Steve Keen's DebtWatch No 10 August 2007
America's Ponzi Schemes Unravel

Named in mock honour of America's greatest swindler, a Ponzi Scheme is a financial ruse that, for a time, generates apparently great returns from an investment that in fact produces nothing. Ponzi Schemes initially appear to work because the promoters pay early entrants seemingly fantastic returns, by the simple expedient of giving them money deposited by later entrants. So long as the Scheme continues to grow, it can appear successful--and indeed individuals who get in and out before the Scheme collapses can become fabulously wealthy.

Charles Ponzi was eventually exposed, imprisoned, and later died in penury. But his ghost lives on, because in essence, there are two giant Ponzi Schemes at the heart of the American financial system.

Pure Ponzi Schemes, like Ponzi's original enterprise, don't actually produce anything--and the promoter normally lives on the hog while it lasts, as did Charles himself. In the aggregate therefore, large sums of "investor" funds are lost: inherently, the promoters are bankrupt, because from day one they have obligations to those who have bought into the scheme that they can't actually meet. As a result, enormous debts are run up that can never be repaid, and the bankruptcies that result therefore extend well beyond the original felons.

However, there can also be hybrid schemes, where some real investment occurs amid the shuffling of assets. That is the story with America's Stock and Housing Markets, which have gradually evolved from productive enterprises to Ponzi Schemes.

The Ponzi aspect of these markets is that the vast majority of share and house purchases do not actually add to America's stock of either businesses or houses. Instead, they shuffle ownership of pre-existing assets on a secondary market, with sellers attempting to realise speculative capital gains, and buyers entering on a rising market, anticipating further capital appreciation in the future. The whole process is fuelled by borrowed money.

The shift from predominantly productive to predominantly Ponzi can be dated to the early 80s, and America has had four bubbles in comparatively rapid succession since then: the mid-80s Stock Market and its almost immediate offpsring, the commercial real estate bubble of 87-90; the Savings and Loans fiasco; the Internet Bubble; and finally, the Sub-Prime Mortgage Bubble. The system appeared to come through the first three relatively unscathed, but in reality, the day of reckoning was simply delayed, as one debt-induced crunch was papered over by yet more debt.

As befits a Ponzi story, the alleged money-making scheme behind the final scam was the most absurd of all. The Sub-Prime Boom was a means to make money by lending money to people who couldn't afford to repay it. It didn't actually work? Well blow me down...

The aftermath to the collapse of a Ponzi Scheme is never pretty. While successful speculators can repay their personal debts incurred in a Ponzi process, society as a whole can only repay aggregate debt out of income: the proceeds from selling the goods and services those assets are used to produce. With more and more borrowed money being used, not to finance the production of new assets, but to enable some speculators to buy existing assets from others, the debt burden on the entire economy inevitably increases. Thus, to the pain of the individual unsuccessful speculators--those who got in too late, or didn't get out in time--is added society's general suffering, as the burden of debt repayment increases, with little or nothing to show for the additional debt.

Of course, some real growth was triggered as America's Ponzi processes gathered steam, since debt-financed spending enabled credit-fuelled purchases of commodities and services. But debt grew much faster than the increase in output it spurred, simply because most of the debt was not being used to actually build future productive capacity. Debt-servicing costs rose (even with falling interest rates), increasing the finance burden on the real economy, until ultimately, we arrived at the chaos last two

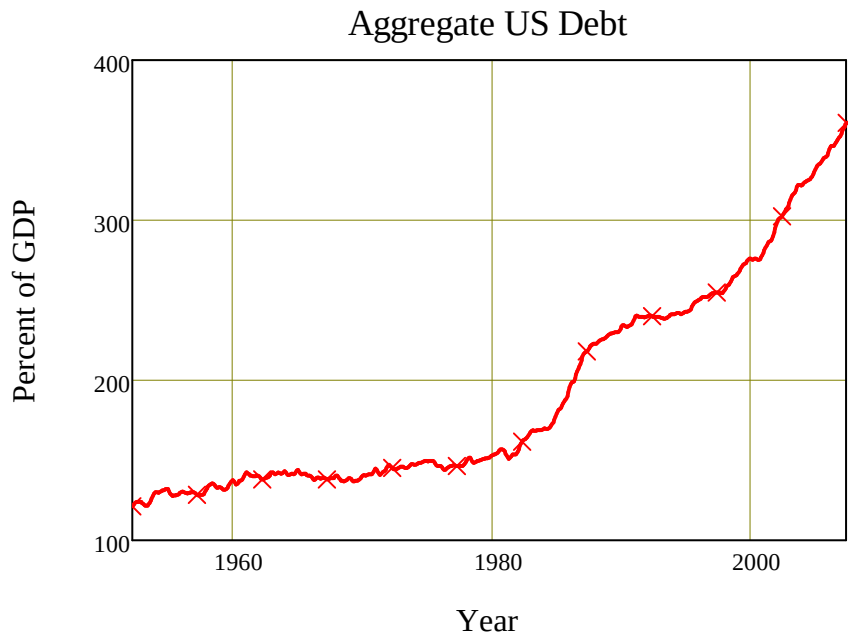
weeks: both Ponzi Schemes began to unravel.

Only in the aftermath has it become obvious to all and sundry, that what drove the apparent prosperity while the Schemes were afoot was not financial genius, or brilliant innovation, or sterling industry--the usual suspects of the financial pages while the boom lasts--but reckless lending and borrowing. So let's start with the aggregate debt picture for America, which shows vividly just how much debt, and not "the usual suspects", drove America's long boom (data in this part of Debtwatch comes from the latest Federal Reserve's Flow of Funds report (June 2007, with data to March 2007, and the Office of Housing Enterprise Oversight).

Aggregate debt, which had risen only modestly from 121 percent to 157 per cent of GDP over the 30 years from 1952 to 1982, exploded to over 360 percent in the subsequent 25 years (Figure 1).

USA Aggregate Debt (ltab1d; FL894104005.Q)

Figure 1: Aggregate US Debt 1952-2007



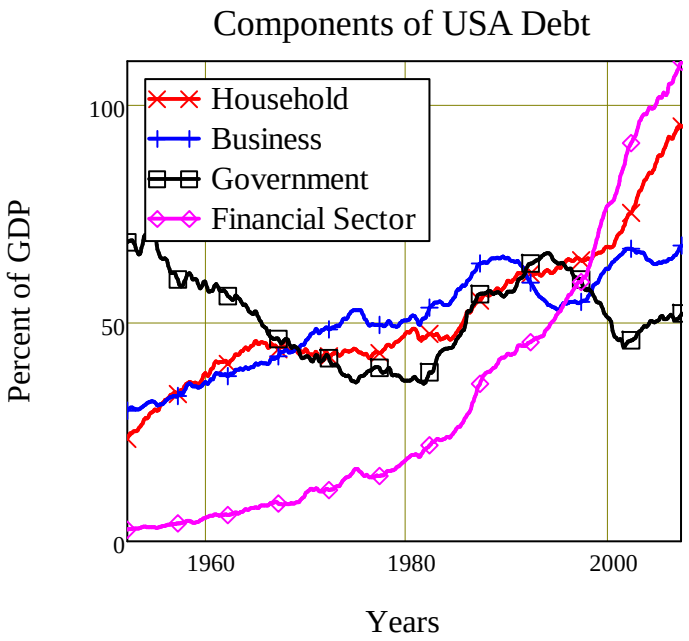
During the 30 years from 1952 to 1982, falling government debt largely offset rising private debt; but fror then on, all classes of leverage in America have risen.

Though government debt is much higher than in Australia, it is a distraction to focus upon it even in America: even though US Government debt has risen recently (due to both the bailout of the Internet Bubble and the Iraq War), it is still much lower as a proportion of GDP than it was in the 1950s, and even than the recent peak it reached in the depths of the 1990s recession.

As in Australia, the real debt story has been the expansion of private debt. Business debt has doubled (as a proportion of GDP) over the period 1952-2007, household debt has risen fourfold, and the debt of the financial sector has risen forty-fold. The real acceleration, however, began in the 1980s: the decade that marked America's transition from a productive to a Ponzi society.

Disaggregated USA Debt

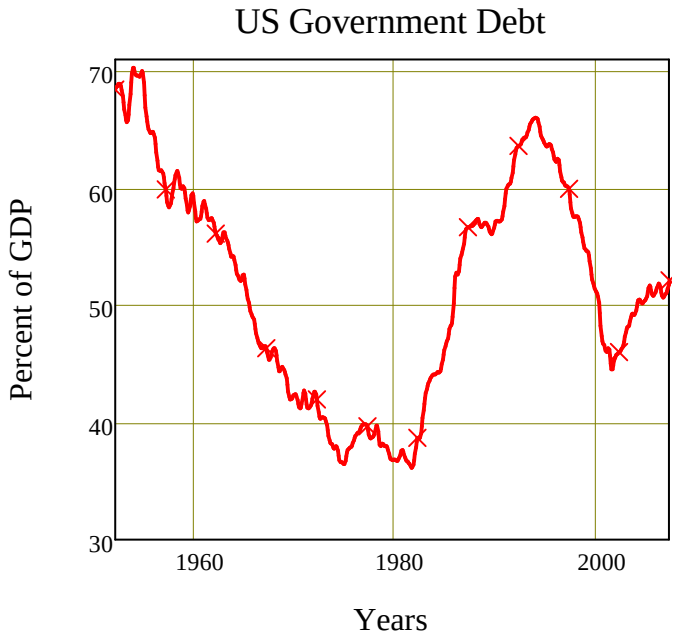
Figure 2: Disaggregated US Debt 1952-2007



Figures 3 emphasises that, whatever else might be blamed for the current crisis, government debt is way down the list. Generally it has risen and fallen inversely to the level of economic prosperity--falling when the economy was booming, rising when in a slump (with a slight lag).

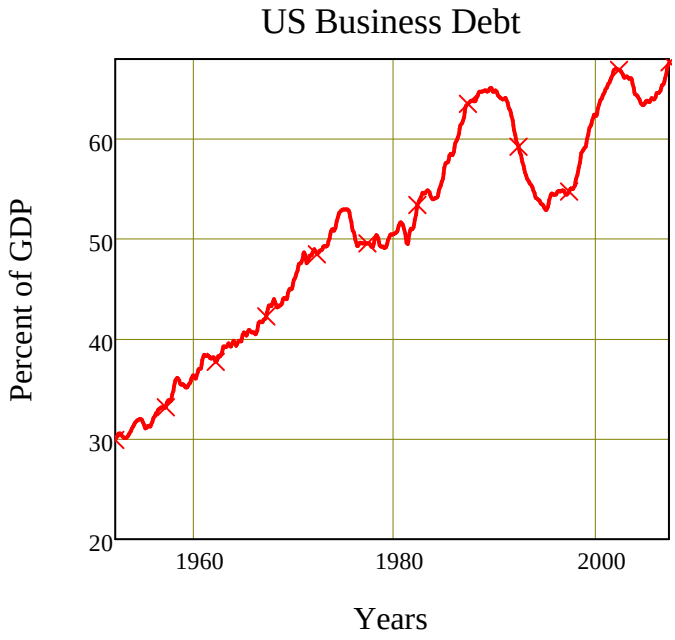
There is, however, the notable exception of the last six years since mid-2001. Though the economy has been in a (Ponzi-driven) boom, government debt has continued to rise--no doubt primarily fuelled by the folly in Iraq, but also undoubtedly abetted by Bush's tax cuts for the rich. At a time when the US Federal Government could have at least have squirreled funds that could later be used when economic conditions turned sour, it has instead compromised its own capacity to reflate its now debt-laden private sector.

Figure 3: US Government Debt 1952-2007



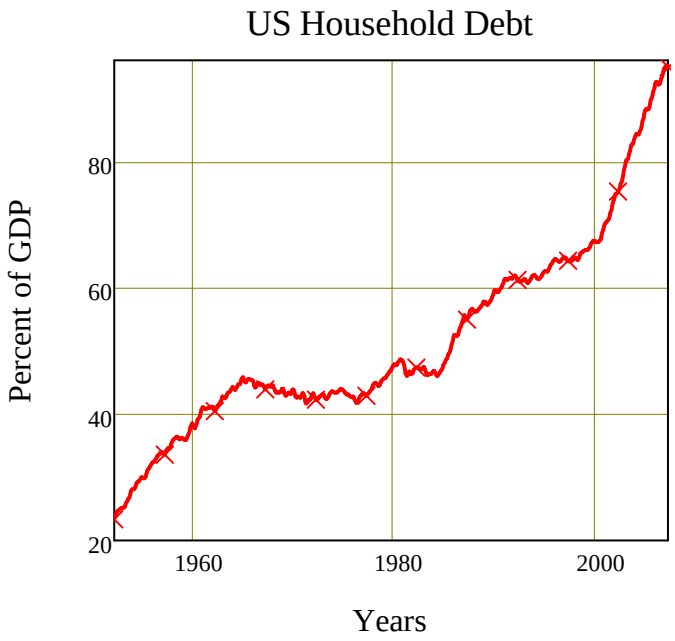
Business debt rose steadily over the long period of economic tranquility from 1952 till 1975. From then on, we have been in the age of financial fragility, and business debt has become wildly volatile, driving the ups and downs in the business cycle.

