

Steve Keen's DebtWatch Charts December 2007

NOTE to subscribers

I will be overseas from December 30th till February 3rd, so if you want to contact me during that time, please use email (s.keen@uws.edu.au). I wish everyone a happy holiday season, and I'll resume Debtwatch in February 2008.

Aggregate Data and Trend Growth Rates

Debt yet again rose faster than GDP last month, and the ratio is now over 160 percent (see Table One). For the first time in 17 years--since the 1990s recession--business debt is the fastest growing segment of Australian private debt. It grew almost 24% over the calendar year, and has risen almost 15% relative to GDP.

Business debt is now almost 7% higher as a proportion of GDP than the peak reached in the late 1980s. Of course, interest rates are much lower now than then, and much of the investment is a (belated) response to the China boom--in contrast to the purely speculative excesses of the 1980s.

However, household debt still dominates the private debt scene--and that has been almost purely speculative (since more than 90% of mortgage debt financed speculation on the prices of existing homes, rather than the construction of new ones). Even with the disturbances in the housing market, mortgage debt still rose last month, as did personal debt. Household debt is now 99% of GDP--slightly higher than the current level of household debt in the USA. But of course, the dire situation in the USA can't be compared to the rosy reality of Australia...

Table One: Aggregated Debt Summary

Table One

	0	1	2
0	"Summary"	"Total Private Debt"	"Nominal GDP"
1	"Date (levels)"	2007.83	2007.75
2	"Levels (\$m)"	1723010	1063572
3	"Change Month \$m"	22873	6103.63
4	"Change Month %"	1.35	0.58
5	"Change Year \$m"	240400	78015
6	"Change Year %"	16.21	7.92
7	"Since 1990"	8.63	5.43
8	"Since 1980"	11.98	7.92
9	"Since 1964"	13.48	9.39
10	"Date (% GDP)"	2007.83	"N/A"
11	"As % of GDP"	161.1	100
12	"Change Month"	0.78	"N/A"
13	"Change Year"	7.74	"N/A"
14	"Since 1990"	2.93	"N/A"
15	"Since 1980"	4.11	"N/A"
16	"Since 1964"	4.18	"N/A"

Table Two: Disaggregated Debt Summary

Table Two

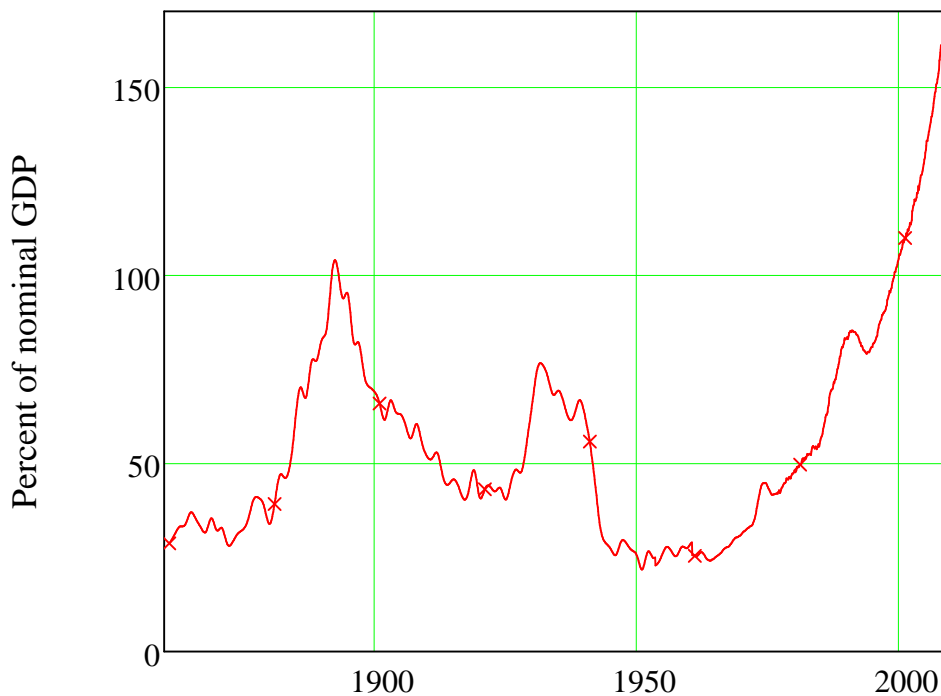
	0	1	2	3
0	"Detail"	"Business"	"Mortgage"	"Personal"
1	"Levels (\$m)"	672288	901419	149302
2	"Change Mth \$m"	14436	7439	998
3	"Change Mth %"	2.19	0.83	0.67
4	"Change Yr \$m"	128193	94394	17812
5	"Change Yr %"	23.56	11.7	13.55
6	"Since 1990"	5	14.69	5.51
7	"Since 1980"	10.62	14.03	10.45
8	"Since 1976"	11.16	14.3	11.22
9	"As % of GDP"	62.86	84.29	13.96
10	"Change month"	1.63	0.28	0.12
11	"Change year"	14.55	3.55	5.27
12	"Since 1990"	-0.76	9.2	-0.36
13	"Since 1980"	3.01	6.03	2.62
14	"Since 1976"	3.09	5.81	3

D₂ =

Debt to Income Ratios

Long Term Debt

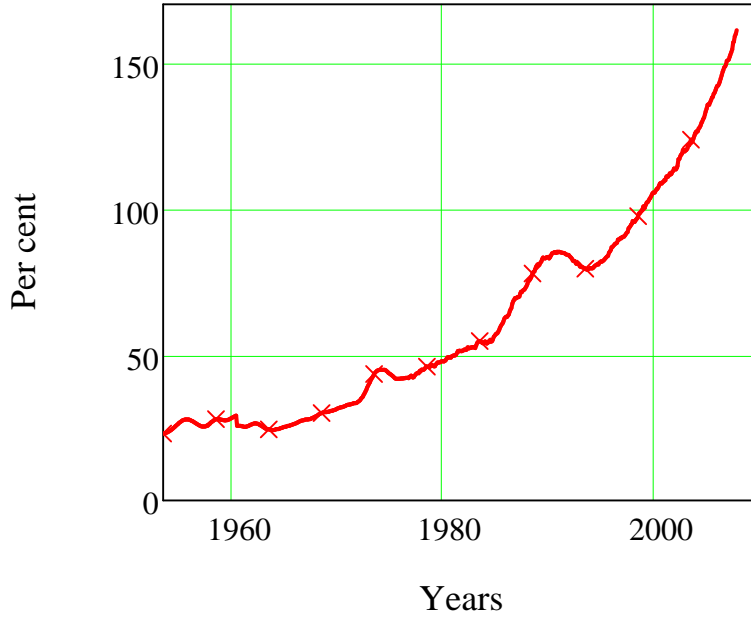
Australian Private Debt to GDP



▣ Debt to GDP (D02 & G12)

