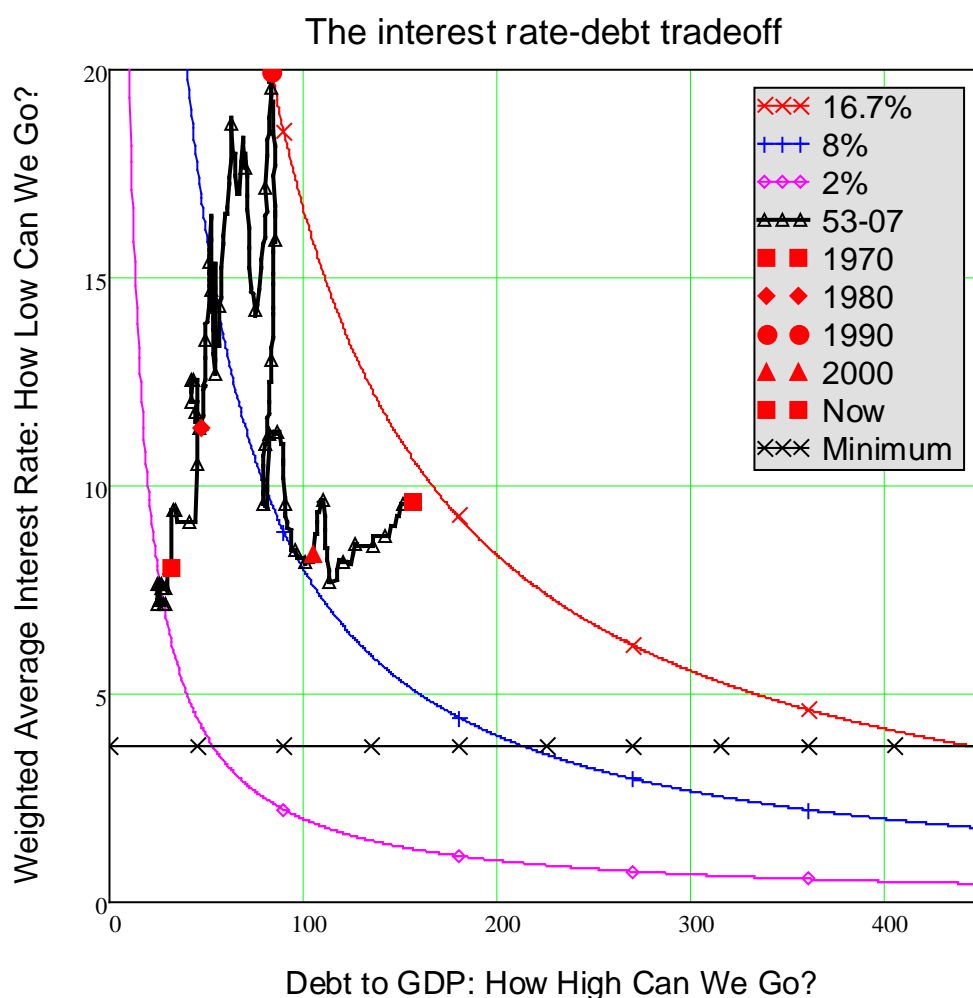


FIGURE 22A: THE INTEREST RATE-DEBT STRAIGHTJACKET

With average interest rates of about 9.5%, and a debt ratio of 156%, the current debt stress level is 15%—not quite the ceiling, but close enough to be a worry. If the economy fell into a recession tomorrow, and the RBA tried to revive it once more with interest rate cuts, average interest rates would need to fall to about 5% to “let the good times roll” once more.

And therein lies a problem: the absolute floor to commercial rates is only slightly below this level, because of what is known as the “zero lower bound problem”. Commercial rates have to be set at a margin above official rates—otherwise lenders wouldn’t make a profit from lending—and official rates can’t be set below zero. Over the last two decades, the average margin between commercial and official rates has been 3.75%—so we can regard 3.75% as the absolute minimum level to which average rates can fall. That level is shown on Figure 22A as the “Minimum”.

That in turn gives us some idea of the maximum level of debt that we can sustain and still experience “good time” conditions: it’s a debt to GDP ratio of roughly 210%.

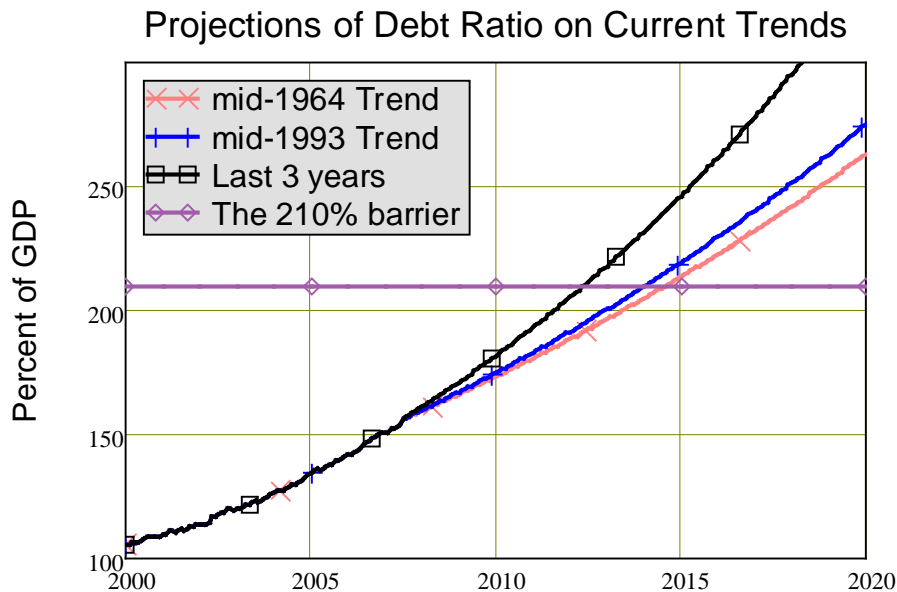


FIGURE 22B: WHEN THE GOOD TIMES WILL BE OUT OF REACH

The good news is that we could return to the “good times” level of interest payments tomorrow—if the RBA was willing to cut official rates to 1.75%. The bad news is that, if the debt ratio continues its upward climb, then in a very short period of time, the good times will be out of reach even with an official rate of zero.

If the trend of the last three years continues, then by 2012, reducing the interest payment burden to the “good times” level of 8% of GDP would require an official rate of zero. Even if the somewhat slower rate from 1964 till now applies, we’d reach that dilemma in 2015.

Of course, Australia has coped with a debt stress level of more than 8% in the past, so we could presumably increase the debt ratio past 210%, and do it again. But we’ve yet to show that we can sustain a debt stress level of more than 16.7%—and therein lies the rub. Given the historic margin between commercial and official rates, a debt ratio of 450% puts us through the debt stress ceiling, even with zero official rates.

A debt to GDP ratio of 450% might seem like an inconceivably far off target, but if the trend rate of growth of the last three years continues, we’ll hit it in 2025—before any babies born today turn 18.

What might “Generation Why?” think of its parents who let that happen—*if* we let it happen? So the long answer is “No, we can’t paper over it yet again.”

Facing up to the problem

The very least that we have to do is to stop borrowing faster than our income is growing. This isn't quite "hitting the brakes", but trying to ensure that the rear wheels of the Australian economy aren't forever spinning faster than the front ones. This is hardly a radical target—it would accept that in perpetuity, our debt ratio should freeze at about 160%, the highest it has ever been in our history. But it nonetheless involves a substantial change in behaviour: if we achieved it, then by 2020 aggregate debt would be less than half the level it's on target for now, if the rate of growth in debt of the last three years keeps up.

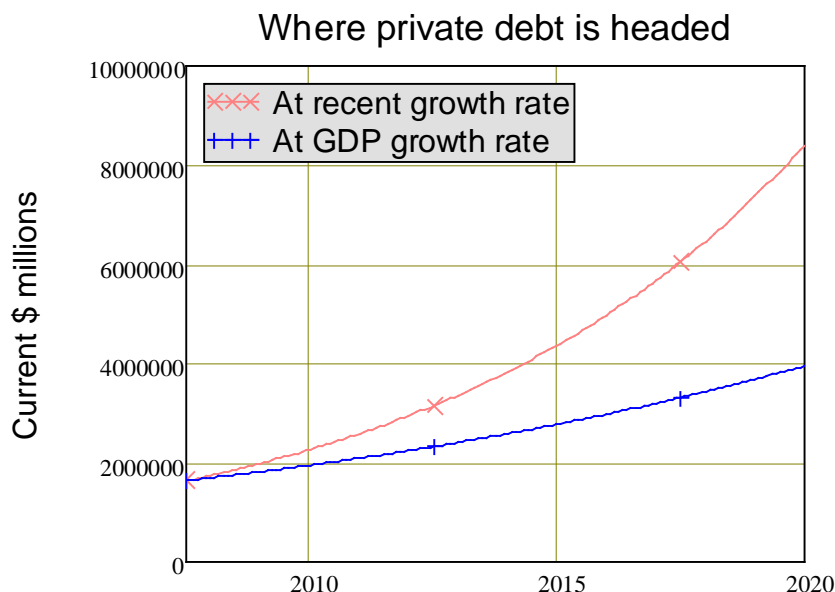


FIGURE 23A: A RESPONSIBLE OR IRRESPONSIBLE FUTURE FOR BORROWING?

This change couldn't be achieved without a large amount of pain, in terms of the aggregate level of spending within the economy. As I noted in the introduction, aggregate spending is the sum of income plus the change in debt. Reducing the rate of growth of debt from its current level of 15% to the seven per cent rate of growth of nominal GDP would mean a reduction in spending next year, compared to the current trend, of over \$100 billion. That is equivalent to an eight per cent reduction in aggregate demand compared to trend, and would have the same impact on the economy as a ten per cent fall in nominal GDP. This realisation is why I first observed in early 2006 that an eventual recession is inevitable—and why, in mock honour of Keating's famous phrase, I gave it the moniker of "The Recession We Can't Avoid".

Date	GDP	Debt	Debt Ch.	Sum	Balanced Debt	Sum
2009	1,119,143	1,864,887	228,727	1,347,870	1,755,787.0	1,238,770.2
2010	1,200,969	2,125,588	260,702	1,461,670	1,884,160.4	1,329,342.2
2011	1,288,777	2,422,735	297,146	1,585,923	2,021,919.8	1,426,536.4

FIGURE 23B: BORROWING LESS MEANS SPENDING LESS

Of course, the above analysis implies that we can make a conscious decision about what to do. Recent events in the USA make it clear that, when a credit bubble bursts, it, and not policy-makers, “decides” what form the bust takes. The crunch in the USA has been particularly ugly, both in terms of its disastrous personal impact on subprime borrowers, and its sudden devaluation of the supposed Crown Jewels of the US financial system.

Could a subprime crisis happen here?

Even though it is valid to describe Australian real estate as a Ponzi Scheme, America will always be Ponzi's spiritual home. The lending practices that have developed there make our (still irresponsible) financial system look like a model of probity.

The two key differences between the USA and Australia are the relative dominance of subprime lending, and the widespread sale of “ARMs”—“Adjustable Rate Mortgages”.

So-called prime loans still dominate lending in Australia—accounting for around 89% of the aggregate value of loans. There are nonetheless issues with these, as I discuss below, but they are certainly better than “low-doc” and subprime loans when it comes to assessing the borrower's capacity to repay the loan.

“Low-doc” loans—in which the lender provides some documentation as to income, but not as much as is required for a prime loan—account for another ten per cent. According to APRA and the RBA, what they call “non-conforming”, and what lenders tend to call “no-doc” or “easy doc”, account for the remaining one per cent.⁷

In the USA, the comparable figures are 75% for prime (or within cooee of prime) loans, and 25% for subprimes—or as they are colloquially known in the trade, “Liar Loans”.

That in itself is bad enough; worse still is that most USA mortgages are at fixed rates, and many of the most recently sold subprimes are “adjustable rate mortgages”. These offer a low, “honeymoon” rate, but the difference between the interest payable under the standard rate and the honeymoon is added to the outstanding principal of the loan. When the honeymoon ends, not only does the rate of interest increase, but the amount of money owed is also much greater than the initial amount of the loan.

Even the most frugal of borrowers would have trouble coping with that double whammy, but subprime ARMs were frequently marketed to people with impaired credit histories—people who had a history of not being able to repay their debts. Widespread bankruptcies were almost inevitable, and press reports allege that as many as two million may default in the next year—close to two per cent of all American households.

Why on earth would a lender lend to such poor credit risks? Because he could then on-sell their debts to third parties in the form of a Collateral Debt Obligation bond, which bundles many such mortgages into a single

financial instrument that is then marketed to individual investors, pension funds, superannuation funds, councils, hedge funds, etc.

And why on earth were they willing to buy CDOs? Partly because the so-called rocket scientists employed by many financiers devised systems to divide these bonds into “tranches” on the basis of the expected probability of default, so that while the bottom of the pile were clearly speculative and deserved “junk” bond status, the top of the pile could be marketed as “AAA” securities.

But mainly because they, like the borrowers at the bottom of the food chain, were seduced by the Ponzi Scheme belief that real estate prices would always appreciate, so that even though the borrowers couldn’t afford to repay their loans out of income, they—or the loan manager if they defaulted—could always sell their houses for a profit.

