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Money, Mud & Hyperinflation.

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ABSTRACT

Since World War II, inflation has been engrained in Western society. It is embedded in our expectations and written into our legislation. Inflation is the culture of the *Baby Boomer* generation. Society expects prices to go up, and is convinced something is wrong if they do not.

The general fear of deflation is unfounded. Under the global fiat monetary system, to inflate or deflate is largely a policy makers decision. Amongst developed economies, deflation is invariably *Public Enemy Number One.*

The historically proven antecedents to hyperinflation currently exist to an overwhelming extent. Banking crises have been shown to ordinarily precede currency crashes. Currency crashes result in high to hyper-inflation.

Hyperinflation is the single largest problem an economy can face and should be of extreme concern for anyone who is positioned defensively for deflation. It leads to the systematic destruction of savings and if not confronted correctly, the total destruction of middle-class wealth. It empowers governments, but can also enrich anyone who sees it coming and positions themselves correctly.

Of greatest importance to the report, is an analysis of the ability to fight inflation. Evidence concludes, there is a limited capacity for developed economies to fight the onset of inflation, without being crippled economically.

This report delves into the key factors contributing towards the probability of high inflation, by providing a historical and present overview of the global monetary system; exploring historical empirical studies of crisis sequencing; examining the current inflationary forces, showing the key differences between now and the Great Depression; and evaluating the current economic and financial position, and performing a brief stress test displaying the limited ability for the Western World to fight inflation from a financial, economic and political standpoint.

We naturally imagine that the spot on which we ourselves stand is fixed, and that the things around us move. The man who is in a boat seems to see the shore departing from him, and it was the doctrine of the first philosophers that the sun moved round the earth, and not the earth round the sun. In consequence of a similar prejudice, we assume that the currency which is in all our hands, and with which we ourselves are, as it were, identified, is fixed, and that the price of bullion moves; whereas in truth, it is the currency of each nation that moves, and it is bullion, the larger article serving for the commerce of the world, which is the more fixed.

- Henry Thornton, An Enquiry Into the Nature of the Paper Credit of Great Britain, 1802

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1.0 INTRODUCTION

The global economy is currently in a crisis cycle. Looking through the *fog of war*, being the daily volatility of global markets, reveals high confidence evidence to answer the profoundly important inflation/deflation debate.

After a global financial crisis and global recession, it is instinctive to be wary of deflationary conditions. A brief study of history shows financial crises have extraordinarily predictable sequencing, with past and present events giving probabilities for the future. However, past and present financial events naturally act as an intuitive diversion from the future probabilities. The current probability is hyperinflation.

It is intuitive for inflation to appeal to the general public as asset prices rise giving the illusion of prosperity. It is also intuitive to believe that prices fall or deflate when problems emerge and persist in an economy. However, what happens when currencies deflate? Possibly simultaneously?

Hyperinflation is the single largest problem an economy can face and should be of extreme concern for anyone who is positioned defensively for deflation. It leads to the systematic destruction of savings and if not confronted correctly, the total destruction of middle-class wealth. It empowers the government, but can also enrich anyone who sees it coming and positions themselves correctly.

This report:

- Explains the critical dynamics influencing the current global monetary system;
- Explores historical empirical research on crisis sequencing and the derived probabilities;
- Examines the inflationary and deflationary forces that currently exist on a global macroeconomic level; and
- Evaluates the current macroeconomic position and analyses the capacity for a global battle against inflation.

It is the intent of this report to delve into the evidence in a way which can be understood by all. By joining all the proverbial dots of materially significant evidence, high confidence forecasting probabilities will be derived for the global economy of the future.

This is a Macroeconomic report. The United States of America are the single largest economy in the world and hold the global trade and reserve currency, the US Dollar. For this reason, dynamics among the US economy, government and currency, influence and provide telling signals for the broader global macroeconomic environment.

2.0 MONETARY SYSTEM OVERVIEW

The problem with fiat money is that it rewards the minority that can handle money, but fools the generation that has worked and saved money.

- Adam Smith, 18th Century Scottish philosopher

At the end fiat money returns to its inner value—zero.

- Voltaire, 18th Century French writer and philosopher

Now for a crash course on today's global monetary system.

The global economy operates in what is termed a *fiat monetary system*. A fiat monetary systems is made up of money that has no intrinsic value. The value of the paper money is controlled by central banks charged with the exclusive monopolising power to print or issue its national currency. When more money is printed and the supply of money increases it naturally has less value, as there is more money seeking limited resources. This equates to a rising of nominal prices for goods and services in limited supply. This phenomenon is termed *inflation*.

Before the fiat system, global economies largely operated under the *gold standard*. This was repealed in Australia in 1915 following the British. The $US being the global currency of trade since the end of WWII operated under a modified version of the gold standard termed the *Bretton Woods* system, until it was repealed under President Nixon in 1971. Under the gold standard money was convertible to the equivalent value of gold.

