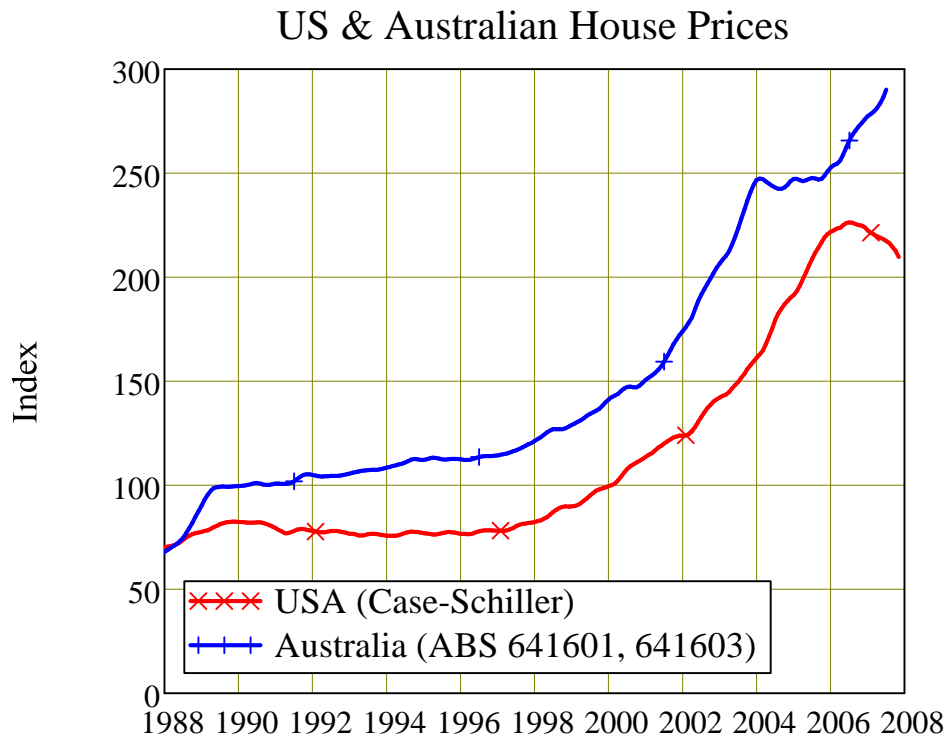


## Steve Keen's DebtWatch No 19 February 2008

### *Stevens is from Mars, Bernanke is from Venus?*

#### Chart of the Month: Who's Having a Housing Bubble then?



The disconnect between Australian and American interest rate policies is once again so extreme, that it seems the two Central Banks reside on different planets. Australia's "Rambo" RBA is still waging the war against inflation, while the "Sensitive New Age" Federal Reserve is clearly trying to soothe the troubled financial markets. In mid-2006, Reserve rates had converged to differ by a mere 0.5%; now, they are 3.75% apart after the Fed's dramatic January pre-meeting rate cut of 0.75%, and subsequent meeting cut of another 0.5%. Australia's reserve rates are now 2.25 times those of the USA's.

In 2002-06, when there was last such a policy disconnect, the difference was justified by clearly divergent economic conditions. The USA was severely affected by the bursting of the Internet Bubble, while Australia had escaped relatively unscathed. Then, the USA's rate of growth fell to a barely positive 0.2%, while Australia's real rate of economic growth slowed, but remained above 1.5% p.a.

This time, a similar gap has opened up after the bursting of yet another bubble--the so-called Subprime Lending Crisis. To date, our RBA seems to have taken a punt that history will repeat itself, and the negative effects of this bubble's collapse will also be confined to the USA.

But what if the **wrong** history repeats: what if, rather than replicating the 2000 experience, we replicate the 1990s?

**Note to Subscribers:** *I have been overseas in Europe for the last month, and get back to Sydney late on Monday February 4th. I will be available for comment from the morning of Tuesday February 5th.*

$$F01_{01} := rReserve_{USA}$$

$$F01_{02} := rReserve_{AusAll}$$

$$F01_{Start} := 1985$$

$$F02_{01} := Subtract(rReserve_{AusAll}, rReserve_{USA})$$

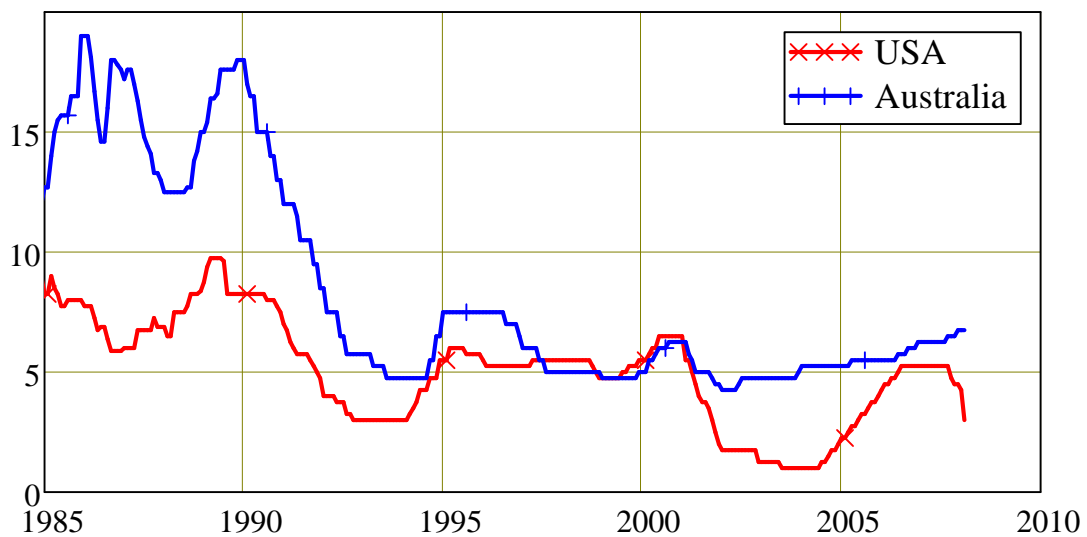
$$F01_{End} := 2010$$

$$FirstDate(rReserve_{Aus}) = 1990.08$$

$$F03_{01} := Divide[rReserve_{AusAll}, (rReserve_{USA})]$$

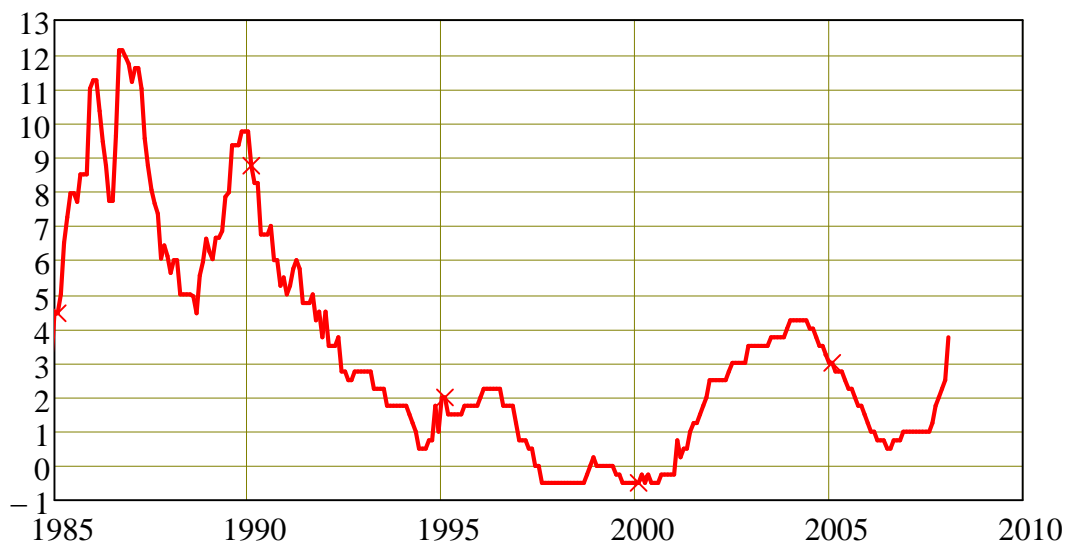
**Figure One**

Reserve Interest Rates



**Figure Two**

### Gap between Australian and US Reserve Interest Rates



**Figure Three**

### Ratio of Australian to US Reserve Interest Rates



Then, both countries experienced a stock market bubble and crash, followed in short order by a commercial property market bubble and crash. The Australian government increased interest rates far more aggressively than the US government, in an attempt to rein in both inflation and the rampant property market.

It was excessively successful: not only was inflation driven out of the system, but growth collapsed as well. Australia's rate of economic growth tumbled from more than 2 percent above the USA to over 3 percent below it. The 1990s recession in Australia lasted longer than in the USA, and drove unemployment higher. The Australian government was forced to rapidly change tack on interest rates, dropping them from 18 percent to under 5 percent over the next 3 years.

***Which way should rates go?***

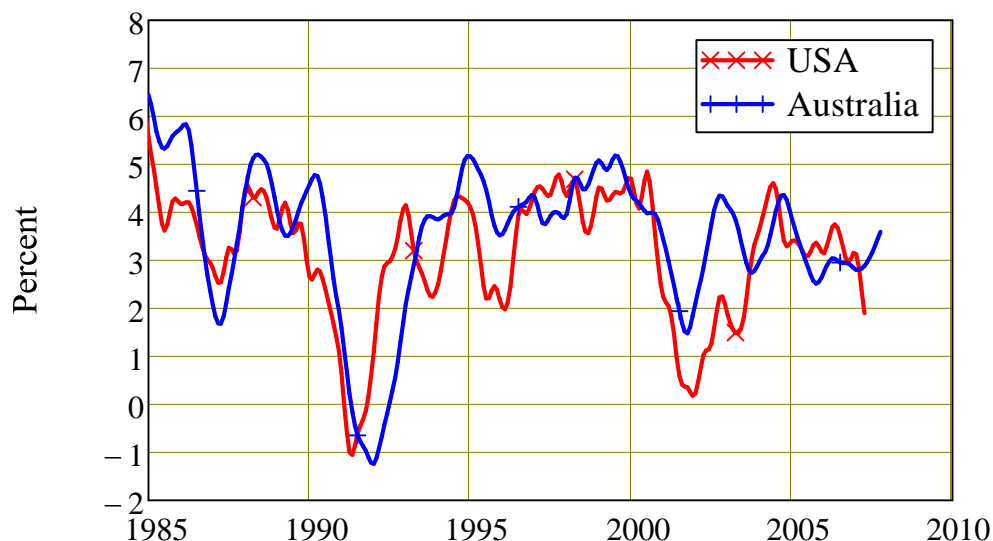
Today, the US Fed clearly believes that rates have to fall substantially to avert a serious financial crisis and a possible recession, whereas the RBA believes rates have to rise to control inflation. Both Central Banks can't be right, unless the fundamentals in the two economies are fundamentally different. So just how different are they?

## Economic Growth

The difference in rates of economic growth are exaggerated by the US practice of multiplying the current quarter's rate of growth by four to estimate the annual rate of growth; Australia, on the other hand, uses the rolling sum of the last 4 quarters to estimate the annual rate of growth. When the less volatile Australian standard is applied to both economies, Australia's economy still appears to be growing more rapidly than the USA, but the current gap is just one percent.

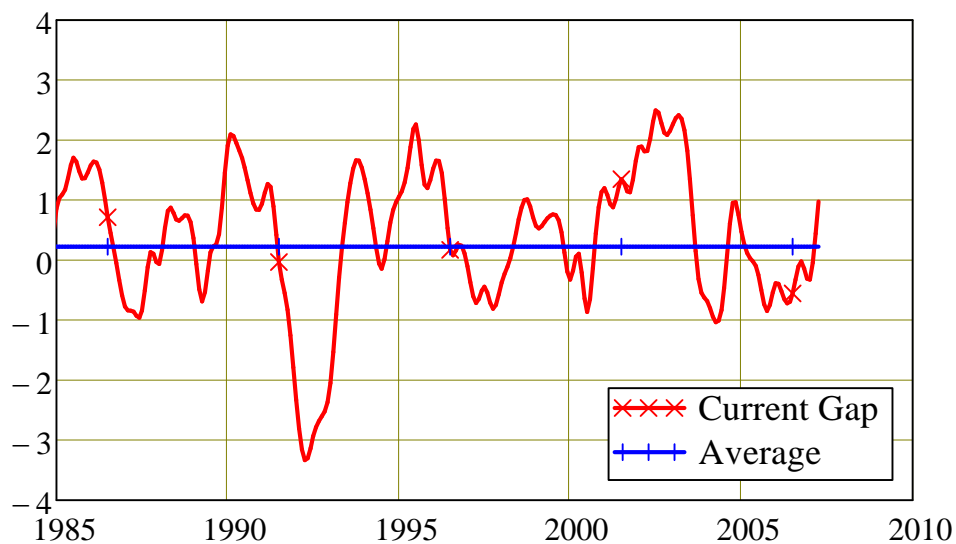
**Figure Four**

### Growth in Real GDP



**Figure Five**

### Gap between Australian and USA Growth Rates



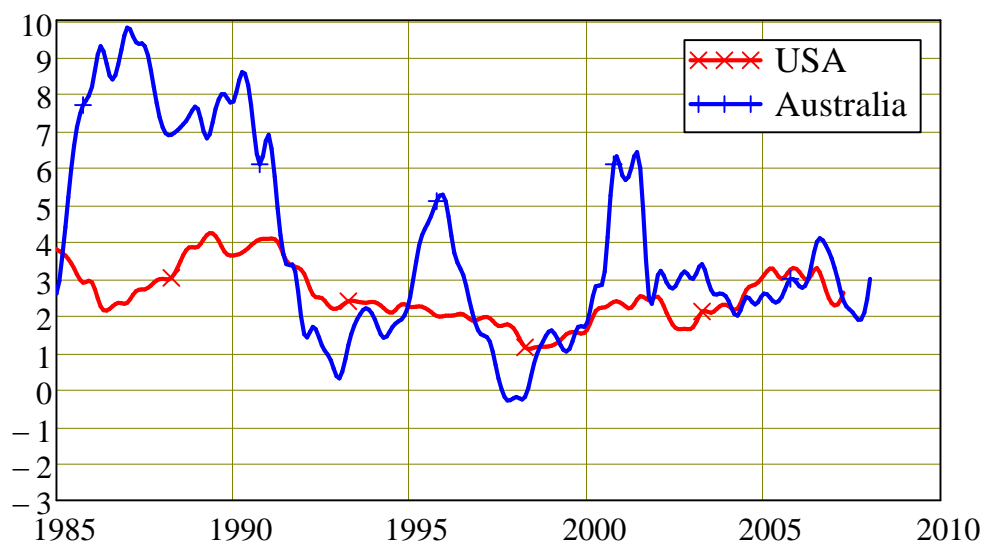
### Inflation

The rates of inflation are almost identical today, and well below the mean for the last two decades, when generally Australian inflation was two percent higher than the USA's. Today, as measured by the CPI, our inflation rate is the same as America's.

So rates of economic growth are similar, and rates of inflation are almost identical. How different then are asset markets?