Figure 4: US Business Debt 1952-2007



Though households debt grew rapidly from historic lows in the 1950s till the early sixties, from then till the mid-80s, households were largely silent partners in the American financial system. Then in early 1984, when the 80s Stock Market Bubble began, households began to borrow bigtime. Household debt rose rapidly from 46% of GDP in mid-1984 to 56% by the time of the crash in October '87. Its rate of growth slowed, until, remarkably, ***after*** the 2000 market crash. Then the Sub-Prime housing boom began, and household debt grew faster than ever before, to stand today at over 95% of GDP.

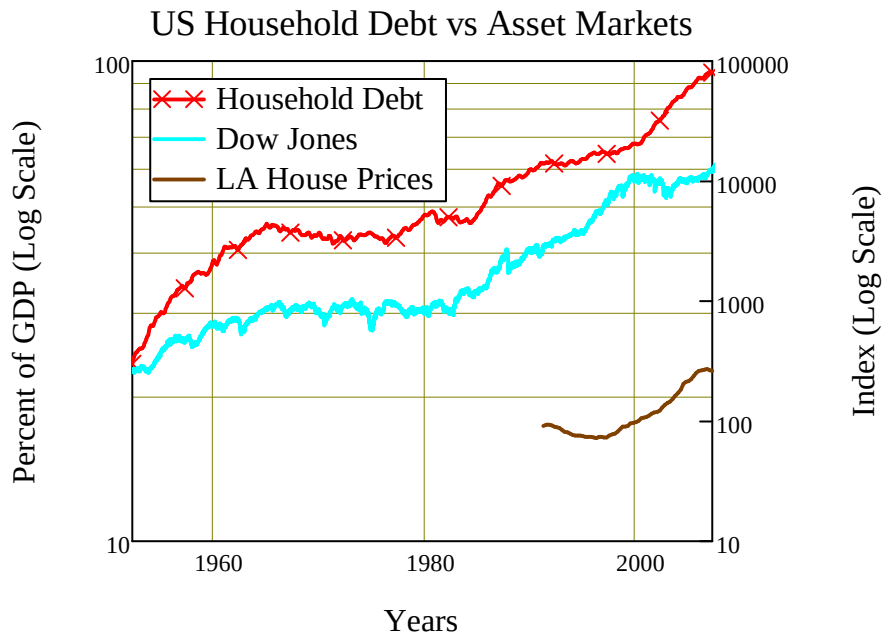
Figure 5: US Household Debt 1952-2007



The correlation between the growth in household debt relative to GDP and asset price levels is quite

revealing: the stock market rose during the 1950s as household debt expanded, stagnated from the 1960s till the 1980s as household debt remained flat, then took off during the 80s as household debt grew rapidly. When the stock market bubble faltered, the centre of speculation shifted to housing--as can be seen from the Case-Schiller house price index for LA (similar results apply for the other cities in this index).

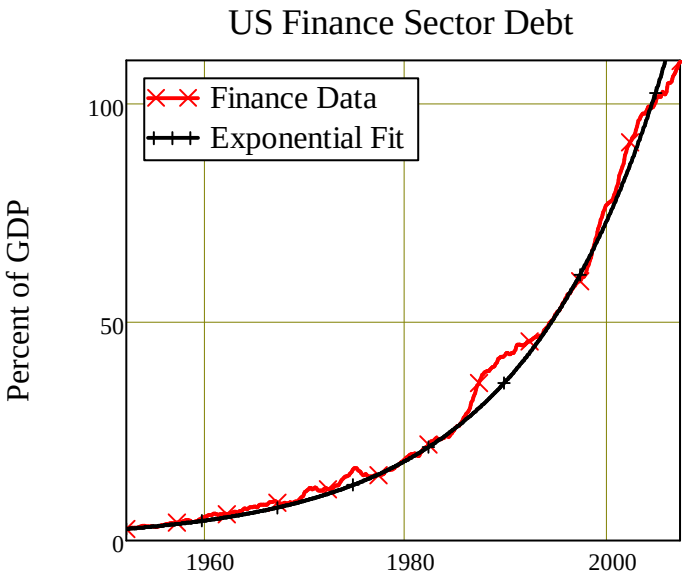
Figure 6: US Household Debt and Asset Markets 1952-2007



Technical note: this comparison is not scientific, and econometricians might well object that the data should be de-trended, etc.. However, according to conventional economic theory, there should be no trend at all to the ratio of debt to GDP: the fact that there is one, and it correlates to asset price inflation is therefore of interest.

One other series that, in standard economic theory, should not have any trend at all but clearly does, is the gearing of the financial sector itself. This has exploded--no other word does the trend justice--from 2.65% of GDP when records began in 1952, to 109.8% in March 2007. This ratio has grown by 6.96% per annum for 55 years, and the correlation of this growth with a simple exponential fit is a staggering 0.9962. Even Ponzi would be proud of that sustained rate of growth!

Figure 7: US Finance Sector Debt 1952-2007

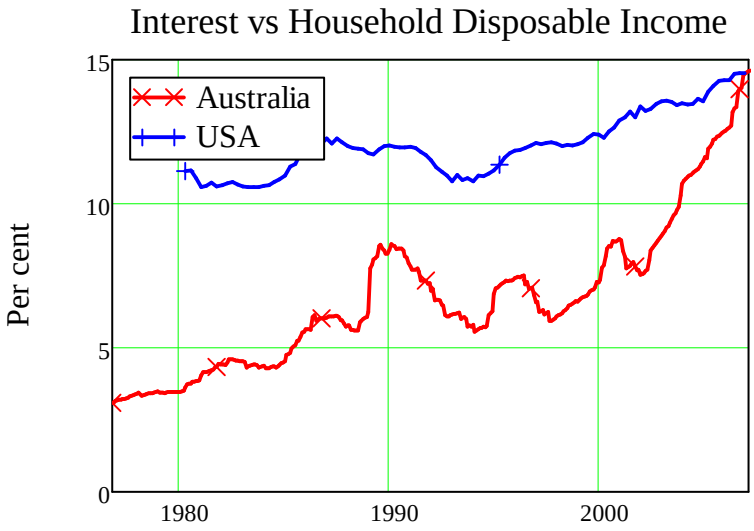


As for what the future might hold, though it is almost certain that the Federal Reserve will lower rates if the US Stock Market seriously tanks, it beggars belief that this last Ponzi Scheme could be succeeded by yet another one. America might finally have to come to terms with its addiction to Ponzi Schemes, and like overcoming any addiction, it will be neither easy, nor painless.

Meanwhile, Back in Australia...

Finally, lest anyone is thinking "only in America" about the Sub-Prime fiasco, Figure 8 should provide some food for a somewhat deeper thought...

Figure 8: US vs Australia Housing Interest Payment Burdens

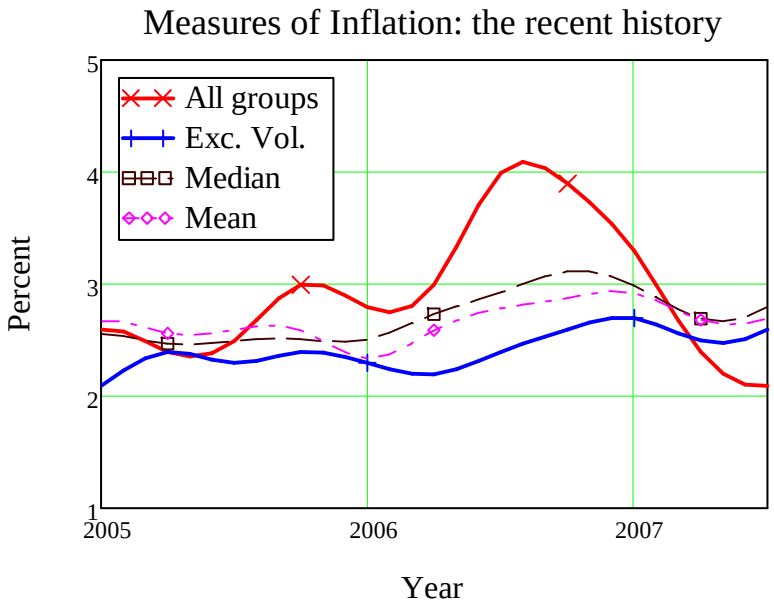


"To a man with a hammer, everything looks like a nail"

Prior to the market turbulence of the last two weeks, the most recent CPI data led market pundits to expect that the RBA will increase rates at its meeting this week. Even though the all measures of inflation are within the RBA's target band of 1-3% p.a., the pundits believe the RBA will make a "pre-emptive strike" against inflation by raising rates now, before inflation moves above its target zone

(the primary stimuli to action were the rates of increase in the quarterly weighted and trimmed measures, which at 0.9% *are* outside the Bank's zone).

Chart One: Recent trends in inflation



This raises three issues:

- whether--unlike WMDs in Iraq--higher future inflation might actually be found;
- what impact this pre-emptive strike might be; and
- whether inflation is as big a threat to our economic well-being as the RBA's emphasis upon it implies.

Future inflation?

There are several possible sources:

- the impact of capacity constraints;
- the related possibility of upwards pressure on wages;
- agricultural price problems due to the impact of climate change;
- imported inflation via the rising cost of oil; and
- the possibility of inflation due to a future depreciation of the currency from its current highs.

All the above factors cannot be easily dismissed, so yes, further upwards movement in inflation is feasible.

Impact?

Here I believe that the RBA is playing with fire. I have no doubt that, at the moment, increasing interest rates will dampen inflation. My concern is that an interest rate rise will have a far greater depressing impact on the economy than the RBA anticipates, because its models ignore the role of debt.

With the interest rate as its sole policy tool, the RBA is already in the position that Bernard Baruch parodied, that "if all you have is a hammer, everything looks like a nail". But the real problem is that it is hitting the interest rate nail with the hammer of debt, and that hammer is now too heavy to be ignored. Unfortunately, the technical tools the RBA uses to assess the need for rate changes *do* ignore debt.

The RBA's anti-inflation stance is guided by the so-called Taylor Rule, which argues that there is an inverse relationship between interest rates and inflation: put up interest rates, and inflation will fall. Typical models assume that the rate of interest controls the gap between actual and capacity output, and the inflation is a lagged function of that gap. When the gap closes--as has happened recently--then inflation will rise (as indeed has happened).

With inflation as the RBA's sole policy target, the Taylor Rule implies that the Bank should increase rates now, thus increasing the gap between actual output and capacity (or at least slowing down the speed at which the gap is closing), and reducing inflation.

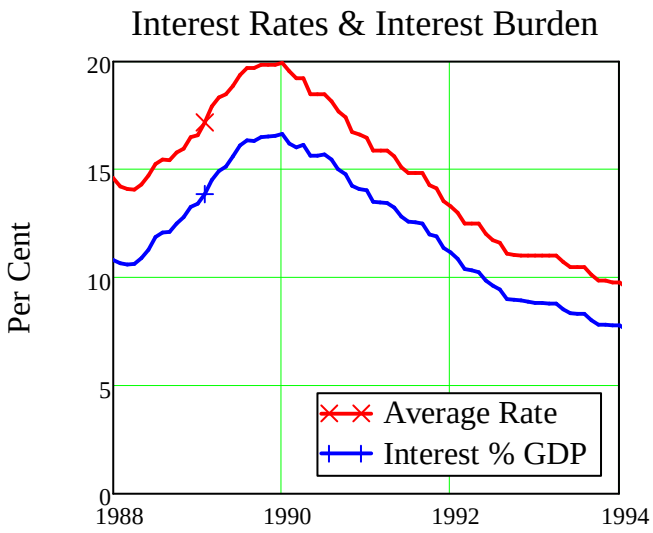
Simple Taylor Rule models imply a linear relationship between a change in interest rates, and the resulting change in inflation: rates up by x% implies inflation down by y% (with a lag). In reality, the impact of a change in rates on the economy depends not just on the change itself, but also on the level of outstanding debt.

This is acknowledged to some degree by the fact that the RBA now changes rates in 1/4 of a percent increments, versus the 1 percent increments by which it moved upwards in the late 1980s. But one thing the Bank doesn't appear to acknowledge is that, with debt, there can be a "tipping point" effect: the burden of debt servicing can be so high that even a small increase in rates pushes the system into a downward spiral.

This is certainly what happened when rises in official rates pushed average interest rates from 14 to 20 percent over 18 months between 1998 and 1990. Then, the interest payment burden on the economy rose from 10.5 cents in the GDP dollar to its all-time high of 16 2/3rd cents--and the economy plunged into "the recession we had to have", with the Reserve forced to cut rates almost as fast as it had raised them. At the end of the rate cutting exercise, rates were 4.25 percent lower than before the RBA attempted to tame the 1980s bubble--and unemployment was almost double its 1990 low.