So much for that myth in the USA, where house prices are now falling more than they have at any time since the Great Depression. As a result, not only are subprime borrowers going bankrupt at an accelerating rate, but the financial system itself is in danger of falling apart as so many of those so-called AAA bonds turn out to be worthless.

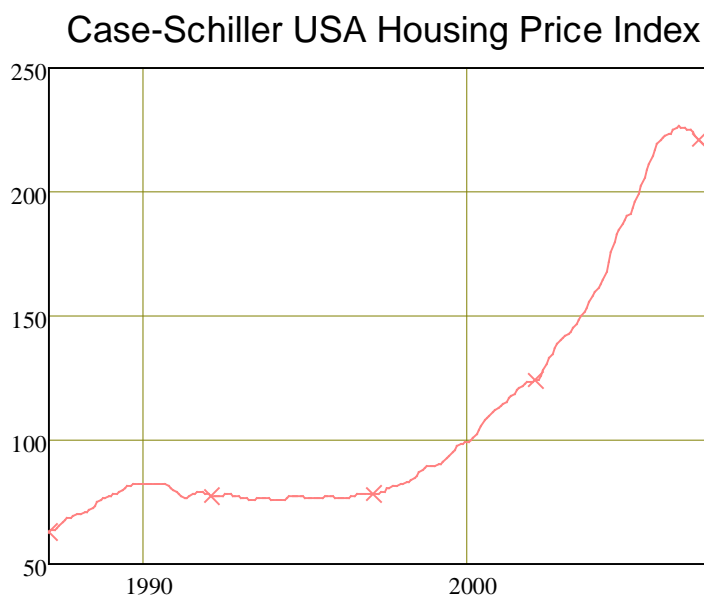


FIGURE 24A: WHAT GOES UP CAN NEVER COME DOWN?

To date, the Federal Reserve’s actions there have prevented a complete breakdown of the financial system. Though these actions are necessary—because the alternative was an overnight failure of the financial system and an instant Depression—they point out the extent to which the last 20 years of American economic performance have been driven by myth rather than reality.

The most extreme policy shift by the Fed has been to offer to re-purchase not-yet-impaired CDOs at a 15% discount to face value—even though many of these will prove to be worth nothing in the long run.⁸

This does not mean that the Federal Reserve is handing out fiat money to financial institutions in return for nothing, since repurchase agreements are just that—the Fed buys them to provide temporary liquidity, and they then have to be purchased back by the seller after an agreed period (which the Fed has also dramatically extended, from the usual one day term to as much as 30 days⁹). But we should nonetheless expect to see a significant blip in base money and M1 in the USA soon—another clear sign that the credit dog wags the fiat money tail.

However, though such actions will keep financial institutions temporarily solvent, it does nothing to help the mortgagors who are facing bankruptcy—or at best a life of debt-induced poverty, because they can only meet their financial obligations by drastically curtailing their spending. The USA is therefore very likely to experience a “consumer strike”—especially at the low end of the market—that will probably result in a recession. Credit availability will also evaporate, and housing will remain in an extended slump because, unlike here in Australia, America actually did build a large number of houses in the last decade. The overhang of uncompleted, unsold and unlet properties will depress their housing market for at least half a decade.

Of course, that couldn't happen here, could it?

Well, we don't have as bad a level of transparently obvious abuse of credit as in America, subprime-like loans constitute a much smaller percentage of our loans, and most Australians have variable rate mortgages rather than “Russian Roulette with a Gatling Gun” ARMs. But despite that, our rate of increase in household debt has been more than three times that of the USA! Since 1990, America's household debt to GDP ratio has risen by 2.1% per annum; ours has risen by 6.8%.

Partly this may be because our household debt level was substantially lower than the USA's when this debt bubble began—and there was therefore more headroom for lending. But whatever the reason, the aggregate figures give no reason for complacency in comparing our situation to that of the USA's.

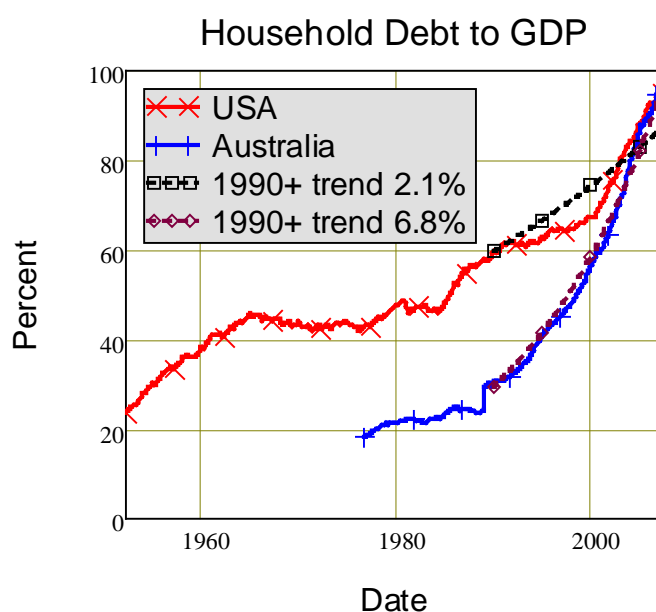


FIGURE 25A: “YOU CALL THAT LENDING? HA!”

The same observation applies to the interest burden being carried by households: it is the same here as in the USA. And while Australian households don't face the ARM double whammy—which will substantially increase household interest payments there in the next year—the reliance on floating rate mortgages here will have a similar effect. Now that the supply of cheap (low margin over official rate) wholesale financing has dried up, most non-bank lenders will be forced to increase their rates, and this will affect current as well as new borrowers.

The sheer rate of increase in debt in Australia, compared to the USA, also implies that the consumer effect of any slowdown in lending will be more severe here than in the USA. As I explained above, aggregate spending is the sum of income plus the increase in debt. Since our rate of increase in debt has been that much faster than the USA's, flipping the switch to prudence from profligacy is likely to impact more on spending here than in the USA. And the effect will have a broader financial base than in the USA. Whereas the working poor will bear the brunt of the consumer slowdown in the land of the free, in Australia, households across the income spectrum will have to abandon the “charge it” attitude to consumption.

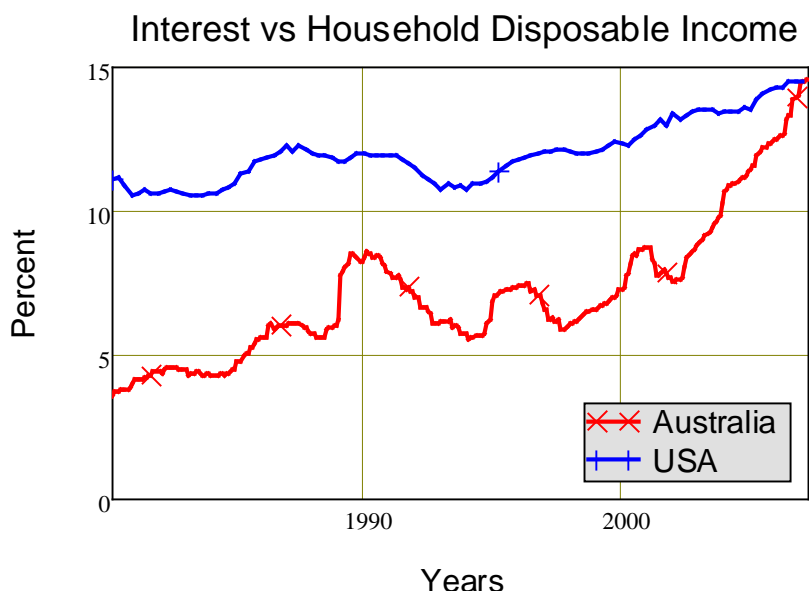


FIGURE 25B: BROKE IN THE USA ... AND AUSTRALIA

My personal experience as an expert witness in mortgagee-in-possession court cases also makes me less than convinced that Australian lending practices are that much better than the USA's. While bankruptcy cases often showcase the lowest of the low when it comes to lender behaviour, it is likely that many similarly outrageous loans don't end up in court because either the borrowers are doing their best to pay the loan no matter what, or they are submitting to mortgagee pressure to sell prior to bankruptcy, since mortgagee sales that are advertised as such reduce sale prices by up to 20%. As Ron Hardaker from the Australian Finance Conference^{XVI} put it to the House of Representatives Economics Committee:

“The point there is that where you get mortgagee in possession as distinct from a voluntary sale, the mortgagee in possession situation usually brings in, in their experience, about 15-20 % less in terms of realising it. Rather than disguising the stress situation, people are encouraged to sell it themselves.”¹⁰

XVI

A finance industry lobby group; see http://www.afc.asn.au/afc_info/default.html.

The quality of lending in the first instance is also exaggerated by the Australian data. Though our equivalent to prime mortgages do evaluate the capacity of borrowers to repay the loan, the veracity of this evaluation has slipped dramatically over time. In the early 1960s, the standard was that loan repayments could absorb no more than 30% of the gross income of the male (yes, male) breadwinner. That then changed to the less sexist—but more financially stressful—standard of 30% of the combined income of the borrowers. Today, as Heidi Richards of APRA 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...”

More than half of the lenders that we looked at would allow an individual borrower on an income of \$100,000 to borrow more than \$500,000. This comes out to an average debt-servicing ratio of about 50%. Another way to look at that same figure ... is that ... about 20% of ADIs would approve loans that were five to six times the borrowers' earnings, but most of them were substantially less than that.¹¹

Reverse mortgages

Reverse mortgages are the best proof that lenders as well as borrowers believe the core myth in the Australian Real Estate Ponzi Scheme—that house prices can forever appreciate faster than incomes.

They are targetted at those who own their homes outright, and enable them to borrow a proportion of their notional equity. Borrowers have no repayment obligations, but the interest on loans is capitalised, until, at a defined event—normally death—the lender gets the right to recoup its debt from the sale of the property.

This practice, if it becomes widespread, is a recipe for systemic disaster. Even with loan limited to 15-35% of the property valuation, the mechanics of reverse mortgages—where the interest is added to the principal, and then of course compounded on itself—means that the debt will exceed the original valuation by the time the lender gets the right to attempt to recoup its money.

For example if a 60 year old takes out a 15% loan today at an 8% interest rate, and then dies at 85, the debt will have grown nine times, to over 110% of the original valuation.

That's no problem for the borrower—who will be dead at the time—but it will be for the lender, unless property prices continue to increase faster than the CPI. But what if they don't? Before you dismiss that as an impossibility, remember that house prices in Japan fell on average five per cent per annum for over a decade after its Bubble Economy collapsed. If many properties have to be sold at a loss, lenders—and investors who bought their bonds—may end up being a lot poorer than they anticipated. It's a “sleeper” issue that could be as systemically destabilising as subprime lending has proven to be.

The factor that has clearly driven this decline in lending standards is the Ponzi belief that the financial stress of the loan will always be relieved by the sale of the house at an inflated price. While this belief held true without fail right up till 1990, maintaining the lie that it can be true forever has involved a shift in the behaviour of all components of the lending industry towards the dodgy end of the spectrum. Some of the most revealing comments about this were made by Grant Warner, National Director of the Australian Property Institute—the body that represents property valuers. His comments are worth reproducing at length:

“A couple of years ago proportional liability insurance was introduced into Australia. One of the reasons for that was in response to the various lending practices that financial institutions were undertaking... 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 ... ex-managers to drive by to see if the actual house exists... 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...”

What we are seeing now is with desktops, for example, for \$50 or whatever it is, the surety is there not for the consumer’s point of view but for the financial institution and you get a tendency to lend a large amount of money based on a spurious asset valuation... What we have had is a number of insurers who state quite openly that they want the valuer to do this because they have PL (proportional liability) insurance...

At the end of the day what we are seeing is that an increased ability for lending actually drives up house prices because there is a greater propensity for people to obtain funds to pay more for housing.”¹²

Remember the accounting debacles at the end of the 1980s boom, when lenders sued accounting firms for approving the cooked books of the major speculators? Now it appears lenders are readying themselves to sue valuers for the dodgy valuations that the lenders themselves largely wanted in the first place, in order to enable the loans to be made. Cries of “We were deceived, Your Honour, and therefore we deserve access to Valuer X’s PL insurance” will soon spout with pious regularity from barristers’ lips in the Supreme Court.

So yes, it could happen here. What will transpire will doubtless have our own unique Antipodean flavour, but to believe that our future can be summed up in the phrase “No worries, mate” is about as sound a policy as relying upon the Raj in Singapore to hold back the Japanese Empire in 1942.

What then, should policy makers do?

Policy Recommendations

The key policy recommendation is one made long ago by Hyman Minsky: that we should construct “a `good financial society’ in which the tendency by businesses and bankers to engage in speculative finance is constrained.”¹³

So much for that. Instead, we built a society in which, to quote Keynes, investment in housing in particular became “a by-product of the activities of a casino”.¹⁴ A debt-induced crisis is an almost unavoidable outcome of confusing gambling with investment. We therefore have to consider, not merely what to do to prevent it ever happening again, but how to limit the damage when we are finally forced to cut down on credit.