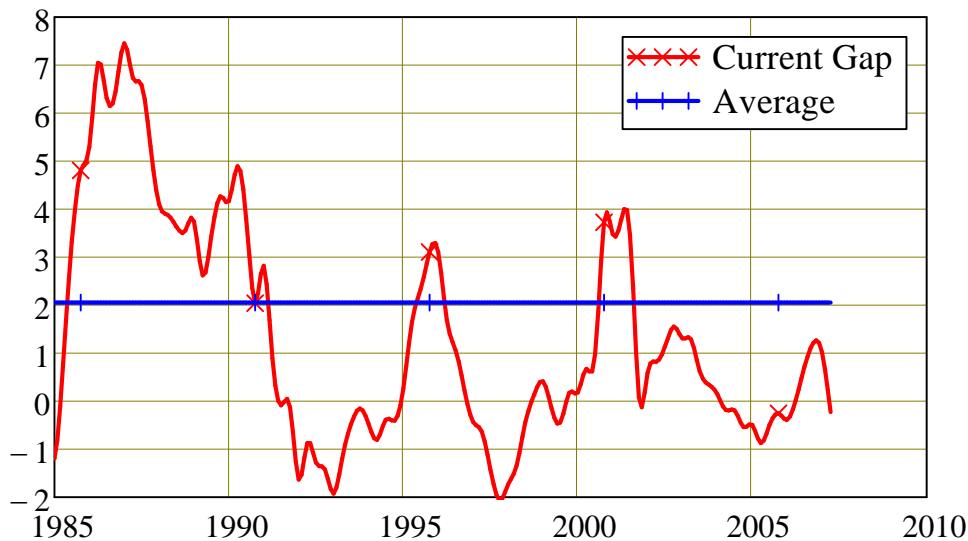
**Figure Six**

### Inflation



**Figure Seven**

## Gap between Australian and USA Inflation Rates



### Asset Markets

Since the Subprime Crisis broke, the Federal Reserve has clearly been concerned that the collapse in US house prices will drive its economy into recession--and the precipitous fall in the US stock market since the beginning of 2008 has only added to the worries that a serious "credit crunch" is taking place. It is ignoring signs of a resurgence in inflation--driven by rising global energy prices--and driving interest rates down aggressively.

The Australian RBA, on the other hand, has been outwardly confident that there is no local parallel to the Subprime Crisis, and more worried that a fast growing economy is inducing rising inflation. They seem to believe that Australian asset markets--both stocks and housing--are not as fragile as their US counterparts. They therefore regard the pain that higher interest rates might damage growth and asset markets are as worth the gain of lower inflation.

I think the RBA's judgment here is flawed. On the data, the Australian stock market has outdone the US market on irrational exuberance since mid-2004, while the Australian housing market makes the US look subdued by comparison. The historic parallels are not with 2000, but with 1987/89.

On the stockmarket front, while our market has been growing more slowly and sanely than the US since 1984--and it clearly didn't join the US in its orgy of speculation over the Internet--since mid-2004 the ASX has clearly been in a bubble. The annual growth rate doubled from the 1984-2004 average of just under 9% to 17.4%. On the other hand, the US market's growth rate in the last three years has been the same as its trend rate of growth since 1984, of about 10.9%.

## Figure Eight

## US &amp; Australian Asset Markets Trends

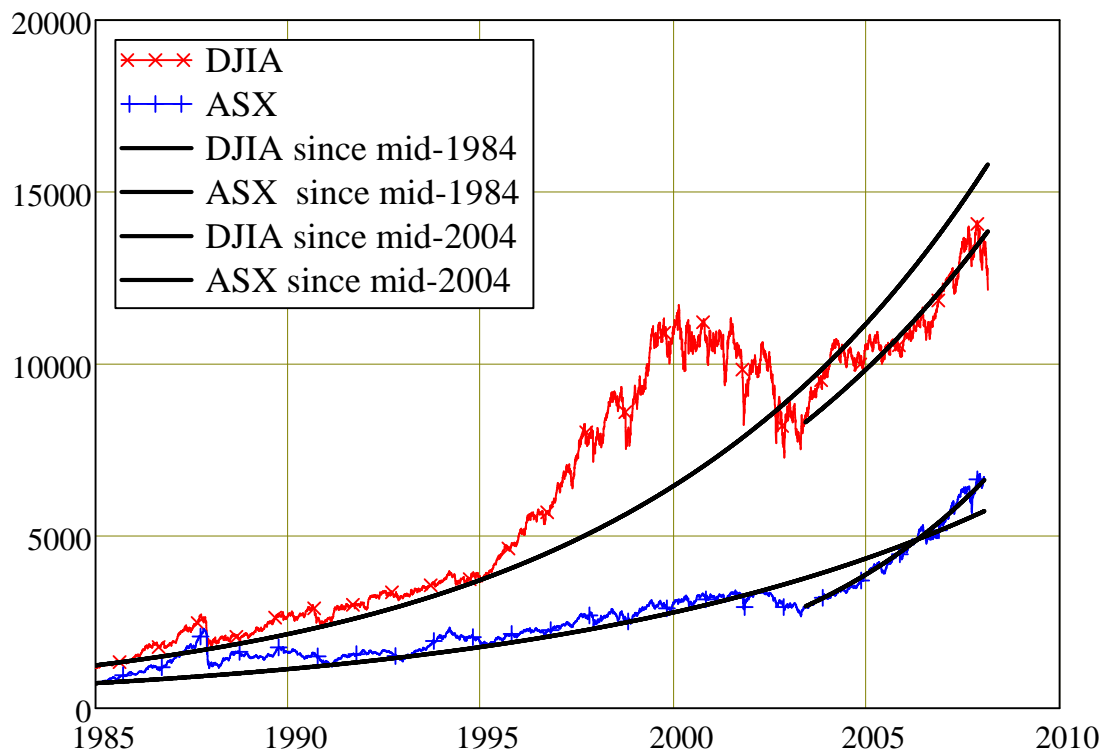
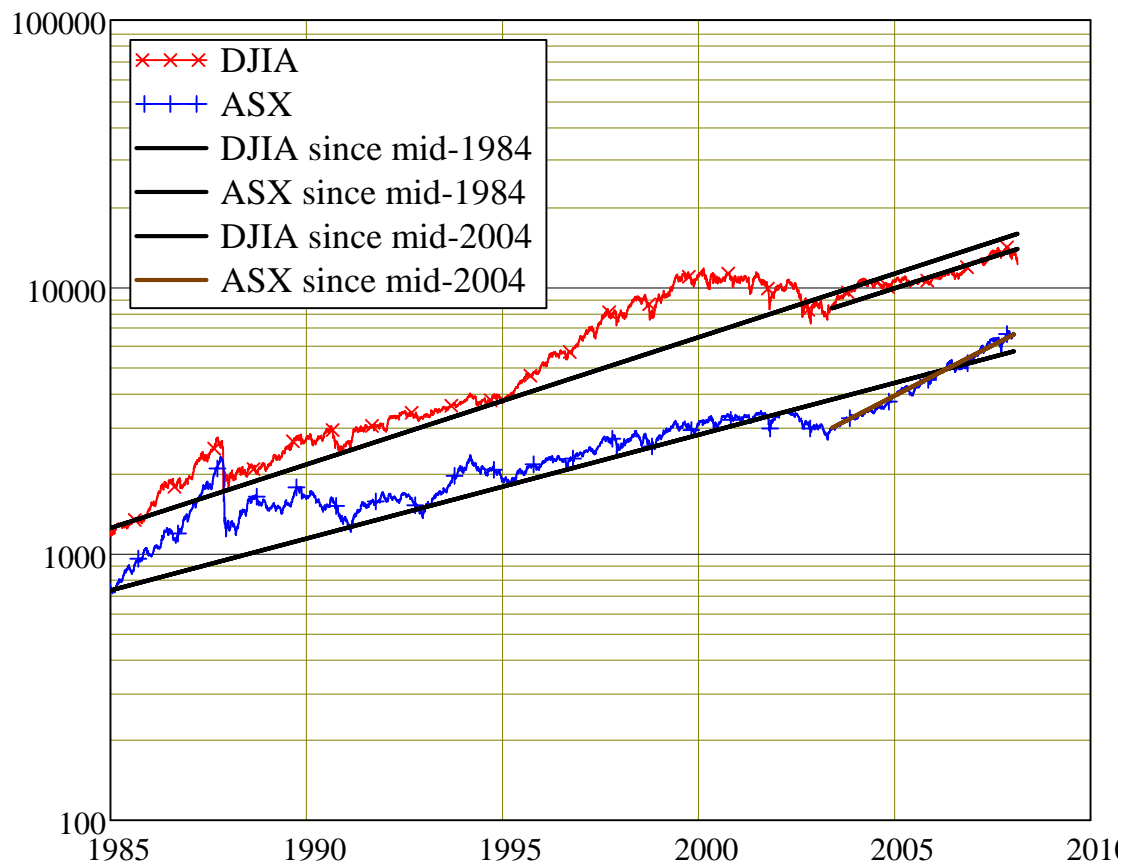


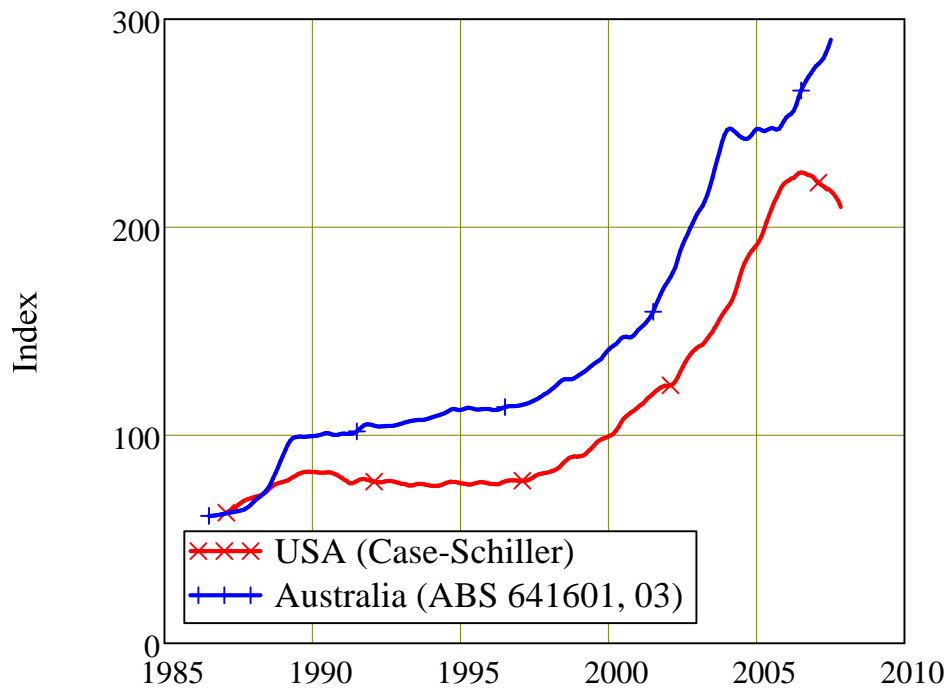
Figure Nine

## US &amp; Australian Stock Markets Trends



The real "gimme" though is in housing, where our bubble makes the USA's look positively anaemic. Ours began earlier, climbed higher, grew faster, and is still growing--whereas the US's market is clearly in free-fall.

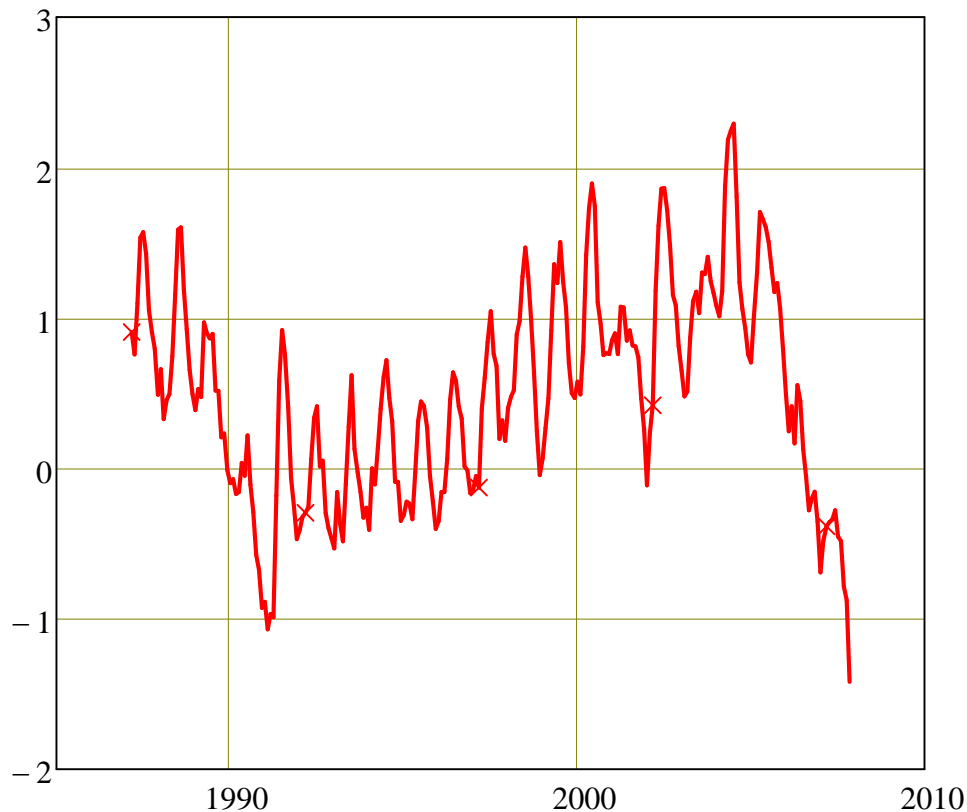


**Figure Ten****US & Australian House Prices**

The US price index is now falling at a rate that exceeds one percent *per month*--an unprecedented rate of decline.

**Figure Eleven**

## Monthly Percent Change in US House Prices



Both asset bubbles in both countries have been driven by the Ponzi-Scheme belief that house prices could forever rise faster than consumer prices, so that leveraged speculation on housing was a sure "road to riches". But while Ponzi Schemes work for those who get in and out early, those who hang around too long find out the hard way that it's the sure road to bankruptcy instead. Once a Ponzi Scheme ends, all that's left at the national level are

- overvalued assets
- much higher debt, and
- a compromised financial sector.

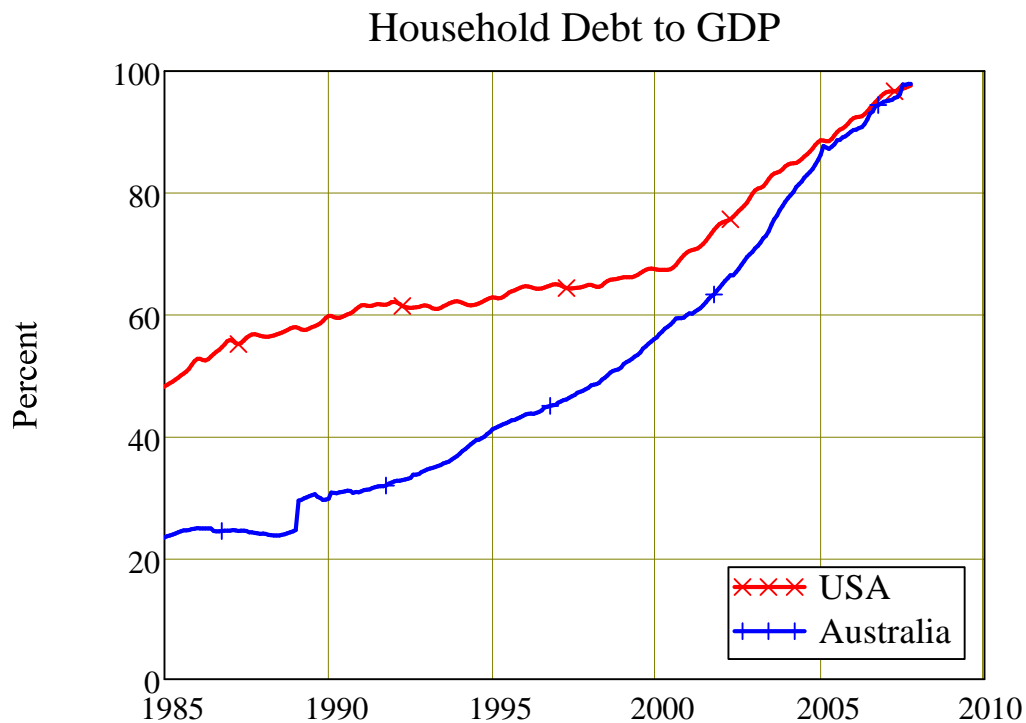
These are the consequences that the USA is now grappling with--and while I think the Federal Reserve is right to worry about the state of the USA's economy, it is also undoubtedly complicit in allowing these bubbles to develop in the first place.