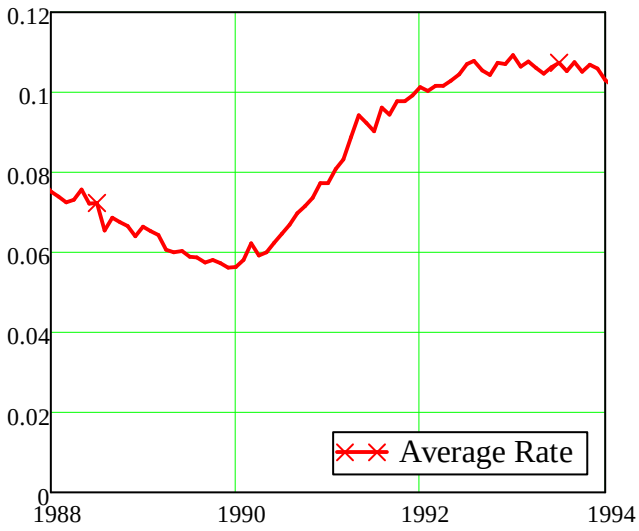
Interest Rates & Payments

Chart Two: Interest rates and burden during the late 80s boom and bust



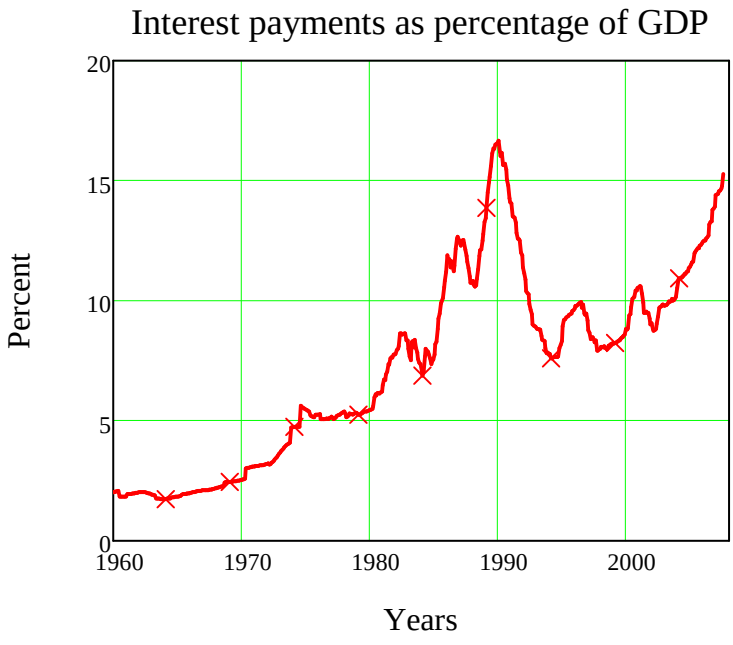
Unemployment

Chart Three: Unemployment during the late 80s boom and bust



I believe that the RBA risks a similar case of overkill if it increases rates now. Interest payments on private debt currently consume 14.77 cents in every GDP dollar. If the Bank increases rates by one quarter of one percent tomorrow, the interest payment burden will break through the 15 cent barrier to b 15.27 cents per GDP dollar. There are only 15 months in Australia's economic history where this burden has been higher: between May 1989 and July 1990. Those are not particularly auspicious months in the annals of Australian monetary policy

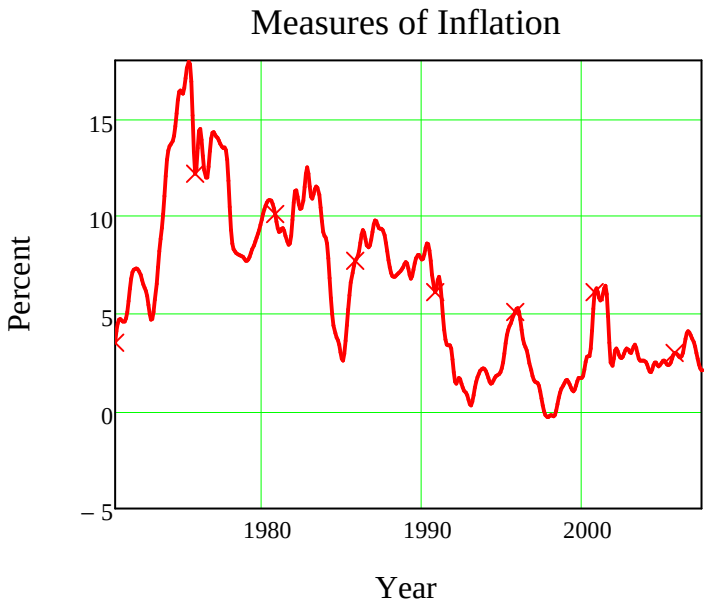
Chart Four: Interest payment burden (including a rate increase tomorrow)



The threat of inflation?

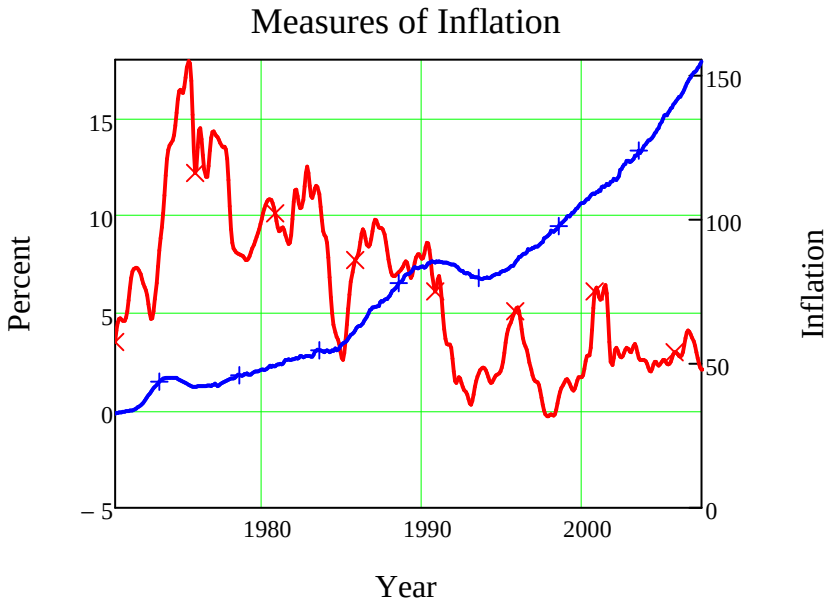
Leaving aside the issue of whether inflation is always and everywhere a bad thing, inflation now is well below the levels of the so-called "stagflationary" period, when it peaked at almost 18 percent, and stayed above ten percent for a decade.

Chart Five: The longer view



Even taking the most extreme figure in the recent ABS survey, a quarterly rate of 0.9 is still below 4 per cent on an annualised basis. By fixating on the rate of inflation, the RBA is paying insufficient attention to the private debt crisis. Inflation is relatively under control: it is debt that is out of control.

Chart Six: What's the problem?



Aggregate Data and Trend Growth Rates

Debt yet again rose faster than GDP last month, with the ratio increasing a further 0.57 per cent last month to 154.32 per cent (see Table One). In a worrying trend, given recent press reports about increases in bankruptcies, the increase in personal debt outpaced both mortgage and business debt (see Table Two).

Table One: Aggregated Debt Summary

Table One

$D_1 =$

	0	1	2
0	"Summary"	"Total Private Debt"	"Nominal GDP"
1	"Date (levels)"	2007.42	2007.25
2	"Levels ($m)"	1604981	1024656
3	"Change Month $m"	20877	7657.9
4	"Change Month %"	1.32	0.75
5	"Change Year $m"	203778	73813
6	"Change Year %"	14.54	7.76
7	"Since 1990"	8.51	5.38
8	"Since 1980"	11.97	7.94
9	"Since 1964"	13.49	9.44
10	"Date (% GDP)"	2007.42	"N/A"
11	"As % of GDP"	154.32	100
12	"Change Month"	0.57	"N/A"
13	"Change Year"	5.91	"N/A"
14	"Since 1990"	2.87	"N/A"
15	"Since 1980"	4.09	"N/A"
16	"Since 1964"	4.16	"N/A"

Table Two: Disaggregated Debt Summary

Table Two

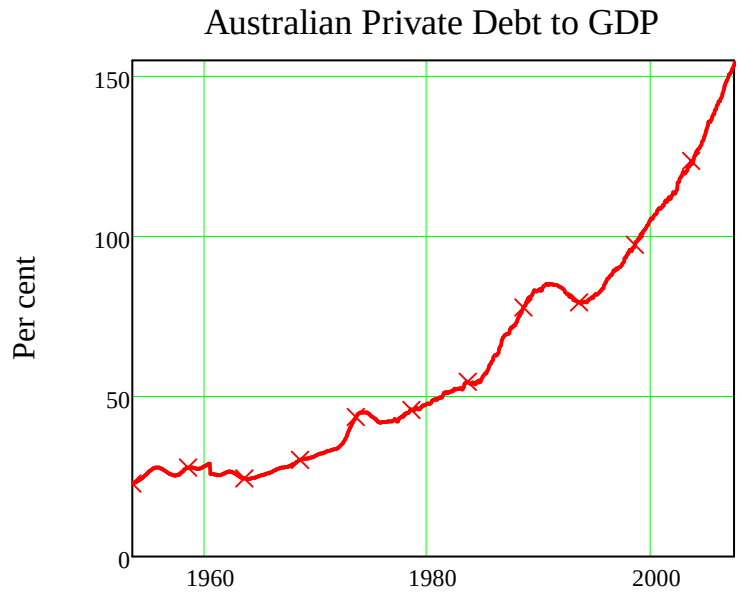
$D_2 =$

	0	1	2	3
0	"Detail"	"Business"	"Mortgage"	"Personal"
1	"Levels ($m)"	604565	859979	140437
2	"Change Mth $m"	9106	9504	2268
3	"Change Mth %"	1.53	1.12	1.64
4	"Change Yr $m"	89061	97224	17494
5	"Change Yr %"	17.28	12.75	14.23
6	"Since 1990"	4.81	14.72	5.35
7	"Since 1980"	10.61	14.03	10.44
8	"Since 1976"	11.15	14.31	11.23
9	"As % of GDP"	58.07	82.6	13.49
10	"Change month"	0.72	0.31	0.83
11	"Change year"	8.33	4.15	5.52
12	"Since 1990"	-0.87	9.27	-0.47
13	"Since 1980"	3.01	6.01	2.61
14	"Since 1976"	3.08	5.76	2.98

Debt to Income Ratios

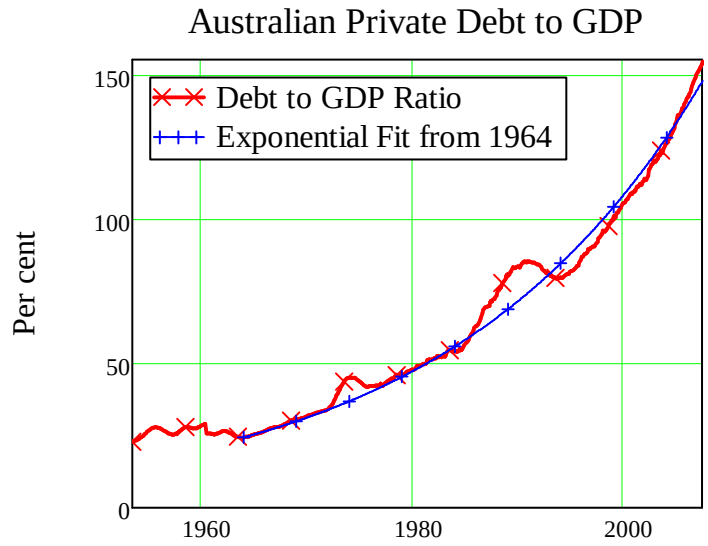
Debt to GDP (D02 & G12)