We must also face the danger that policies intended to prevent a crisis like this ever occurring again could, if introduced too rapidly, precipitate outcomes almost as bad as the ones we’re hoping to minimise.

This paper therefore makes four sets of policy recommendations:

- » **Information:** One reason we’ve got into this pickle is a lack of necessary information – along with a mountain of misinformation. Even those who are convinced we can keep our foot on the debt accelerator should agree that it’s time we turned the headlights on;
- » **Mitigation:** Slow the debt car down as best we can before we hit the wall;
- » **Amelioration:** It can’t be the best of all possible worlds once it begins, but we can strive to make it not the worst of all possible worlds; and
- » **Prevention:** construct a financial system in which such a bubble and crisis is much less likely to recur. Some of the policy recommendations here could cause extreme hardship if introduced immediately, or even too rapidly. Some require further research and modelling to determine whether they are viable, or in fact necessary. But we need to face the fact that we’re going to have to make major policy changes to prevent this problem from recurring in another 20 to 50 years. We failed, in the 1960s, to do what was necessary to construct “a `good financial society’”. We should not fail to do so now.

Information

1. Develop two new statistical indices of asset values

The ABS should develop two additional statistical measures of the value of assets—and in particular real estate—in addition to the current market valuation method it uses (that is based on nothing more substantial than owners’ estimates of what their houses could be sold for).

One new method should be an income-imputed valuation, while the other should be liquidity-adjusted. The availability of these indices would make it more obvious when the market valuation of an asset class has lost touch with the income stream that class generates.

Were the statisticians at the ABS to do this, it is also less likely that the economists at the RBA (and elsewhere) could make the “assets balance liabilities” argument that has in part been responsible for them standing on the sidelines while this bubble developed.

2. Make better use of community information

A network of consumer, legal, and financial counselling services provides assistance to people in trouble with debt repayments. Whilst primarily focused on very low-income consumers, these services have also begun to find that problems in the housing market are shifting into higher income groups.¹⁵ These services routinely collect data on their client work and report to various funding programs. Unfortunately there is no common or consistent approach to that data collection, making comparison across jurisdictional boundaries impossible. The work these services do will not represent the entire scope of the problem, but could provide a useful insight into issues that may need policy or regulatory attention. To be able to fulfil this role they will need to be funded, not only to provide their core services, but also to collect, analyse and report on data effectively.

3. A public inquiry into debt

This problem is serious enough to warrant a full public inquiry—at the level, for example, of the Wallis Committee Inquiry—with all the resources that can provide. However past public inquiries—including Wallis—have actually contributed to the problem, because they have been dominated by the view that deregulated markets always work better than regulated ones. As explained in Appendix A, the limits of “supply and demand” that apply in a standard commodity market don’t apply in the market for credit. This inquiry should be guided by a more jaundiced view of the nature of credit and finance markets.^{xvii}

Mitigation

Reserve Bank changes to short term liquidity

A local credit crunch has already commenced as a result of the US subprime crisis. The days of cheap credit are over, lender-requested shonky valuations will give way to enforced prudence, and sales of mortgage-backed securities will be that much harder to make.

4. RBA crisis action

Since this process can cause a payments system crisis, the RBA’s decision to do as has the Fed, and accept mortgage-backed securities into its repurchase agreements arrangement¹⁶ is justified.

It currently plans to buy these at a ten per cent discount to face value, compared to the 15% discount the Fed has applied to CDOs—which may accurately reflect the probably higher quality of

XVII This is related to the wider point that the academic economics profession, of which I am an iconoclastic member, needs reform. You can’t cure an illness that you don’t understand, and economists have failed to understand the credit disease, because of the naivety of standard economic theories about money and credit. Many of the credit problems we are now experiencing could have been prevented—or at least attenuated—had economists had a sound and justifiably jaundiced view of the functioning of credit and asset markets, rather than the Panglossian views they actually hold. If our current problems lead, as I expect, to severe economic dislocation, then the advice of conventional economists is also likely to obstruct the formation of sensible policy responses—because these will also go against many conventional economic myths. Given that these myths helped get us into this situation in the first place, we need to pay less heed to the dominant voices within economics, and more to the dissidents.

Australian RMBSs. But as noted for the USA, this action only ensures the short term viability of the financial system.

5. A boost to fiat money

In the medium term, we need to restore the balance between credit and fiat money. Whether it wants to or not, the RBA will be forced to pump fiat money into the system, and thereby reverse the deterioration in the ratio of debt to base money that has occurred during the boom—as it did previously after the 1990 bubble burst. It should not hold back, regardless of economists' fears that "printing money causes inflation".

6. If that involves purchasing—permanently rather than temporarily—shonky bonds from the private sector, such purchases should be tied with caveats against bond holders also pursuing valuers and mortgagors for residual losses.

Many of the loans that have caused this proto-crisis should never have been issued in the first place. While many of those who now hold those bonds—the aforementioned individual investors, pension funds, superannuation funds, councils, and hedge funds—are in the "too big to fail" category, the real hardship from irresponsible lending is not being experienced by them but by those onto whom the underlying loans were pushed. Any financial rescue has to rescue the battlers as well as the promoters.

Amelioration

7. Government deficits need to come back into fashion

If a recession does eventuate, the Federal Government is also going to be forced to abandon another long-held economic shibboleth, and start running substantial deficits. While the objective of running a balanced budget over the business cycle is responsible, it requires running a deficit if a debt-induced recession begins. That public deficit will in part assist households to repair their badly impaired balance sheets. It would be a foolish application of economic ideology to try to maintain a surplus during a debt-induced recession.

On this front at least, Australia is far better placed to weather the storm than the USA. While the China boom is the main reason that the Australian Government balance sheets are in such good order, we nonetheless can far more easily cope with a swing into the red than can the USA.

8. Don't "fight inflation first". For a while, don't fight it at all.

Another long-running economic fantasy that will need to be abandoned is the belief that commodity price inflation is always and everywhere a bad thing, while asset price inflation is always benign (have you ever heard an economist describe an increase in commodity prices as a good thing, or an increase in asset prices as a bad thing?). This intellectual affliction has its origins in the bowels of conventional economic dogma, where commodity price inflation is the fault of non-market forces (governments and unions), while the asset price level reflects the rational valuations of well-informed markets.

In reality, the causes of both commodity and asset price changes are far more complex than this, and if one price series gets too far out of step with the other, bad news will follow. So there is such a thing as a bad increase in asset prices—and since we've been experiencing that for well over two decades now, if a recession occurs then an increase in commodity prices could potentially be a good thing.

This is not because inflation is per se good (intellectual absolutes like that helped get us into this mess in the first place), but because commodity price inflation is one way to restore some sort of balance between asset prices and the incomes that ultimately sustain them (assuming that wages keep pace with prices—especially since, in contrast to the 1990s, a lot of the current debt is owed by wage-earning households).

The other method of letting asset prices fall back into alignment with commodity prices is to allow the former to collapse—as happened in spades during the Great Depression, and also to some extent during Japan's recent deflationary recession.¹⁷ The weakness of that approach, as Irving Fisher pointed out long ago, is that falling asset prices tend to cause commodity prices to fall as well—thus maintaining the original problem.¹⁸

9. Build public ownership out of the ruins of private folly

Ultimately, we need three viable layers of housing in Australia: private rental, public (and community/non-profit) ownership, and private. We have let the first two decay over the last 20 years. If the level of property defaults reaches anything like the level that now applies in the USA, we could make a significant step towards re-building our public housing stock by pursuing the following strategy.

Given that most defaults are likely to occur amongst those who have borrowed from non-ADI lenders, and these in turn have on-sold the mortgages to investors via RMBS bonds, widespread foreclosures could make these bonds worthless. There would thus be pain at both ends of the candle—borrowers evicted on the one hand, bond holders left with worthless claims on the other (while the promoters who put these schemes together would escape largely scot free).

One potential response could be for the federal government to establish a 'sell and rent back' fund, to be managed by state and territory public housing trusts/departments, whereby mortgagors in danger of foreclosure can sell their houses to the government and rent them back at market rents. Tenants could then have the right to stay put until they chose to move, at which point their dwelling would be added to the general pool of public housing. This would have the benefit of a) helping the individual homeowners avoid traumatic and expensive relocations, thus reducing the desperation that drives borrowers into the arms of shonky (or shonkier) lenders, b) lessening the flow-on social and economic effects of high concentrations of foreclosures in areas of mortgage stress and c) increasing Australia's stock of public housing over time (see recommendation 14).

Extensive research would of course be required to establish the cost and viability of such a scheme, in particular how the purchase price would be determined. However the fact that similar arrangements are currently offered by for-profit companies in the UK^{XVIII} indicates that it could be viable. Such a scheme could potentially prove to be of more value to taxpayers than the direct bailouts

XVIII See for example <http://www.rentbackmyproperty.co.uk/>

flagged in recommendation 5, yet would still have the effect of encouraging a 'soft landing' as the housing market deflates.

10. Base credit regulation upon lending rather than deposit-taking

We need to revise our method of attempting to regulate the credit system. The belief that credit money is deposit based has left an enormous hole in our regulatory framework. As I explain in Appendix A, since loans create deposits in a credit money system, we need to regulate lending first and foremost. Regulation itself is not a panacea, but regulating deposit-takers while exempting lenders from supervision has definitely been a major cause of Australia's debt disease. A key principle of the new national regulatory lending framework (see Appendix C) should be that lenders are responsible for making loans based on the borrower's capacity to repay – not asset price speculation.

Prevention

Longer term reforms to try to prevent another bubble breaking out will fail unless they are able to establish a solid link between loans and income. That is the underlying weakness of the global financial system that has led to this crisis: lending decisions have become unduly influenced by the expectation of asset price inflation, rather than on sound analysis of future income flows. Imposing that link on a system where they have become dislocated could cause serious hardship, were it done too quickly. However, policy settings like those recommended here have to define the shape of the property market in the future, if we are not to repeat the bubble experience of the last 45 years.

Caveat Emptor

Many of the problems caused by this deflating asset bubble will turn up in the courts, where the time-honoured principle of caveat emptor underpins judgements in cases of contract – mortgage or otherwise.

Perhaps, however, there is another way to look at caveat emptor in these circumstances: because when considered carefully, **the buyer in a mortgage contract is actually the mortgagee.**

An ordinary contract of sale involves two parties—a seller and a buyer—with the seller transferring a commodity to the buyer, in return for payment in money from the buyer. The transfers of the payment and the commodity take place simultaneously.

In a loan contract, the mortgagee gives the mortgagor money now, in return for the promise to supply a flow of funds over many years. In, say, a home loan contract, the buyer is the mortgagee - the business doing the lending, while the seller is the mortgagor – the home buyer borrowing to purchase their house. The commodity is the future flow of mortgage payments.

Because the future is uncertain, the business takes out a lien over the homeowner's house, as insurance against the homeowner's failure to provide the future payments. But this does not mean that that the house itself becomes the commodity.

So perhaps the onus lies with the buyer to protect themselves with adequate research as to the capacity of the seller to deliver the commodity (the mortgage payments). And caveat emptor takes on a whole new meaning – one which may throw a somewhat different light on the meting out of justice in a low-doc or 'subprime' lending mortgage default case...

These policy suggestions are put forward not as “sure fire” solutions, but to float ideas on how we can prevent future crises. We do not know that they would succeed, nor do we know that they would not have some adverse side effects—even if they were introduced gradually. These issues are something that a well funded, well researched, and well informed public inquiry should consider in much greater detail.

That said, some prevention recommendations are:

11. Abolish negative gearing on existing houses

Given the fact that the housing boom did not result in the building of many houses, we should maintain negative gearing and the beneficial treatment of capital gains on new buildings for the foreseeable future. That is, our taxation system should reward actual investment, but it should not encourage speculation. But we have to stop rewarding people for speculating, which is all that negative gearing on existing dwellings does.

12. Reintroduce a full capital gains tax

Taxing only half the actual capital gain, and exempting the family home from capital gains tax altogether, encourages speculation first and foremost, as well as encouraging people to minimise tax by converting income into capital gains.

13. Reduce stamp duty, and increase other sources of revenue to compensate

The problem with State governments receiving so much of their revenue from stamp duty is that the provision of basic services becomes reliant on real estate bubbles. State governments make hay during speculative booms; when reason returns, State governments find it difficult to fund essential services.

A punitive tax on social “bads”—such as real estate speculation—is one thing; but setting this tax level so high that the government ends up having a vested interest in the practice continuing is quite another. We need to focus upon sustainable activities for the base of government revenue. The level of stamp duty should be gradually reduced, and the shortfall in revenue compensated by increasing other taxes.

An alternative would be to base stamp duty, not on the price of the house, but on a multiple of the rental income (actual or imputed) that it generates. Stamp duty could thus continue, but be linked not to a speculative price but to actual income-generating capacity.

14. Develop decent public housing and a sustainable private rental market with long term rights for both tenants and landlords

Public policy has also been dominated by failure by omission: the absence of decent public housing in Australia, and the tenuous status of renters, compared to the norms in many European countries. The fact that Australians face the choice between either welfare-level public housing, “eviction-at-a-moment’s-notice” rental, or buying their own home at inflated prices, it is little wonder that we have a housing market characterised by fear as much as greed—the two worst emotions that one can apply when valuing assets.