As is obvious from the above graphs, Australia's asset prices are just as shaky as those that are currently tumbling in the USA.

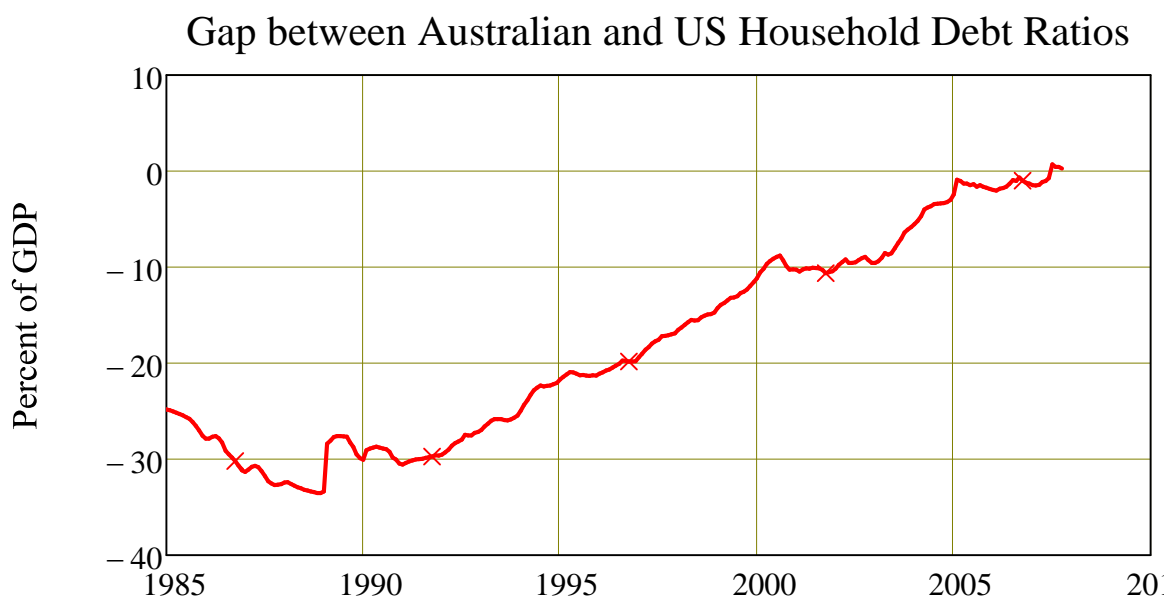
We can tick the first box on the Ponzi scheme checklist.

The second is even more easily ticked. Though the Subprime Crisis has distinctive features that are not replicated here--such as the widespread use of "Adjustable Rate Mortgages"--lending to households for real estate speculation has been even more rampant in Australia than in America. In 1985, Australia's household debt to GDP ratio was half that of America's; today, it is the same.

**Figure Twelve**



**Figure Thirteen**



What about the third box--the state of the financial sector? Here, though there have been obvious casualties--RAMs and Centro in particular--the widespread banking trauma that has afflicted Wall Street has been notably absent here, and the levels of personal bankruptcies and mortgage foreclosures are much lower.

One important reason as to why may simply be the nature of the housing market. In many American states, a borrower who can't meet mortgage commitments has the option of a "key drop", as an almost cavalier means to hand ownership of a house back to the lender. Mortgage originators are then obliged to sell as soon as possible--hence the precipitous decline in US house prices.

Given that so many of these loans were syndicated into bonds, the collapse in house prices has in turn undermined the bond market, and in particular the "repo" business (when companies extend short-term loans to each other by selling a bond and an agreement to buy it back a short time afterwards at a higher price). The collapse in house prices can force these bonds to be "marked to market", eliminating their notional values--and making holding them even for the short term of a repo agreement too risky for financiers to contemplate.

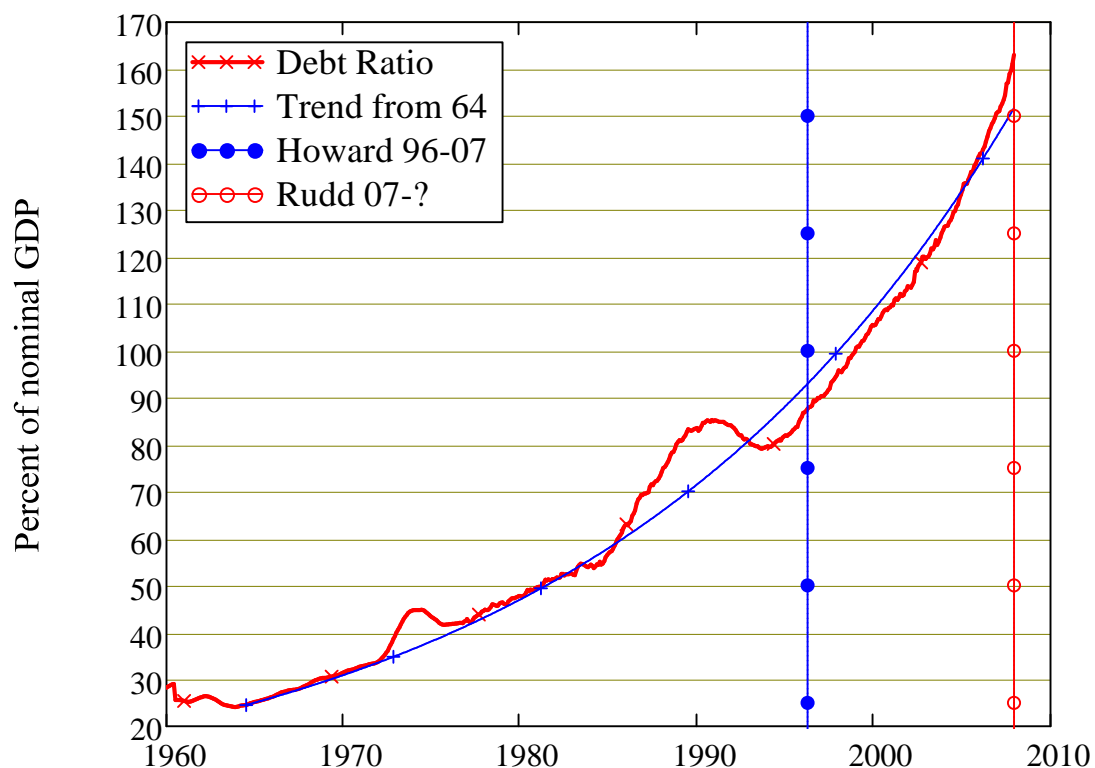
In Australia, even though repossessions and bankruptcies are occurring at a heightened pace, the process of liquidating a repossessed house is much more cumbersome, and lenders prefer to pressure a mortgagor into a forced sale to avoid the 15-20% hit on prices that a mortgagee sale causes. So house prices hold up, bonds don't need to be marked to market, and the financial system continues to function, albeit at a reduced pace.

The role of the China boom also can't be overlooked: just as China has boomed selling consumer goods to the USA, we have boomed selling the raw materials to China. As long as China continues to boom, we are to some extent quarantined from the US's problems.

But if irresponsible lending, rising household debt, and unaffordable house prices have caused a financial crisis in the USA, then sooner or later, we're in for a bigger one still here.

### Chart One

#### Debt and Politics



**Table One: Growth in Debt to GDP**

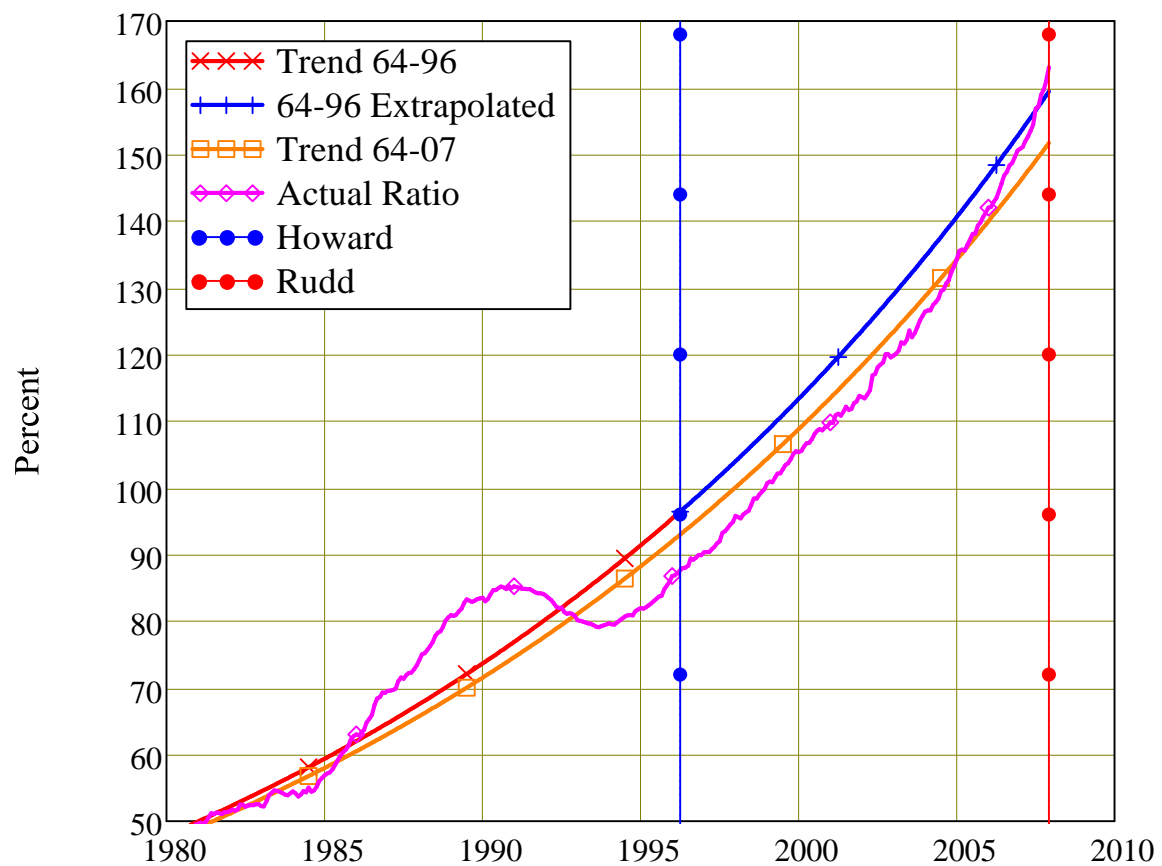
	0	1	2
0	"Debt to GDP Ratios"	"Actual"	"Predicted"
1	"Date"	"Debt to GDP Ratio"	"Growth at 4.16% p.a."

T01 =

2	2008	163	152
3	2007	151	145
4	2006	141	139
5	2005	133	134
6	2004	126	128
7	2003	120	123
8	2002	114	118
9	2001	109	113
10	2000	105	108
11	1999	100	104
12	1998	95	100
13	1997	90	96
14	1996	86	92
15	1995	82	88
16	1994	80	84
17	1993	81	81
18	1992	84	78
19	1991	85	74
20	1990	83	71
21	1989	81	68
22	1988	73	66
23	1987	69	63
24	1986	63	60
25	1985	56	58
26	1984	54	55
27	1983	53	53
28	1982	51	51
29	1981	50	49
30	1980	48	47
31	1979	46	45
32	1978	45	43
33	1977	42	41
34	1976	42	40
35	1975	44	38
36	1974	45	36
37	1973	39	35
38	1972	34	33
39	1971	33	32
40	1970	31	31
41	1969	30	30
42	1968	29	28
43	1967	28	27
44	1966	26	26
45	1965	25	25
46			

**Chart Two**

Debt to GDP Trends



Long Term

**Chart Three**

## Debt to GDP: The Long Term View

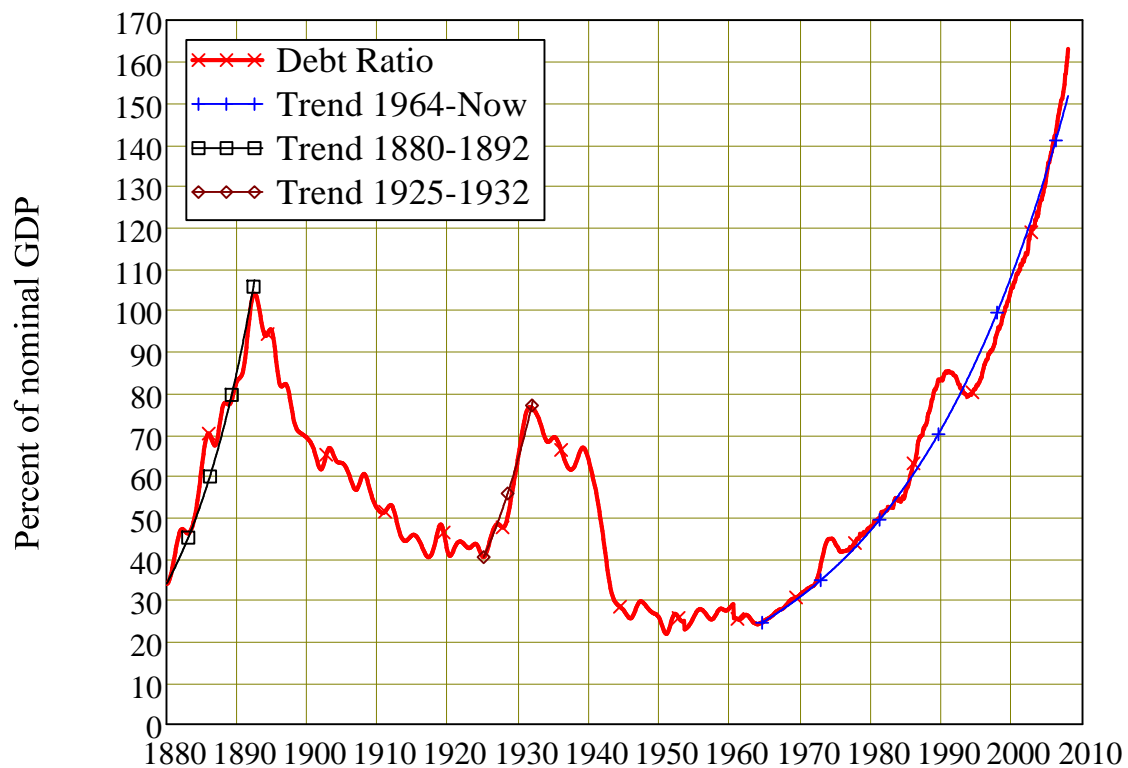


Table One: Aggregated Debt Summary

**Table One**D<sub>1</sub> =

	0	1	2
0	"Summary"	"Total Private Debt"	"Nominal GDP"
1	"Date (levels)"	2007.92	2007.75
2	"Levels (\$m)"	1753635	1063572
3	"Change Month \$m"	30993	6103.63
4	"Change Month %"	1.8	0.58
5	"Change Year \$m"	251990	78015
6	"Change Year %"	16.78	7.92
7	"Since 1990"	8.65	5.43
8	"Since 1980"	11.99	7.92
9	"Since 1964"	13.48	9.39
10	"Date (% GDP)"	2007.92	"N/A"
11	"As % of GDP"	163.07	100
12	"Change Month"	1.25	"N/A"
13	"Change Year"	8.32	"N/A"
14	"Since 1990"	2.95	"N/A"
15	"Since 1980"	4.11	"N/A"
16	"Since 1964"	4.18	"N/A"