Figure 1



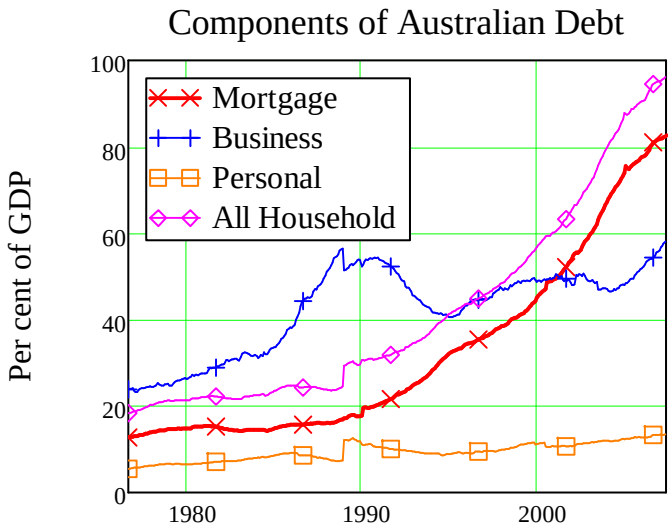
Debt to GDP Regression

Figure 2

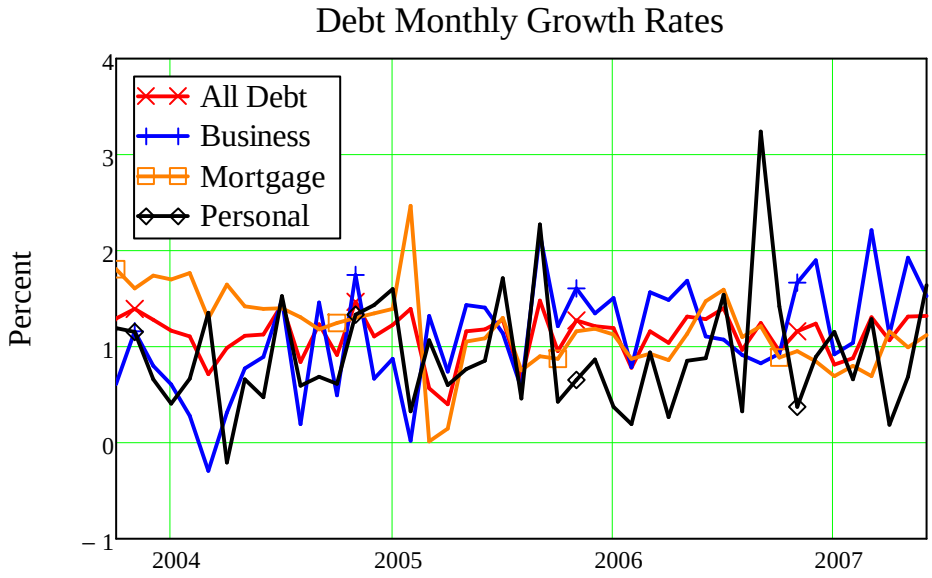


Debt Components to GDP

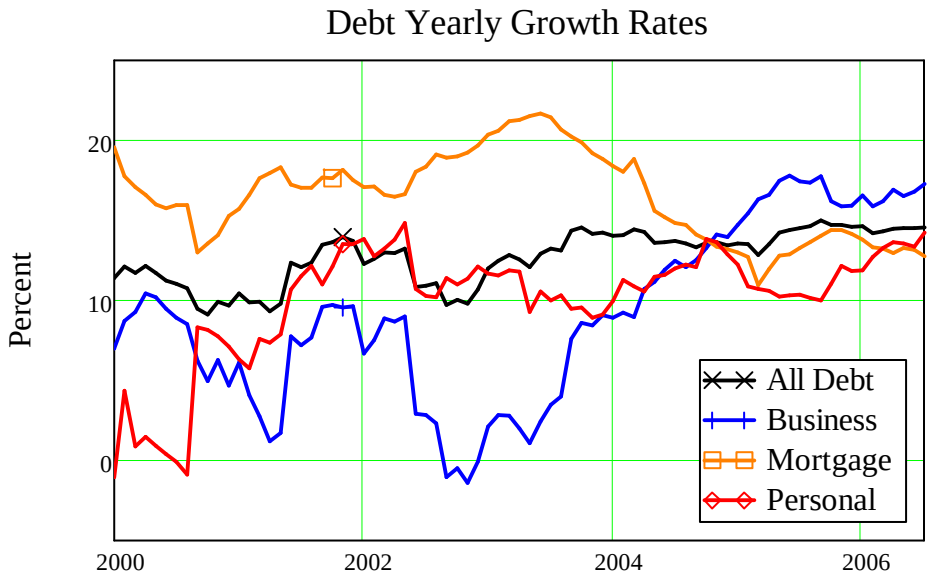
Figure 3



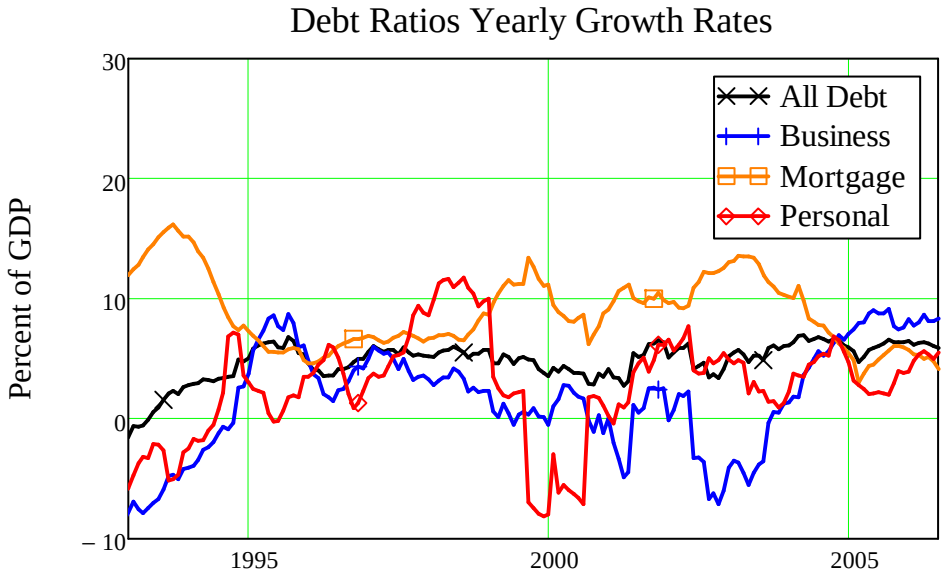
Monthly Growth Rates



Yearly Growth Rates

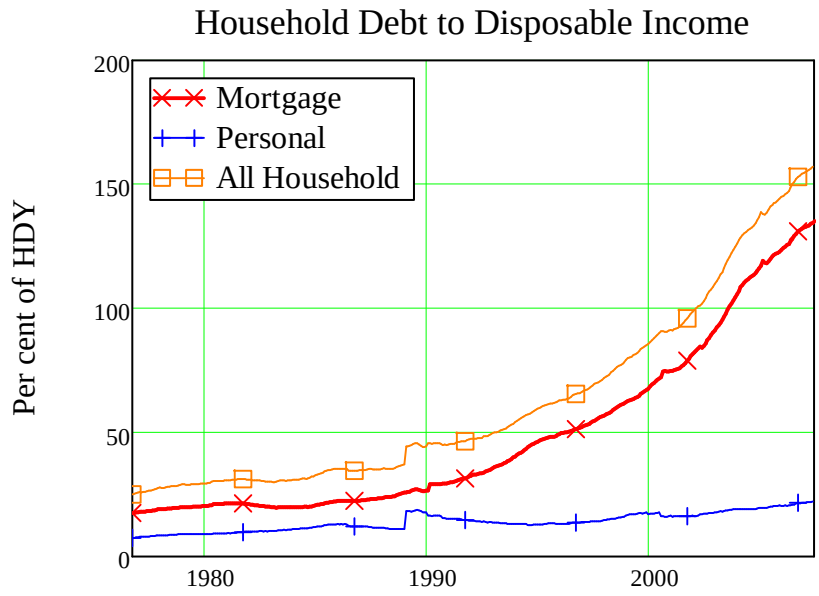


Ratios Yearly Growth Rates



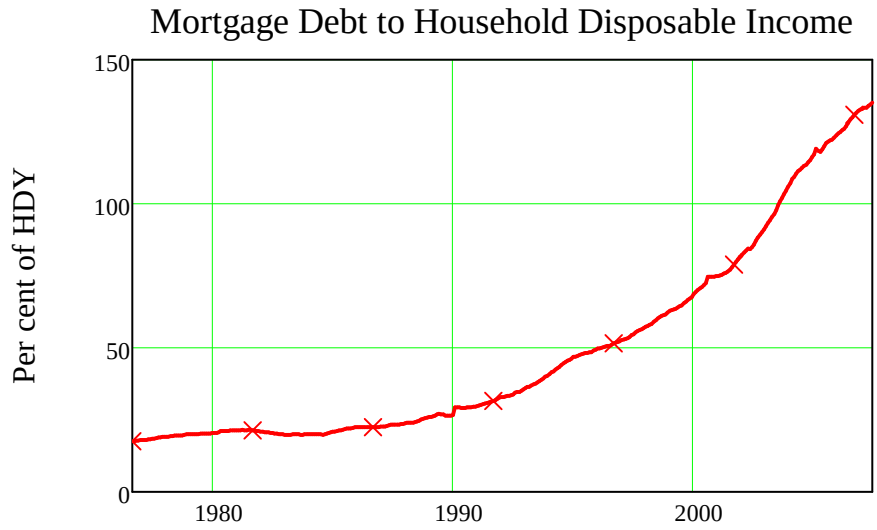
Debt to Household Disposable Income

Figure 4



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

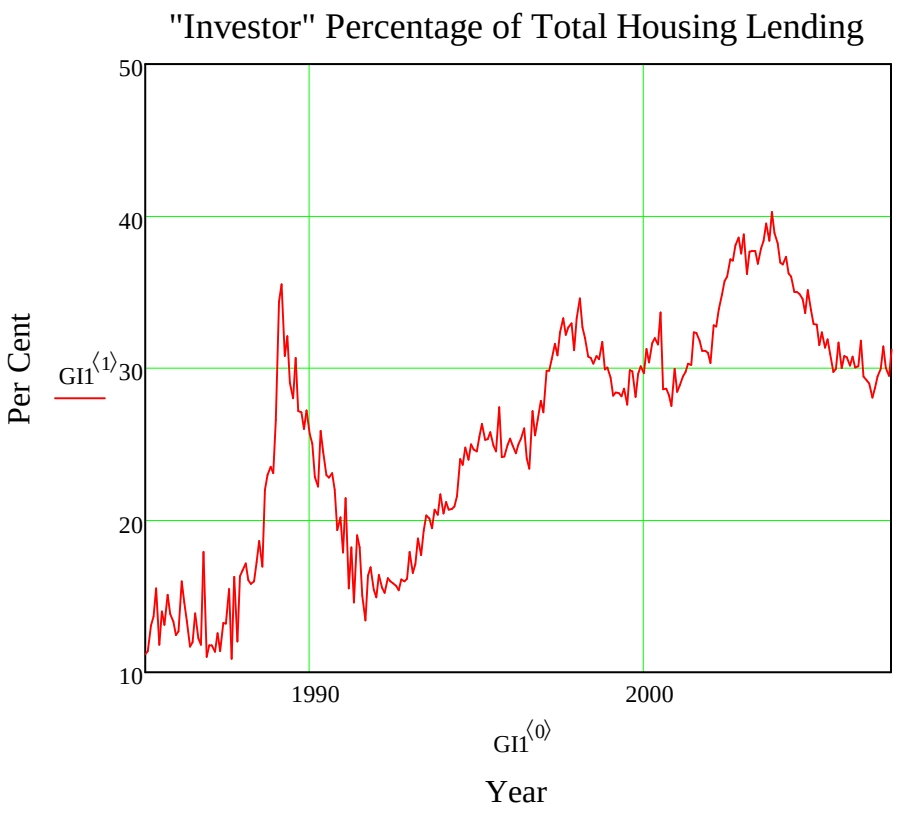
Business Debt to GOS

Figure 7

Housing Finance Analysis

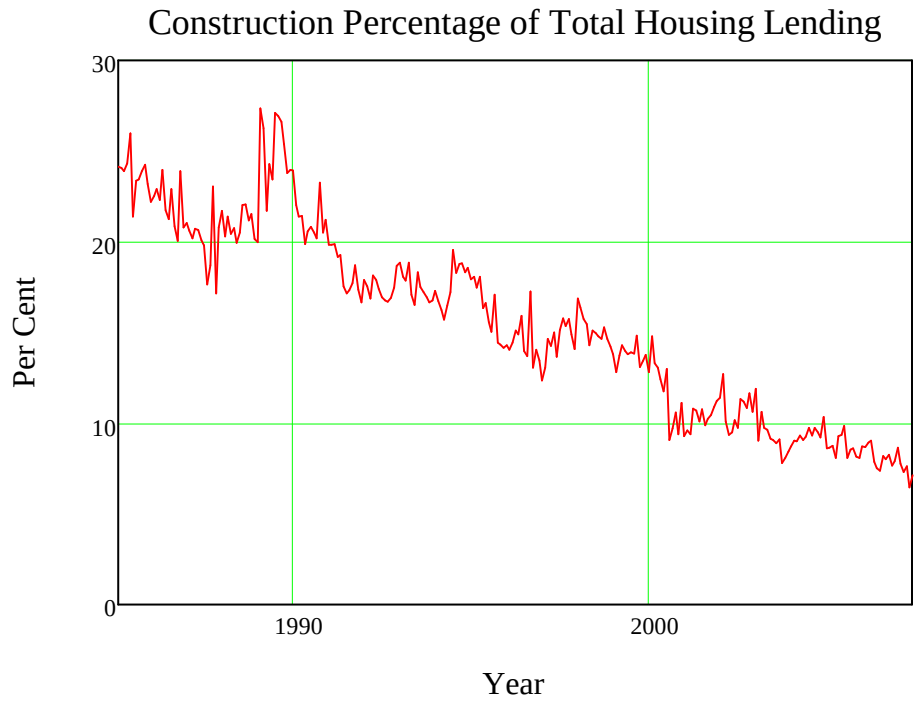
Investment Percent Total Housing Lending