Figure 1

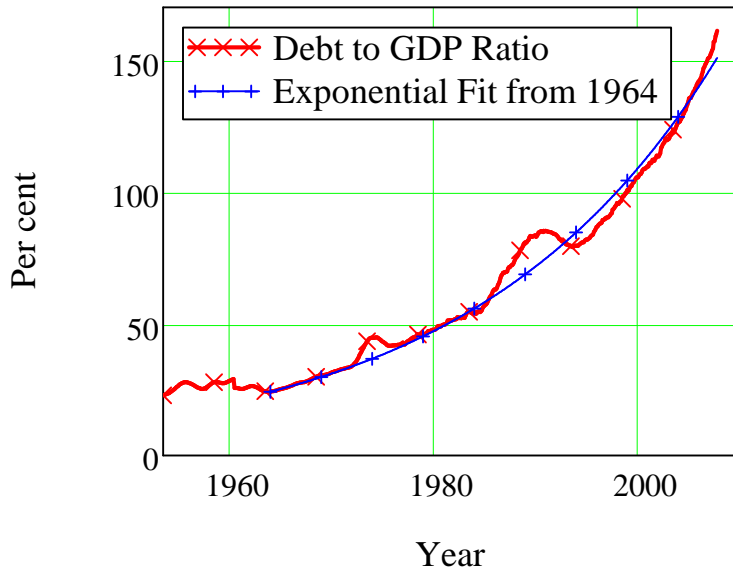
Australian Private Debt to GDP



▢ Debt to GDP Regression

Figure 2

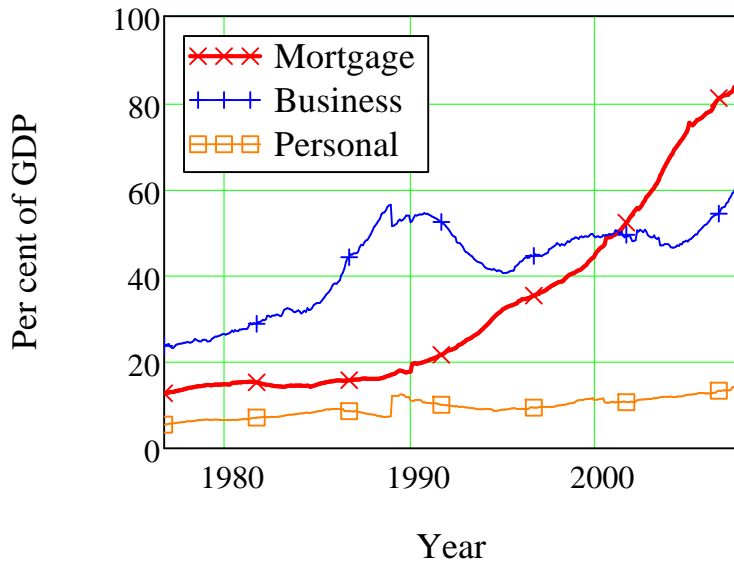
Australian Private Debt to GDP



▢ Debt Components to GDP

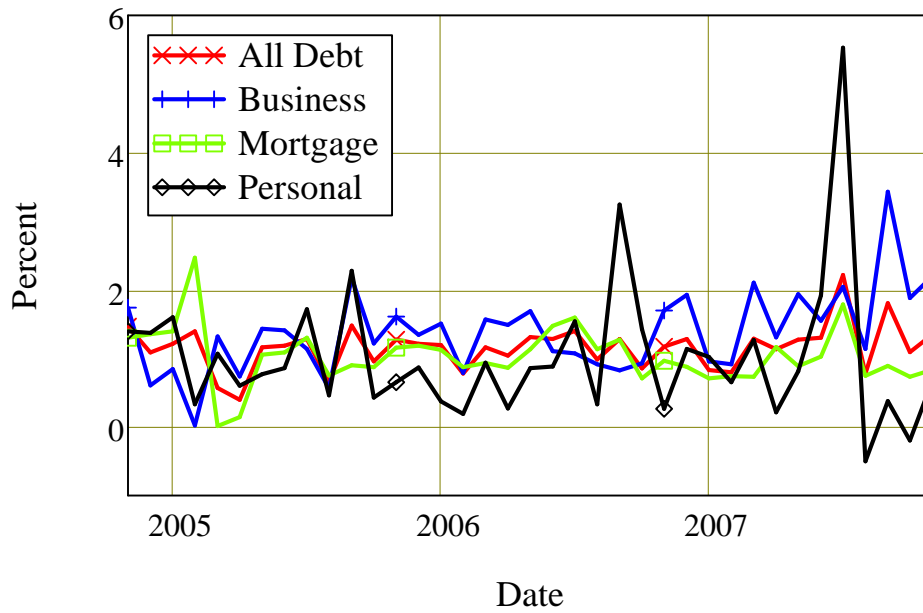
Figure 3

Components of Australian Debt



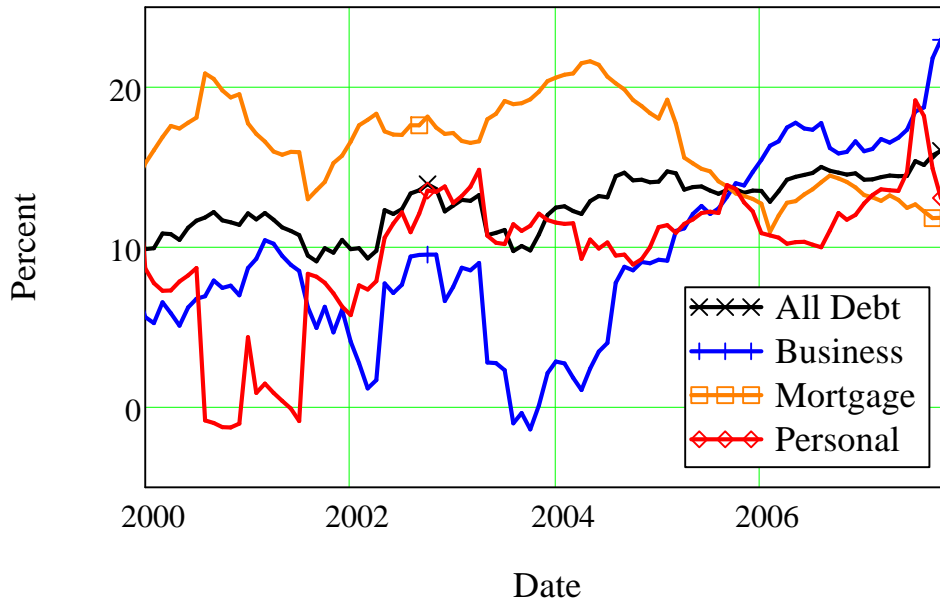
▾ Monthly Growth Rates

Debt Monthly Growth Rates



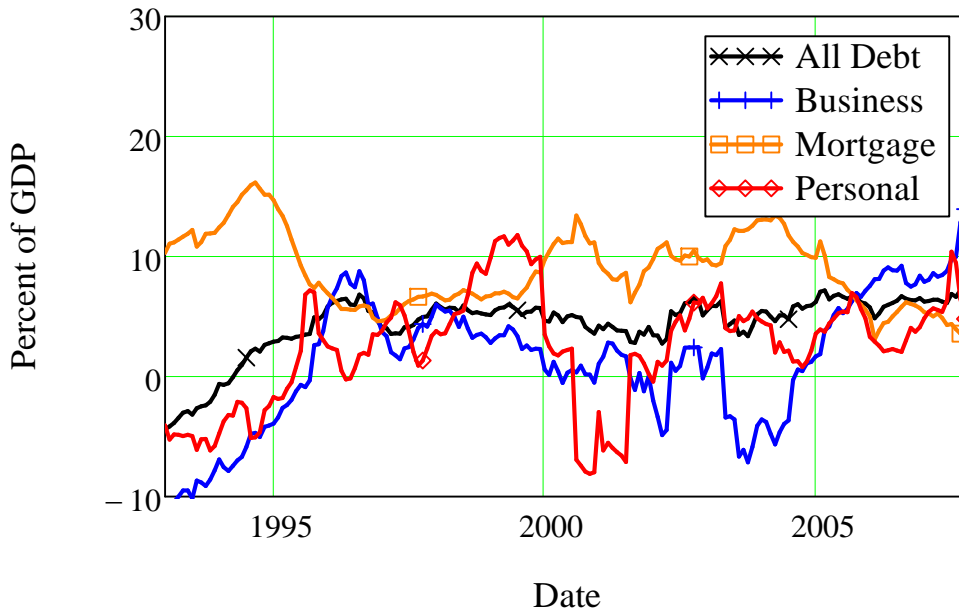
▾ Yearly Growth Rates

Debt Yearly Growth Rates



▢ Ratios Yearly Growth Rates

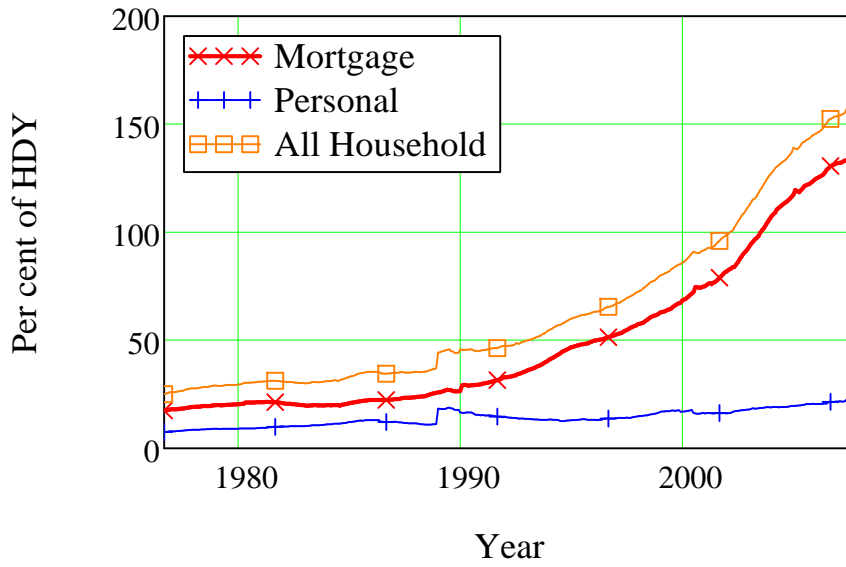
Debt Ratios Yearly Growth Rates



▢ Debt to Household Disposable Income

Figure 4

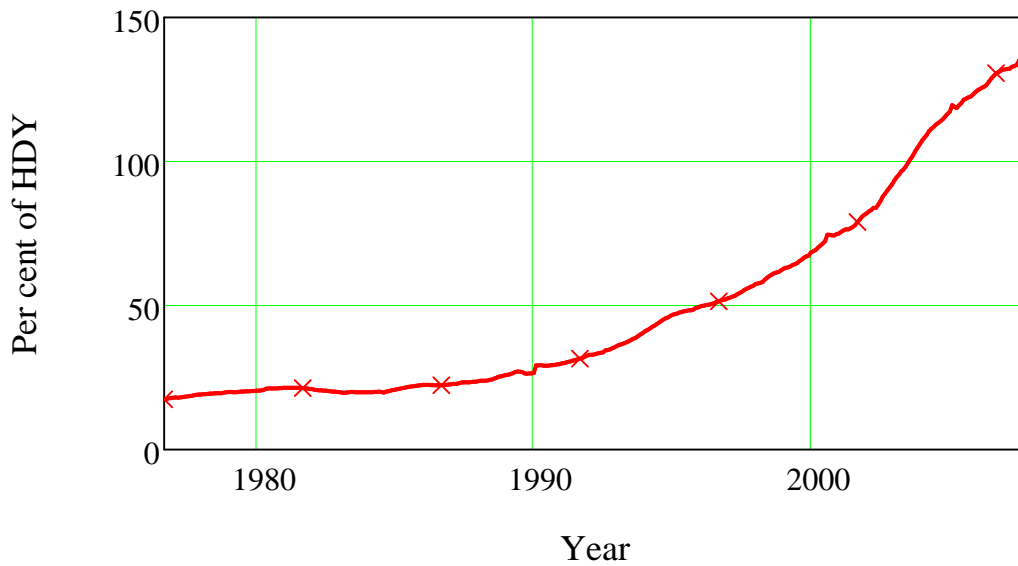
Household Debt to Disposable Income



▣ Mortgage Debt to Household Disposable Income

Figure 5

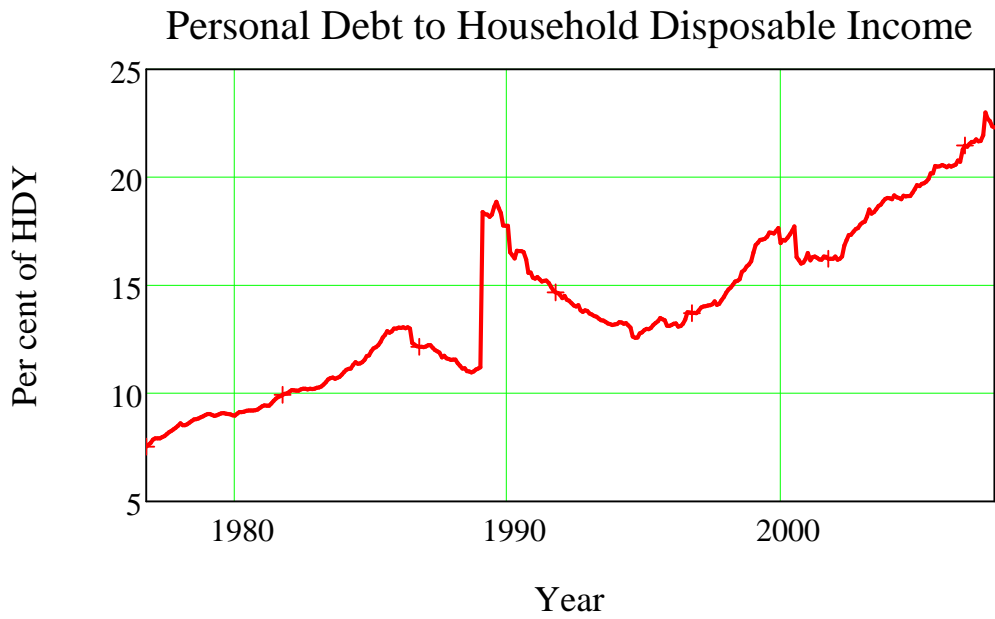
Mortgage Debt to Household Disposable Income



▣ 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

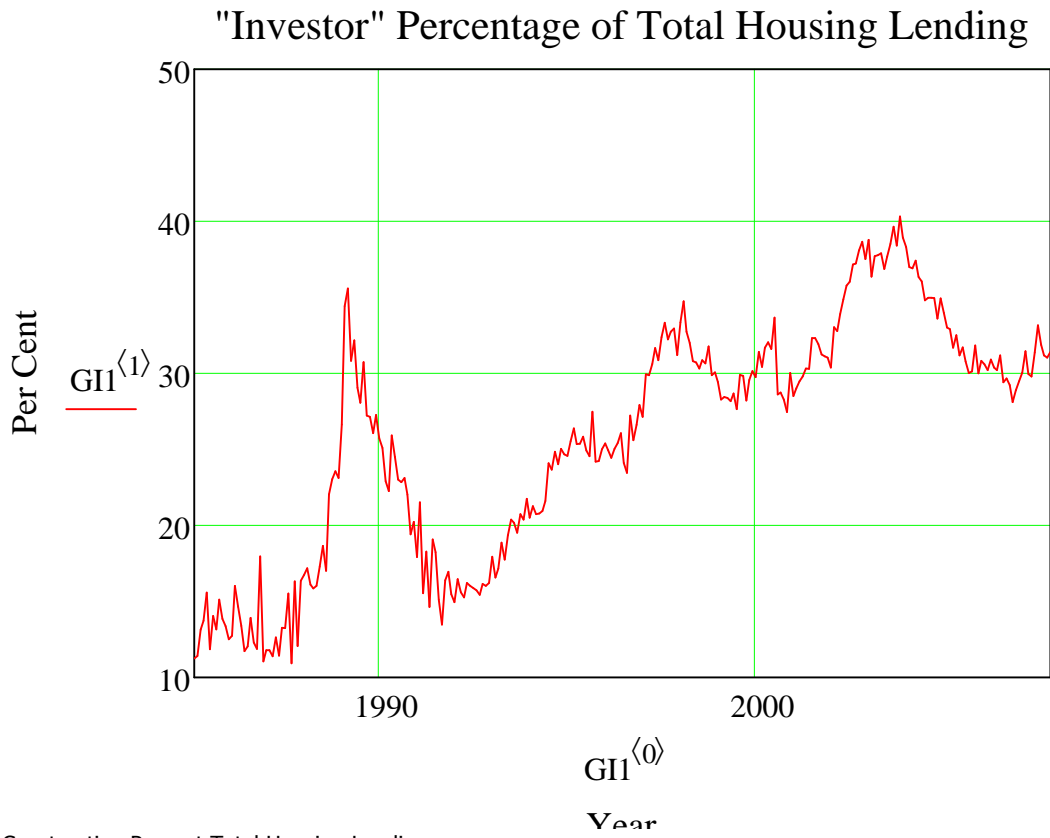
Figure 7



Housing Finance Analysis

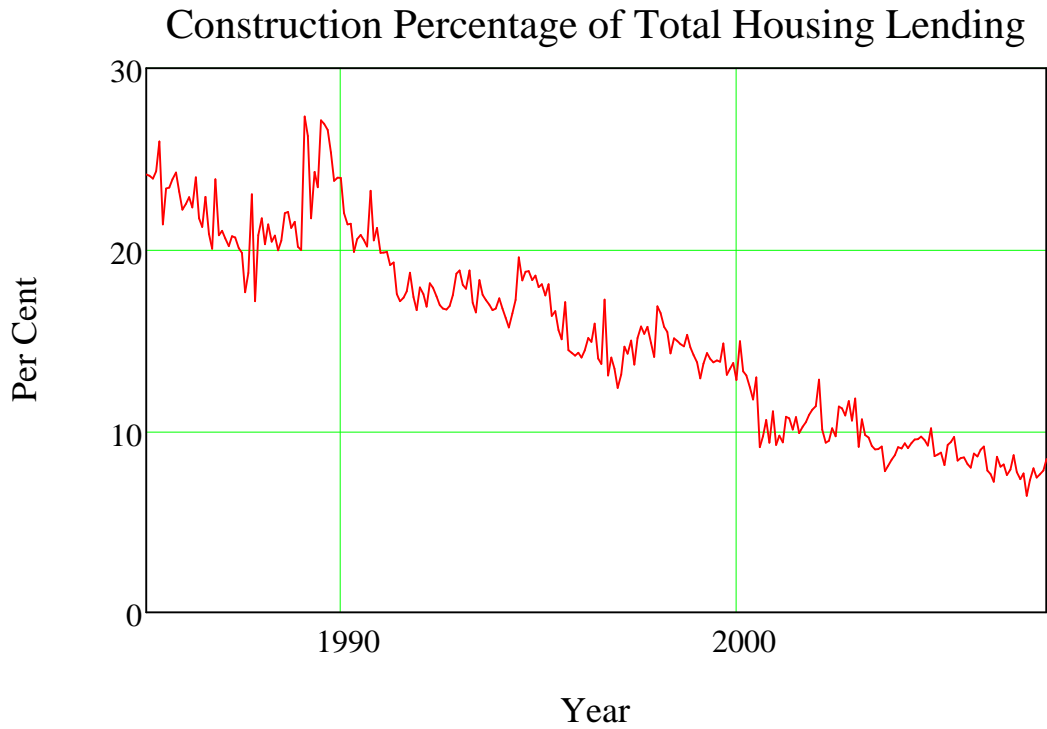
Investment Percent Total Housing Lending

Figure 8



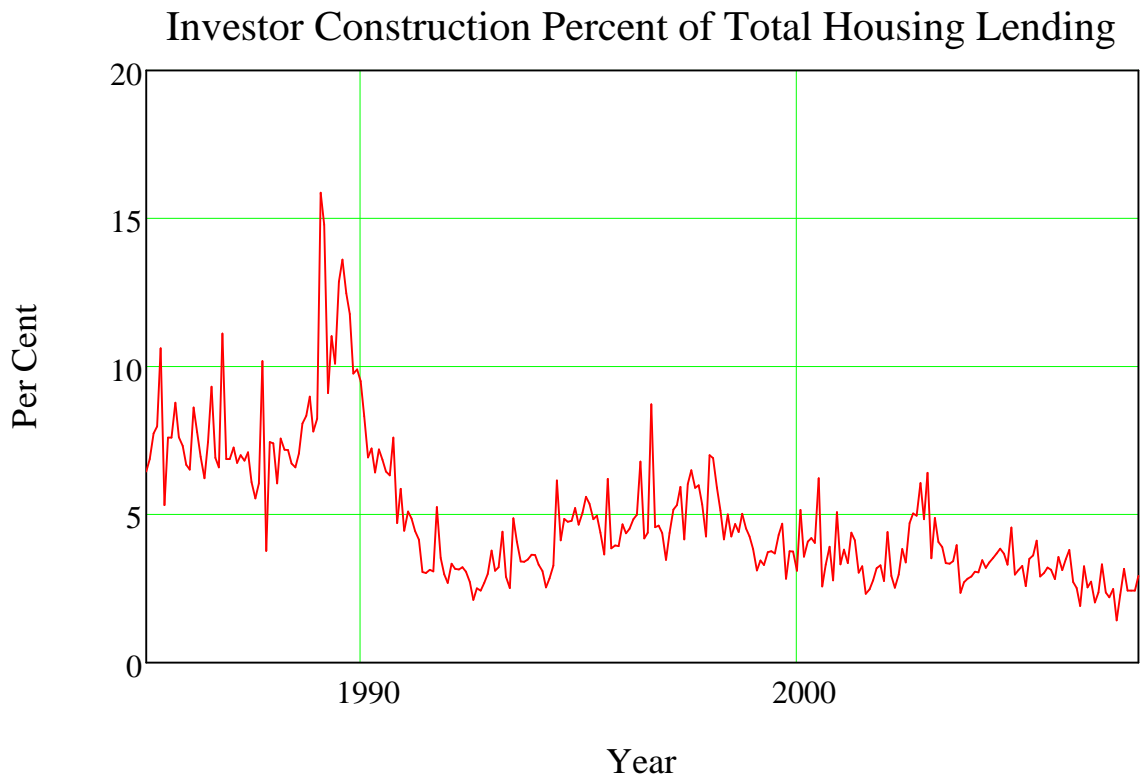
Construction Percent Total Housing Lending