A sound system of public housing, combined with the development of a meaningful legal code to support medium to long term tenancy, would give Australians three viable options for housing—and not merely one now made worse than tenuous through inflated prices.

None of the above measures tackles the problem demonstrated in Figure 20C, which is that house prices are now completely out of whack with rents.^{XIX} As with the stock market, when price to earnings ratios go through the roof it's usually a sign that a correction isn't far away. One or the other has to give: either house prices have to fall (relatively if not absolutely—though in Japan they did fall in absolute terms for a decade during their long slump) or rents have to rise. Given that rents are already proportionately larger in Australia than in, for example, Europe, the latter is both improbable and undesirable – in contrast to the stock market, high yields in the housing market aren't always good news.

XIX In the event of widespread public support for taking this issue seriously (say, after a long post-bubble recession), one option that could be considered would be to set the maximum size of a loan as a multiple of the rental income flow that can be expected from the house. Introducing such a policy overnight would result in a collapse in house prices (because the maximum size of a housing loan would be drastically reduced), however, it would be possible to phase such a change in over time.

Endnotes

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DEEPER IN DEBT: AUSTRALIA'S ADDICTION TO BORROWED MONEY

Appendix A: How are money and debt created?

The standard story: "Deposits create loans"

Any conventional economics textbook ¹ will tell you that the creation of money is a three stage process:

- » The government creates a certain amount of "high-powered" money (essentially currency—say, \$100);
- » The recipients of this money then deposit it in bank accounts;
- » Banks then hold a proportion of this cash to cover anticipated withdrawals (say 10% or \$10), and lend the rest (90% or \$90). This in turn is deposited in another bank account, and this bank then lends out a proportion (90% of \$90, or \$81), and so on until the process—which is known as the "money multiplier"—peters out.

Credit money is thus created as a multiple of base money by the deposit-and-re-lend process. The process is like a "chain reaction", and it takes time. The example in Table 14 has the bank retaining 1/3rd of any deposit, and lending out 2/3rds. Following the chain of events:

- » Starting in week 0, customer A deposits the \$100 in his bank. The bank then has to find someone to lend some of it to (say customer B). Let's say this takes a week;
- » In week 1, customer B deposits the loan of \$67.67 in another bank account. Total deposits are now the original \$100 deposited by A, plus the \$67.67 deposited by B;
- » B's bank takes a week to locate a borrower C, lends C \$44.44 and hangs on to \$22.22 in cash, and the process is repeated indefinitely;
- » After a very long time, the initial \$100 of high powered money has generated \$200 in loans and a matching \$200 in deposits, so that the banking system has created \$200 in credit. After five weeks, as shown in Figure 14A, \$173.66 in loans have been created; as time goes on, as Figure 14B indicates, deposits rise to the sum of high powered money (\$100) plus loans (\$200).

Week	Deposit	Loan	Cash retained	Sum deposits	Sum loans
0	\$100.00	\$0.00	\$0.00	\$100.00	\$0.00
1	\$66.67	\$66.67	\$33.33	\$166.67	\$66.67
2	\$44.44	\$44.44	\$22.22	\$211.11	\$111.11
3	\$29.63	\$29.63	\$14.81	\$240.74	\$140.74
4	\$19.75	\$19.75	\$9.88	\$260.49	\$160.49
5	\$13.17	\$13.17	\$6.58	\$273.66	\$173.66

Figure A1: Five weeks of the "money multiplier" process

This model implies several things:

- » The government "dog" wags the credit money "tail": everything starts from the government's creation of high-powered money (also know as "the monetary base" or "Base Money");
- » Deposits create loans: banks can't lend until a depositor puts that high-powered money into an account; and therefore there is a policy implication:

» If the government can control the proportion of deposits that the banks hang onto as cash, it can control the amount of money and debt in the economy.

This model of money creation is the reason that the regulation of finance is limited to banks. Since economists believe that “deposits create loans”, they also believe that, if you can’t take deposits, you can’t create money.

Therefore, the plethora of non-bank lenders are seen as having no impact upon the aggregate amount of money and debt—apart from perhaps enticing the banks to relax their lending standards (reduce the amount of cash they hold on to out of each deposit), and thereby causing banks to create more money as a result.

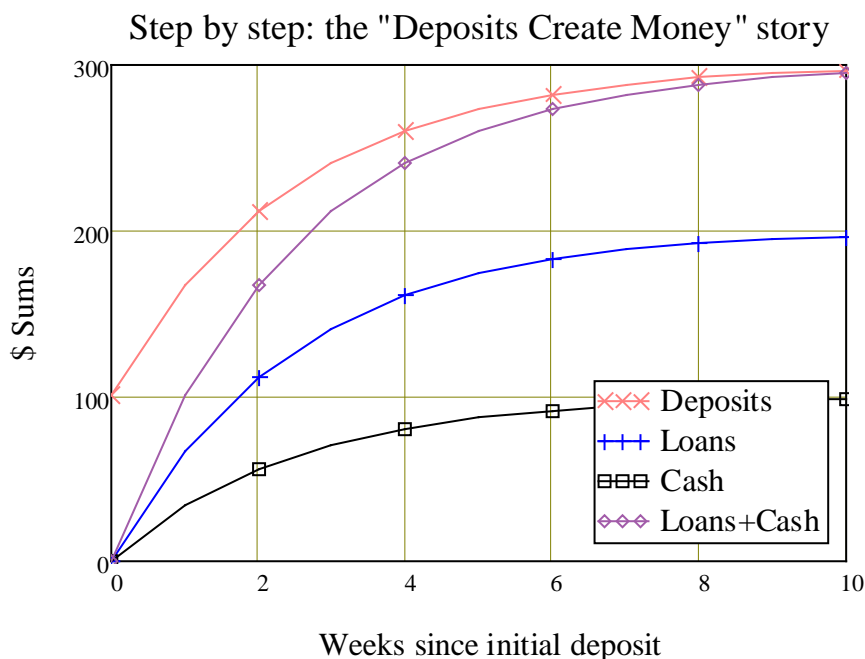


Figure A2: Ten weeks of the “money multiplier” process

So that’s the theory. It’s neat, persuasive, and widely believed by both economists and the general public. There is just one problem: it doesn’t work.

Firstly, as most economists would acknowledge, the statistical relationship between broader definitions of money and the money base is both volatile, and shows a distinct upward trend: over time, substantially more “credit money” (money created by the financial system) is now being created for every dollar of “fiat money” (money created by the government). Even during the 1960s, when the government actively tried to control the monetary system by manipulating the money multiplier, the ratio between M3 and currency exploded from 7.75:1 to 13.4:1, and then fell back to 10.5:1 in the early 1970s. In today’s deregulated world, the ratio is almost 22:1.

So not only is the credit “tail” much bigger than the government “dog”, its relative size has increased substantially over time, and varied wildly in the short term.

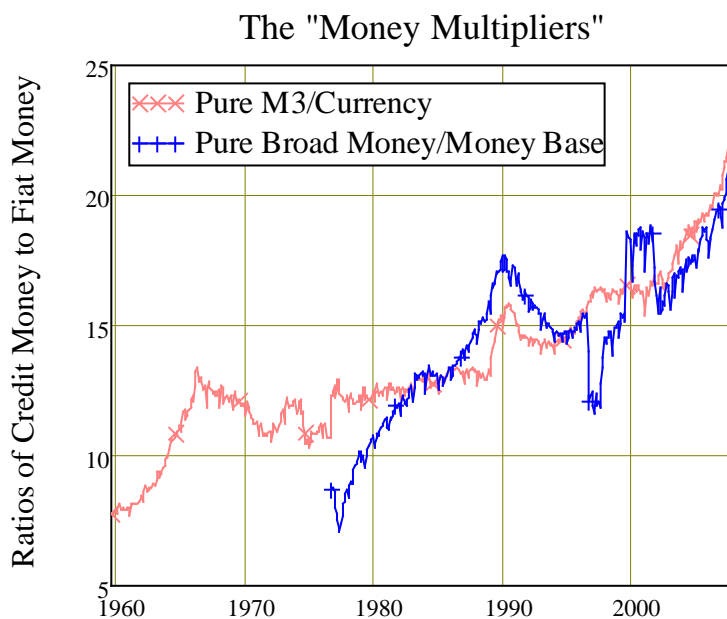


Figure A3: The empirical “money multipliers”

Secondly, a point that most economists take for granted is that, if the “money multiplier” model did accurately describe reality, then there should be a time lag between changes in “high powered money” and changes in bank deposits: high powered money should change first, and then eventually other measures of money (M1, M2, M3 and “Broad Money”) should increase as the credit money creation process cranks over. But a very careful study by the 2004 Nobel Prize Laureates Finn Kydland and Edward Prescott ² found that the timing goes the other way: the broader measures of money changed before the narrower ones:

.....
There is no evidence that either the monetary base or M1 leads the cycle, although some economists still believe this monetary myth. Both the monetary base and M1 series are generally procyclical and, if anything, the monetary base lags the cycle slightly... The difference of M2 - M1 leads the cycle by even more than M2, with the lead being about three quarters. ³

A similar finding was reported by Australian researchers, when they repeated this study using Australian data:

.....
The monetary base (MB) lags the cycle by about two quarters ... M3 lags the cycle by about one quarter, although it appears contemporaneous with the cycle in the first part of the sample . ⁴

So how can credit money move before base money, if the latter controls the former: how can the tail wag the dog?

The answer is that conventional economics has the tail and the dog confused: credit money is the dog, and government (fiat) money is the tail. Not only is credit money a much larger proportion of the money supply than fiat money, credit money is created independently of fiat money, and the government tends to play catchup to the volatile private system.

Creation of money in a pure credit model: “Look Ma, No hands!”

In “The real story: “Loans create deposits”” (page 21 of *Deeper in Debt*), I gave an explanation of the practical process of credit money creation, using the simple example of buying a plasma TV using your credit card: you add to your debt, and simultaneously you create money in the deposit account of the retailer from whom you bought the TV.

In this real world instance, the creation of your loan (the increase in your credit card balance) instantly creates an identical deposit—so that “loans create deposits”, the opposite of the “deposit create loans” story that economists call “the money multiplier”. (There will of course be some time delay for the electronic transmission, and though I can’t speak for retailers, as an ordinary banking customer, I’ve had the experience of my transfer of funds from my account to someone else’s showing up as a debit in my account straight away, but taking several days to appear. But these are relatively minor wrinkles; for all modelling intents and purposes, the transfer can be treated as instantaneous.)

This is, for conventional economists, a heresy, even though (I hope!) it should be transparently obvious to anyone who hasn’t studied economics.

But it is unlikely to convince any card-carrying economists—after all, one of the great send-ups of the economics profession is the observation that an economist is someone who, having been shown that something works in practice, says, “Ah, but does it work in theory?”. So in this Appendix I construct a model of a pure credit economy, which I hope anyone—economist or otherwise—should be able to follow.

It is a deliberately stylised model—as stylised as the standard “money multiplier” model of deposit creation that I outlined in the section above—and therefore does not purport to model the actual institutional framework of a modern credit economy.

The intention instead is to show that the creation of credit money is quite possible even in the complete absence of fiat money—whereas in the real world, of course both co-exist. It is in that sense unrealistic, but I hope the demonstration that credit money can be created literally out of nothing clarifies a few important issues in this highly contested area. I hope to treat a middle line between a deluded mainstream that believes credit money can’t be created in the absence of an initial injection of government money, and the plethora of “cranks” who argue that banks necessarily exploit the public, etc., by showing

- » that an entirely credit-money system is quite feasible (and therefore that credit money creation co-exists besides fiat money creation in our actual financial system);
- » that, if banks behaved responsibly in a pure credit system, it would be stable and self-sustaining, but unfortunately,
- » there are obvious enticements to banks (or rather loan-creating institutions) to lend more than society can in fact afford that mean in practice, pure credit systems will tend to finance speculative bubbles.

The model is very skeletal: three are just classes of actors:

- » capitalists who own firms;
- » bankers who lend money; and
- » workers who work for a wage.

I will talk as if there is only one instance of each, but the argument works in the aggregate, as well as in the instance of a single bank, lending to a single capitalist, who employs a single worker, to work in the single firm.

I also abstract from the type of lending which has got us into the trouble we are now experiencing: “asset-based” lending which finances the purchase of an asset, rather than providing working capital for a factory. In this model, all lending is to provide the finance needed for actual production.

We start with a firm that approaches a bank for a loan to finance production ¹. The bank grants the loan, and keeps two accounts for the firm: one that records the amount of money the firm has, and the other which shows the amount the firm owes the bank. With an initial loan for L dollars, our starting point is the following double-entry book-keeping record:

Account type	Loan	Deposit
Account	Firm loan account	Firm deposit account
Name	FL	FD
Initial loan	L	L

Figure A4: Endogenous credit money, step 1: the loan

The loan obliges the firm to pay interest on the outstanding debt in its loan account (which I call FL), while the presence of money in the Firm’s Deposit Account (FD) obliges the bank to pay interest on this deposit ². The bank charges a higher rate of interest on loans (which I call r_L) than it pays on deposits (r_D), which is makes a profit out of lending.