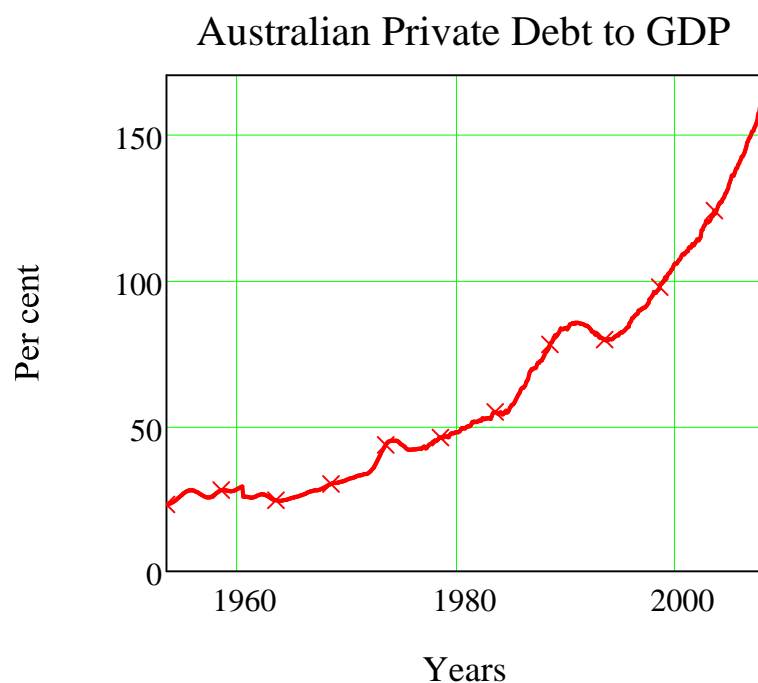
Table Two: Disaggregated Debt Summary

**Table Two**

	0	1	2	3
0	"Detail"	"Business"	"Mortgage"	"Personal"
1	"Levels (\$m)"	692672	908755	152207
2	"Change Mth \$m"	19758	8330	2905
3	"Change Mth %"	2.94	0.93	1.95
4	"Change Yr \$m"	138105	94661	19224
5	"Change Yr %"	24.9	11.63	14.46
D <sub>2</sub> = 6	"Since 1990"	5.04	14.68	5.54
7	"Since 1980"	10.63	14.02	10.45
8	"Since 1976"	11.16	14.3	11.22
9	"As % of GDP"	64.43	84.52	14.16
10	"Change month"	2.39	0.39	1.41
11	"Change year"	15.88	3.56	6.19
12	"Since 1990"	-0.73	9.19	-0.34
13	"Since 1980"	3.01	6.03	2.62
14	"Since 1976"	3.09	5.81	3

**Debt to Income Ratios**

▢ Debt to GDP (D02 &amp; G12)

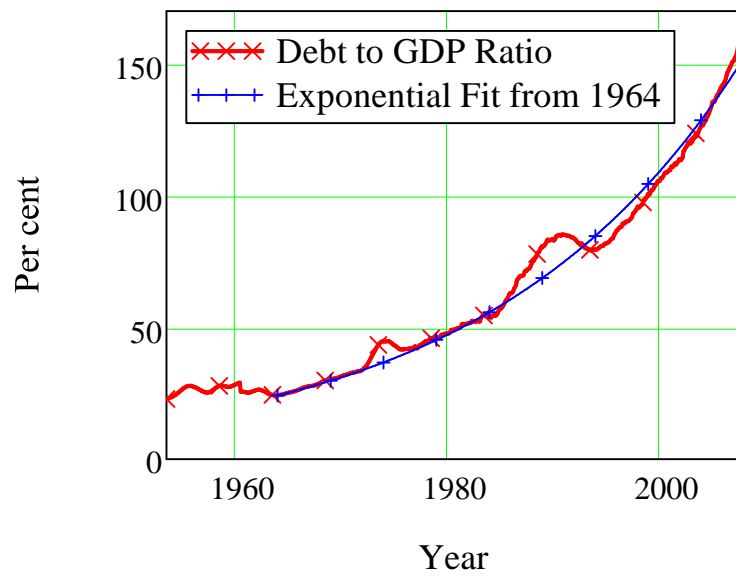
**Figure 1**

▢ Debt to GDP Regression

**Figure 2**



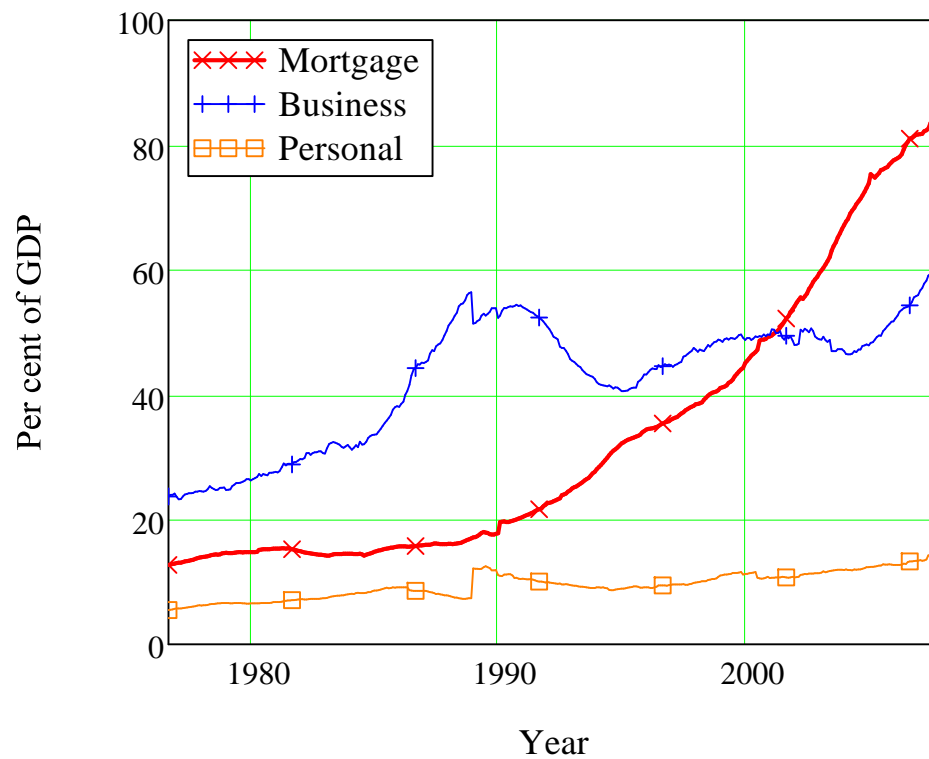
### Australian Private Debt to GDP



▶ Debt Components to GDP

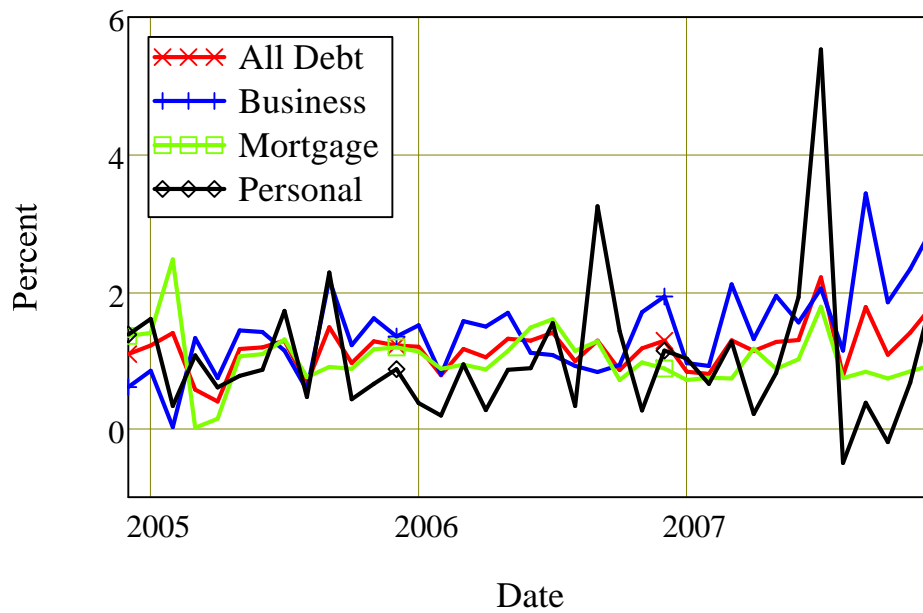
**Figure 3**

### Components of Australian Debt



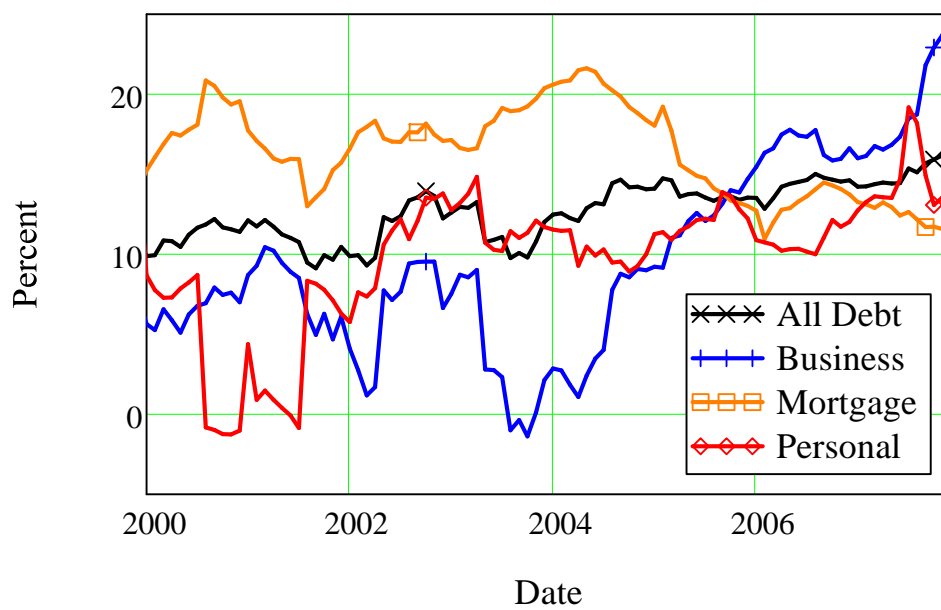
▶ Monthly Growth Rates

### Debt Monthly Growth Rates



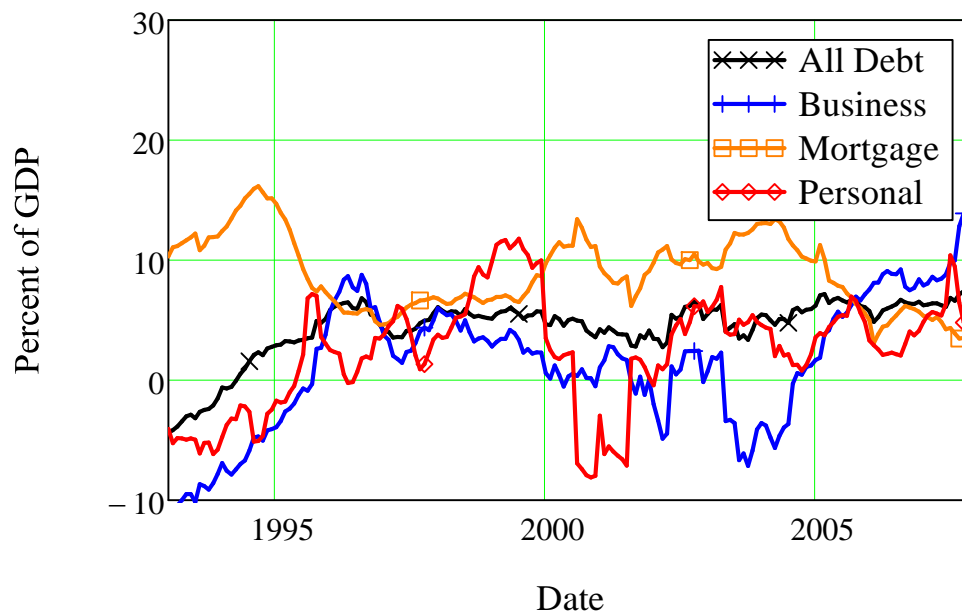
► Yearly Growth Rates

### Debt Yearly Growth Rates



► Ratios Yearly Growth Rates

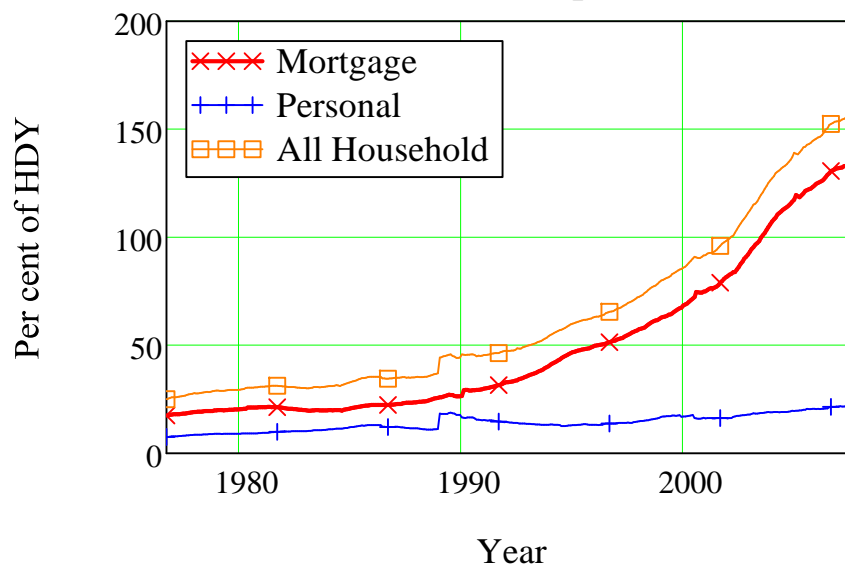
### Debt Ratios Yearly Growth Rates



▶ Debt to Household Disposable Income

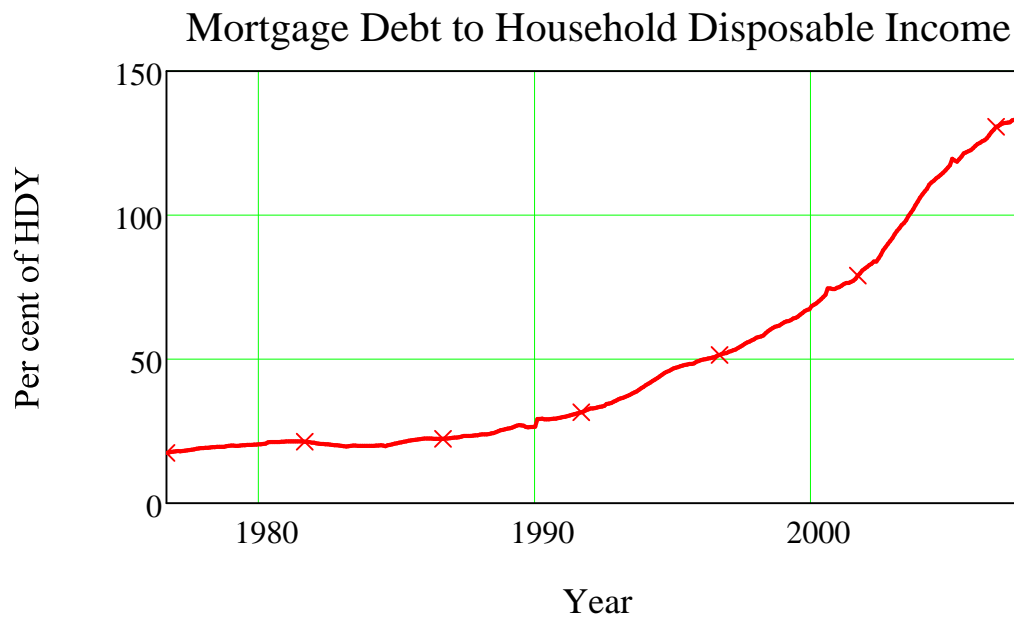
**Figure 4**

### Household Debt to Disposable Income



▶ Mortgage Debt to Household Disposable Income

**Figure 5**



▢ Debt to Household Disposable Income

(the big jump in personal and fall in business debt in 1989 was due to a change in bank classifications of debt types that caused a proportion of business debt to be reclassified as personal).