Figure 9



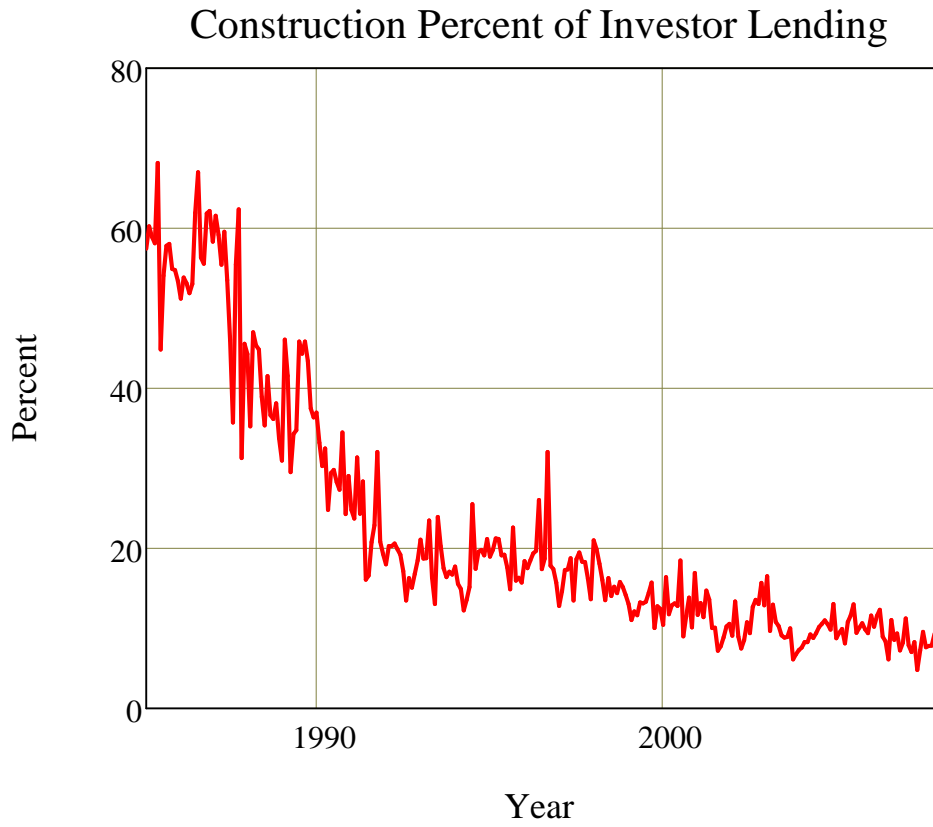
▢ Investment Construction Percent Total Housing Lending

Figure 10



▢ Construction Percent of Investor Lending

Figure 11



Personal Finance Analysis
Figure 12

▶ Credit Card Data

Credit Cards To GDP

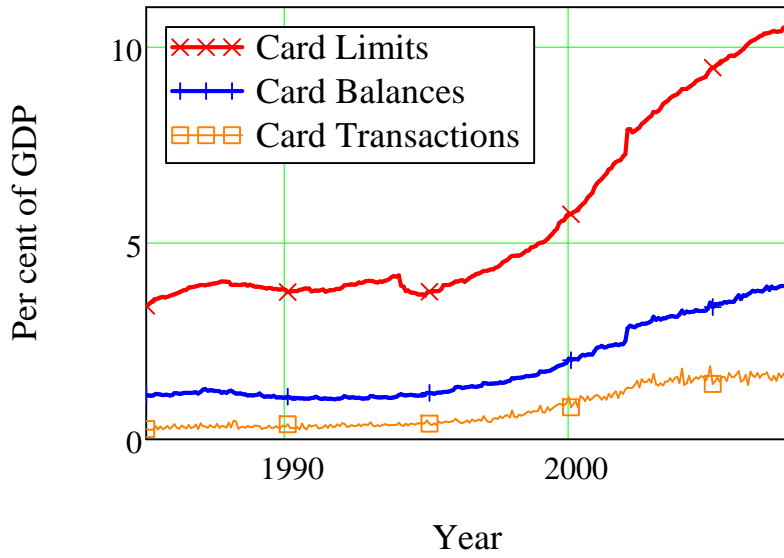


Figure 13

▶ Credit Card Data

Credit Cards Usage

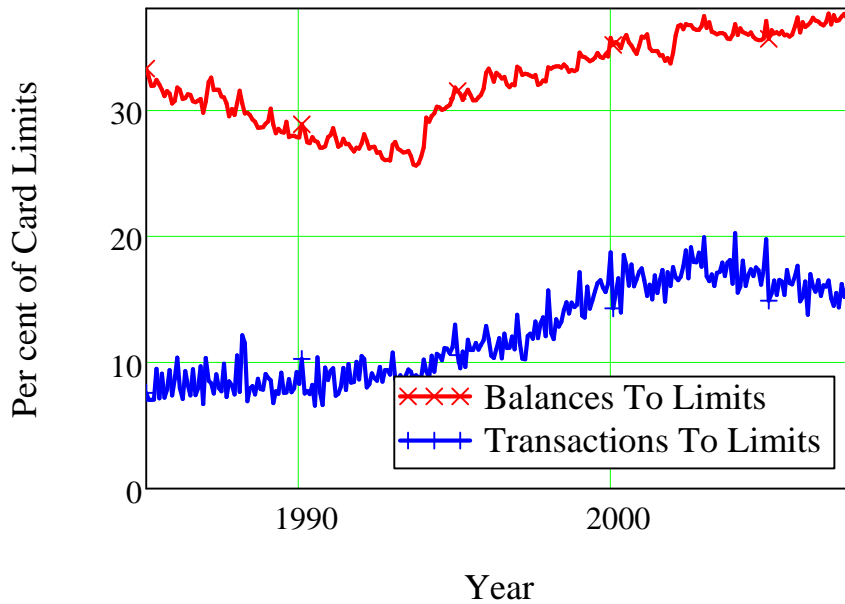
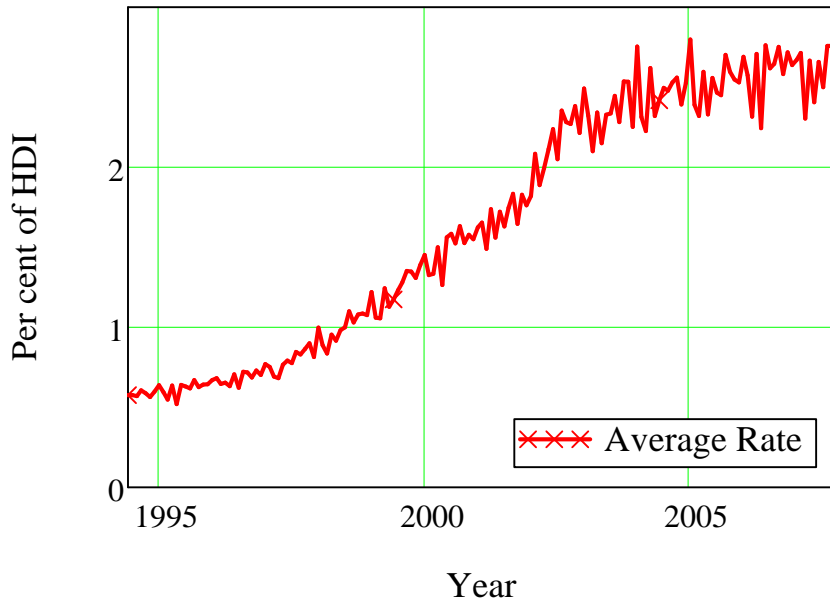


Figure 14

▶ Credit Card Repayments

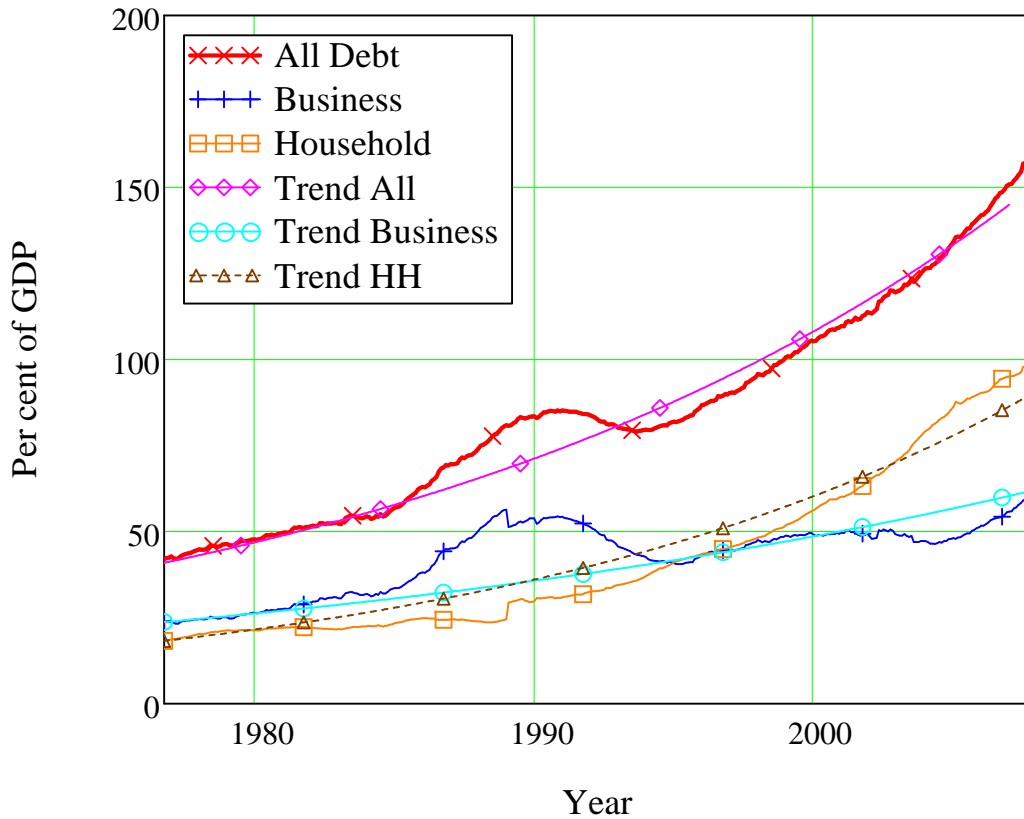
Credit Card Repayments



▢ Debt components to Income

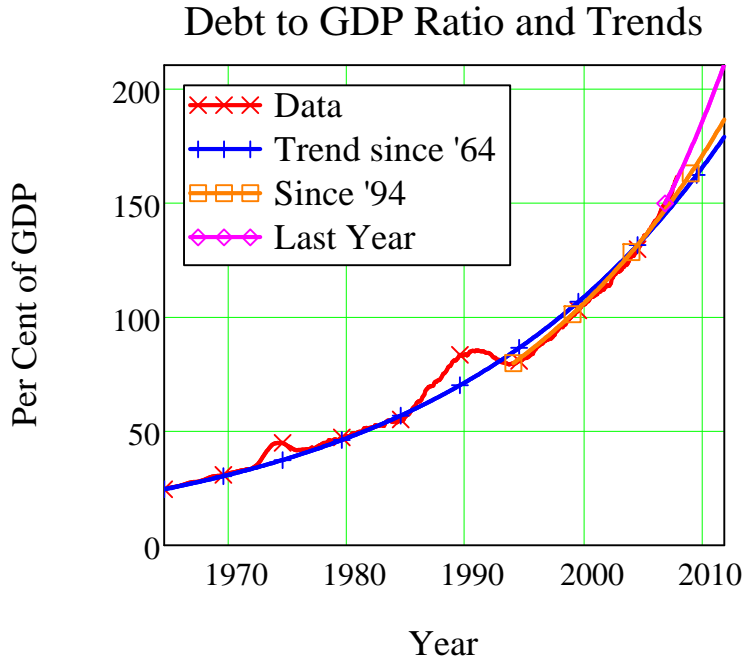
Figure 14

Trends in Private Debt



▶ 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
Corr77 =	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	98.21
	4					

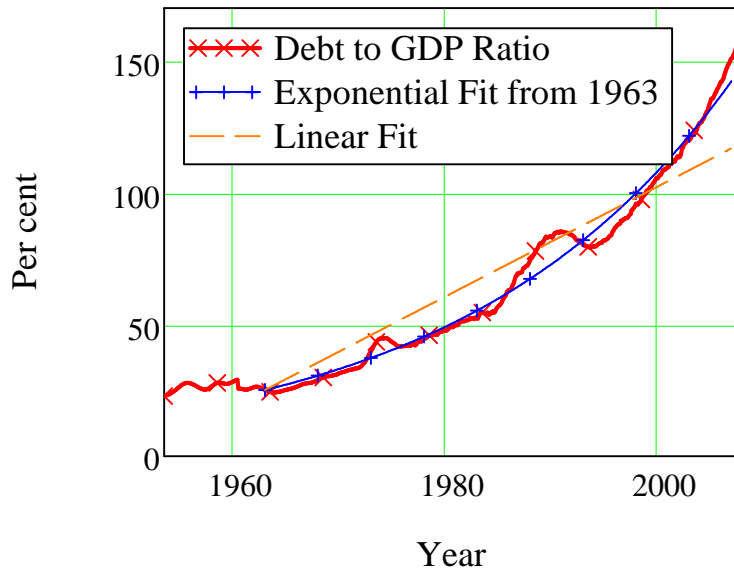
Table Four: Exponential Growth Rates & Correlations since 1990