All payments occur between bank deposit accounts, so we need another account to record the bank’s income and payments. I’ll call this BD as short for “Bank Deposit Account”. This gives us three accounts, and we can now describe the interest flows between them.

Firstly, loan obliges the firm to pay interest at the rate r_L , based on the amount outstanding in its loan account at any given time: so it has to pay the product $r_L \cdot FL$. The only source of money it has to do this is the money in its deposit account, and it has to pay this amount to the bank—which means transferring it to the BD account. The bank records that this payment has been made in the FL account, which means that the loan outstanding remains constant (because payments against the debt cancel out the interest obligations).

I I model unsecured lending here; it can be extended to include the preliminary of valuing and securing an asset, but only at the expense of a vastly more complicated story, which nonetheless has the same punchline as the simpler one told here.

II In this model, all money and all payments occur through bank accounts.

Secondly, the Bank has to pay interest on the current balance in the Firm's Deposit Account: it's only source for this is its own Deposit Account BD, so it deducts $rD.FD$ from there and pays it into the Firm's Deposit Account. We thus get the following pattern of flows between the accounts, and overall, the transfers between deposit accounts sum to zero:

Type	Loan	Deposit		Sum of transfers
Name	FL	FD	BD	Sum
Change due to interest payments	$rL.FL - rL.FL = 0$	$rD.FD - rL.FL$	$-rD.FD + rL.FL$	0

Figure A5: Endogenous credit money, step 2: interest flows

If this were all that was done with the borrowed money, then obviously it just transfers money from the firm to the banker; but the firm incurred the debt to finance production¹. To produce, it needs workers, and to pay them, we need a fourth account into which wages are paid; call this WD for Workers Deposit Account. The firm pays wages out of its deposit account at a rate proportional to the current balance in its deposit account—I call this w , so that the flow of wages from the firm to workers is $w.FD$. This amount is deducted from the firm's deposit account and paid into the workers' account—and again the sum of the transfers is zero. This provides the next line of the transactions table below:

Type	Loan	Deposit			Sum of transfers
Name	FL	FD	BD	WD	Sum
Change due to interest payments	0	$rD.FD - rL.FL$	$-rD.FD + rL.FL$	0	0
Payment of wages	0	$-w.FD$	0	$w.FD$	0

Figure A6: Endogenous credit money, step 3: wages

Now that workers have an account, they also earn interest income on the balance in their accounts: this is transferred from the Bank's Deposit Account to the Workers', so that again, the sum of this transfer is zero:

Type	Loan	Deposit			Sum of transfers
Name	FL	FD	BD	WD	Sum
Change due to interest payments	0	$rD.FD - rL.FL$	$-rD.FD + rL.FL$	0	0
Payment of wages	0	$-w.FD$	0	$w.FD$	0
Interest on workers' account balance	0	0	$-rD.WD$	$rD.WD$	0

Figure A7: Endogenous credit money, step 4: Interest on workers' accounts

¹ I treat production implicitly in this model—again, introducing it drastically complicates the narrative without changing the final punch line, so I omit it from this simple treatment.

Finally, when output is sold by the firm, it is purchased by other firms, workers, and bankers (the purchases by one firm from another are netted out here, but are implicit in the model). Call the rate at which workers spend from their deposit account ω and the rate that bankers spend β : the amount $\omega.WD$ is deducted from the workers deposit account and transferred to the firm's, as is the amount $\beta.BD$ from the bankers deposit account. This gives us the next two flows, which also sum to zero:

Type	Loan	Deposit			Sum of transfers
Name	FL	FD	BD	WD	Sum
Change due to interest payments	0	$rD.FD - rL.FL$	$-rD.FD + rL.FL$	0	0
Payment of wages	0	$-w.FD$	0	$w.FD$	0
Interest on workers' account balance	0	0	$-rD.WD$	$rD.WD$	0
Spending by workers and bankers	0	$\omega.WD + \beta.BD$	$-\beta.BD$	$-\omega.WD$	0

Figure A8: Endogenous credit money, step 5: consumption spending

This transactions table now describes a self-sustaining financial system that could go on indefinitely, with capitalists earning profits, workers earning wages, and banks earning interest income¹. The final stage is to consider the creation of new money. Here I assume that the firm has negotiated a line of credit with the bank, which allows it to add to its debt at the rate NM (for "New Money") times the current balance in its deposit account. If the firm takes advantage of this, then the bank adds the amount $NM.FD$ to the firm's deposit account, and simultaneously records the additional debt that has been incurred in the Firm's Loan Account. In this instance there is no off-setting transfer of funds from anywhere else in the system—the bank simply creates the new money by increasing the amount available in the firm's deposit account—so that the change in deposit accounts sums to more than zero:

Type	Loan	Deposit			Sum of transfers
Name	FL	FD	BD	WD	Sum
Change due to interest payments	0	$rD.FD - rL.FL$	$-rD.FD + rL.FL$	0	0
Payment of wages	0	$-w.FD$	0	$w.FD$	0
Interest on workers' account balance	0	0	$-rD.WD$	$rD.WD$	0
Spending by workers and bankers	0	$\omega.WD + \beta.BD$	$-\beta.BD$	$-\omega.WD$	0
Creation of new loan money	$NM.FD$	$NM.FD$	0	0	$NM.FD$

Figure A9: Endogenous credit money, step 6: creation of new money (and debt)

I My intentions in this Appendix are (a) to show that a pure credit model is viable and that (b) it contains incentives that encourage banks to lend as much as possible. For full details of this model, including derivation of income levels etc., see my article at Endnote 5.

The final two factors in the model are repayment of outstanding debt by the firm, and recycling of loans by the bank. If these flows went through the Bank's Deposit Account, there would be the possibility of "seignorage"—the bank could spend money that it had "invented", rather than consuming only on the basis of income earned from the justified spread between loan and deposit rates of interest. Though this can occur in practice, because I'm modelling a "well behaved" financial system, the bank in this model creates an entirely separate account for the storage and recycling of repaid loans, which I'm calling "the Bank's Vault" (BV for short). I assume that the firm aims to repay the proportion RL of its outstanding loans at any point in time, which means that the amount RL.FL is deducted from the firm's deposit account, and transferred to the Bank's Vault—and in recognition of this repayment (where, while the money continues to exist, it is effectively out of circulation), the Bank deducts RL.FL from the Firm's debt.

The bank, for its part, attempts to re-deploy these repaid funds in new loans (bringing the money back into circulation once more). Assuming, in this simple model, that they are able to find firms who will take the debt on, the bank therefore recycles the proportion LR of the sum in its vault at any given time.

These two details add one column and two more rows to the transactions table, and also introduce a new type of account—a capital as opposed to an income deposit account—since the money in the Vault can't be used for ordinary payments without committing seignorage.

Type	Loan	Capital deposit	Deposit			Sum of transfers
Name	FL	BV	FD	BD	WD	Sum
Change due to interest payments	0	0	$rD.FD - rL.FL$	$-rD.FD + rL.FL$	0	0
Payment of wages	0	0	$-w.FD$	0	$w.FD$	0
Interest on worker's account balance	0	0	0	$-rD.WD$	$rD.WD$	0
Spending by workers and bankers	0	0	$\omega.WD + \beta.BD$	$-\beta.BD$	$-\omega.WD$	0
Creation of new loan money	NM.FD	0	NM.FD	0	0	NM.FD
Repayment of loans	-RL.FL	RL.FL	-RL.FL	0	0	0
Recycling of repaid loans	LR.BV	-LR.BV	LR.BV	0	0	0

Figure A10: Endogenous credit money, step 7: loan repayment and recycling

This model can now be simulated¹, and we can see how the bank's income varies as a product of:

- » How quickly new money is created;
- » How rapidly loans are repaid; and
- » How fast repaid money is "recycled" into new loans.

¹ The sum of each column of the table is a differential equation that describes the rate of change of the relevant bank account. For full details of the model, see Endnote 5.

The results of each of these experiments is shown in the following figures. Perhaps not unsurprisingly, the bank's income will rise if it creates new money more quickly, if it recycles loaned money more quickly, and if old loans are not repaid. In a credit money system, lenders therefore have a vested interest in increasing the level of indebtedness in every manner available to them.

This model restricts the manner in which lenders can do that to legitimate means, and to loans that finance production only. In the real world—especially when, as now, a credit bubble reaches its final stages—illegitimate means to extend debt abound. Similarly, lending to finance speculation—which drives up debt, and does diddly squat to add to a country's income generating capacity—dominates lending to finance ongoing production.

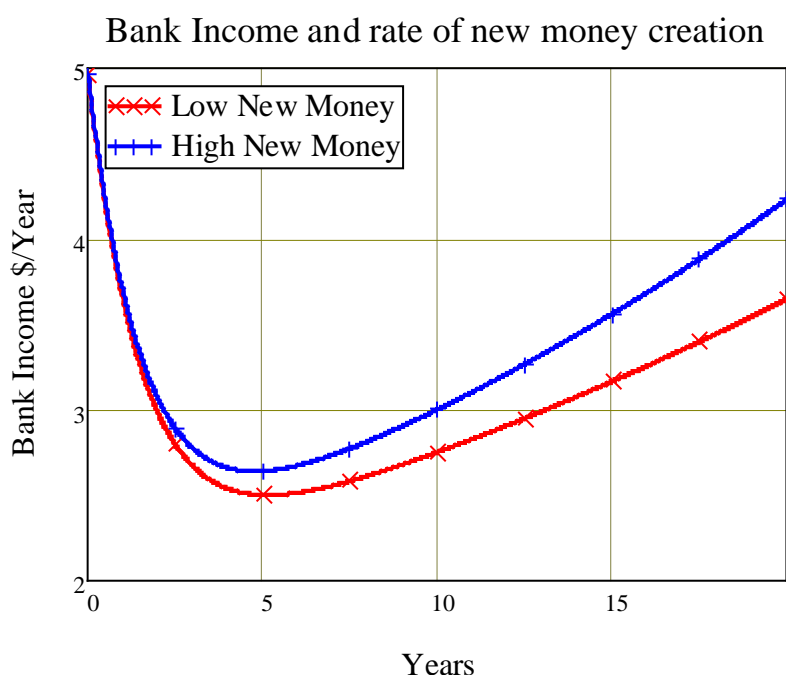


Figure A11: Bank profits and new money creation

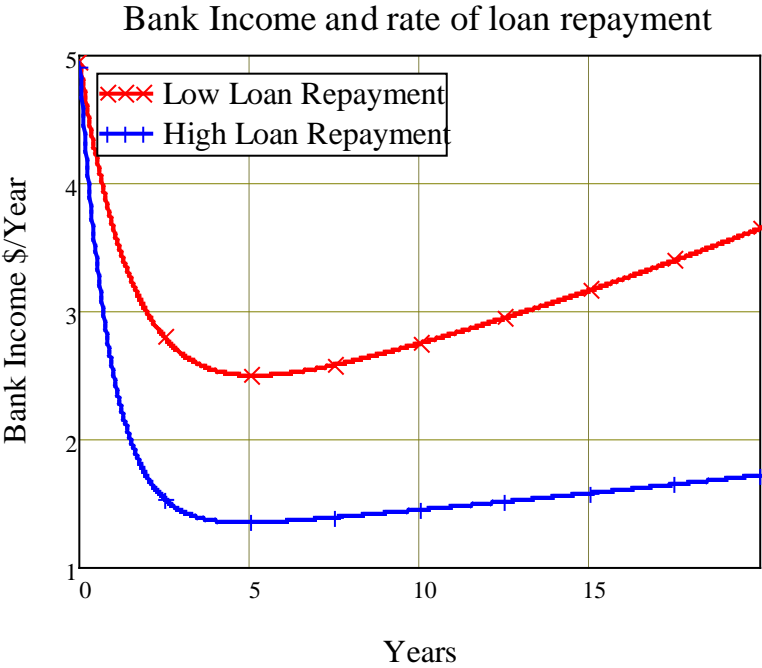


Figure A12: Bank profits and loan repayment

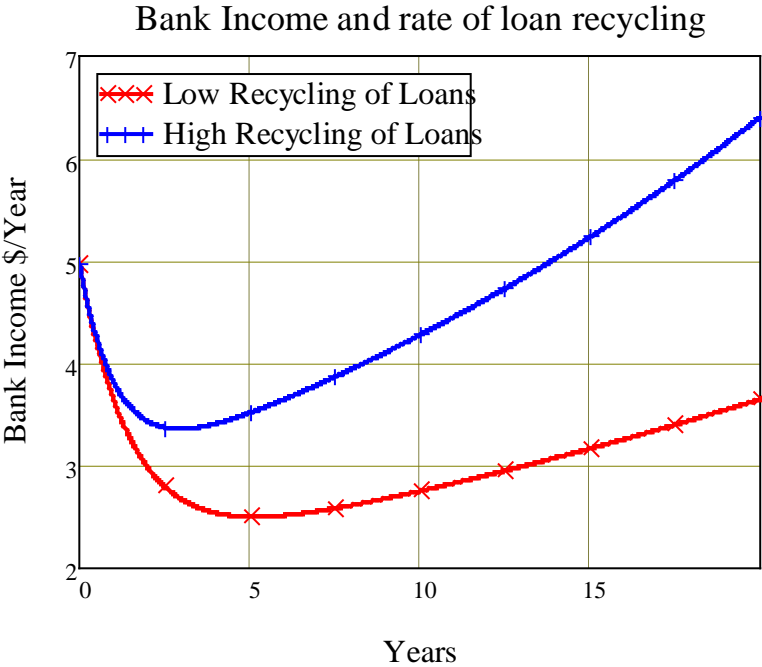


Figure A13: Bank profits and loan recycling

The “Financial Instability Hypothesis”

The one economist who truly understood the actual manner in which finance interacts with the real economy was Hyman Minsky. My analysis above explains the process of money creation in a credit economy, and shows that such a system can be self-sustaining. However it leaves out the behavioural factors that lead to the system succumbing to the temptations I detail at the end, which can lead the financial system to produce more credit than the economy can support.