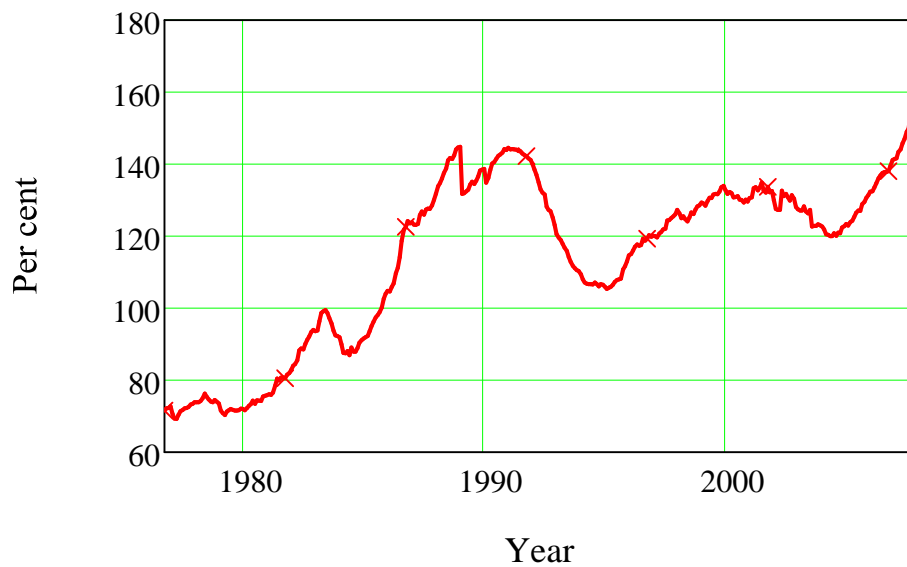
**Figure 6**



▢ Business Debt to GOS

**Figure 7**

### Business Debt to Gross Operating Surplus

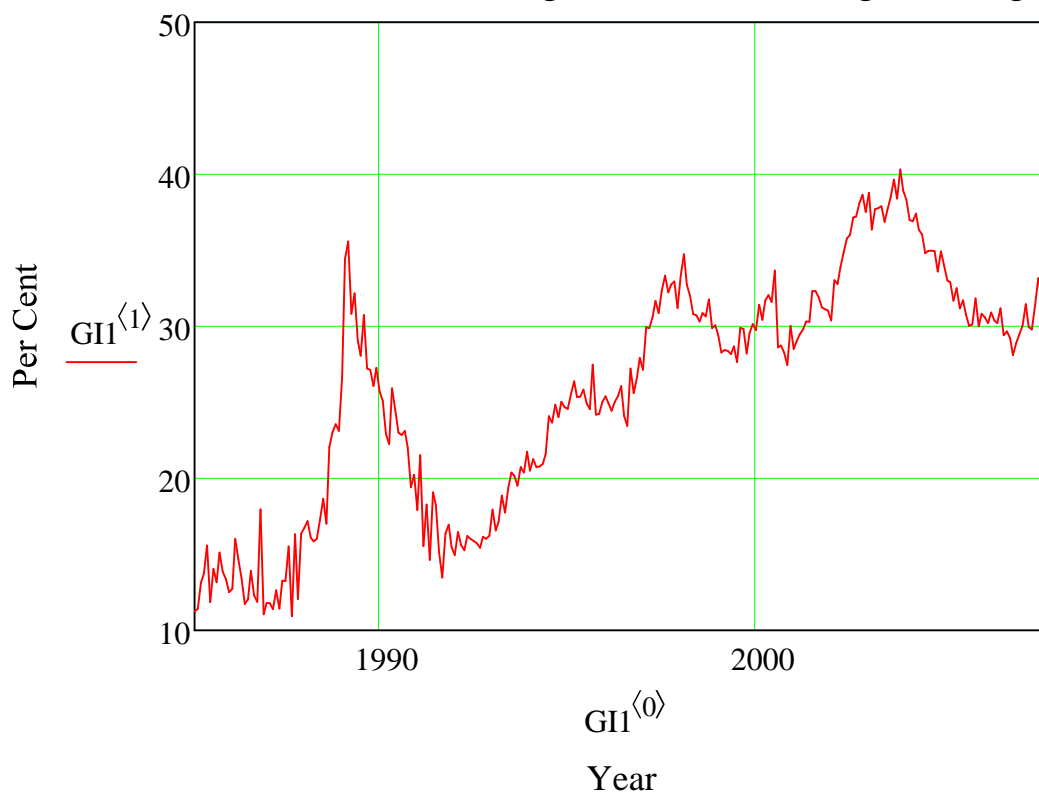


### Housing Finance Analysis

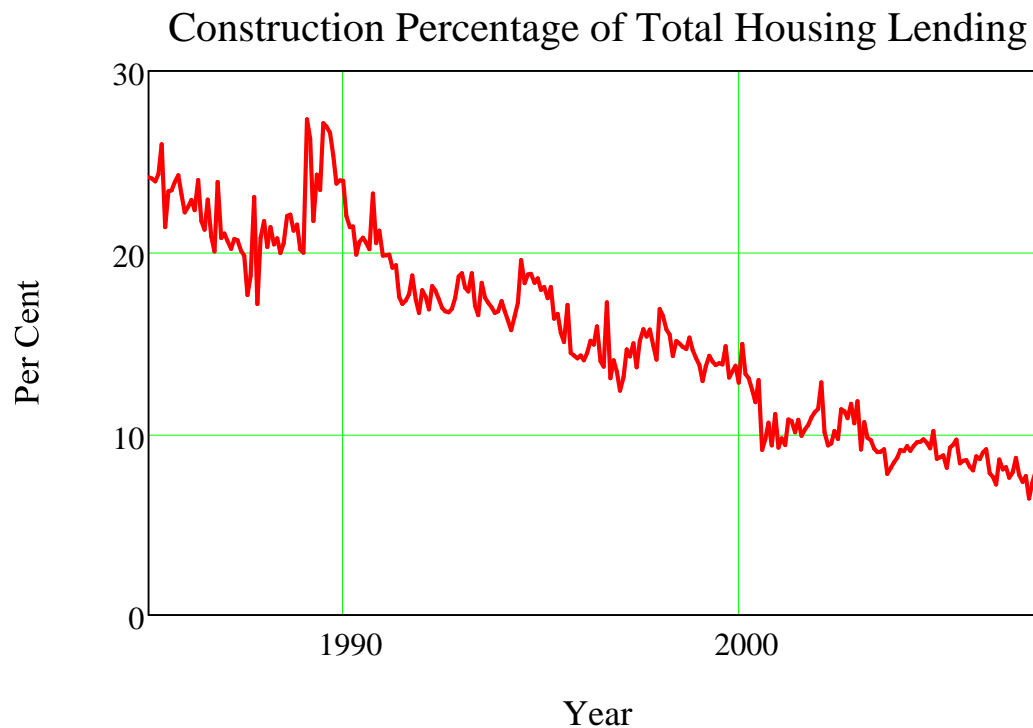
► Investment Percent Total Housing Lending

**Figure 8**

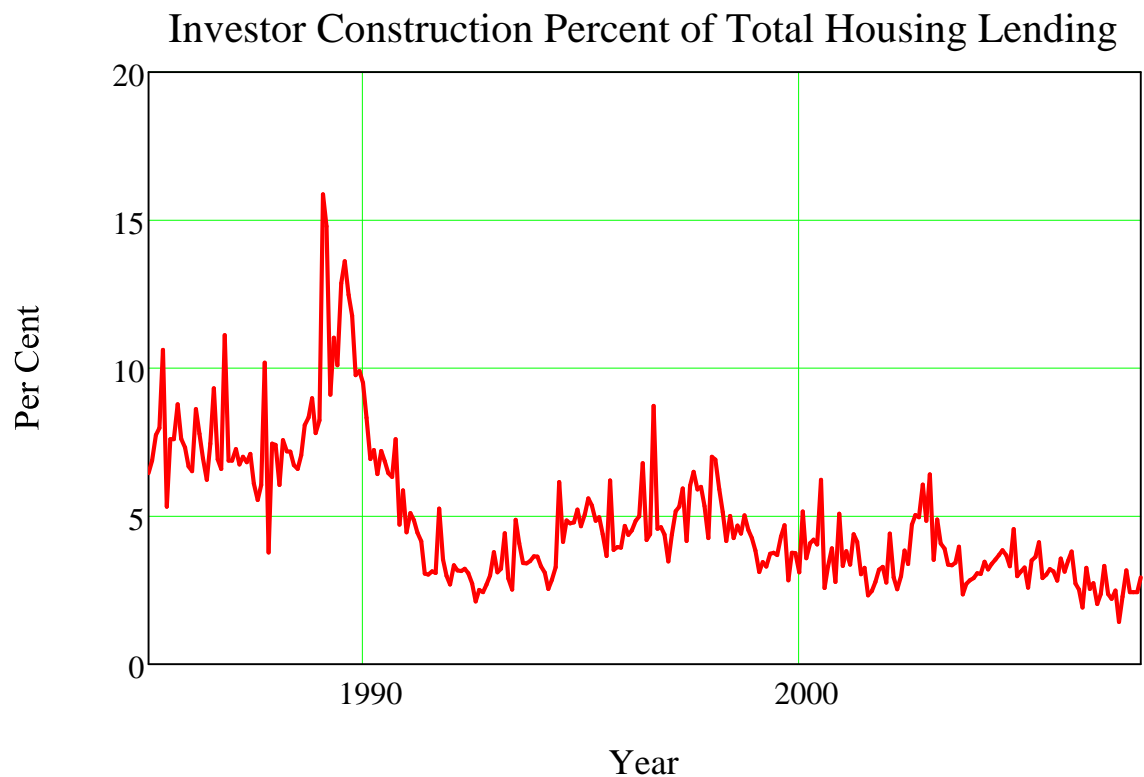
### "Investor" Percentage of Total Housing Lending



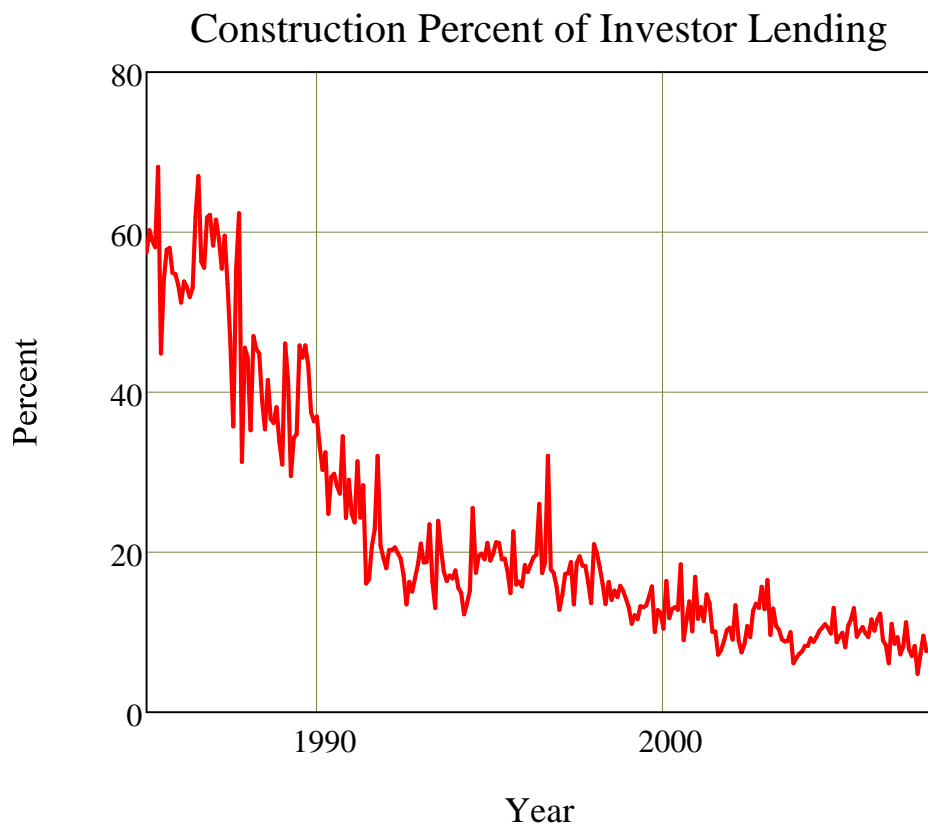
► Construction Percent Total Housing Lending

**Figure 9**

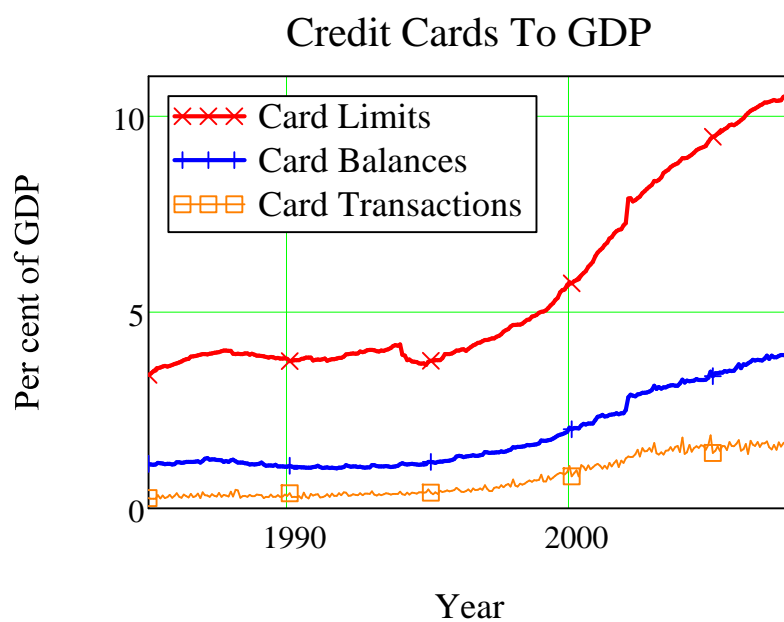
► Investment Construction Percent Total Housing Lending