	0	1	2	3	4
Corr90 =	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

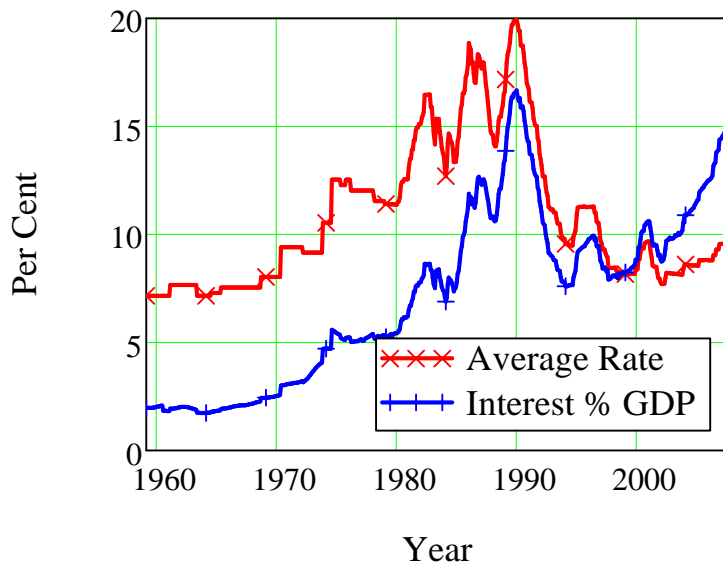


Debt Servicing Burden

▢ Interest Rates & Payments

Figure 17

Interest Rates & Interest Burden



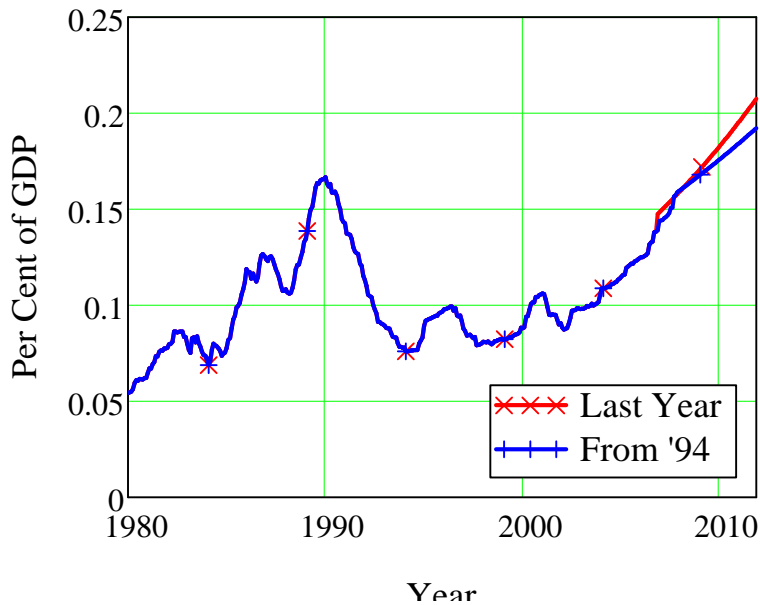
▢ Interest Payment Trends

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

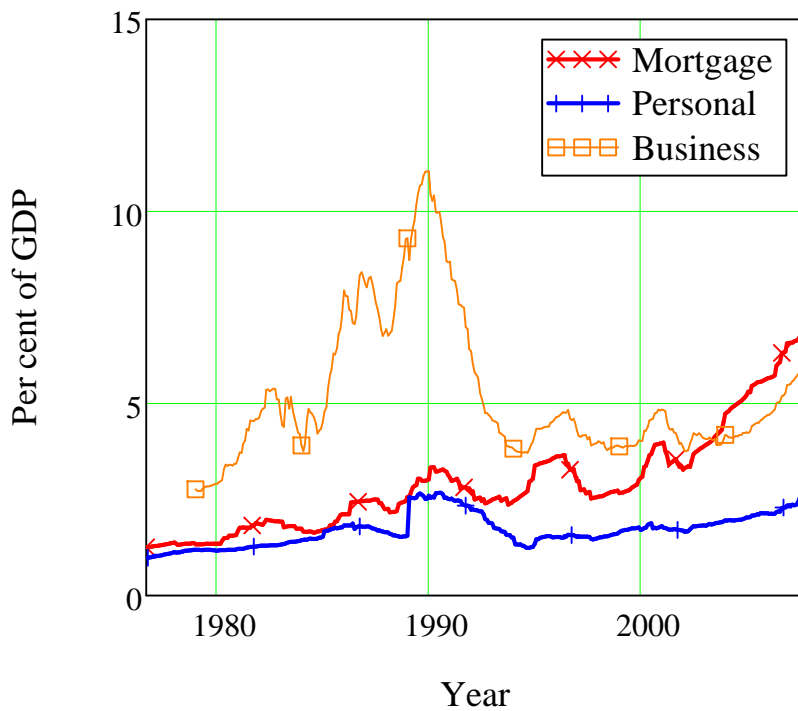
Interest Repayment Burden Trends



▣ Debt Servicing by Loan Type

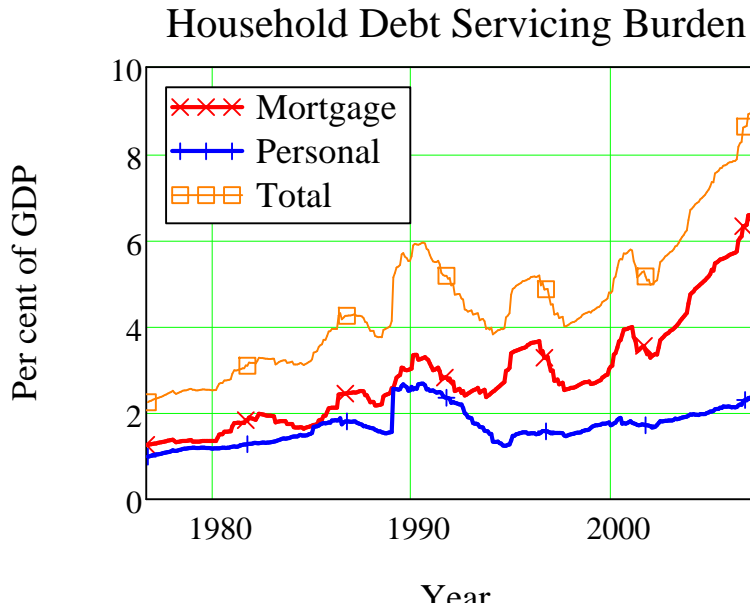
Figure 19

Debt Servicing Burden



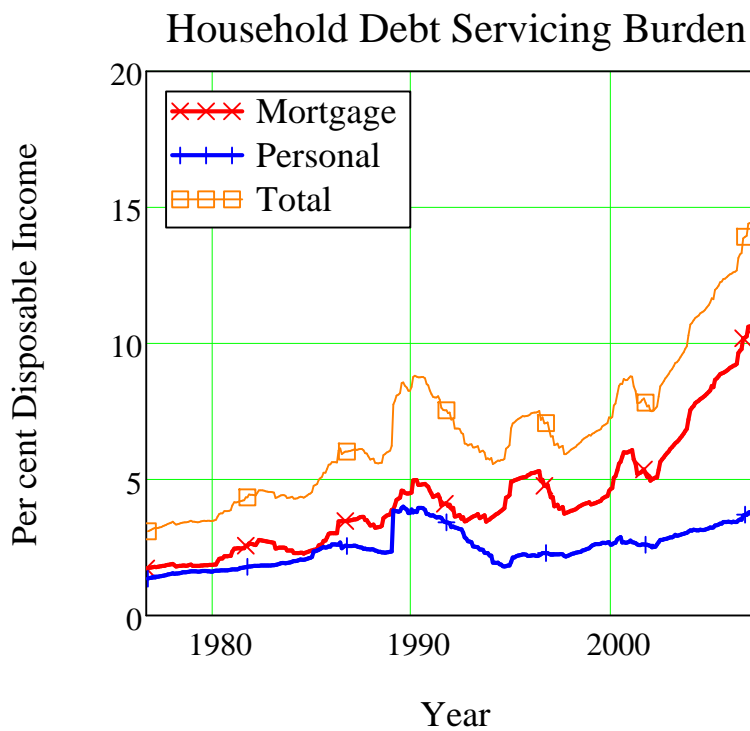
▢ Household Debt Servicing

Figure 20



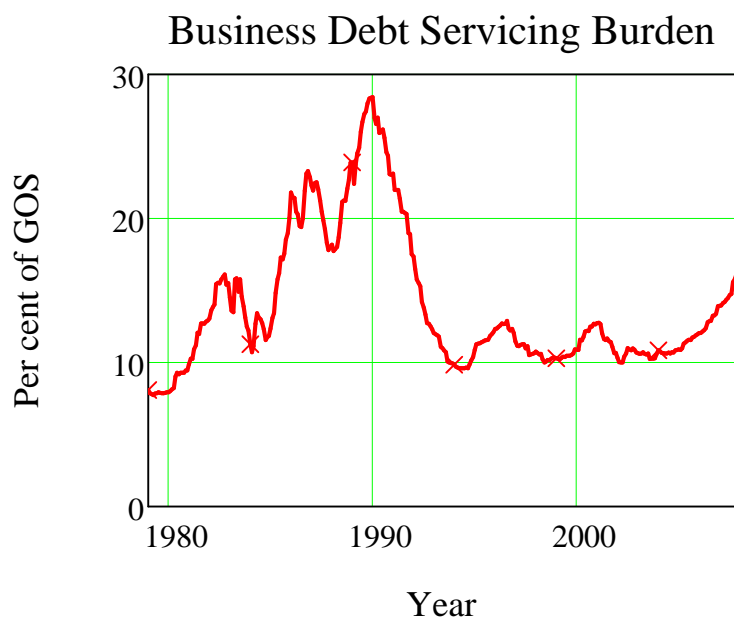
▢

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

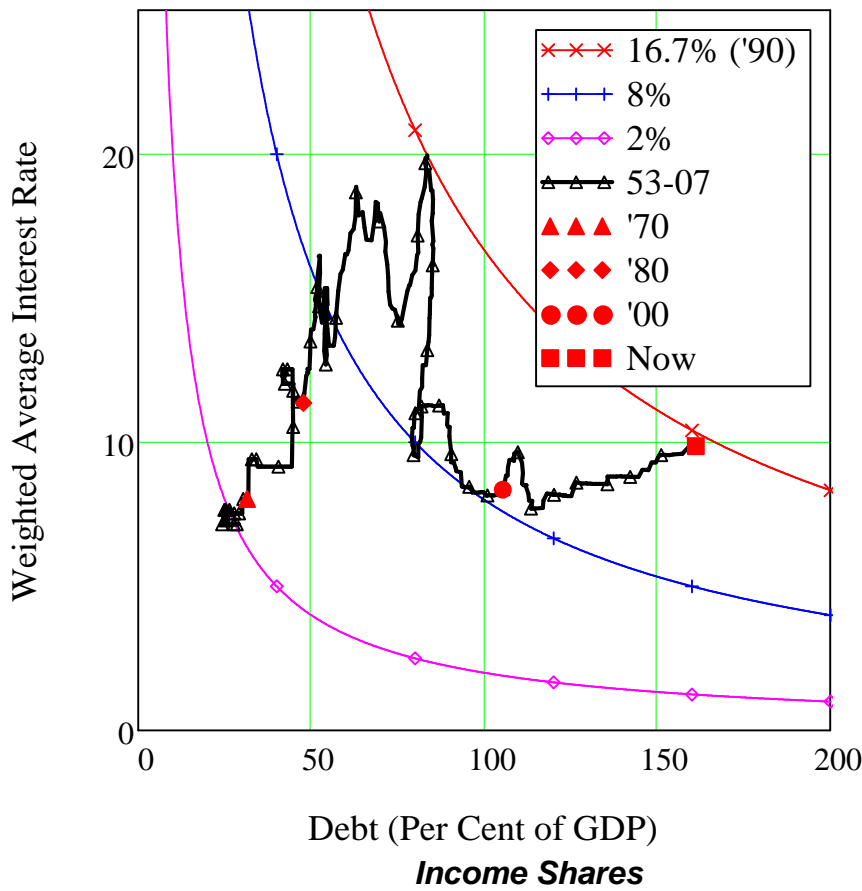
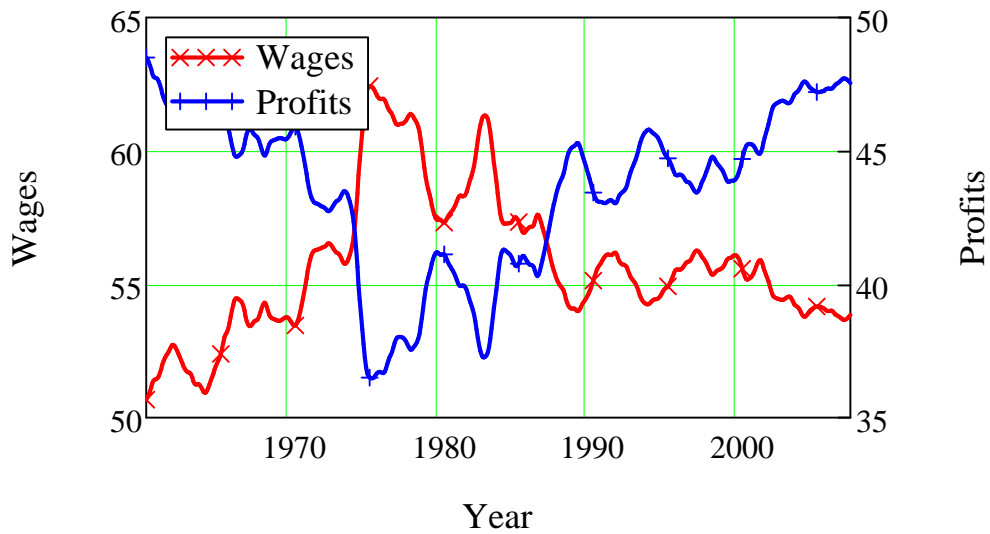