Figure 8



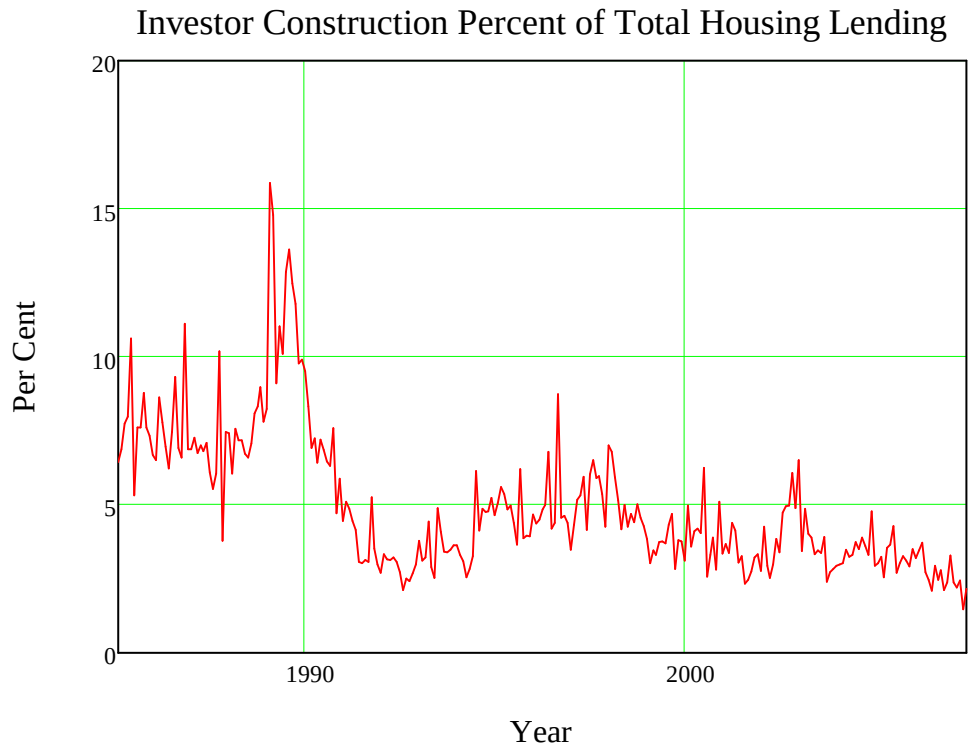
Construction Percent Total Housing Lending

Figure 9



Investment Construction Percent Total Housing Lending

Figure 10



Personal Finance Analysis

Figure 11

Credit Card Data

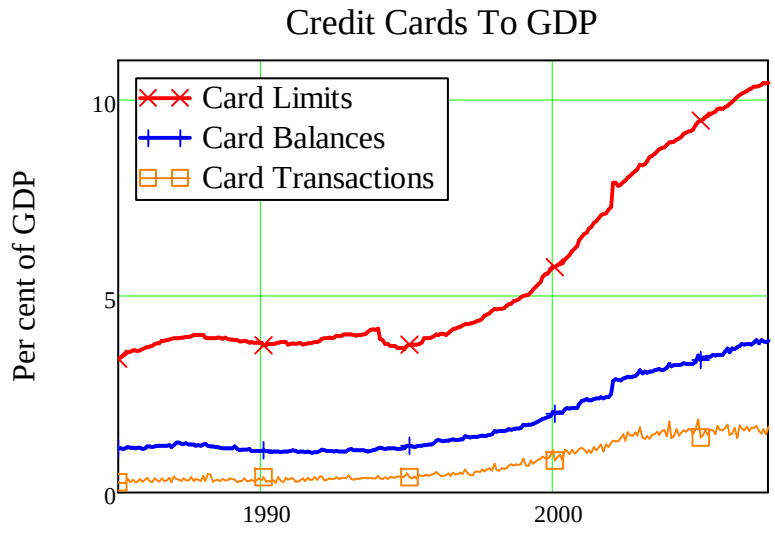


Figure 12

Credit Card Data

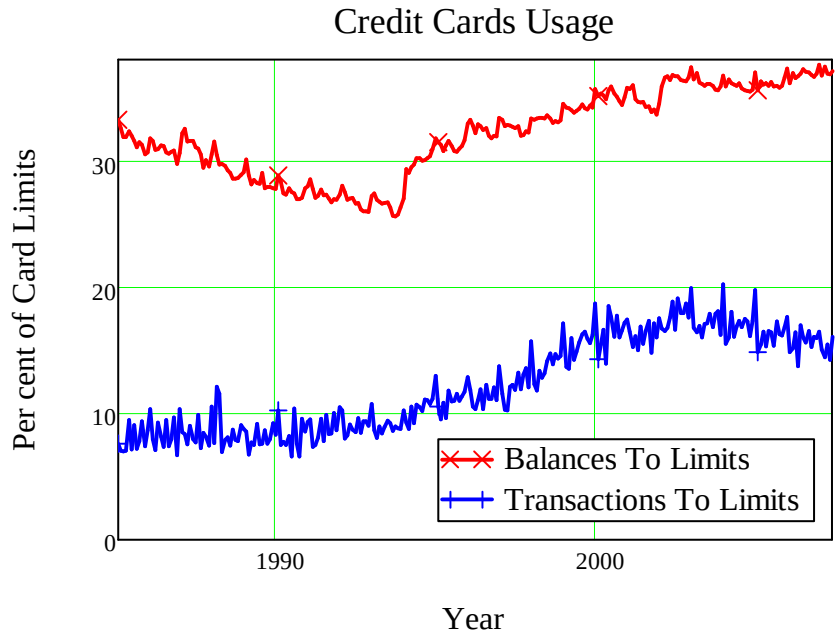
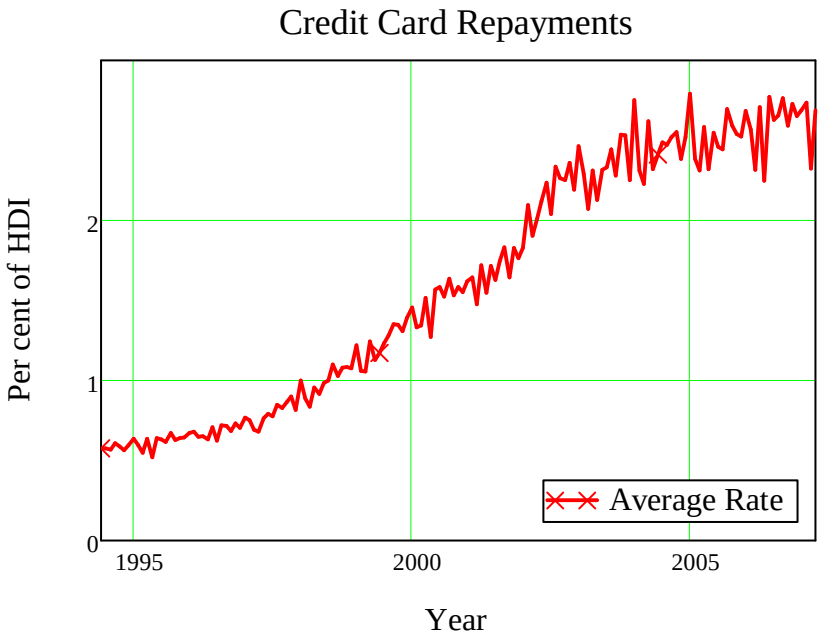


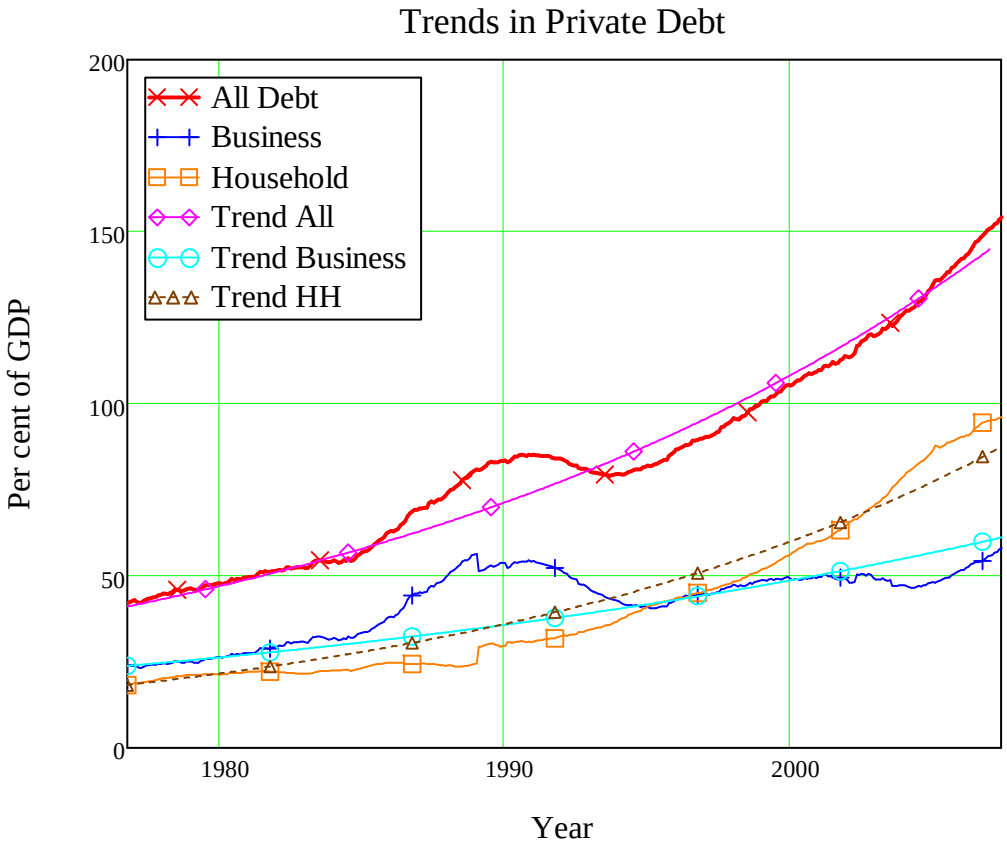
Figure 13

Credit Card Repayments



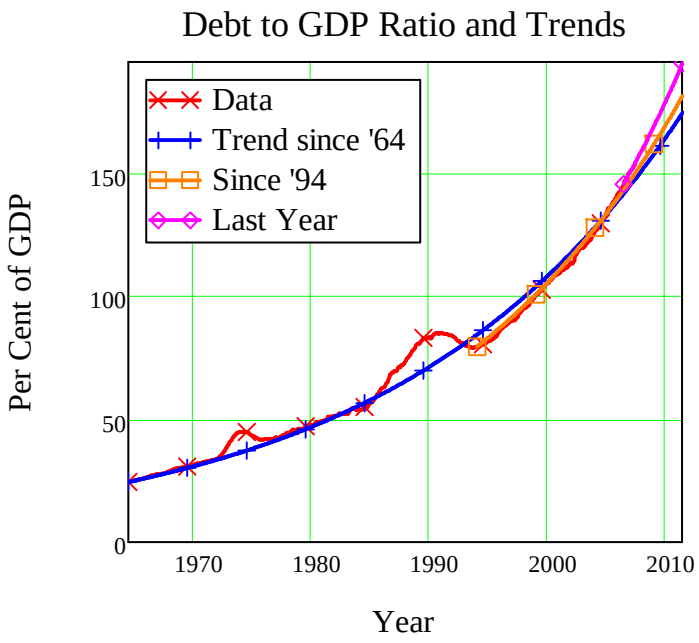
Debt components to Income

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

Corr77 =

	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"	4.17	4.05	3.09	5.07	5.76
3	"Correlation"	99.11	98.43	73.46	98.11	98.05
4						