**Figure 10**

► Construction Percent of Investor Lending

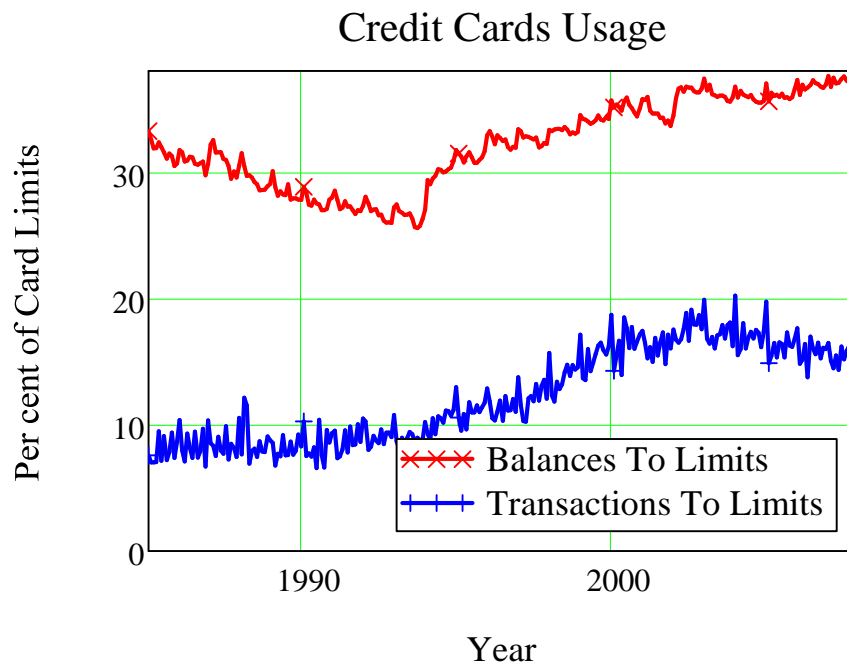
**Figure 11****Personal Finance Analysis****Figure 12**

Credit Card Data

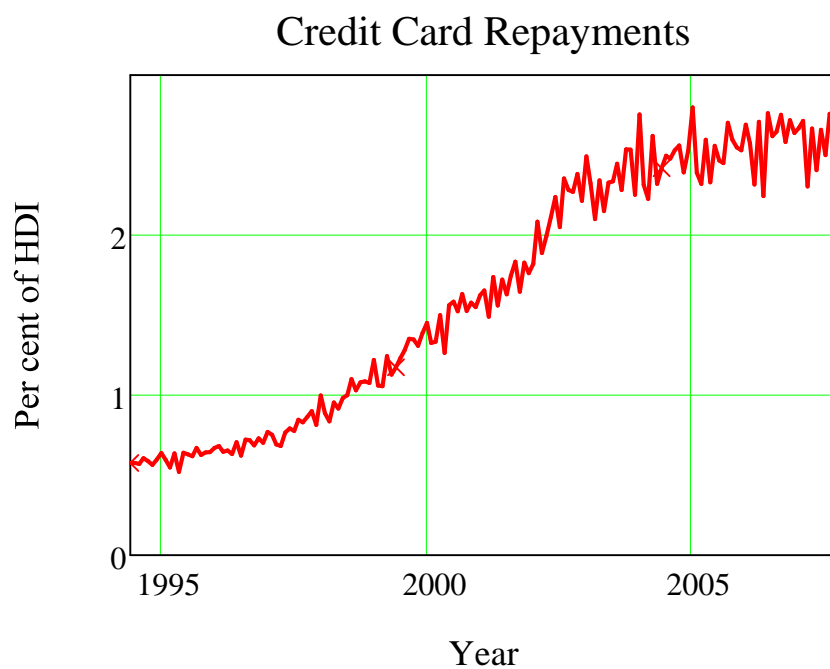


**Figure 13**

▢ Credit Card Data

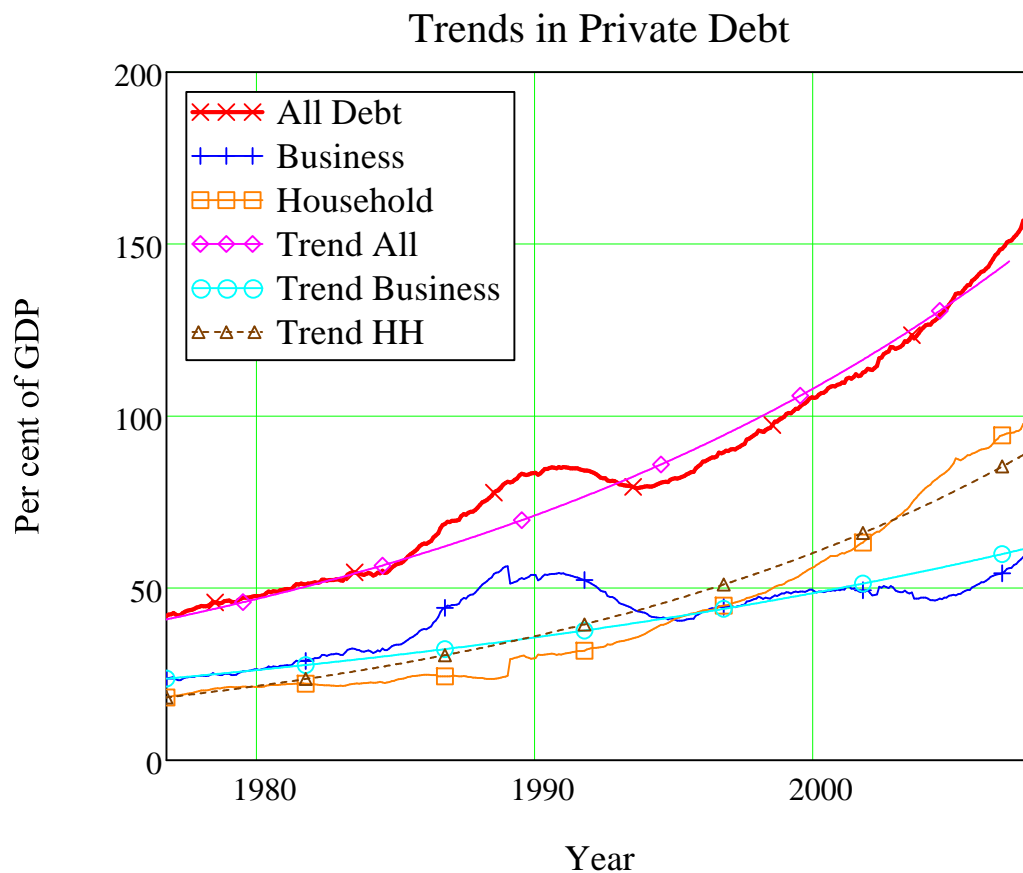
**Figure 14**

▢ Credit Card Repayments

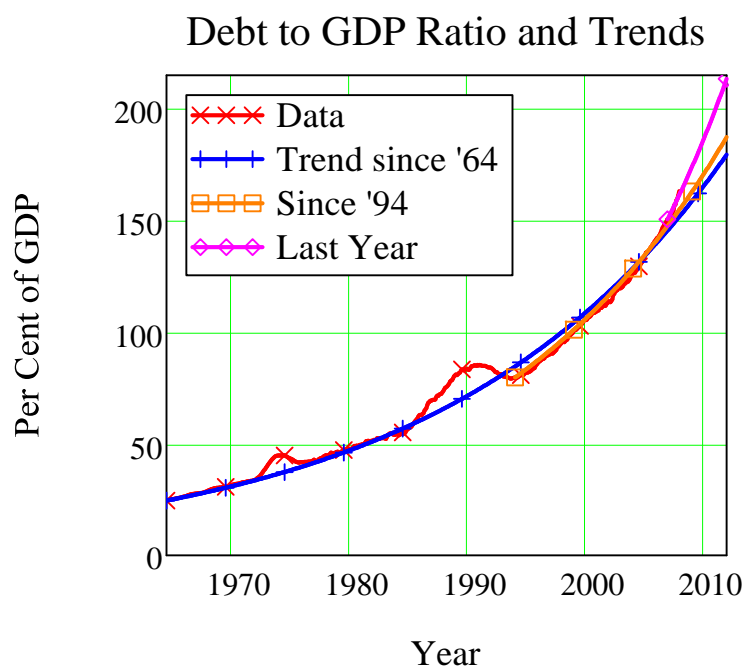


▢ Debt components to Income



**Figure 14**

▶ Debt to GDP Trends

**Figure 15**

► Debt to GDP Exponential Growth Correlation Ratios

These tables show the approximate exponential rate of growth of debt from various starting dates, and the correlation coefficient between this exponential approximation and the data. The correlation is staggeringly high, especially for a data series which, from an equilibrium point of view, should have no trend, or at worst should move in the opposite direction to changes in the official rate of interest--thus keeping the debt repayment burden constant.

**Table Three: Exponential Growth Rates & Correlations since 1964 & 1977**

	0	1	2	3	4	5
0	"Debt ratios"	"All"	"All"	"Business"	"Household"	"Mortgage"
1	"Start Date"	"mid-1964"	1977	1977	1977	1977
2	Growth rate"	4.18	4.06	3.1	5.09	5.81
3	"Correlation"	99.12	98.44	73.34	98.13	98.24
4						

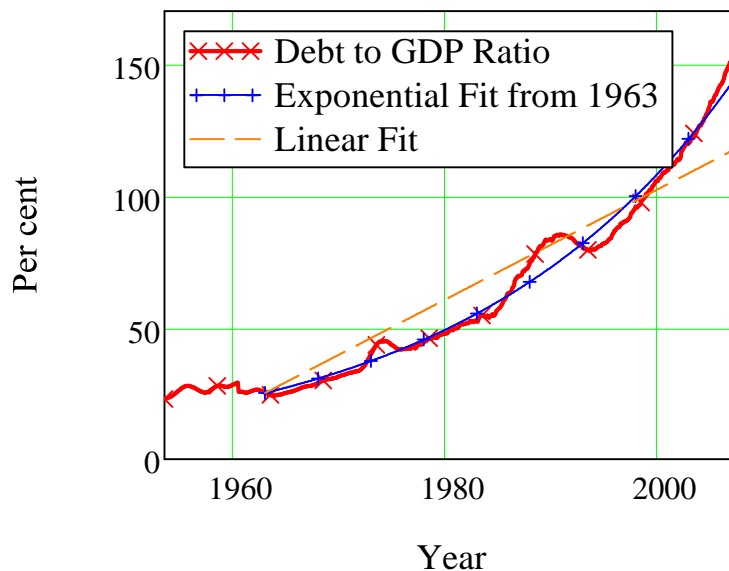
**Table Four: Exponential Growth Rates & Correlations since 1990**

	0	1	2	3	4
0	"Debt ratios"	"All"	"Business"	"Household"	"Mortgage"
1	"Start Date"	1990	1990	1990	1990
2	"Growth rate"	2.79	-0.98	6.81	9.31
3	"Correlation"	96.47	-16.89	99.68	99.77

► Debt to GDP Linear vs Exponential Regressions

**Figure 16**

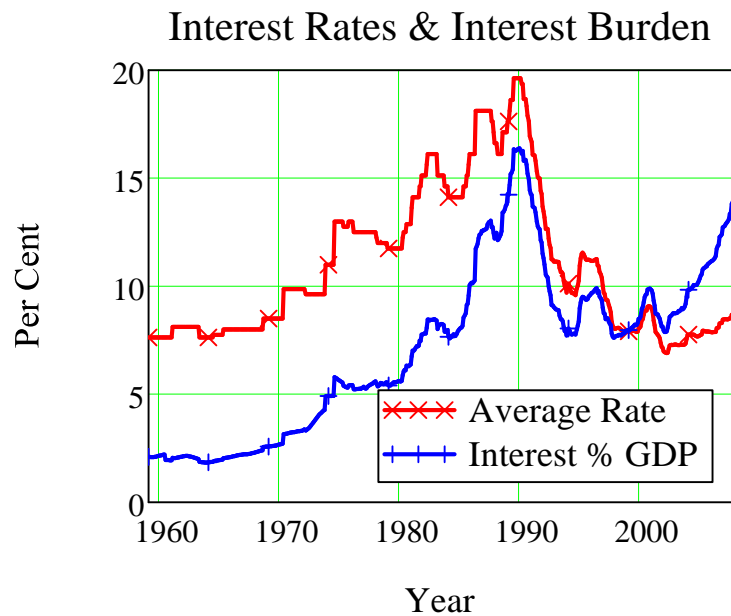
**Australian Private Debt to GDP**



## Debt Servicing Burden

### ▶ Interest Rates & Payments

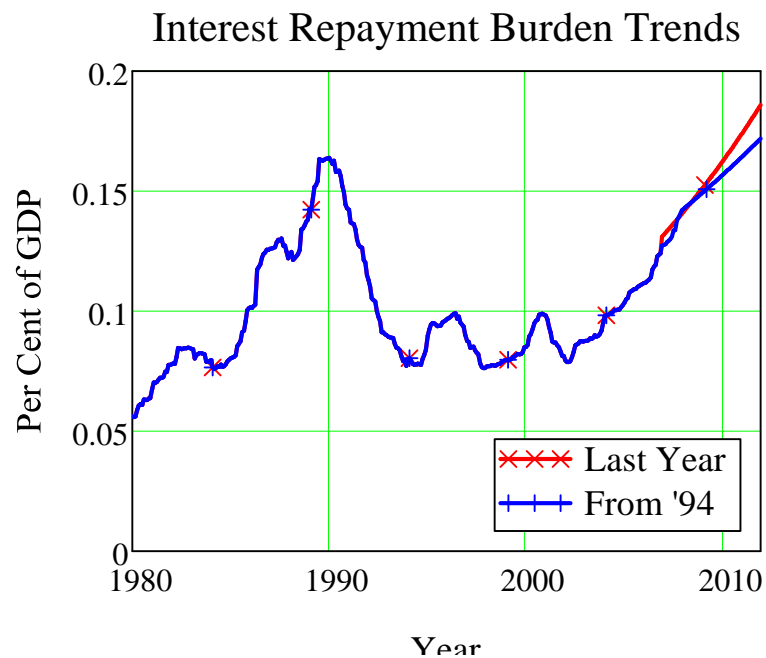
**Figure 17**



### ▶ Interest Payment Trends

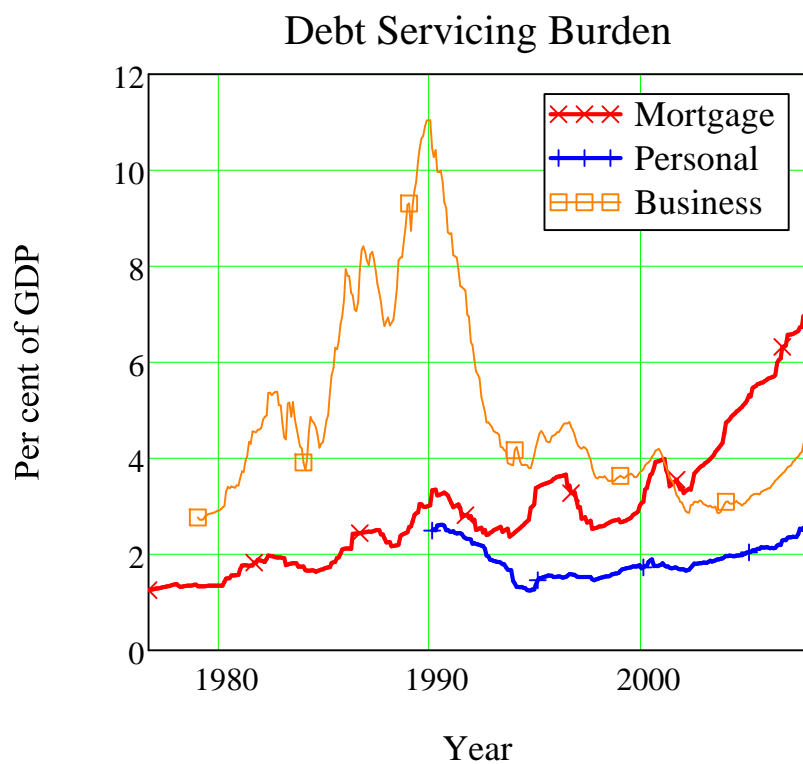
If trends in debt growth continue, then even without any increases in official interest rates, the interest repayment burden on the economy will exceed that of 1990 sometime between September 2008 and September 2009.