Figure 24

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

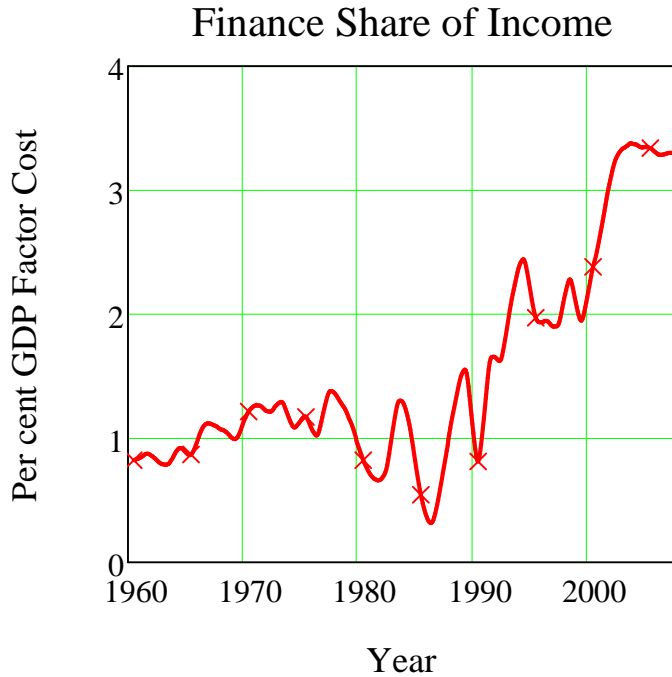
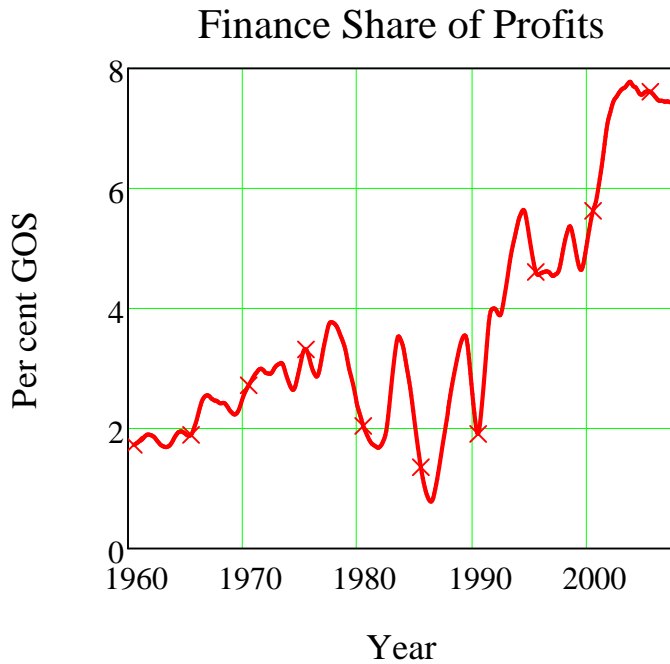


Figure 26



Debt contribution to Effective Demand

Figure 27

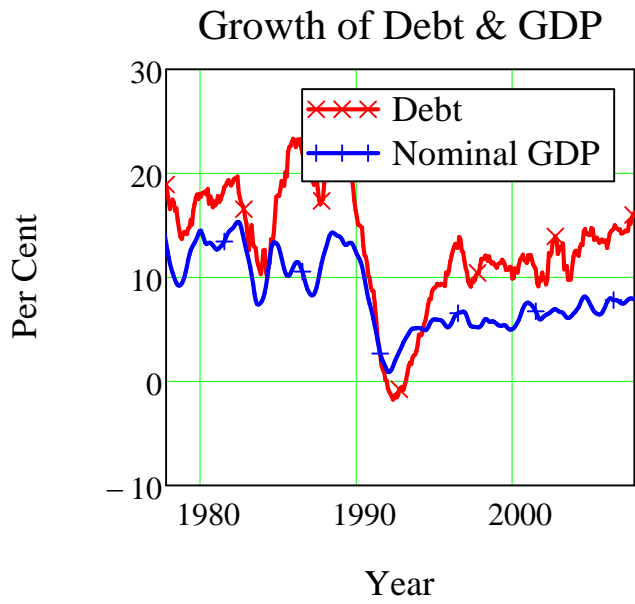


Figure 28

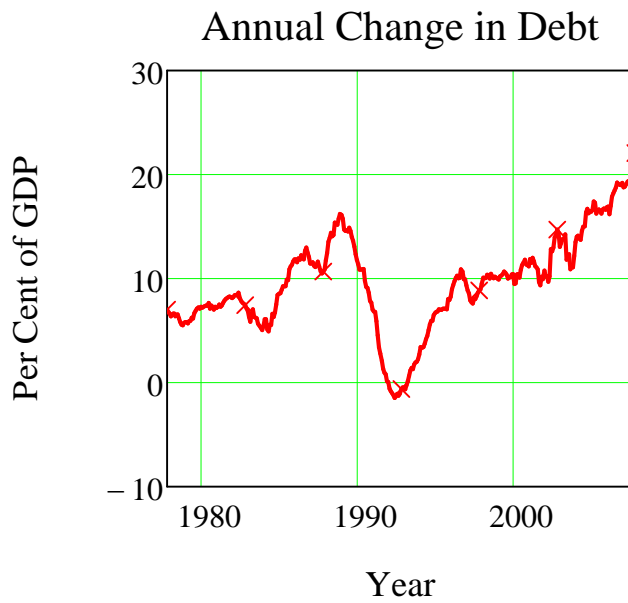


Figure 29

Contribution of Change in Debt to Demand

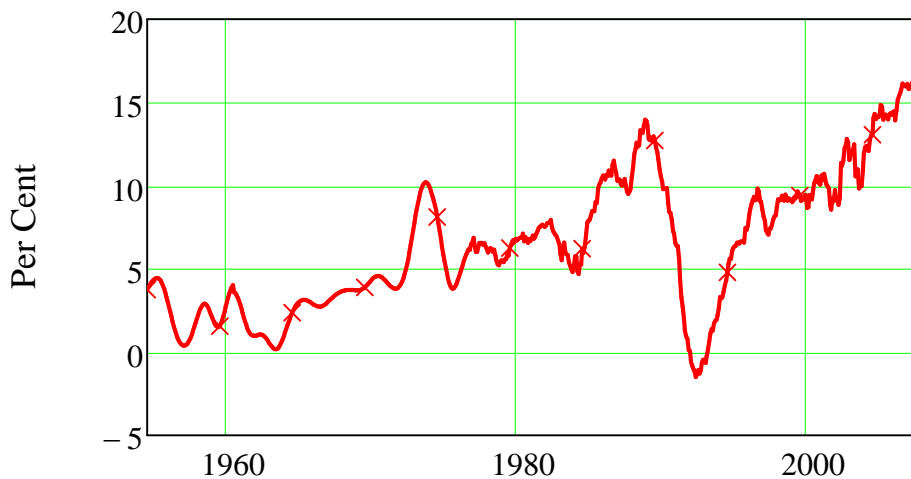
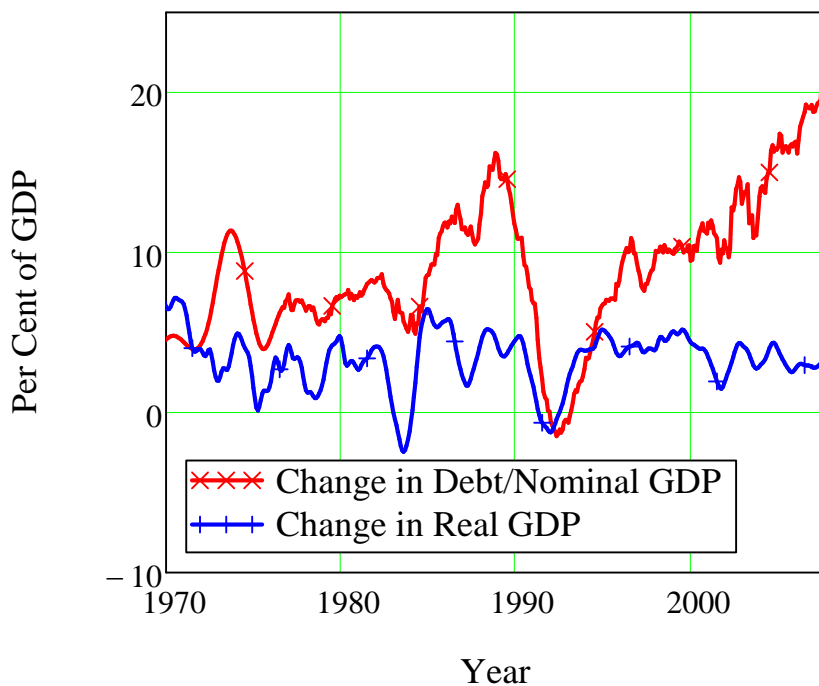


Figure 30

Change in Debt & Real GDP



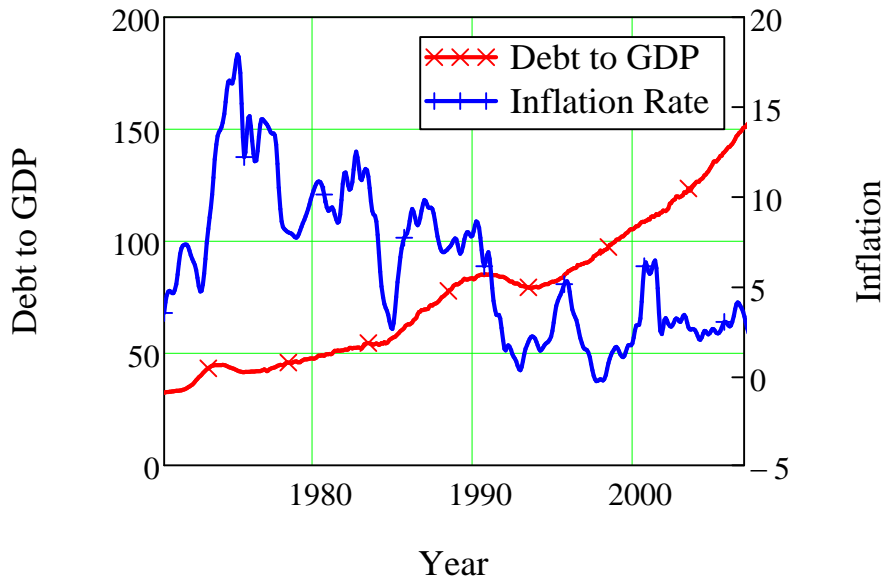
Ignore for a moment the labels on the next graph, and simply imagine that they were indicators on some medical or industrial gauge. Which series would imply an out of control process to you--the red one or the blue one?

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



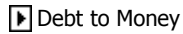
Inflation vs Debt



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



Ratio of Debt to M1

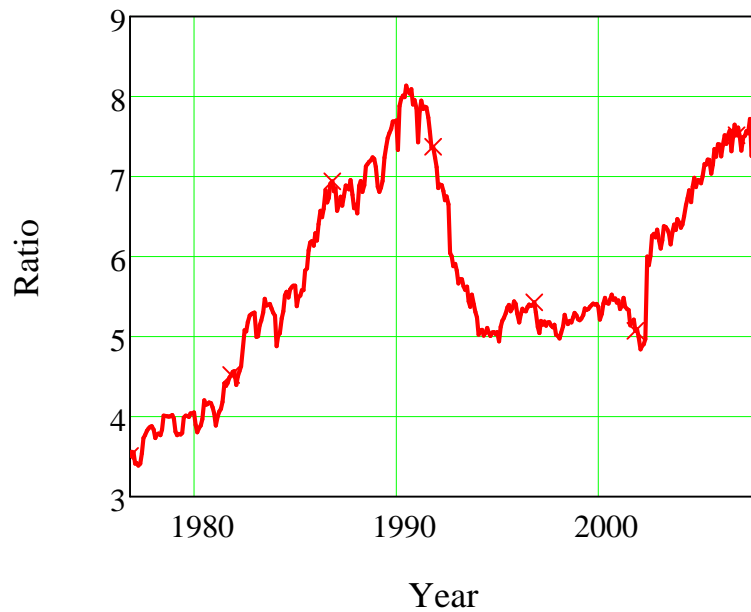
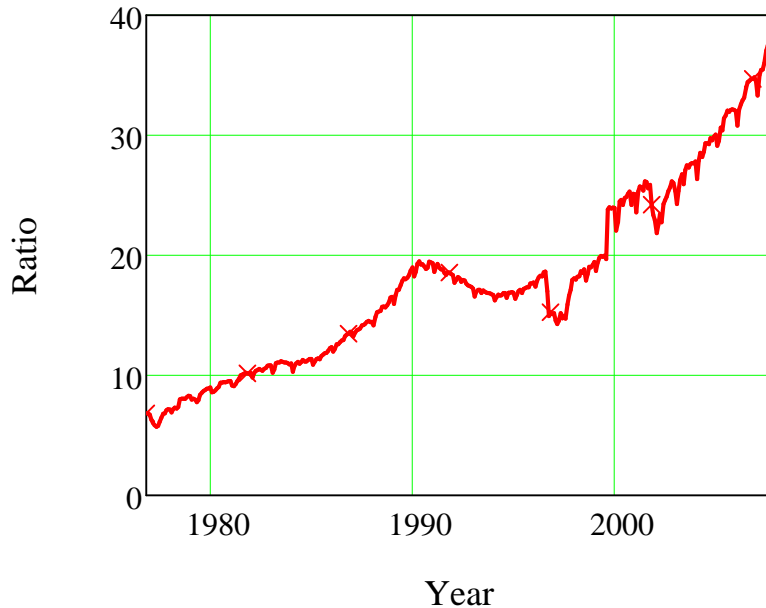