The analysis of these factors was Minsky’s forte, and he was amazingly prescient about them: he began developing what he eventually termed “the Financial Instability Hypothesis” (FIH) in 1957. However, the economics profession in general went not with Minsky, but with his contemporaries Sharpe, Merton, Miller, Fama and French, who developed the utterly different “Efficient Markets Hypothesis” (EMH). This, in contrast, saw finance as inherently rational—but defined rational effectively as meaning that the market had the ability to accurately predict the future.

The EMH ruled academic finance for the next 40 years, and also led to many developments—such as options and arbitrage pricing models—which are now part of the everyday business of the modern money market. However, its developers and promoters have finally conceded that the EMH is strongly contradicted by the empirical data—at the same time as the market system that it in no small measure helped to create is starting to unravel. For both these reasons, Minsky’s star is once more rising—his views have always been favoured by “market bears”, and academic and regulatory authorities are slowly starting to concede that his vision of how finance markets work is far closer to the mark than the EMH ever was ⁶.

The following summary of Minsky’s model is based on an academic paper of mine that was published in 1995 ⁷. Minsky died a year later.

From as long ago as 1957, Minsky argued that an advanced capitalist economy with developed financial institutions is fundamentally unstable, and liable to fall into a depression in the aftermath to a period of debt-financed “euphoria”.

Minsky’s analysis of a financial cycle begins at a time when the economy is doing well, but firms are conservative in their portfolio management, and this conservatism is shared by banks, who are only willing to fund cash-flow shortfalls or low-risk investments. The cause of this high and universally practised risk aversion is the memory of a not too distant system-wide financial failure, when many investment projects foundered, many firms could not finance their borrowings, and many banks had to write off bad debts. Because of this recent experience, both sides of the borrowing relationship prefer extremely conservative estimates of prospective cash flows: their risk premiums are very high.

However, the combination of a growing economy and conservatively financed investment means that most projects succeed. Two things gradually become evident to managers and bankers: “Existing debts are easily validated and units that were heavily in debt prospered: it pays to lever” ⁸. As a result, both managers and bankers come to regard the previously accepted risk premium as excessive. Investment projects are evaluated using less conservative estimates of prospective cash flows, so that with these rising expectations go rising investment and asset prices. The general decline in risk aversion thus sets off both growth in investment and exponential growth in the price level of assets, which is the foundation both of the boom and its eventual collapse.

More external finance is needed to fund the increased level of investment and the speculative purchase of assets, and these external funds are forthcoming because the banking sector shares the increased optimism of investors ⁹. The accepted debt to equity ratio rises, liquidity decreases, and the growth of credit accelerates.

This marks the beginning of what Minsky calls “the euphoric economy”¹⁰, where both lenders and borrowers believe that the future is assured, and therefore that most investments will succeed. Asset prices are revalued upward as previous valuations are perceived to be based on mistakenly conservative grounds. Highly liquid, low-yielding financial instruments are devalued, leading to a rise in the interest rates offered by them as their purveyors fight to retain market share.

Financial institutions now accept liability structures both for themselves and their customers “that, in a more sober expectational climate, they would have rejected”¹¹. The liquidity of firms is simultaneously reduced by the rise in debt to equity ratios, making firms more susceptible to increased interest rates. The general decrease in liquidity and the rise in interest paid on highly liquid instruments triggers a market-based increase in the interest rate, even without any attempt by monetary authorities to control the boom. However the increased cost of credit does little to temper the boom, since anticipated yields from speculative investments normally far exceed prevailing interest rates, leading to a decline in the elasticity of demand for credit with respect to interest rates.

The condition of euphoria also permits the development of an important actor in Minsky's drama, the Ponzi financier¹². These capitalists profit by trading assets on a rising market, and incur significant debt in the process. The servicing costs for Ponzi debtors exceed the cash flows of the businesses they own, but the capital appreciation they anticipate far exceeds the interest bill. They therefore play an important role in pushing up the market interest rate, and an equally important role in increasing the fragility of the system to a reversal in the growth of asset values.

Rising interest rates and increasing debt to equity ratios eventually affect the viability of many business activities, reducing the interest rate cover, turning projects which were originally conservatively funded into speculative ones, and making ones which were speculative “Ponzi”. Such businesses will find themselves having to sell assets to finance their debt servicing— and this entry of new sellers into the market for assets pricks the exponential growth of asset prices.

With the price boom checked, Ponzi financiers now find themselves with assets which can no longer be traded at a profit, and levels of debt which cannot be serviced from the cash flows of the businesses they now control. Banks which financed these assets purchases now find that their leading customers can no longer pay their debts— and this realisation leads initially to a further bank-driven increase in interest rates. Liquidity is suddenly much more highly prized, holders of illiquid assets attempt to sell them in return for liquidity. The asset market becomes flooded and the euphoria becomes a panic, the boom becomes a slump.

As the boom collapses, the fundamental problem facing the economy is one of excessive divergence between the debts incurred to purchase assets, and the cash flows generated by them— with those cash flows depending both upon the level of investment and the rate of inflation. The level of investment has collapsed in the aftermath of the boom, leaving only two forces which can bring asset prices and cash flows back into harmony: asset price deflation, or current price inflation. This dilemma is the foundation of Minsky's iconoclastic perception of the role of inflation, and his explanation for the stagflation of the 1970s and early 1980s.

Minsky argues that if the rate of inflation is high at the time of the crisis, then though the collapse of the boom causes investment to slump and economic growth to falter, rising cash flows rapidly enable the repayment of debt incurred during the boom. The economy can thus emerge from the crisis with diminished growth and high inflation, but few bankruptcies and a sustained decrease in liquidity. Thus though this course involves the twin “bads” of inflation and initially low growth, it is a self-correcting mechanism in that a prolonged slump is avoided. However the conditions are soon re-established for the cycle to repeat itself, and the avoidance of a true calamity is likely to lead to a secular decrease in liquidity preference.

If the rate of inflation is low at the time of the crisis, then cash flows will remain inadequate relative to the debt structures in place. Firms whose interest bills exceed their cash flows will be forced to undertake extreme measures: they will have to sell assets, attempt to increase their cash flows (at the expense of their competitors) by cutting their margins, or go bankrupt. In contrast to the inflationary course, all three classes of action tend to further depress the current price level, thus at least partially exacerbating the original imbalance. The asset price deflation route is, therefore, not self-correcting but rather self-reinforcing, and is Minsky's explanation of a depression.

The above sketch basically describes Minsky's perception of an economy in the absence of a government sector. With big government, the picture changes in two ways, because of fiscal deficits and Reserve Bank interventions. With a developed social security system, the collapse in cash flows which occurs when a boom becomes a panic will be at least partly ameliorated by a rise in government spending—the classic “automatic stabilisers”, though this time seen in a more monetary light. The collapse in credit can also be tempered or even reversed by rapid action by the Reserve Bank to increase liquidity. With both these forces operating in all Western economies since WWII, Minsky expected the conventional cycle to be marked by “chronic and ... accelerating inflation”¹³.

That last prediction is the only one that Minsky got wrong. He developed most of his analysis before Vockler's reign at the US Federal Reserve, and before Thatcher and Reagan and like-minded governments across the OECD suppressed demand sufficiently to drive inflation largely out of the system—while doing nothing to attenuate the rise in private debt. Now, the scenario that Minsky argued we should always attempt to avoid—a debt-deflation—appears a distinct possibility once more.

Endnotes

1. See for example Olivier Blanchard and Jeffrey Sheen, *Macroeconomics*, Pearson, Frenchs Forest, 2007, Chapter 4, or Douglas McTaggart, Christopher Findlay and Michael Parkin, *Macroeconomics*, Pearson, Frenchs Forest, 2007, Chapter 26.
2. Finn E. Kydland and Edward C. Prescott, ‘Business Cycles: Real Facts and a Monetary Myth’, *Federal Reserve Bank of Minneapolis Quarterly Review*, 1990, 14:2 (Spring), pp. 3-18.
3. Ibid. pp. 15-17.
4. Lance A. Fisher, Glenn Otto and Graham M. Voss, ‘Australian Business Cycle Facts’, *Australian Economic Papers*, 1996, 35, pp. 300-320, p. 315.
5. Steve Keen, ‘Keynes's ‘revolving fund of finance’ and transactions in the Circuit’, in Wray, R., (ed.), *The 60th Anniversary of Keynes's General Theory*, Edward Elgar, Aldershot, 2007 (forthcoming).
6. Eugene F. Fama and Kenneth R. French, ‘The Capital Asset Pricing Model: Theory and Evidence’, *Journal of Economic Perspectives*, 2004, 18, Issue 3, pp. 25-46.
7. Steve Keen, ‘Finance and economic breakdown: modelling Minsky's Financial Instability Hypothesis’, *Journal of Post Keynesian Economics*, 1995, 17, pp. 607-635.
8. Hyman Minsky, *Inflation, Recession and Economic Policy*, Wheatsheaf, Sussex, 1982.
9. Ibid, p. 121.
10. Ibid, pp. 120-124.
11. Ibid, p. 123.
12. Ibid, pp. 70, 115.
13. Ibid, p. 85.

DEEPER IN DEBT: AUSTRALIA'S ADDICTION TO BORROWED MONEY

Appendix B: Who was Charles Ponzi?

Ponzi's name will be forever associated with doomed "get rich quick" schemes, because he constructed one of the most blatant in history, in the heartland of American financial capitalism, at the beginning of America's economic and political dominance of the 20th century. In late 1919, while living in Boston, he realised that there was an arbitrage possibility in a system of international stamp coupons that had been developed to enable cross-country correspondence in the early 20th century.

Person A in country X could send a letter to person B in country Y, and enclose a coupon that could be used to redeem a stamp in country Y for a return letter. The prices of these coupons were set in national currencies prior to World War I—for argument's sake, let's say that a coupon cost \$1 in the USA and 1 lira in Italy in 1914. The War dramatically affected relative currency values, so that—again, for argument's sake—one Lira at the end of WWI was worth only one American cent. But that one lira still bought one international stamp coupon, which still cost \$1 in the USA.

Ponzi realised that if someone could send an American dollar to Italy, convert that dollar to lira, buy 100 stamp coupons for 100 lira, and ship those coupons back to the USA, they could be sold there for US\$100—an enormous arbitrage profit.

In reality, these coupons were penny items, not dollar ones; transaction costs—shipping to Italy and back, paying commission to agents, etc.—would have eliminated the arbitrage profit; and the actual volume of sales in the USA was trivial—under \$20,000 per year.

But Ponzi had finally found a scheme which was, on paper, feasible (it also appears that he believed his own hype, and had no idea of how limited the volume of trade actually was). Having a money-making scheme but no actual money himself, Ponzi approached many individuals with his plausible story, and the promise to return 50% on any investment in 45 days—the turnaround time he estimated between getting funds in the USA, and finally selling the Italian-sourced coupons back in the USA. He also promised to return money within 45 days, if any investors got "cold feet".

He failed to raise any funds from the "big money men", but found it possible to secure small sums from smaller investors. He established a shopfront and opened his business on December 1 1919, with the finance for his shopfront being provided by pawning his wife's jewellery.

He received his first "investments" well before he had worked out the mechanics of his scheme, so as the payment day approached, he paid out the first investors with money deposited by later investors. So long as the queue of new investors grew exponentially, Ponzi could continue his scheme, paying out fabulous profits to those 45 days ahead in the queue, from the deposits of those behind them.

One of the world's best documented financial manias then ensued, until such times as more sober minds exposed the scheme, which led to mass demand for withdrawals. The scheme then collapsed, after being afoot for no more than eight months. No arbitrage had in fact occurred, while Ponzi and those who got out early had spent up bigtime—so that in the end, the vast majority of participants in the scheme lost large amounts of money, with the collective losses estimated in millions. The twenty thousand souls who were still in the scheme when it collapsed received back 37.5% of their funds. Most of the remainder had already been paid out to the lucky ones who were ahead of them in the payment queue ¹.

Incidentally, Charles Ponzi was not all bad. In a truly remarkable act of selflessness, he twice donated his own skin to save the life of a nurse who had suffered horrific burns, and was otherwise destined to die. Her doctor had tried to get fifty people to each donate one inch of skin for the graft in a town

of 2,000, and had no more than ten tentative takers, when Ponzi offered to provide the entire 50 inches needed—and when the in fact 72 inches taken proved insufficient, he subsequently donated an additional 50 inches. These acts of humbling generosity not only cost Ponzi his own skin, and several months in hospital, but also aborted one of his earlier “get rich quick” schemes². Somehow I can't see the financiers who have profited from Australia's real estate Ponzi Scheme being anywhere near as generous.