**Figure 18**



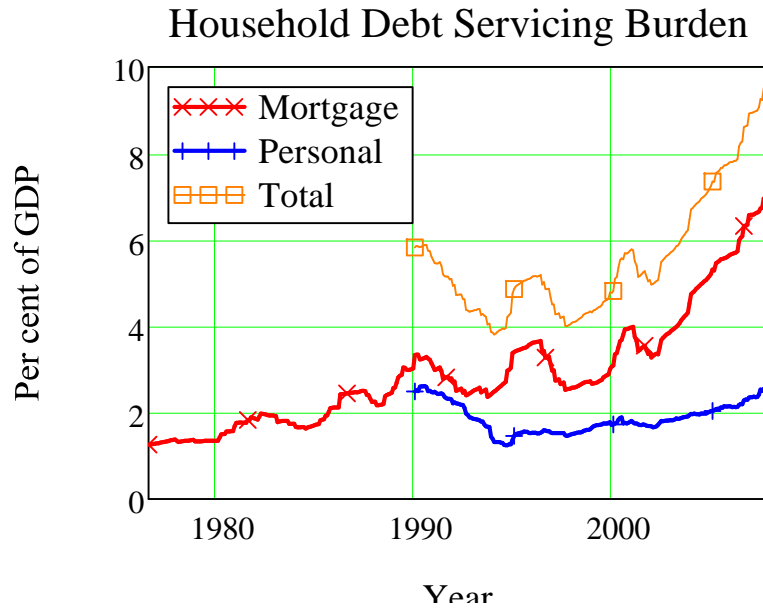
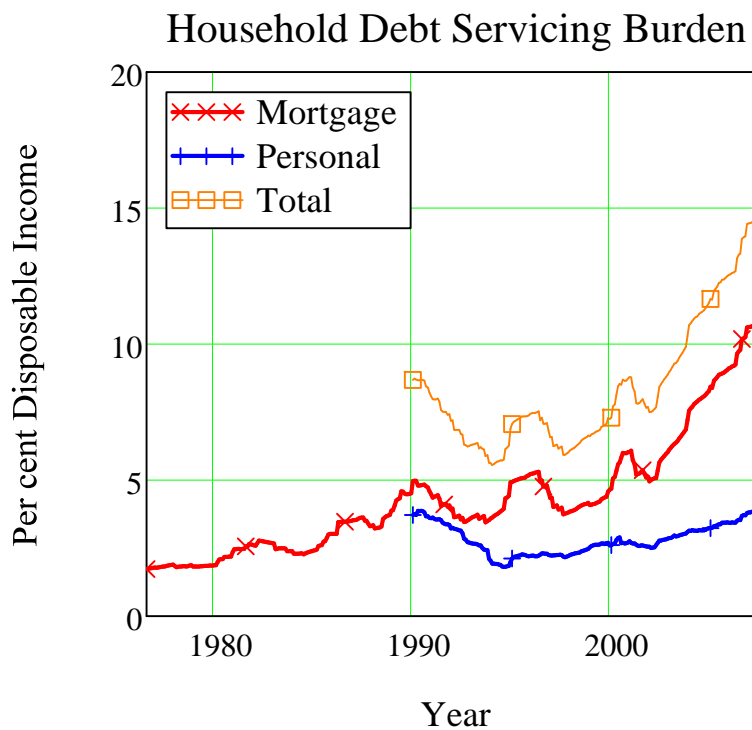
▶ Debt Servicing by Loan Type

**Figure 19**



▶ Household Debt Servicing

**Figure 20**

**Figure 21**

It's obvious why high interest rates prior to 1990 brought the economy to a standstill when one

sees the following graph: the interest servicing charge on business loans peaked at almost 30 per cent of Gross Operating Surplus. Even though business debt has recently started to rise as a proportion of GDP, the debt servicing burden remains in the range that applied in the early 1980s.

**Figure 22**

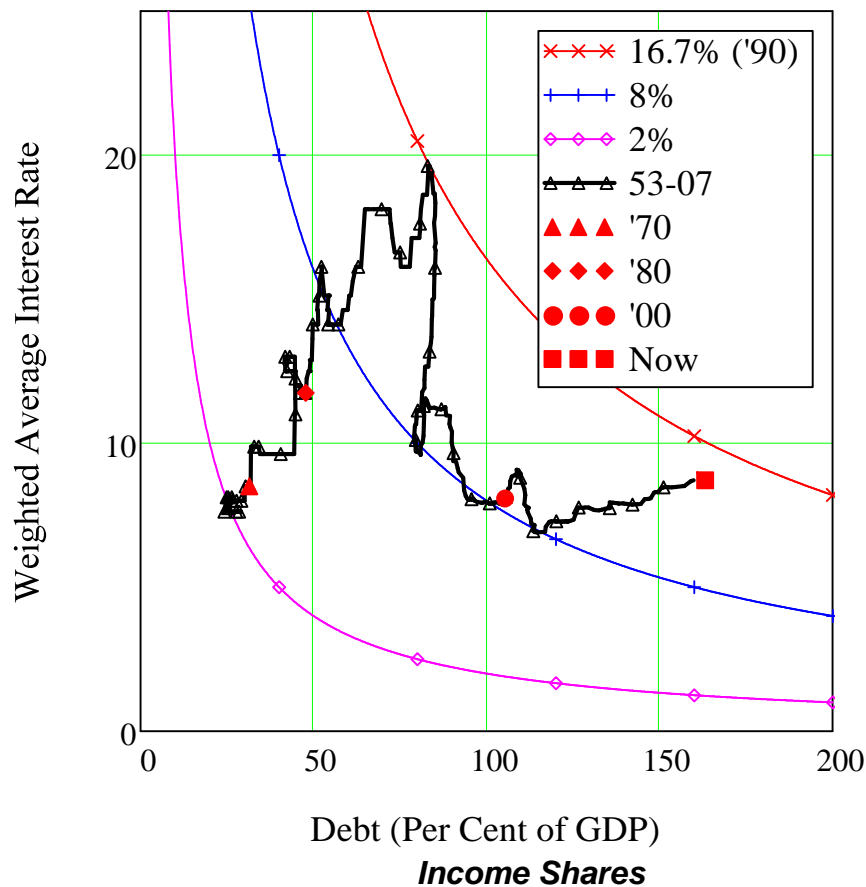


The debt repayment burden is affected by both the rate of interest, and the level of debt. This chart shows the percentage of GDP that is required to pay the interest on outstanding debt, as a function of average interest rates (the vertical axis) and the debt to GDP ratio (horizontal axis). We are approaching the pain threshold that applied back in 1990, when debt servicing consumed 16.7% of GDP. The dramatic rise in household debt in the last thirteen years has almost negated the impact of falling average interest rates.



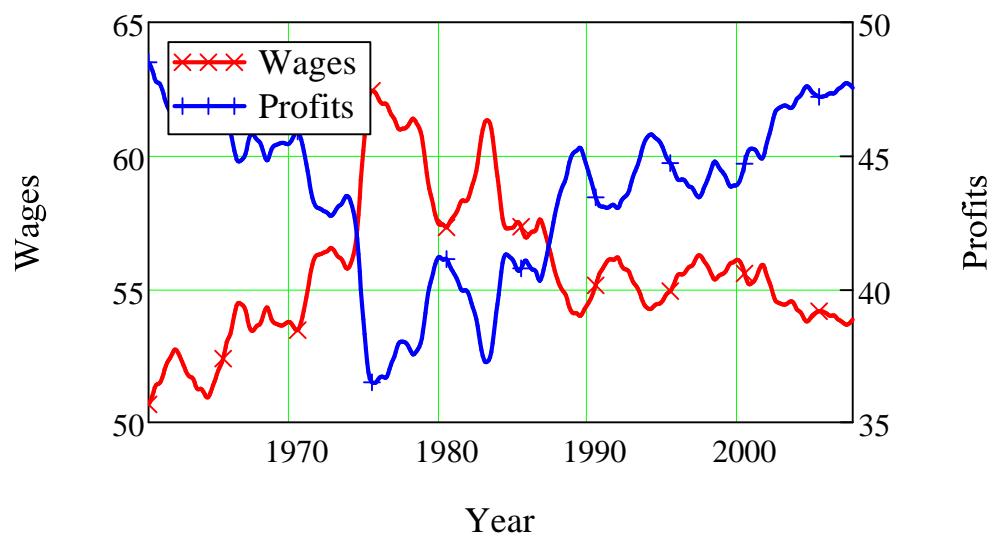
**Figure 23**

### Interest Payment Burden



**Figure 24**

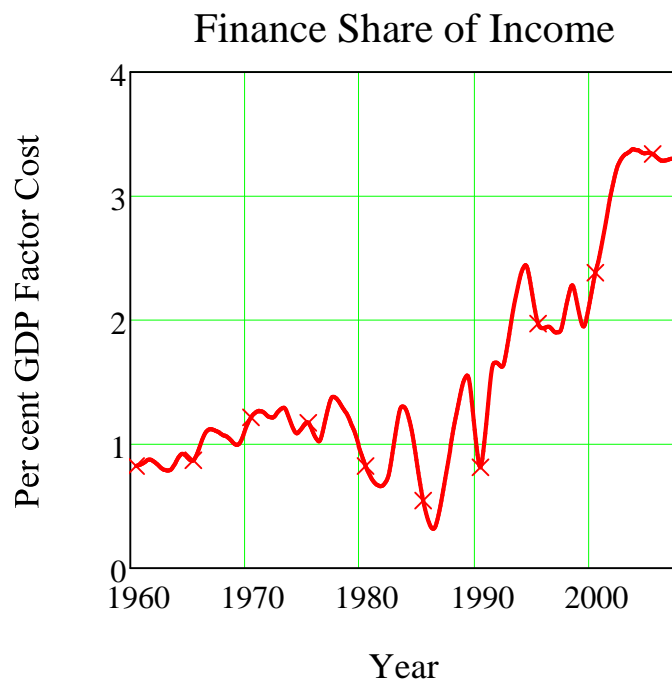
### Income Shares (% GDP at Factor Cost)



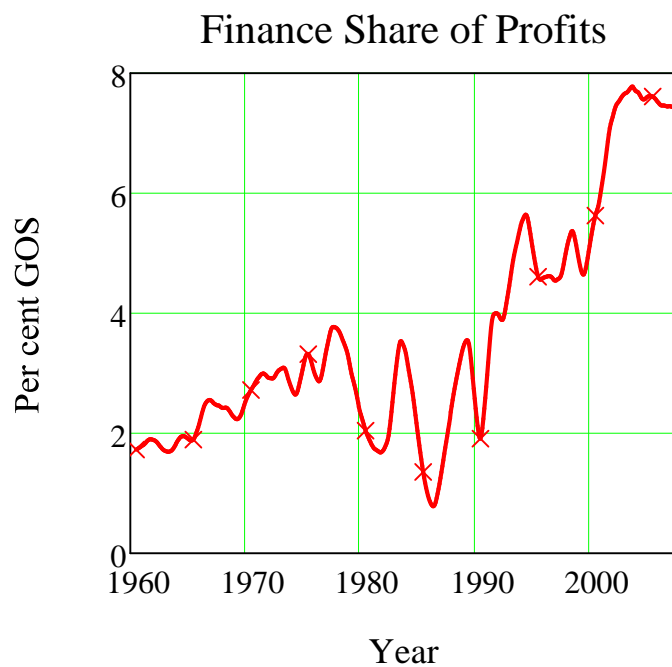
In the "it's an ill wind that blows no good" category falls the impact of rising debt levels on the share of income going to finance capital. Having shown no trend at all between 1960 and 1990, it has suddenly blown out in the last seventeen years, to almost four times the previous average level.

Somehow I doubt that this is a good thing for the rest of the economy. It is instead a very potent indicator of the extent to which financial commitments are a burden upon the productive sectors of the economy.