Figure 33

▶ Debt to Money

Ratio of Debt to Money Base



Year
Figure 34

▶ Debt to Money

Ratio of Debt to Money Aggregates

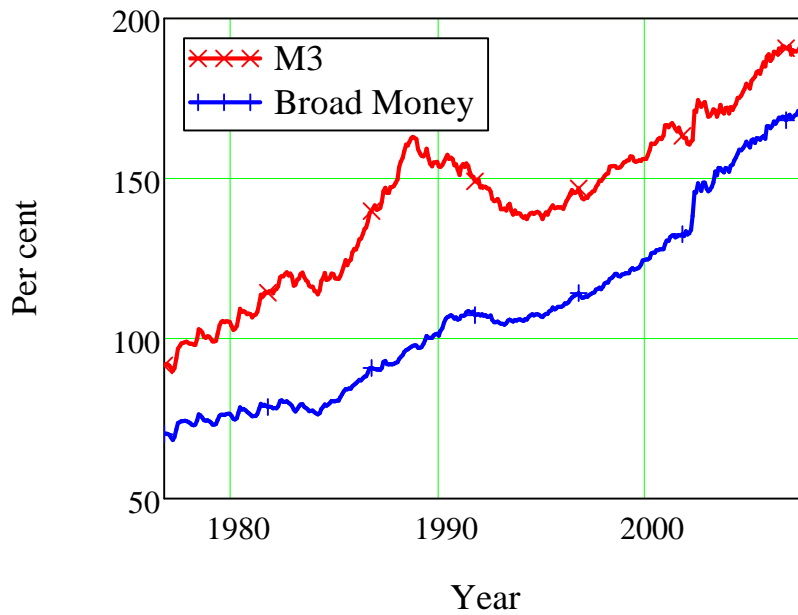


Figure 35

▶ Debt to Money

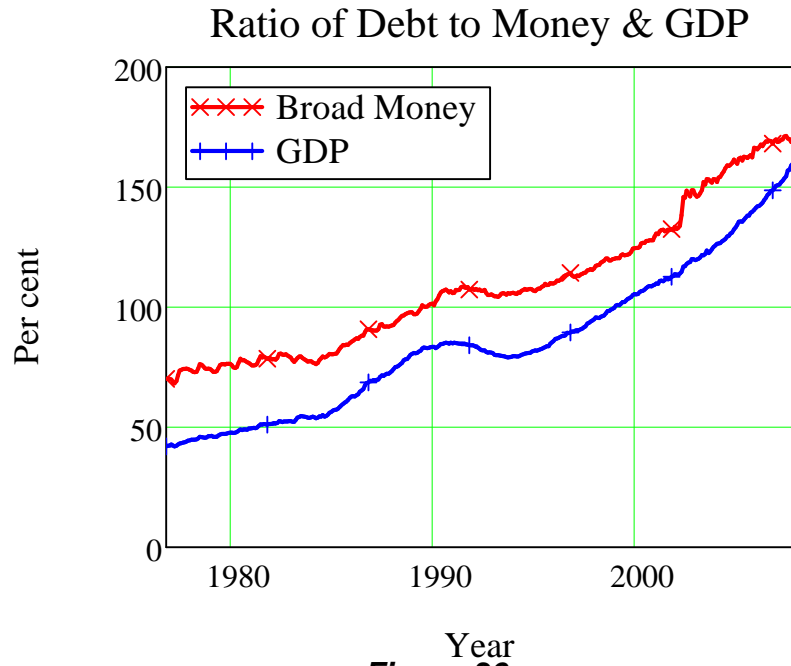


Figure 36

▣ Debt to Money

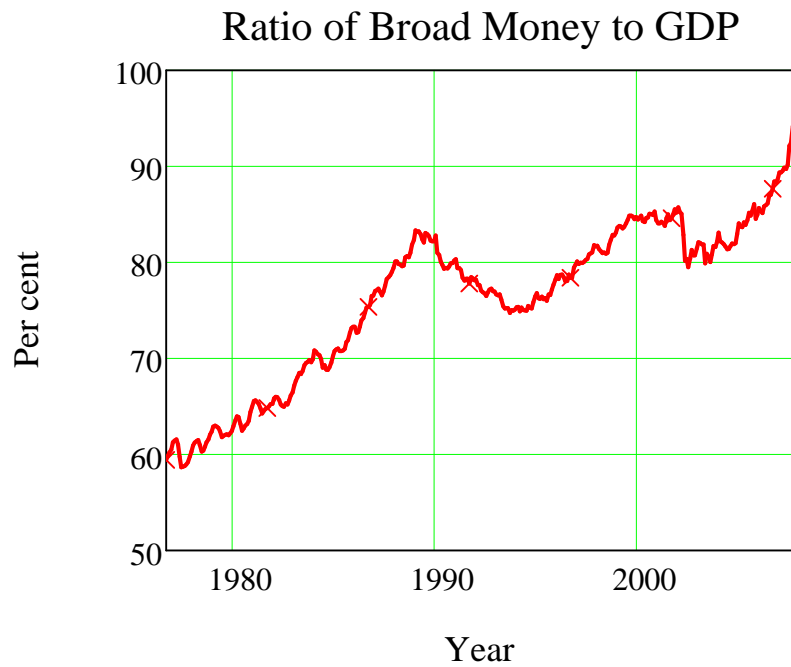
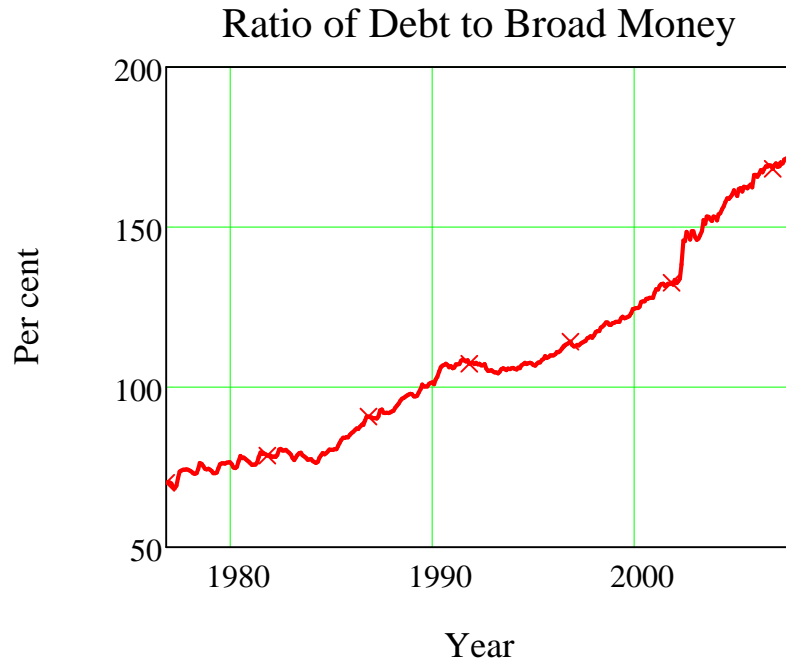


Figure 37

▣ Debt to Money



International Data

USA Data and USA-Australia Comparisons

Figure 38

▢ USA-Australia Household Debt Comparison

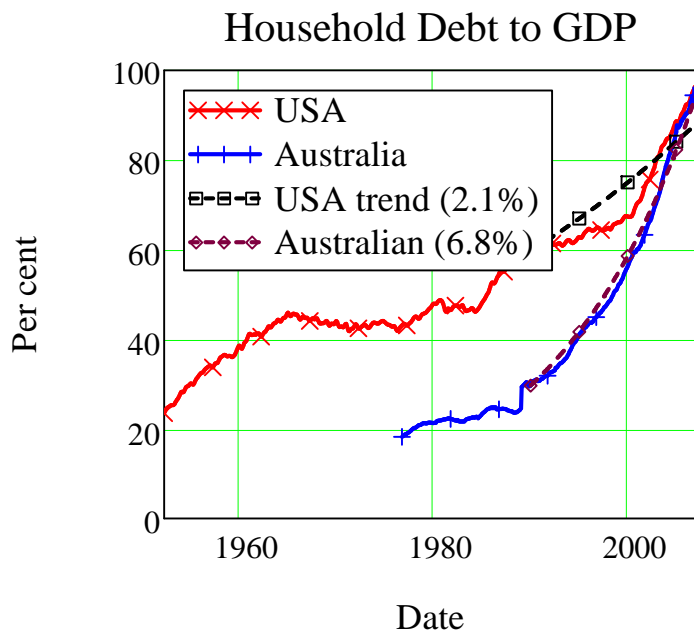
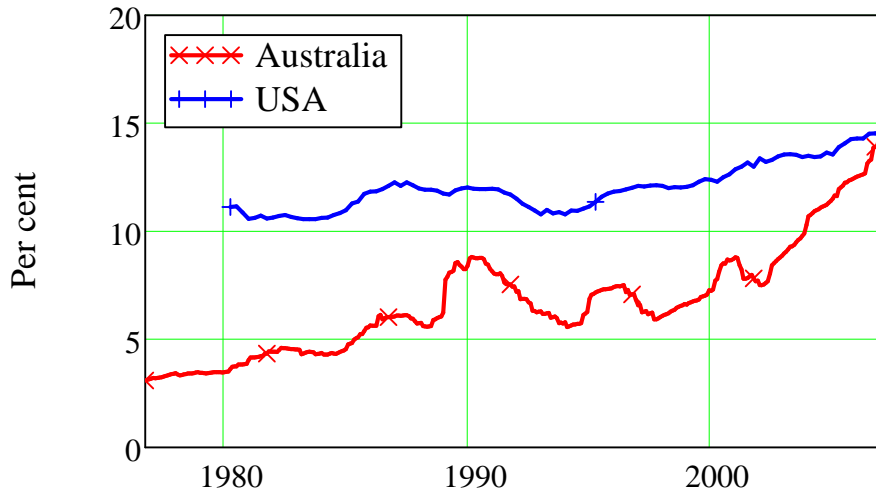


Figure 39

▢

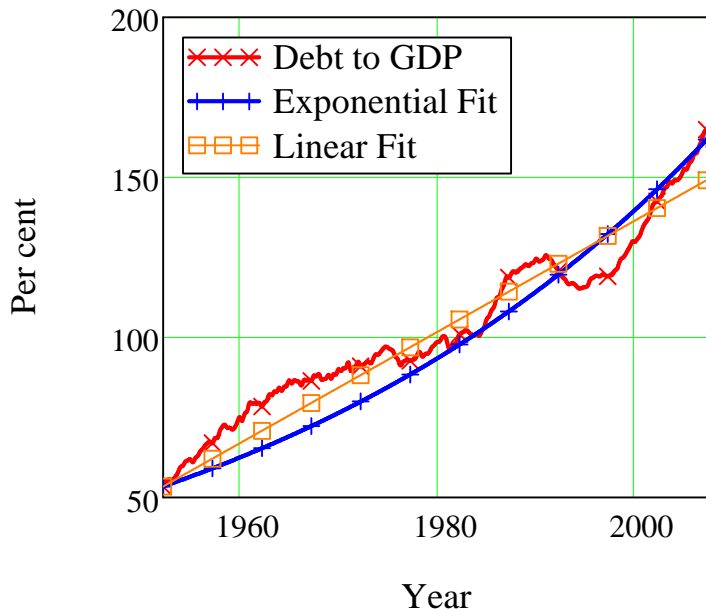
Interest vs Household Disposable Income



Years
Figure 40

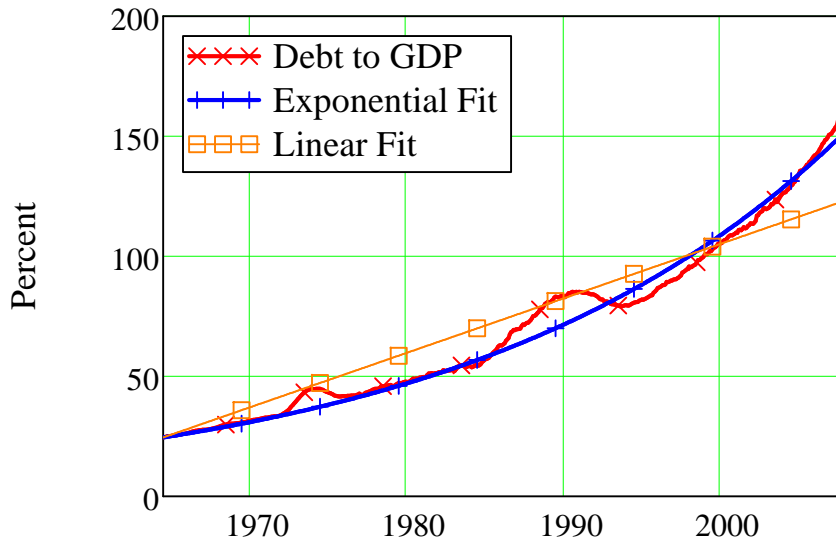
▢ USA Private Debt to GDP

USA Private Debt to GDP



▢ Debt to GDP Regression

Australia's Private Debt to GDP Ratio



▣ OECD Composite Leading Indicators

Figure 41

OECD Composite Leading Indicators

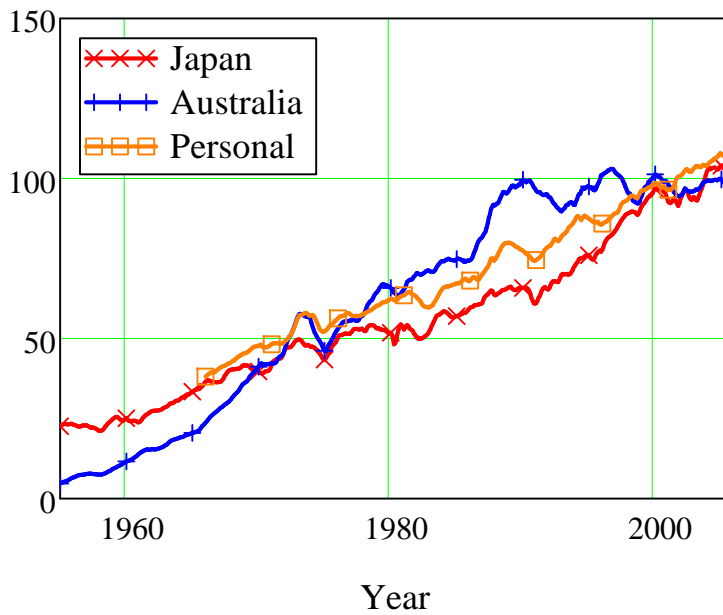


Figure 42

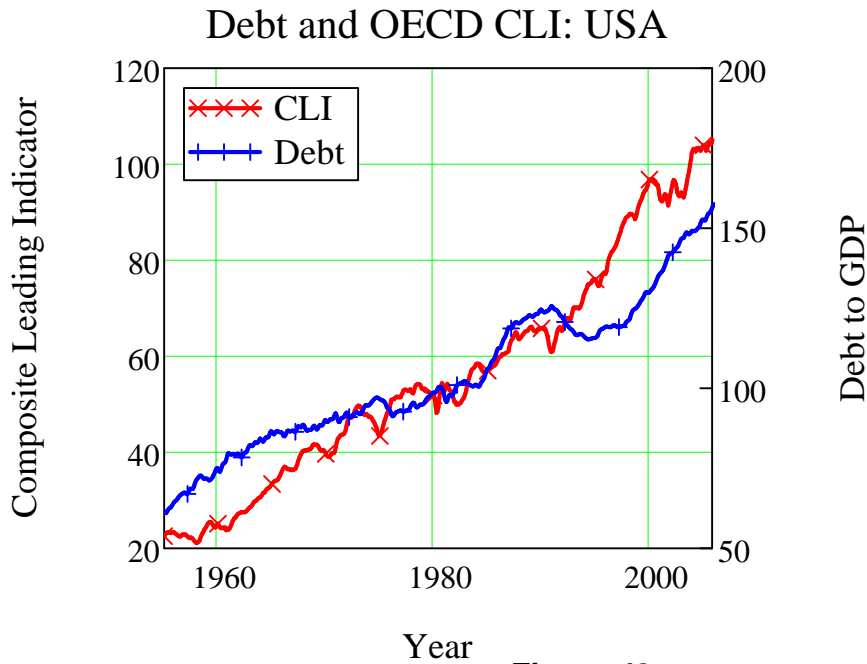


Figure 43

Japan was the last major economy to experience a debt deflation. Though I do not think the debt data here is comparable to that shown for the USA and Australia (which is sourced from their respective Central Banks), the role of debt in bringing the economy to a standstill is obvious from this chart. Equally obvious is how economically debilitating the process of reducing debt to income levels was--and also how necessary it was to be able to restore growth.