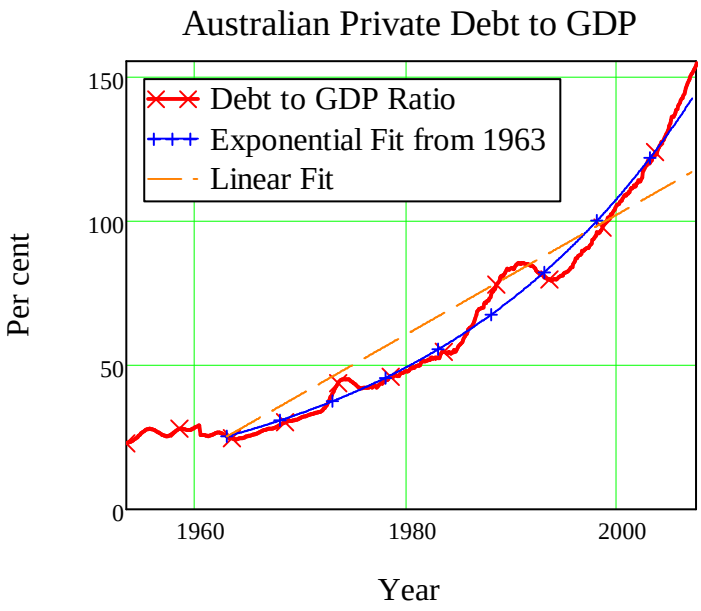
Table Four: Exponential Growth Rates & Correlations since 1990

Corr90 =

	0	1	2	3	4
0	"Debt ratios"	"All"	"Business"	"Household"	"Mortgage"
1	"Start Date"	1990	1990	1990	1990
2	"Growth rate"	2.8	-0.97	6.81	9.32
3	"Correlation"	96.46	-17.31	99.67	99.76

Debt to GDP Linear vs Exponential Regressions

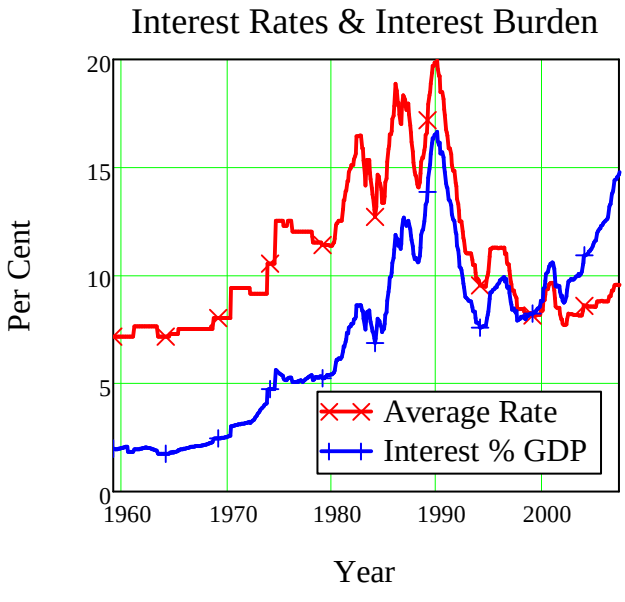
Figure 16



Debt Servicing Burden

Interest Rates & Payments

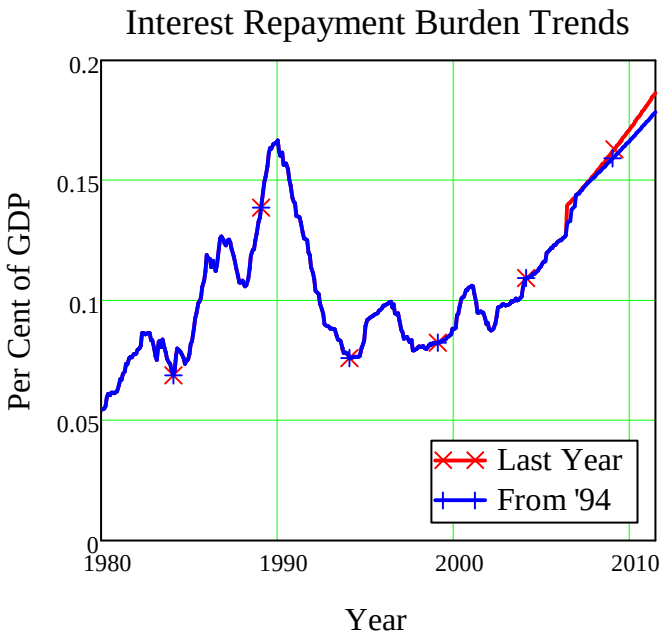
Figure 17



Interest Payment Trends

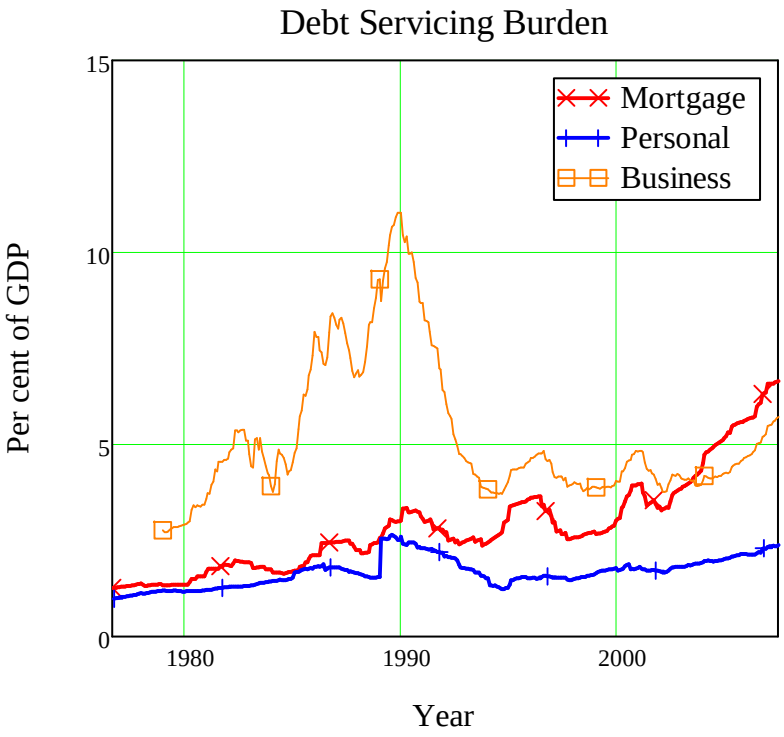
If trends in debt growth continue, then even without any increases in official interest rates, the interest repayment burden on the economy will exceed that of 1990 sometime between September 2008 and September 2009.

Figure 18



Debt Servicing by Loan Type

Figure 19



Household Debt Servicing

Figure 20

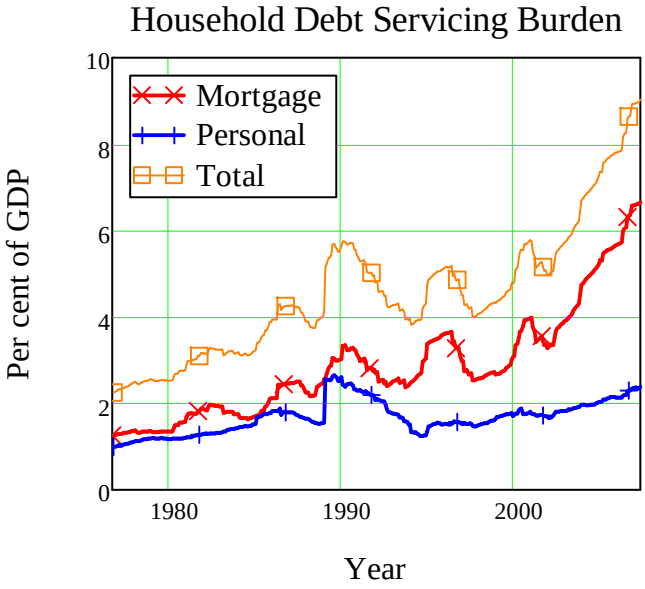
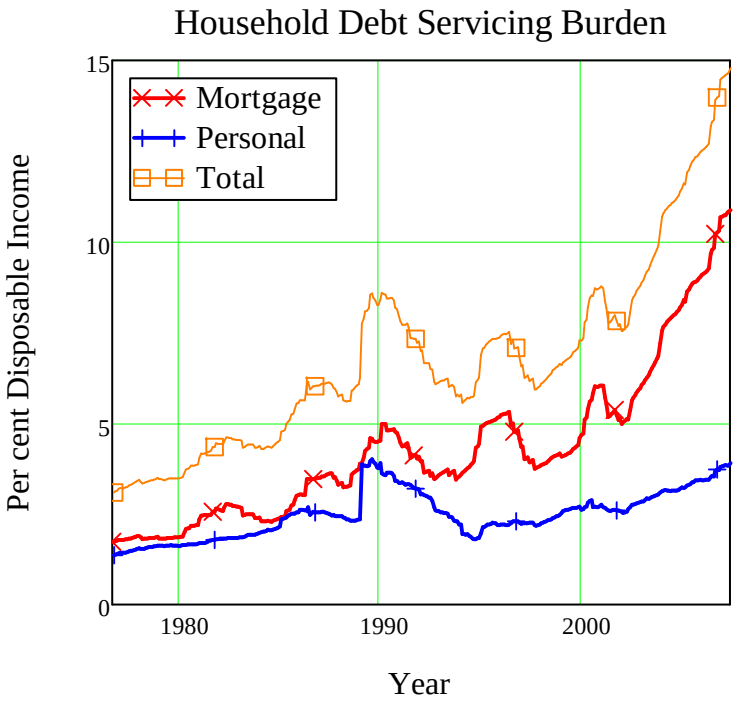
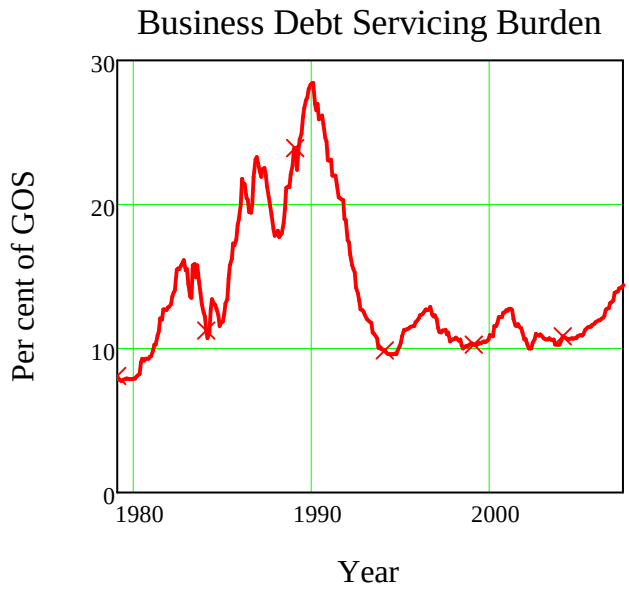


Figure 21



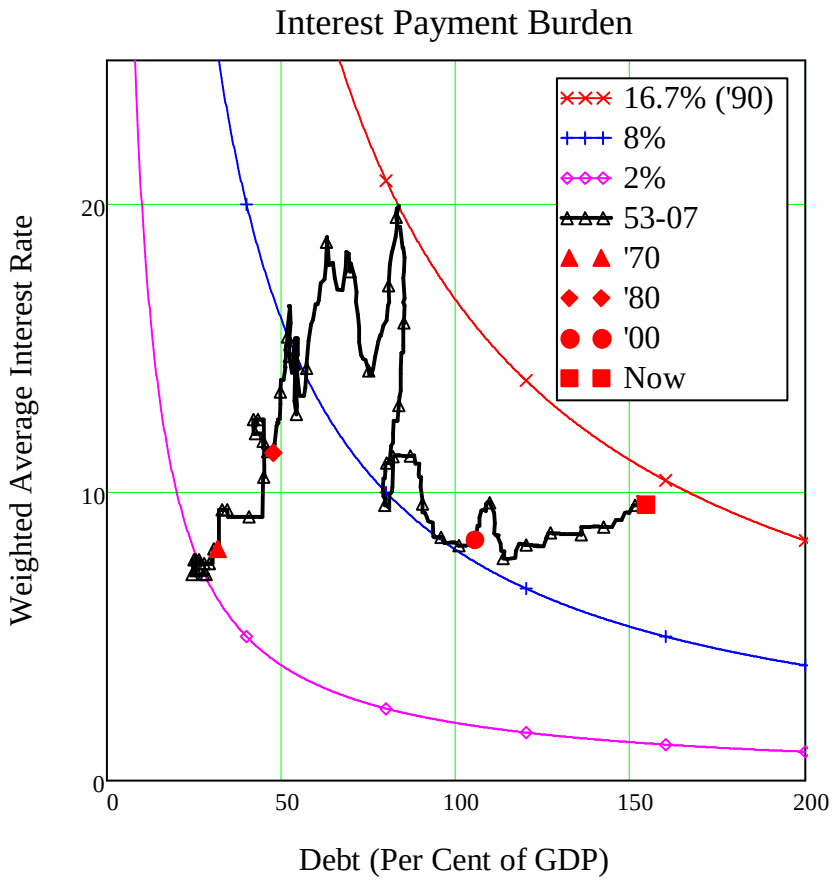
It's obvious why high interest rates prior to 1990 brought the economy to a standstill when one sees the following graph: the interest servicing charge on business loans peaked at almost 30 per cent of Gross Operating Surplus. Even though business debt has recently started to rise as a proportion of GDP, the debt servicing burden remains in the range that applied in the early 1980s.