Endnotes

1. Mitchell Zuckoff, *Ponzi's Scheme: the True Story of a Financial Legend*, Random House, New York, 2005, pp. 284, 298.
2. Ibid, pp. 52-54.

DEEPER IN DEBT: AUSTRALIA'S ADDICTION TO BORROWED MONEY

Appendix C: Consumer credit reform proposals

The recently-formed Predatory Lending Coalition¹, and the various submissions to the Productivity Commission's review of Australia's Consumer Policy² and the House of Representatives inquiry into home loan lending practices and processes³ offer detailed practical recommendations for improving the operation of Australia's credit policy framework.

The work of the organizations involved with these projects has focused on immediately achievable changes to existing systems and structures. Detailed plans for national regulation of mortgage and finance brokers already exist (brokers have been calling for them since 2002) – and implementation is now within sight, despite federal delays on the basis of cost-benefit concerns⁴. The groups' other main policy recommendations focus around empowering consumers and regulating lenders in the credit relationship, with many of their observations based on successful international models.

Prominent among recommendations is the call for Australia to develop a coherent cross-market approach to consumer policy and competition policy, as exists in Europe and North America. This could be supported by a 'principles document' describing a national rationale for consumer law and policy consistent with the eight consumer rights already articulated by the international consumer movement⁵.

Protection against substantive unfairness in consumer contracts could be provided in this document, or by reform to the Trade Practices Act or specially targeted legislation as in the UK's Unfair Terms in Consumer Contracts Regulations 1994 (UK). Other areas of focus for the overarching framework would include universal access to base-model essential credit products, consumer education and information programs, meaningful disclosure requirements, and dispute resolution principles. It should also include clear reference to the need for lenders to consider the borrowers' capacity to actually repay the loan.

The principles document would be developed and reviewed with input from an Australian equivalent to the UK's National Consumer Council, which would engage in pro-active evidence-based research and consumer consultation to inform the policy development activities of the Ministerial Council on Consumer Affairs. This would enhance both the responsiveness and the efficiency of the MCCA's development of national policy and priorities for Australia – as is sorely needed.

More specifically, submissions from stakeholders call for structural reform to the regulation mechanisms for lenders to remove the current 3 or 4-tier system and the loopholes afforded by the operation of several different pieces of legislation – Trade Practices Act, ASIC Act, and the State and Territory Fair Trading Acts. At minimum, regulation responsibility must be vested in one body, at the Commonwealth level – and ASIC appears to be the most appropriate candidate for the role.

To close existing loopholes in the Universal Consumer Credit Code, small business and personal investment lending needs to be considered alongside credit, rather than financial services. Finance and mortgage brokers must be covered as well as the credit providers themselves. Regulation should include systems of licensing and compulsory membership of accredited external dispute resolution schemes, as it does currently for APRA-regulated deposit-taking lenders. Enforcement could be carried out by extending APRA's current powers to regulate non-deposit-taking lenders.

The question of whether Australia needs a statutory dispute resolution scheme under a Financial Services Ombudsman or can rely on an expansion of the self-regulation system currently undertaken by deposit-taking lenders in this sector is one which would require additional research and modeling to resolve. Similarly, the appropriate extent and range of regulatory powers and penalties continues to be discussed.

Endnotes

1. The Coalition includes the Consumer Credit Legal Centre (NSW), Consumer Law Centre ACT, Consumer Action Law Centre (Vic), Consumer Credit Legal Service (WA), Abacus – the Association of Building Societies and Credit Unions, Australian Bankers' Association, the Consumers Federation of Australia, Mortgage and Finance Association of Australia, Legal Aid (NSW and Queensland), Centre for Credit and Consumer Law, Public Interest Law Clearing House (NSW) and several law firms.
2. See <http://www.pc.gov.au/inquiry/consumer/index.html>
3. See <http://www.aph.gov.au/house/committee/efpa/banklending/index.htm>
4. 'States battle Treasurer on credit reform', *Australian Financial Review*, 20 August 2007.
5. United Nations Guidelines for Consumer Protection:
http://www.un.org/esa/sustdev/publications/consumption_en.pdf

DEEPER IN DEBT: AUSTRALIA'S ADDICTION TO BORROWED MONEY

Appendix D: Source data

Source data and tables for the graphs in this paper can be downloaded from <http://cpd.org.au/paper/deeper-debt>.

Deeper in Debt Graphical Appendix

This Appendix contains graphs and tables that, while important for the arguments developed in the report, have been moved from the body of the report to improve readability. They maintain the same numbering system as in the body itself.

Figure 05 Data

Figure 5B: Investor Lending Percent of Housing Lending

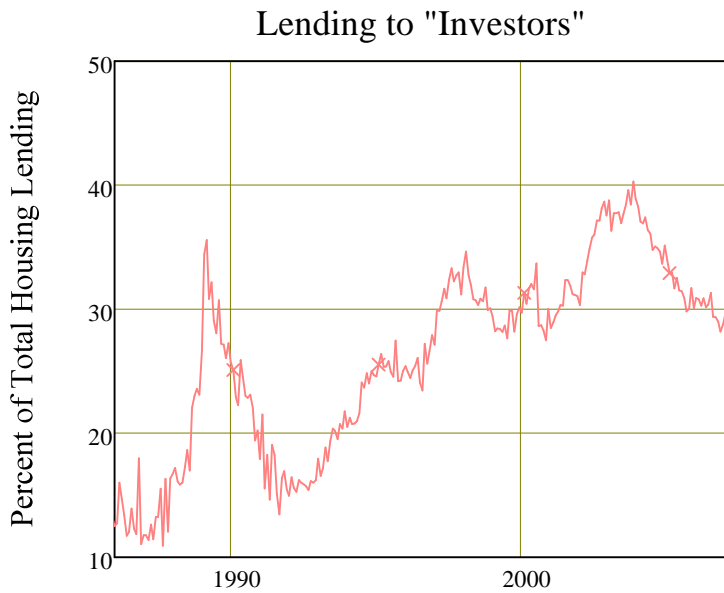
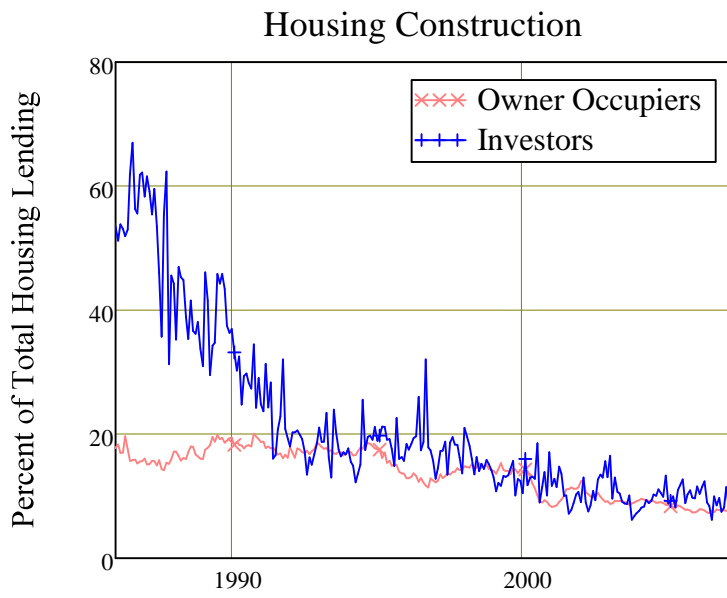
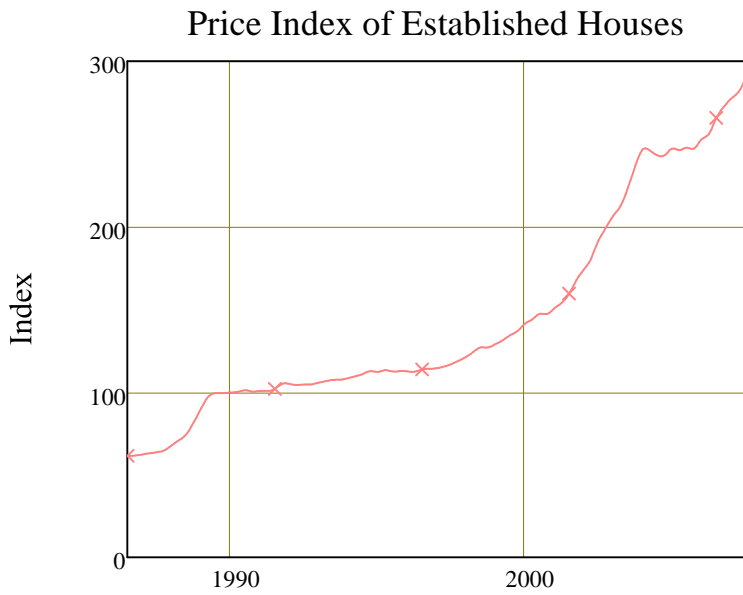


Figure 5C: Construction Percent of Housing Lending



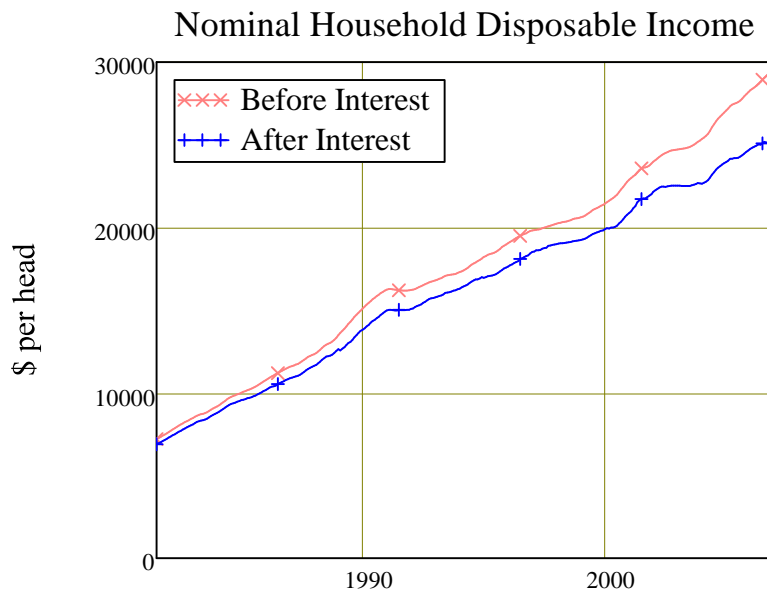
House Price Index Data

Figure 6A: House Price Index



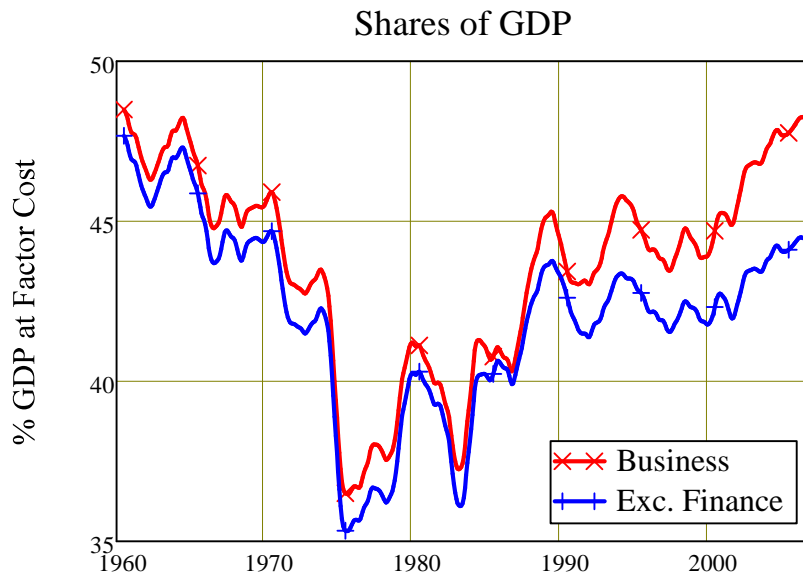
Interest burden on HDI Data

Figure 12A: Per Capita Household Disposable Income



Income Distribution Data

Figure 13C: Profit share adjusted for finance profits



Correlation Tables

	0	1	2	3
$C_{02} =$	"Variable"	"Business"	"Business"	"Mortgage"
	"Compared to"	"GDP"	"GDP"	"GDP"
	"Start Date"	1984	1989	1976.667
	"End Date"	1989	2007.25	1989

4	"Growth Rate"	11.191	-1.275	2.181
5	"Correlation %"	99.525	-7.266	...