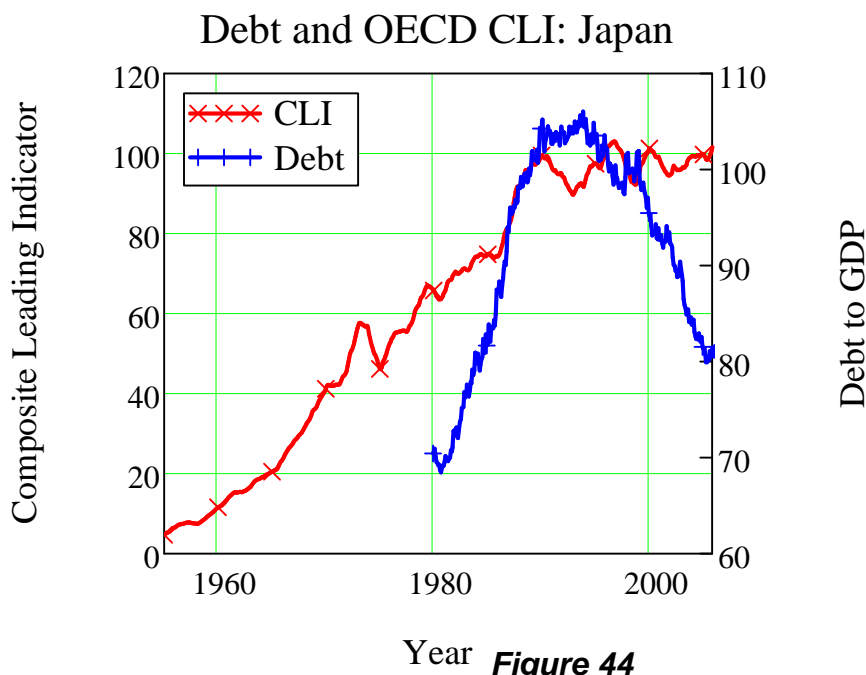


Figure 44

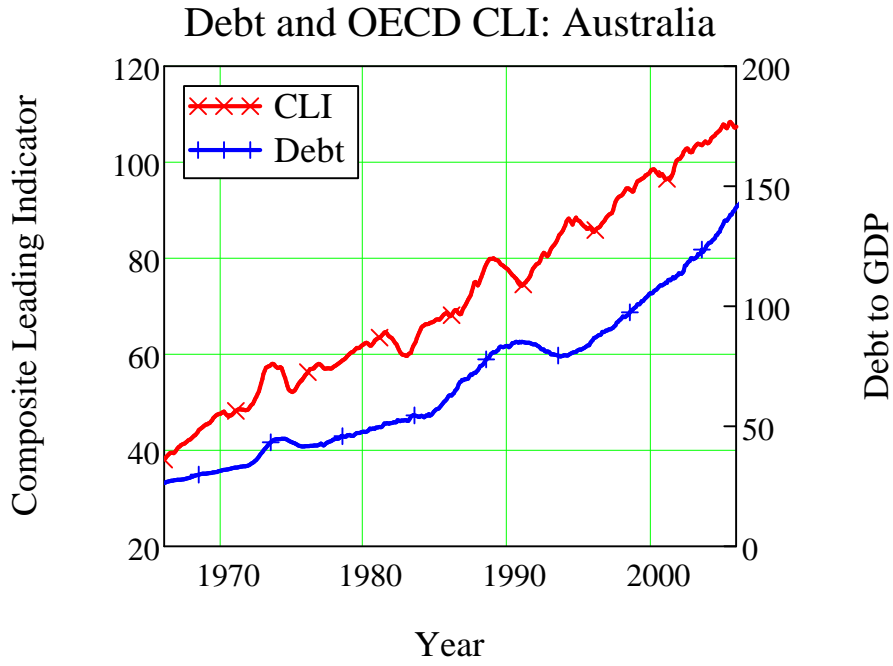
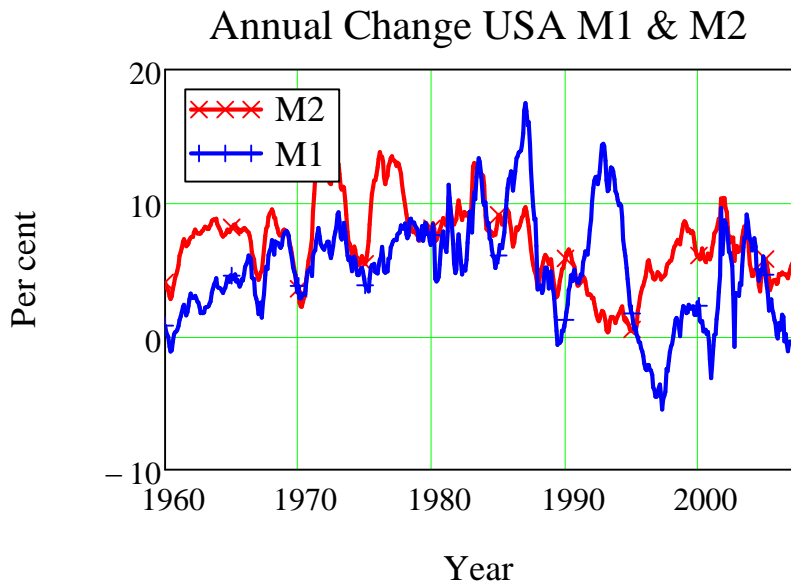


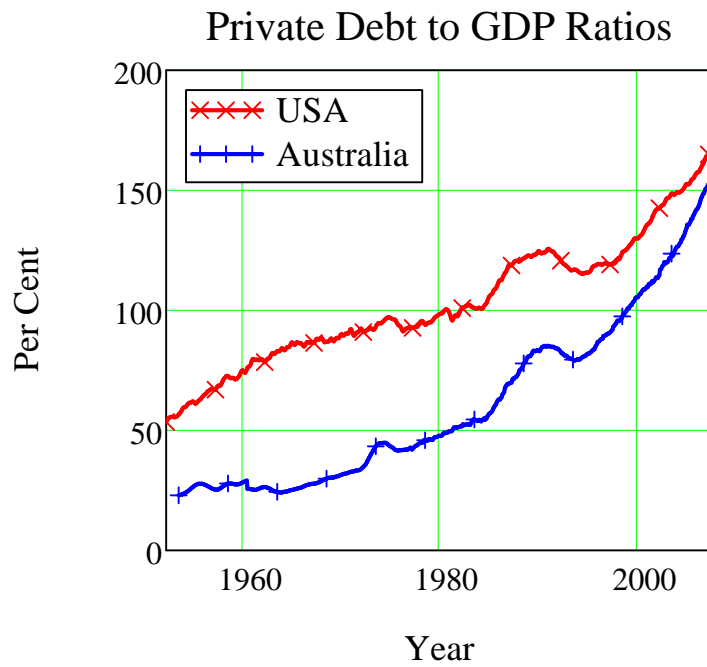
Figure 45

USA Monetary Data

▣ Change in USA Monetary Aggregates



▶ USA & Aus Debt

Figure 46

▶ Exchange Rates: F11

Figure 47

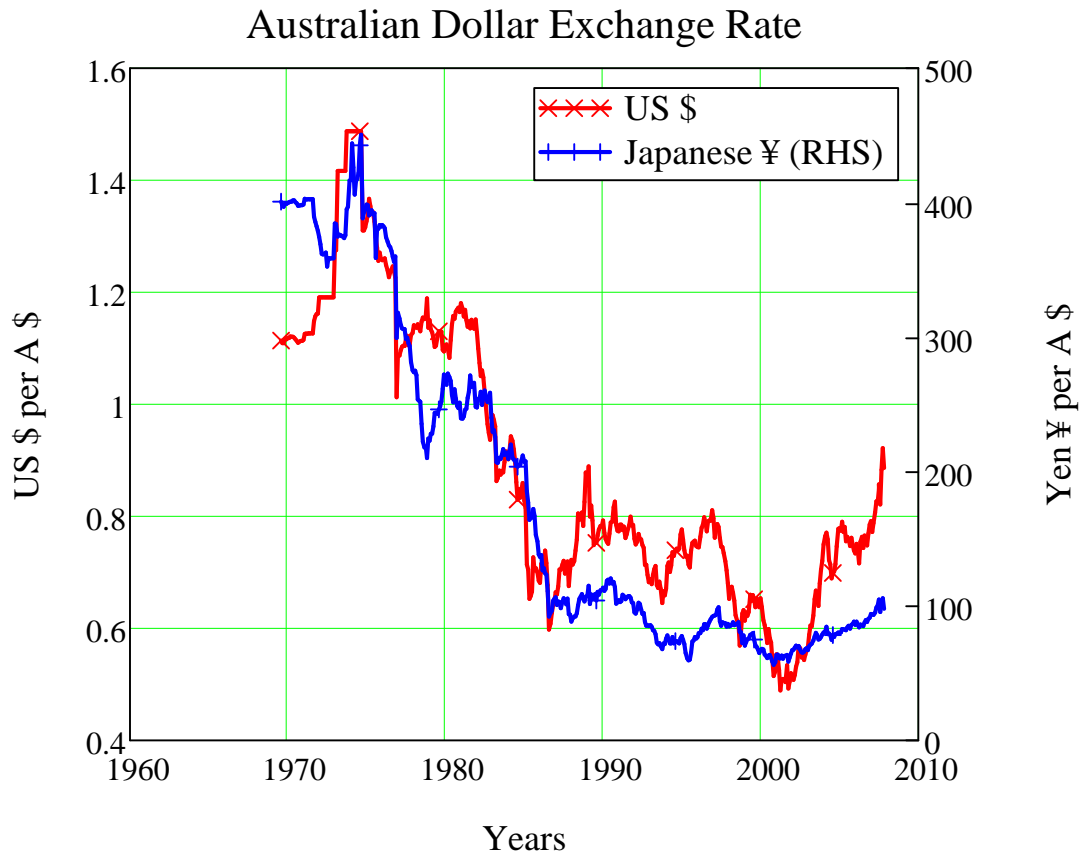
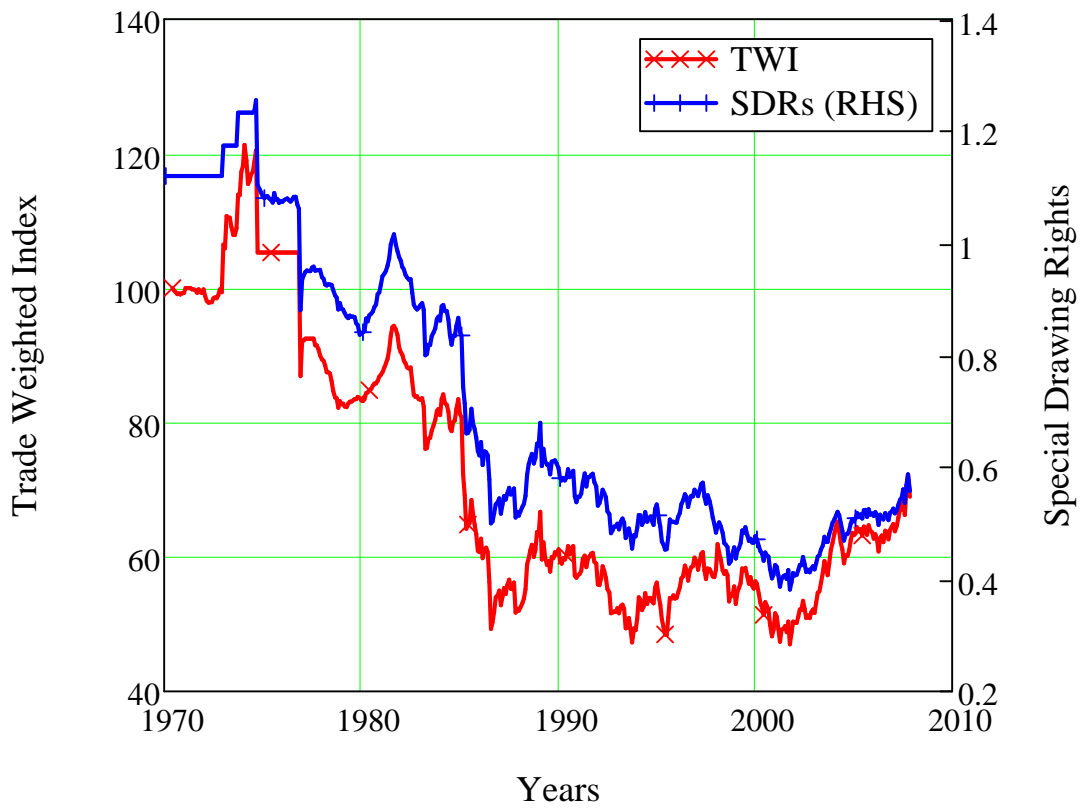
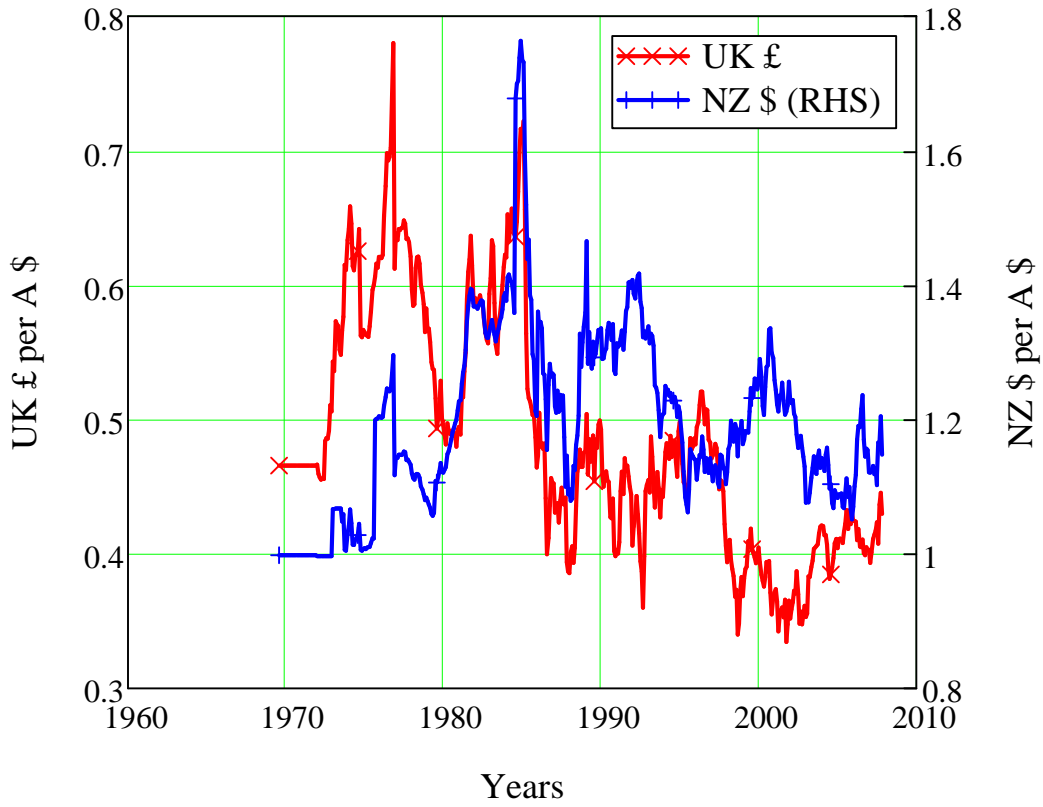