Figure 22



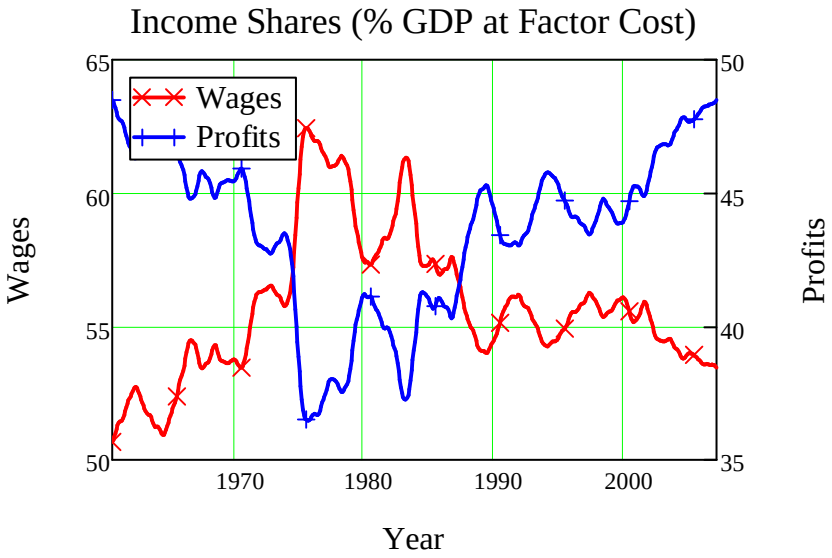
The debt repayment burden is affected by both the rate of interest, and the level of debt. This chart shows the percentage of GDP that is required to pay the interest on outstanding debt, as a function of average interest rates (the vertical axis) and the debt to GDP ratio (horizontal axis). We are approaching 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



Income Shares

Figure 24



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

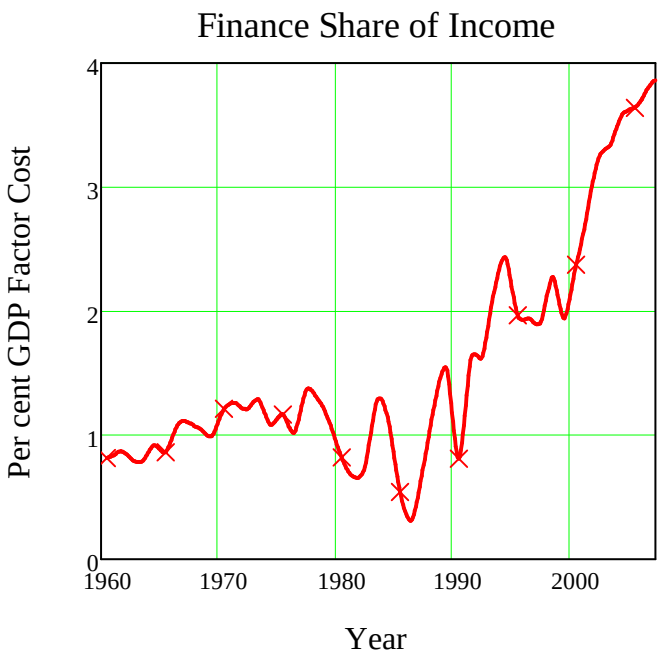
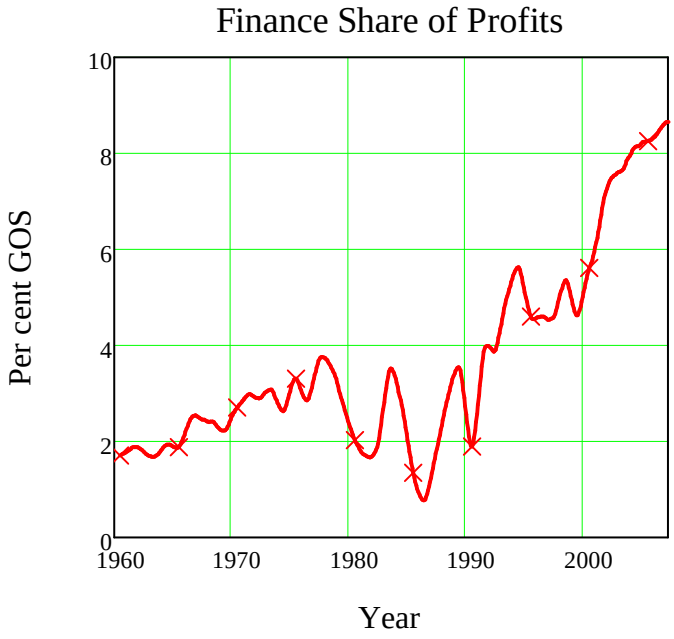


Figure 26



Debt contribution to Effective Demand

Figure 27

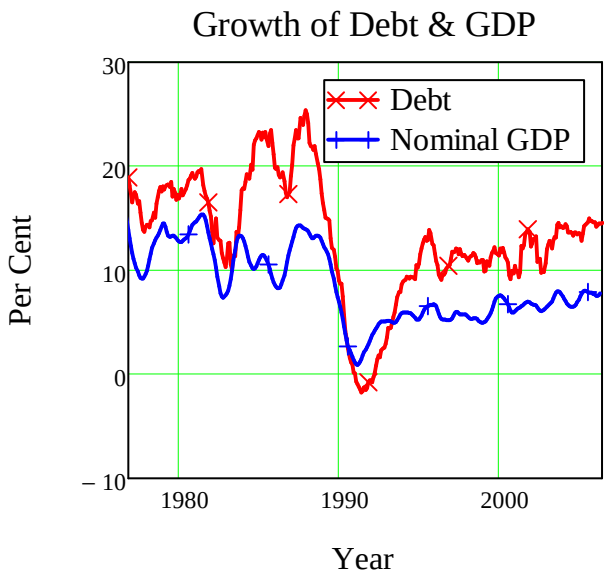


Figure 28

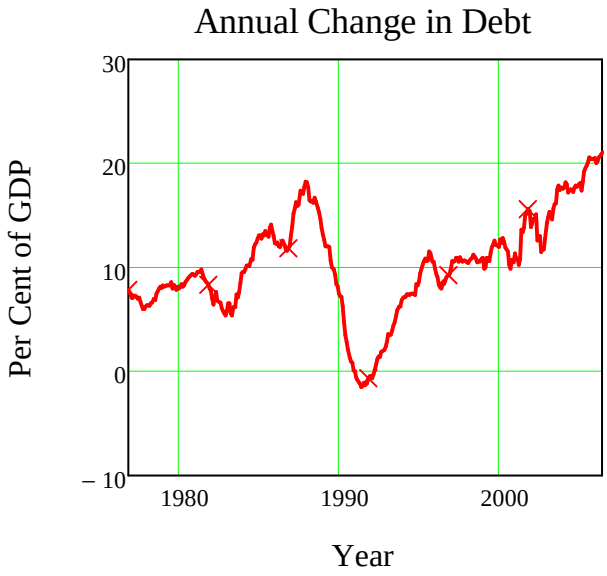


Figure 29

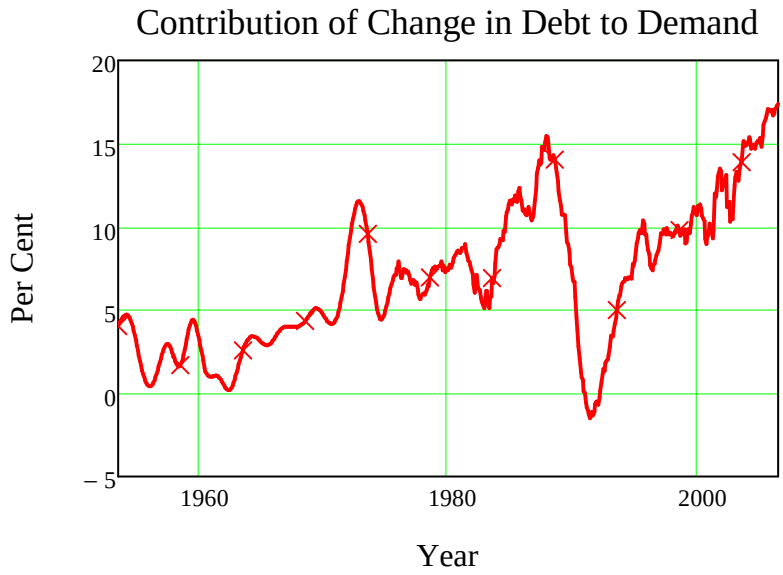
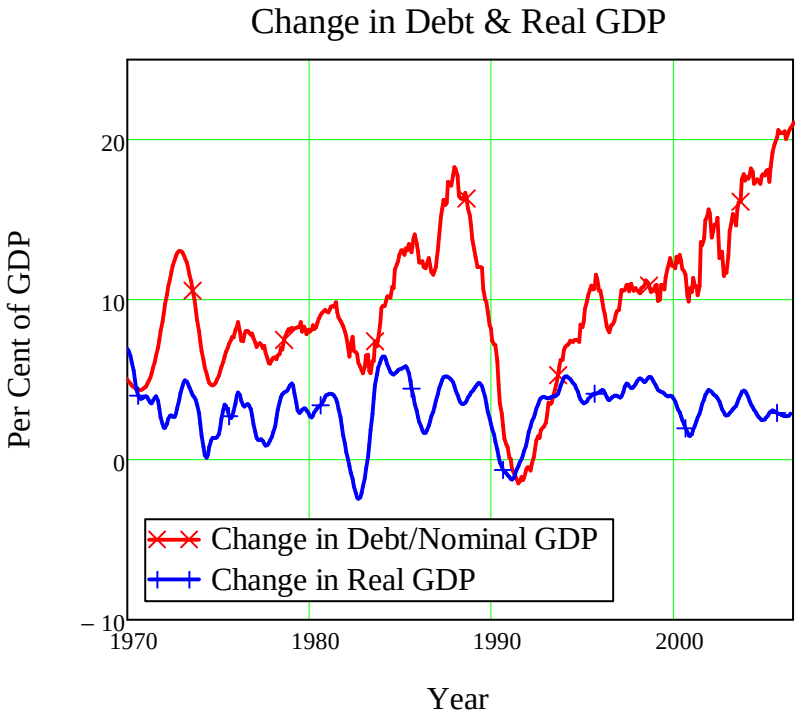