**Figure 25**

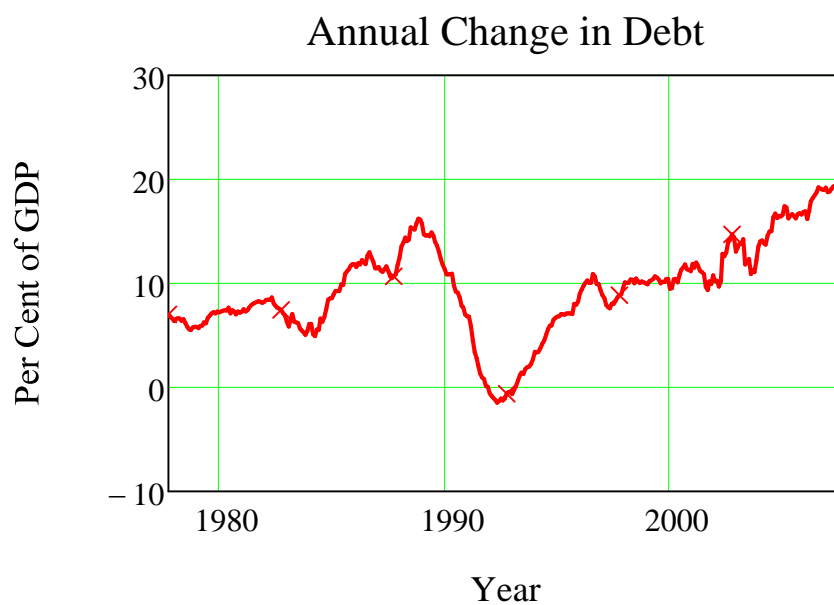


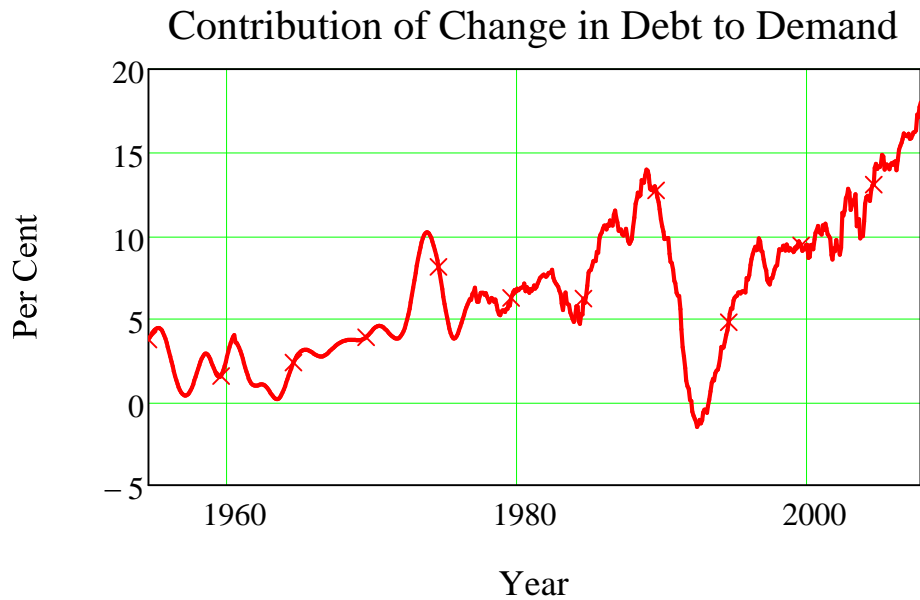
**Figure 26**



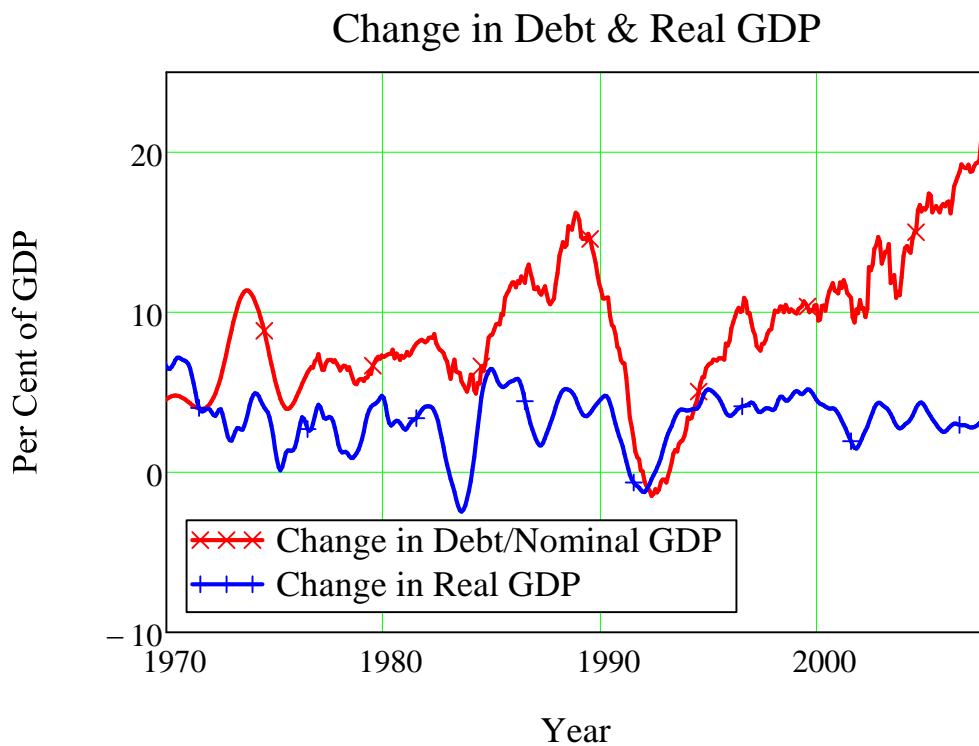
***Debt contribution to Effective Demand***



**Figure 27****Figure 28****Figure 29**

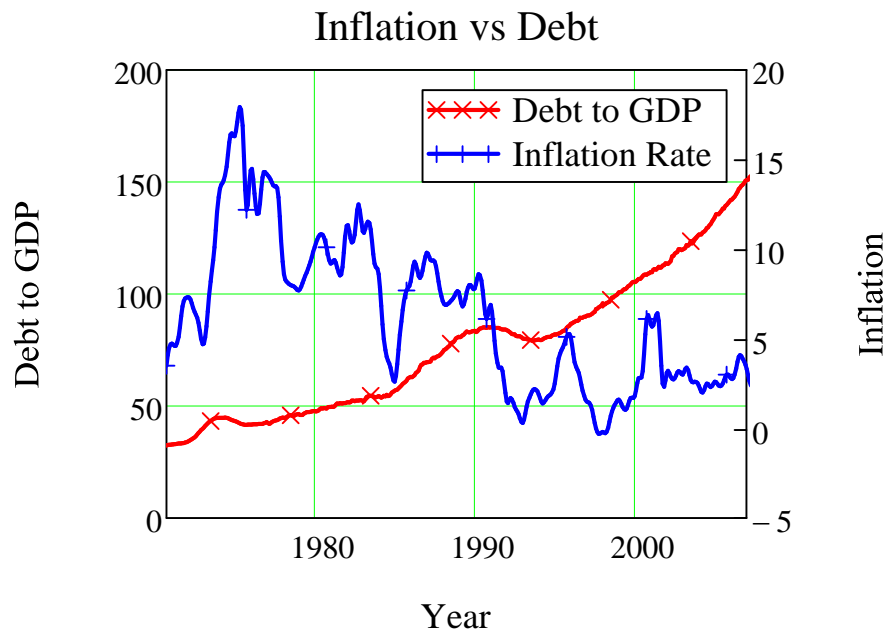


**Figure 30**



Ignore for a moment the labels on the next graph, and simply imagine that they were indicators on some medical or industrial gauge. Which series would imply an out of control process to you--the red one or the blue one?

Of course, with the bias economists have developed about inflation--and the related blind eye towards debt levels--they ignore the red line, see only the blue line, and worry that this has recently moved up somewhat (even though, over the longer term, it has clearly fallen substantially).

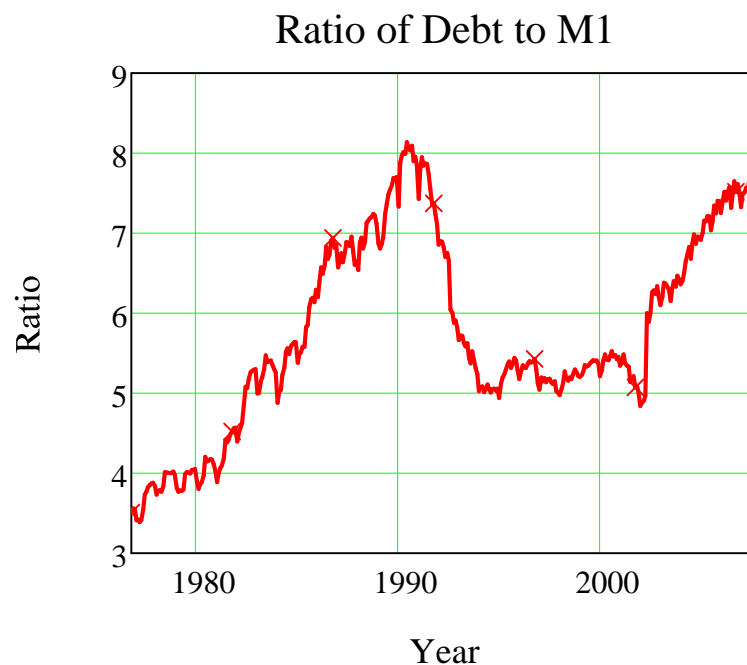
**Figure 31**

### **Monetary Aggregates**

(The M1 series was affected by a substantial reclassification of assets in early 2002. I expect that the apparent downward trend in the debt to M1 ratio across 2001 can be ignored as a statistical anomaly, later corrected by the reclassification)

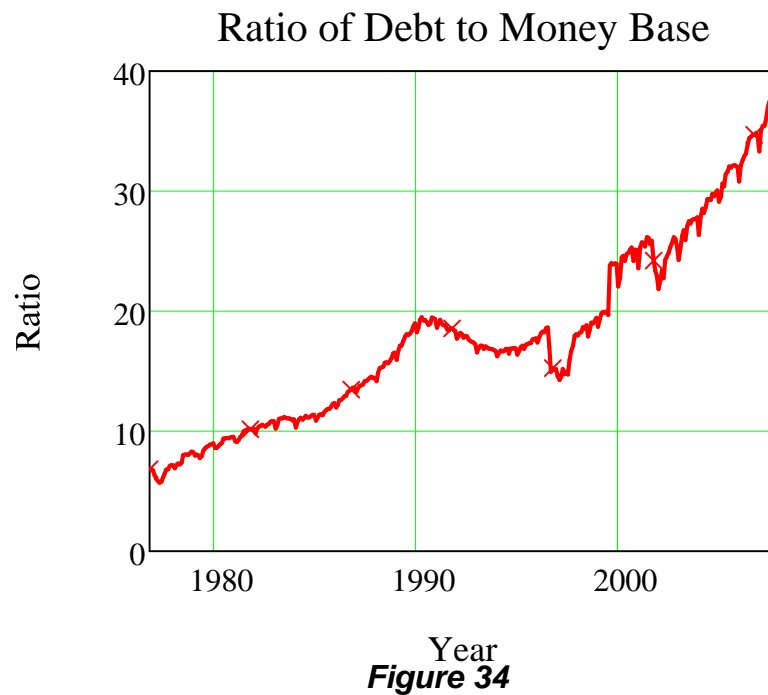
**Figure 32**

Debt to Money

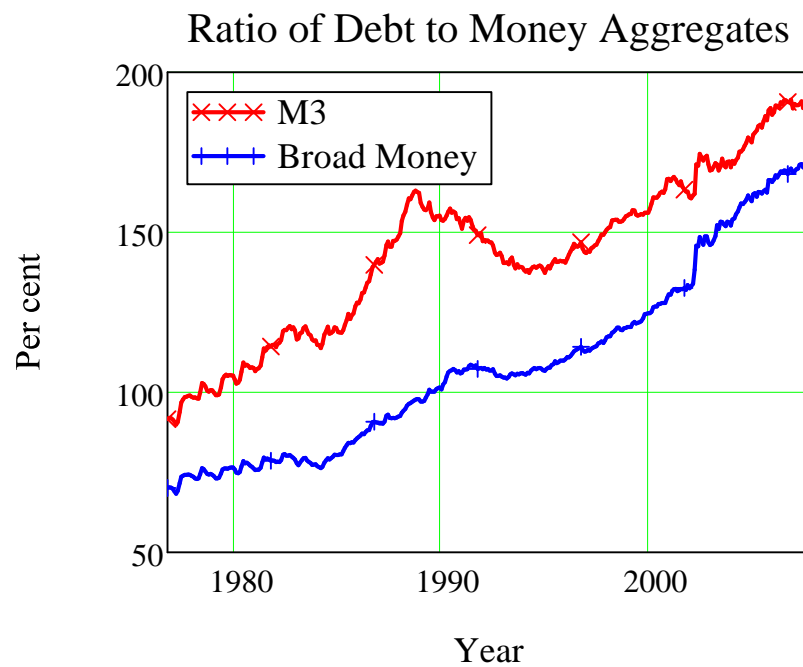


**Figure 33**

▶ Debt to Money

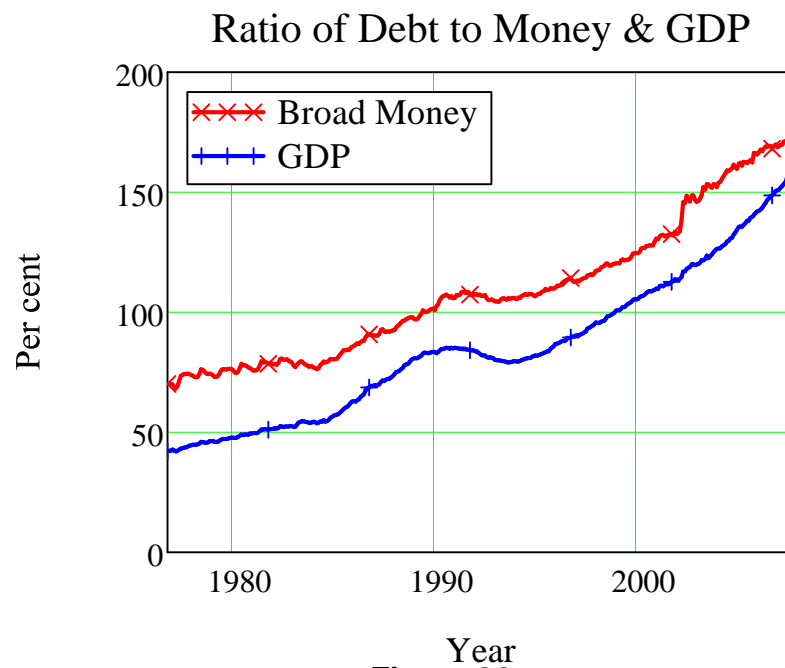
**Figure 34**

▶ Debt to Money

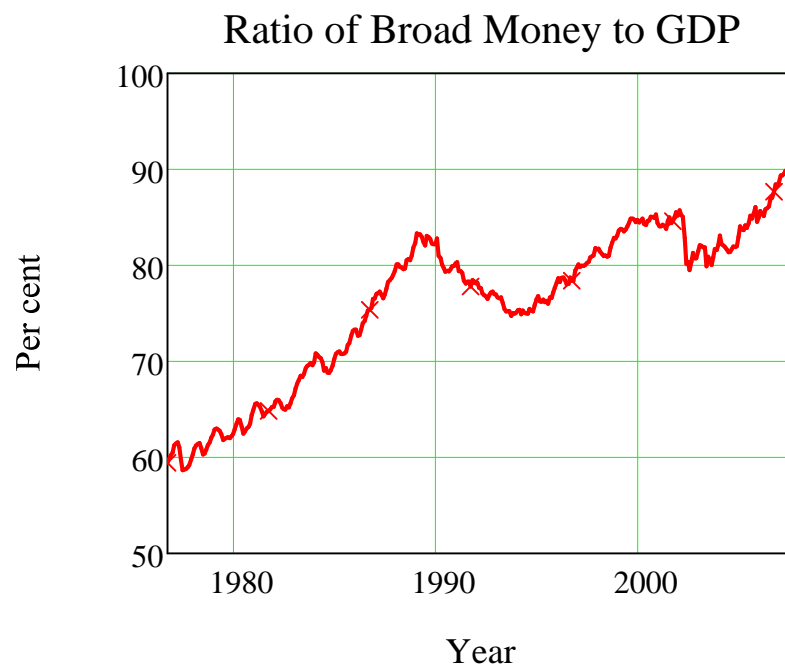


**Figure 35**

▶ Debt to Money

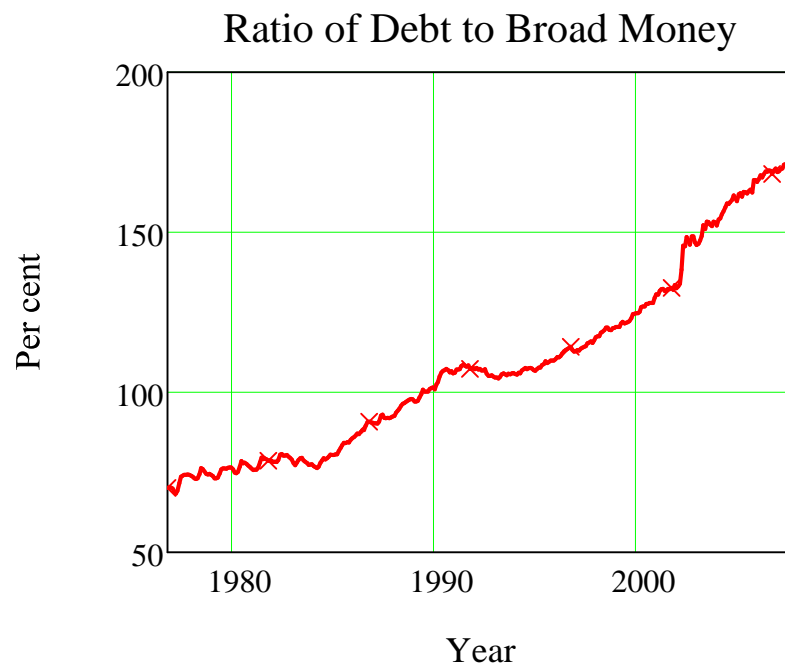
**Figure 36**

▶ Debt to Money



**Figure 37**

▶ Debt to Money



## International Data

### USA Data and USA-Australia Comparisons

**Figure 38**

▶ USA-Australia Household Debt Comparison