Figure 48

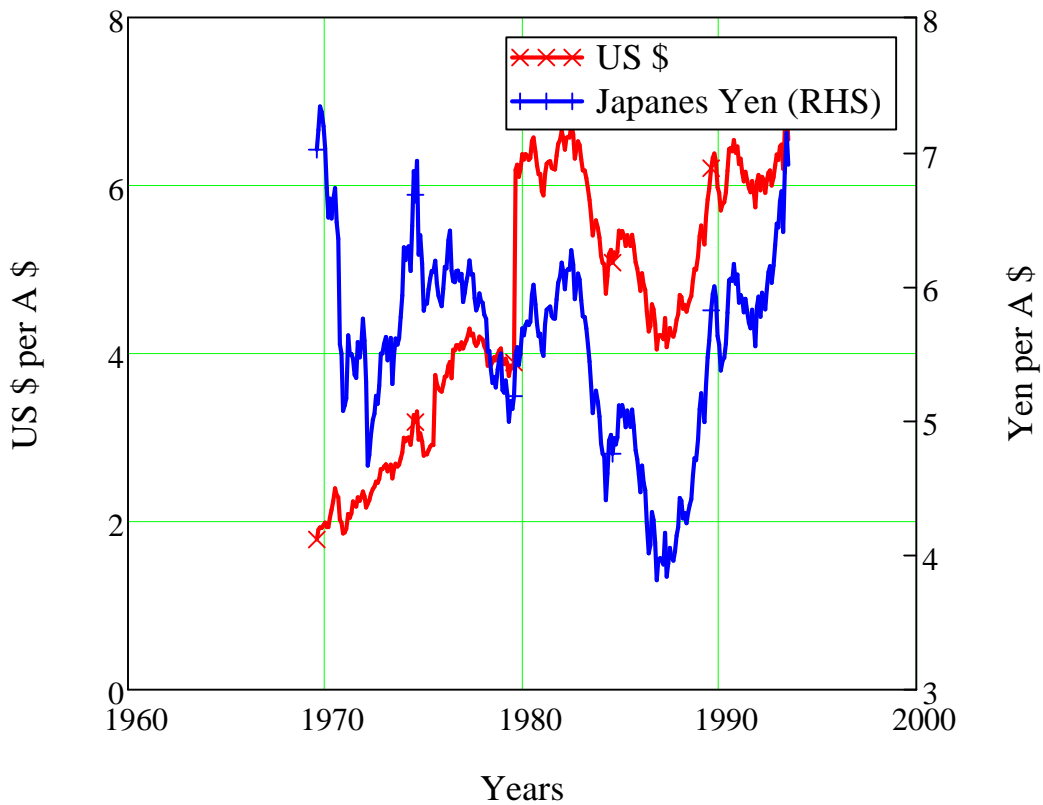
Australian Dollar Exchange Rate



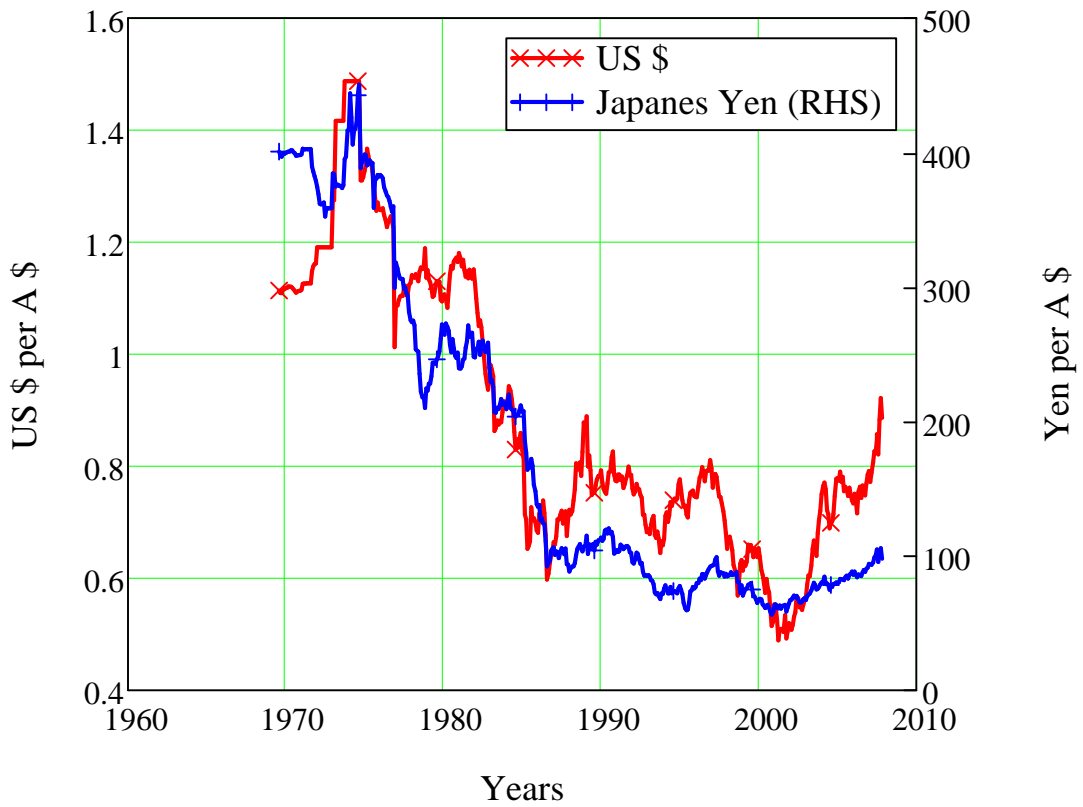
Australian Dollar Exchange Rate



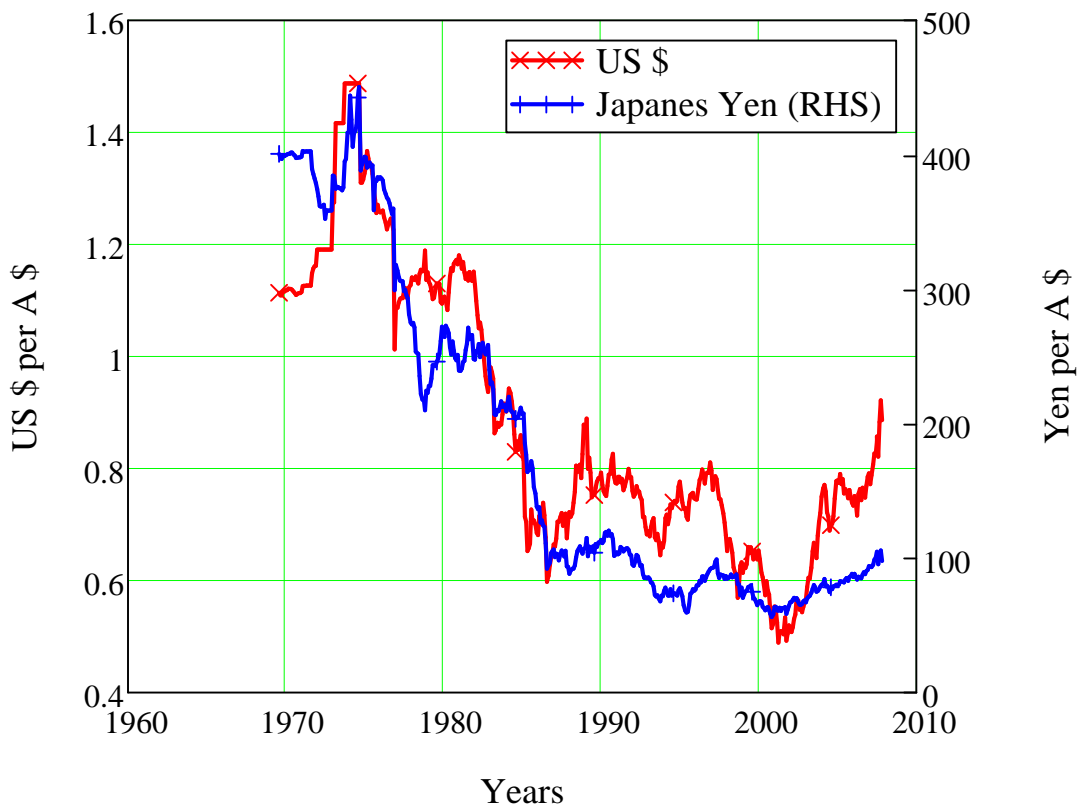
Australian Dollar Exchange Rate



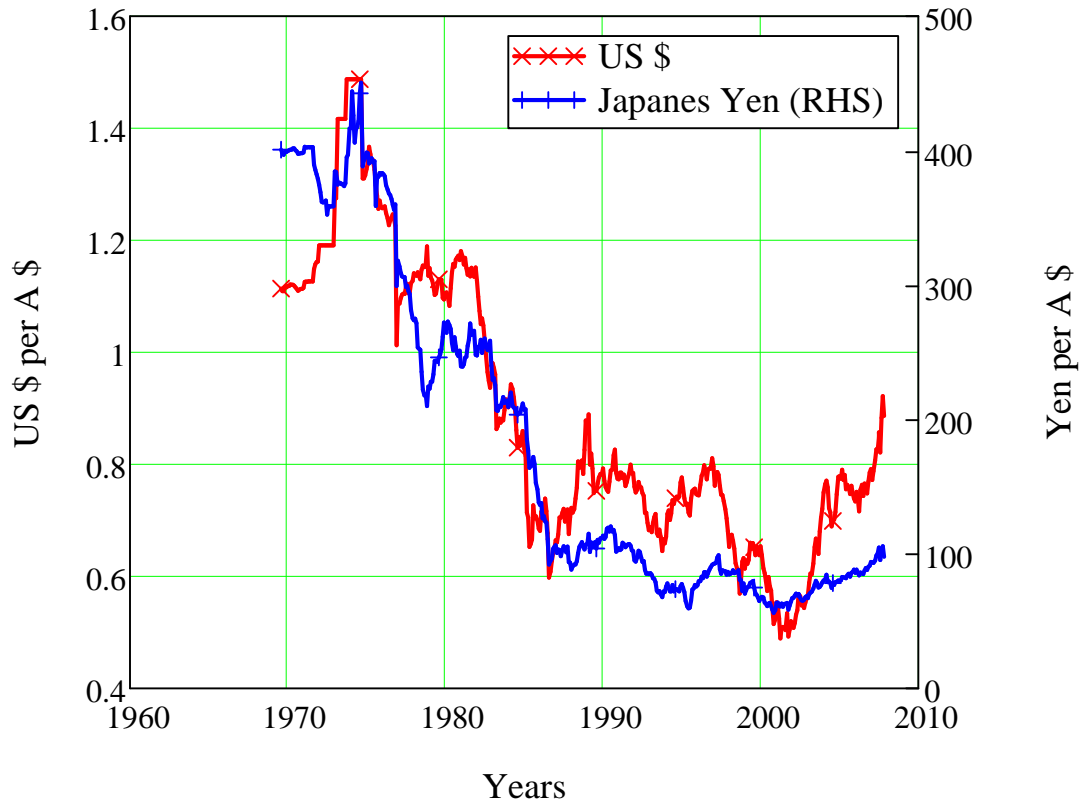
Australian Dollar Exchange Rate



Australian Dollar Exchange Rate



Australian Dollar Exchange Rate



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