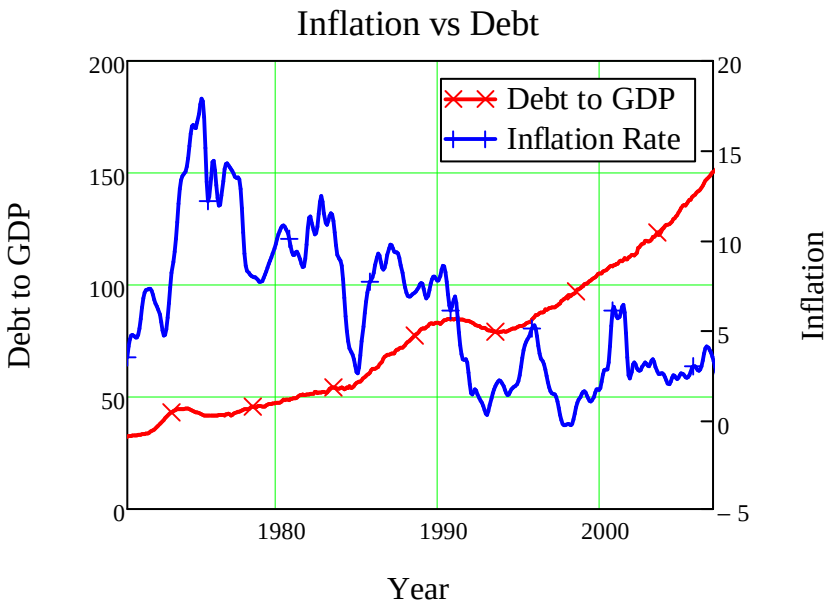
Figure 30



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

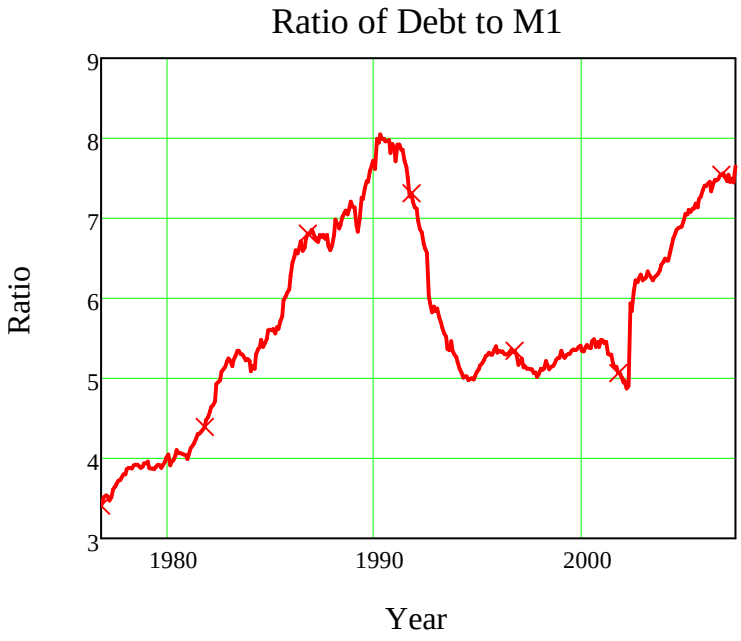


Figure 33

Debt to Money

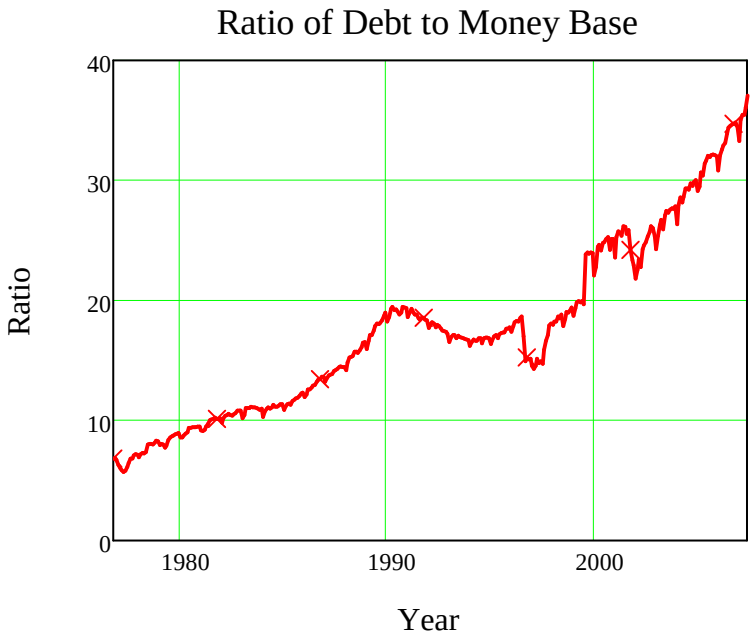
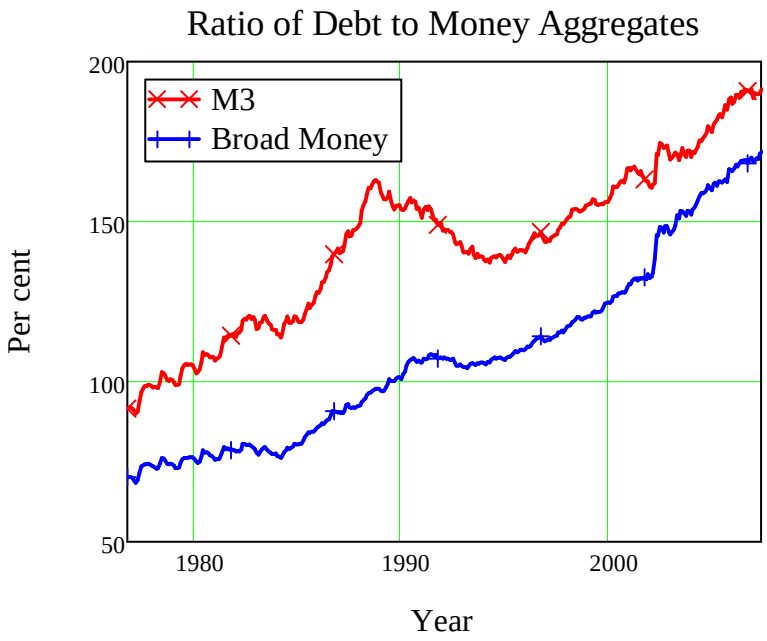


Figure 34

Debt to Money



Debt to Money

Figure 35

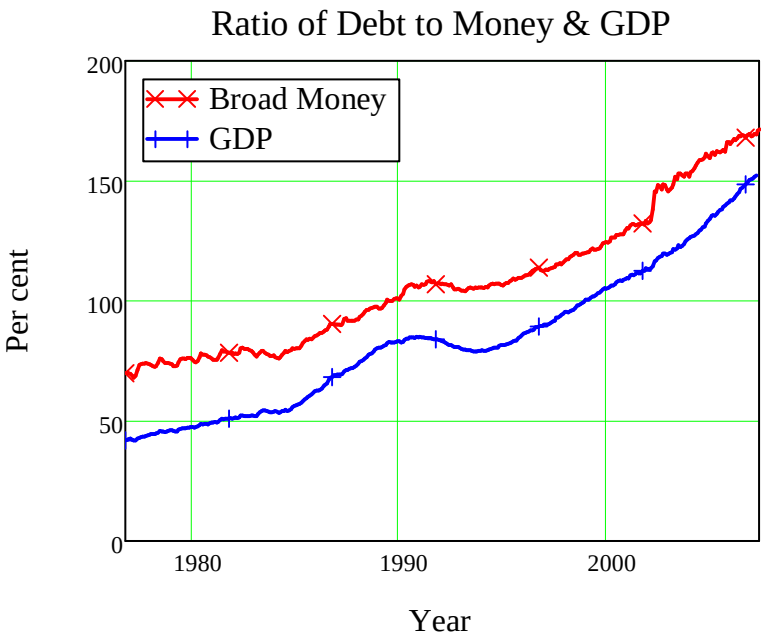
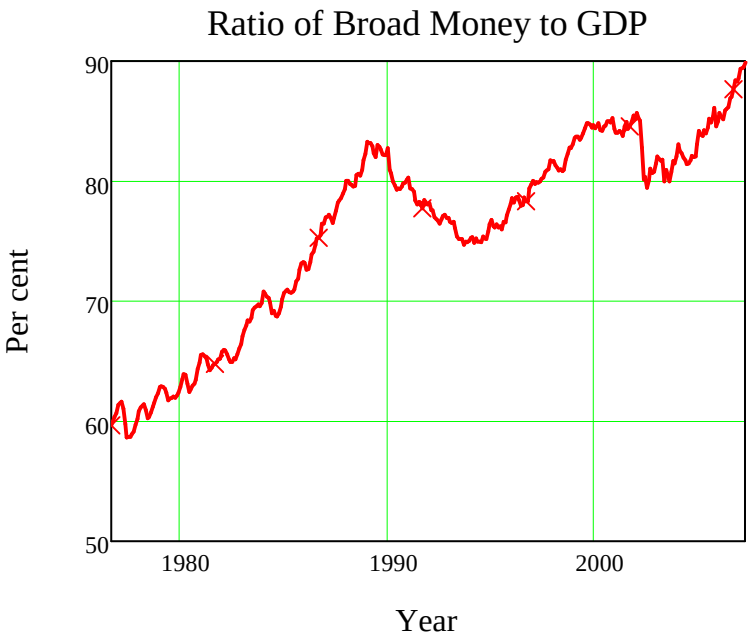


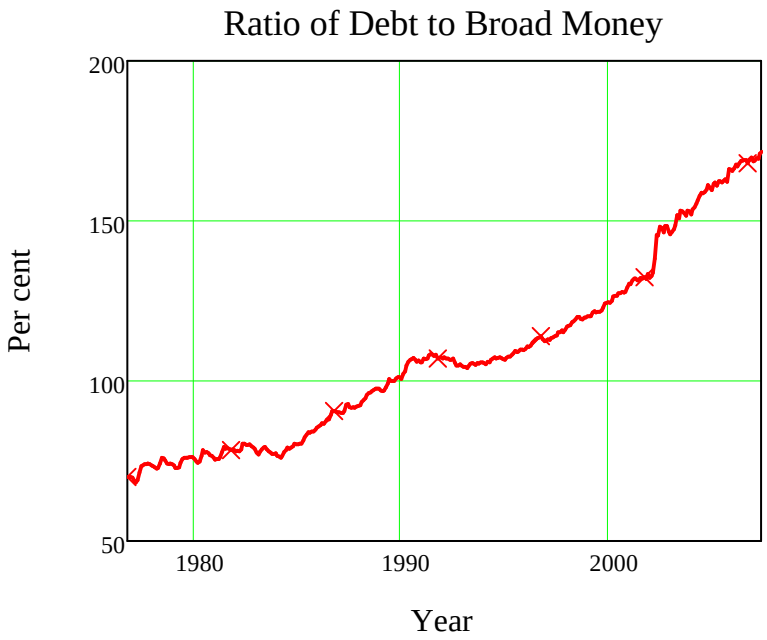
Figure 36

Debt to Money



Debt to Money

Figure 37



International Data

USA Data and USA-Australia Comparisons

Figure 38

USA-Australia Household Debt Comparison

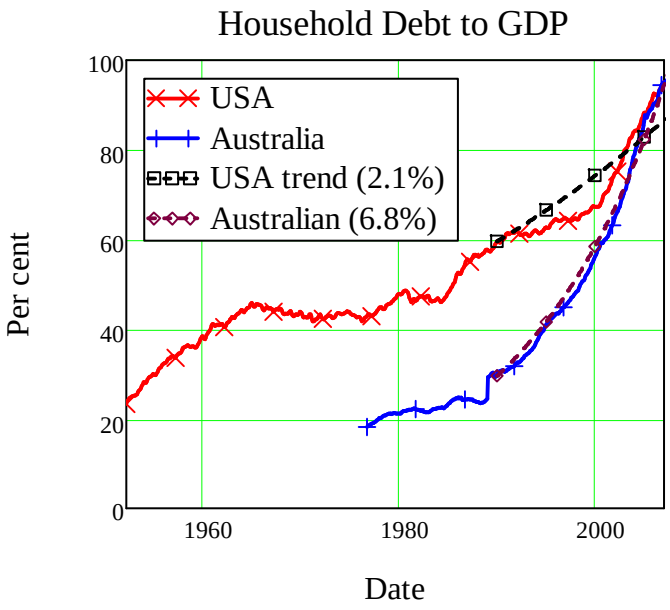


Figure 39

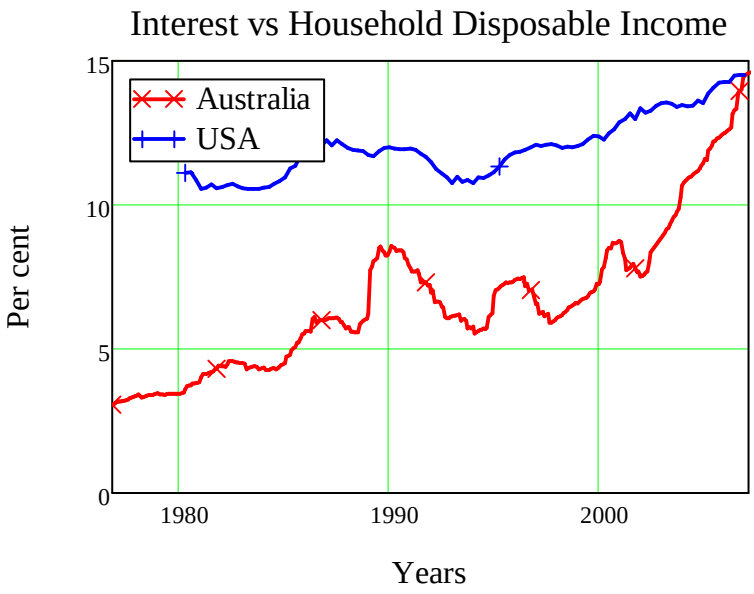
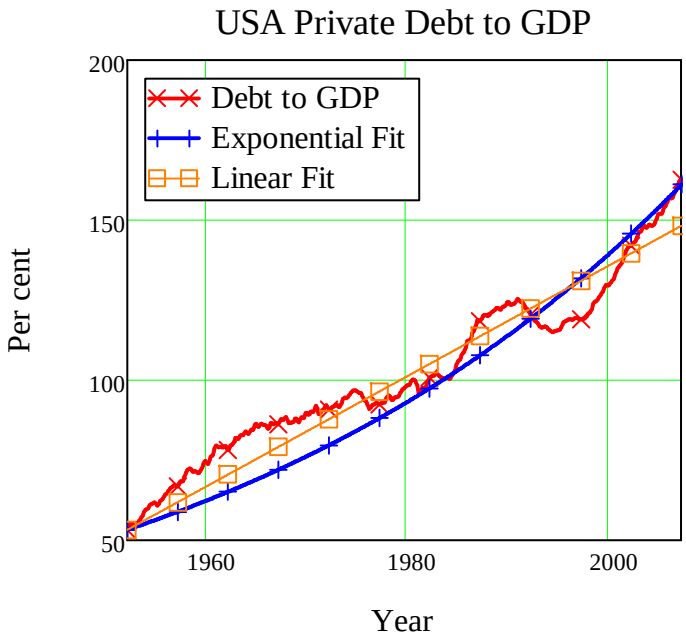


Figure 40

USA Private Debt to GDP



OECD Composite Leading Indicators