$$C_{03} =$$

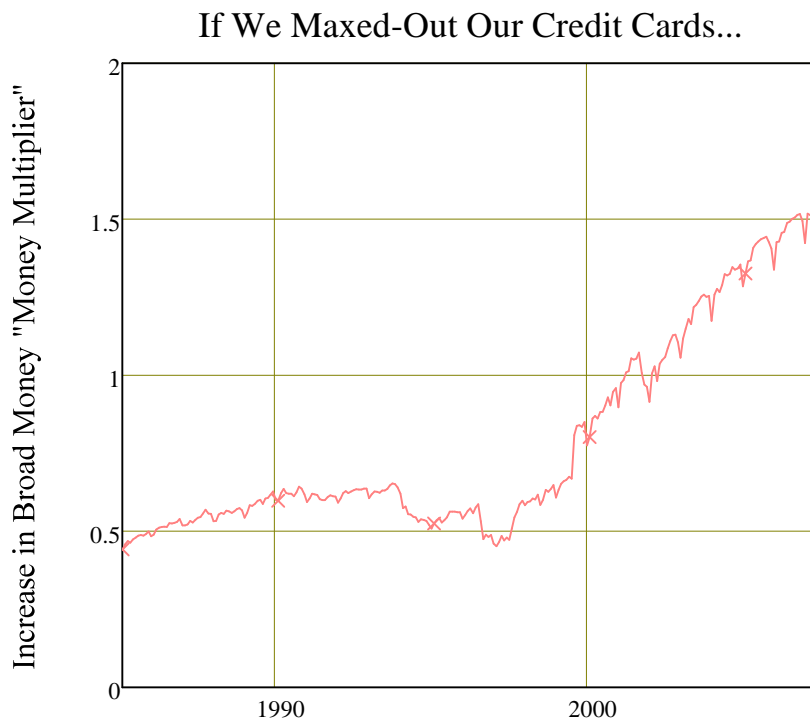
	0	1	2
0	"Variable"	"Business"	"Business"
1	"Compared to"	"Non-Financial GOS"	"Non-Financial GOS"
2	"Start Date"	1984	1989
3	"End Date"	1989	2007.25
4	"Growth Rate"	7.855	-1.811
5	"Correlation %"	97.577	...

$$C_{04} =$$

	"Variable"	"Credit Card Limits"	"Limits"	"Balances"	"Balances"
	"Compared to"	"HDI"	"HDI"	"HDI"	"HDI"
	"Start Date"	1.985×10^3	1.995×10^3	1.985×10^3	1.995×10^3
	"End Date"	1.995×10^3	2.007×10^3	1.995×10^3	2.007×10^3
	"Growth Rate"	2.537	9.925	0.116	11.26
	"Correlation %"	36.493	99.038	-48.477	98.761

Credit cards money data

Figure 16B: Credit Cards and the "Money Multiplier"



Household Assets Data

Figure 17B: Durable Goods as "the Biggest Loser"

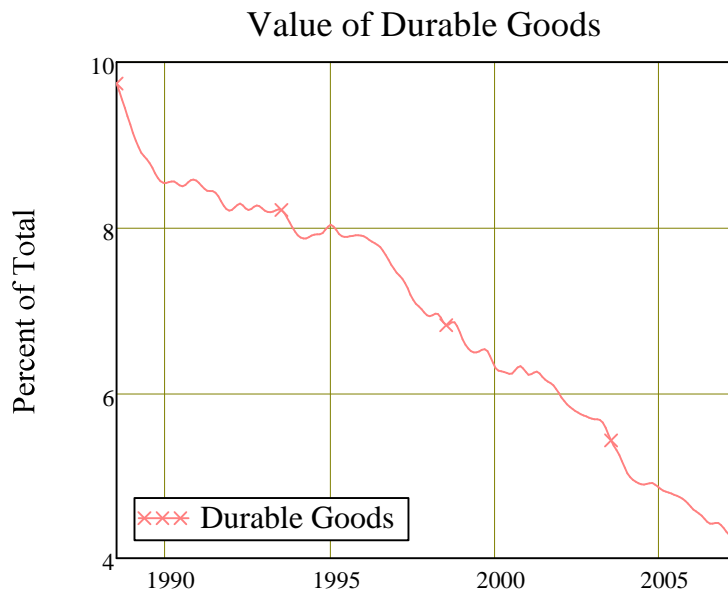


Figure 17C: Housing as Australia's "Casino of Choice"

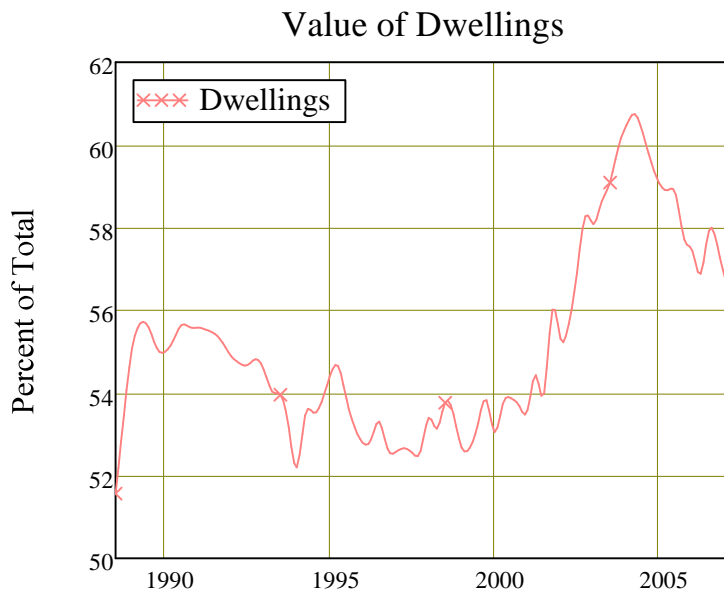


Figure 17D: The Financial Assets Roller-Coaster

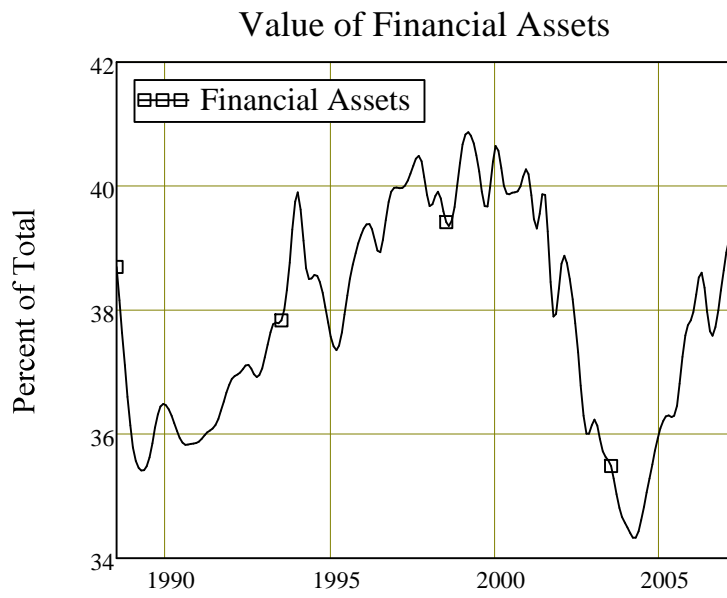


Figure 17E: The Equity Play

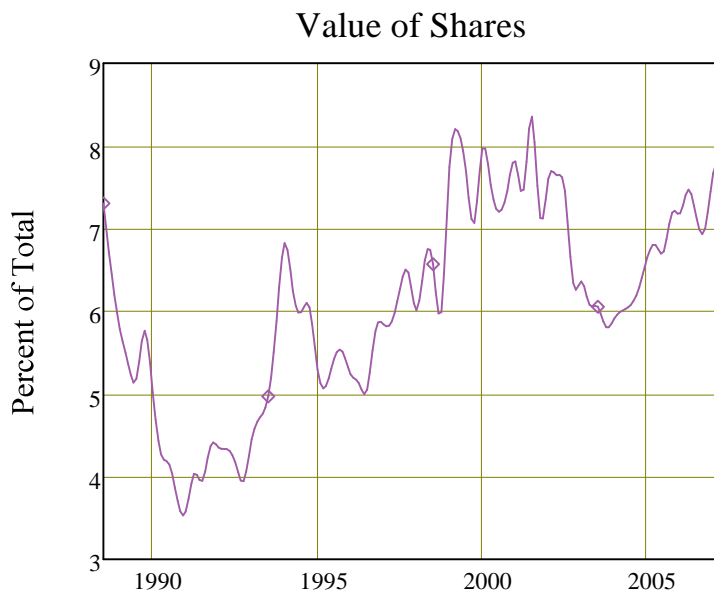
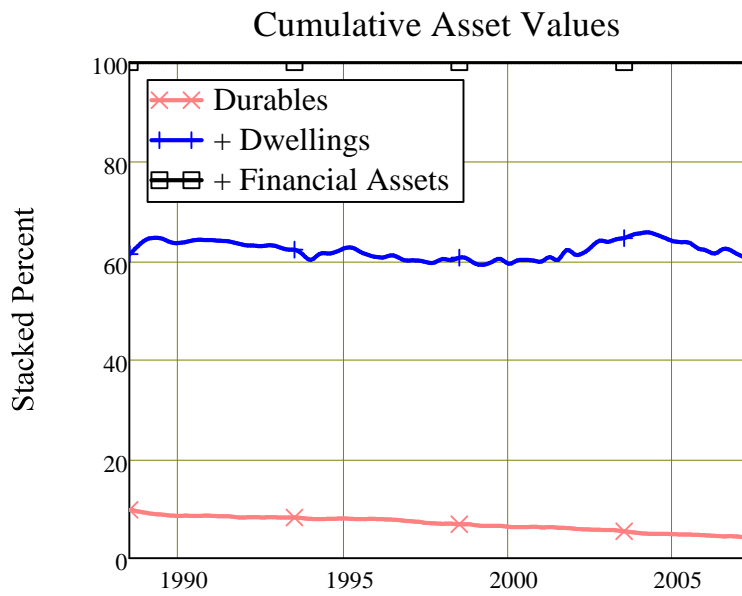
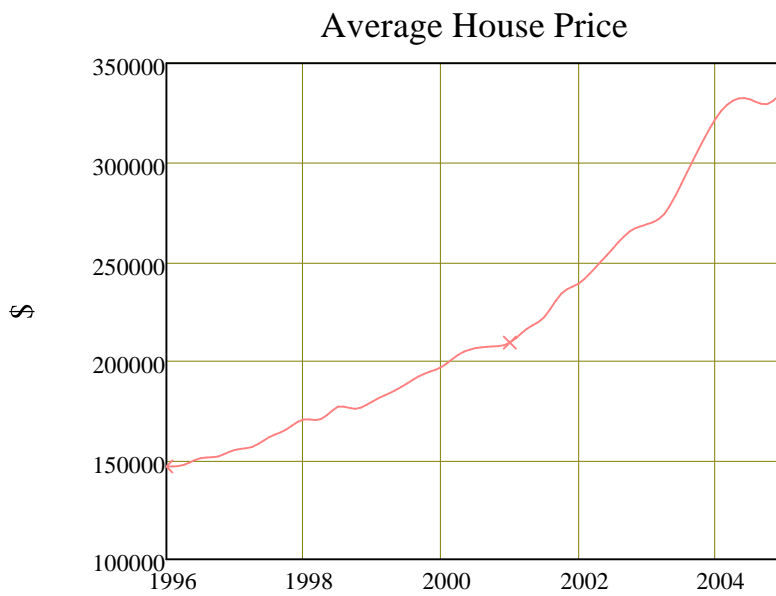


Figure 17F: After 20 Years, "Much Ado About Nothing"



Housing Stock Data

Figure 19B: Explosive increase in the price of houses




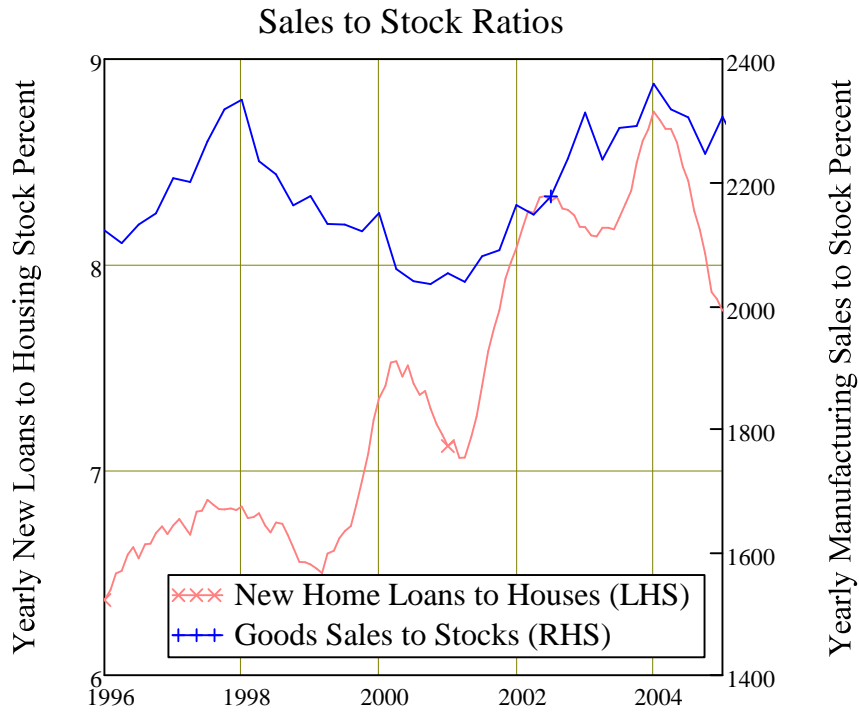
 Dwelling Value and Mortgage Indices

Figure 20B: Narrow property market vs broad goods market



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