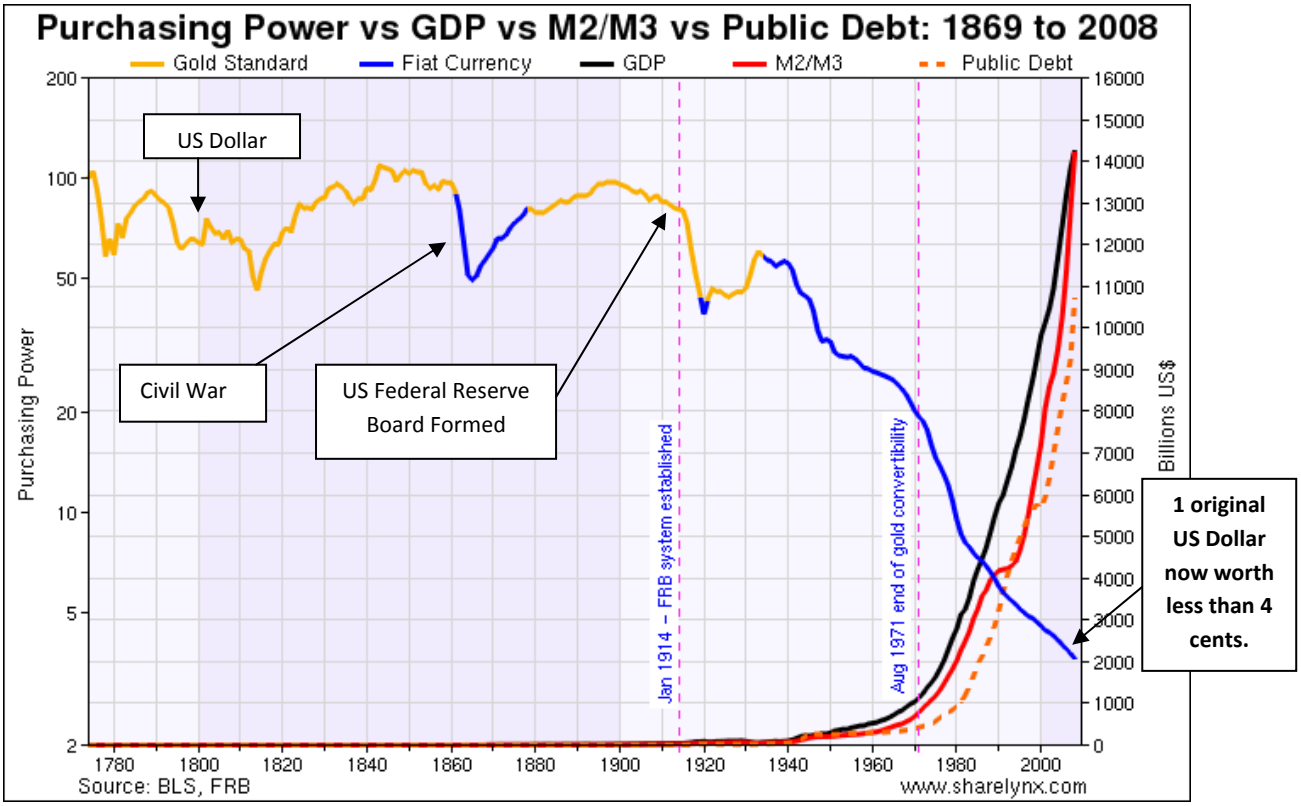
With the $US being the global trade and reserve currency since the end of WWII and the only major currency left on the gold standard, the repealing of it in 1971, termed the *Nixon Shock*, marked the final chapter for the gold standard in the global economy. The repealing of the Bretton Woods system ultimately allowed the US Federal Reserve (Fed) to print money out-of-thin-air to finance the US government's budget deficit, partially resulting from an expensive Vietnam War. High inflation ensued throughout the 1970s of up to approximately 20% per annum. That is cash losing its value or falling by 20% per year.

This inflation during the 70s and early 80s was not overly destructive for savings as interest rates were able to be risen to counter-attack the inflation. However, it is not always possible, for interest rates to rise.

Printing money is the loose terminology for *debt monetisation,* and is a form of central bank quantitative easing. Debt monetisation generally results from a central bank buying debt from either a government, bank or more recently other non-bank corporations, with freshly printed out-of-thin-air money. As Faber, (2009), states "it makes no difference macro-economically if a mafia boss produces counterfeited dollar bills in his cellar or the Fed prints money."

Figure 1, graphically illustrates the monetary dynamics discussed above, at play in the United States.

Figure 1: United States Currency Purchasing Power, GDP, Monetary Base & Public Debt



M2/M3 = A monetary base/supply measure.

The US Dollar held the majority of its original value on the gold standard until the central bank, the US Fed was created in 1913. The introduction of the Bretton Woods system was a partial fiat system and marked the beginning of the great slide in the US Dollar to today's price of approximately 4 cents of its original value. The graph also displays the great up move of GDP, money supply and public debt over the last 50 years.

3.0 FINANCIAL CRISES AND THEIR SEQUENCING

3.1 OVERVIEW

The world has recently been reminded of the enduring legacy of the *Global Financial Crisis* (GFC) by the current European sovereign debt problems. Just as financial and economic history has shown us, there are common macroeconomic characteristics of financial crises, there is also common sequencing of financial crises.

There are five types of crises:

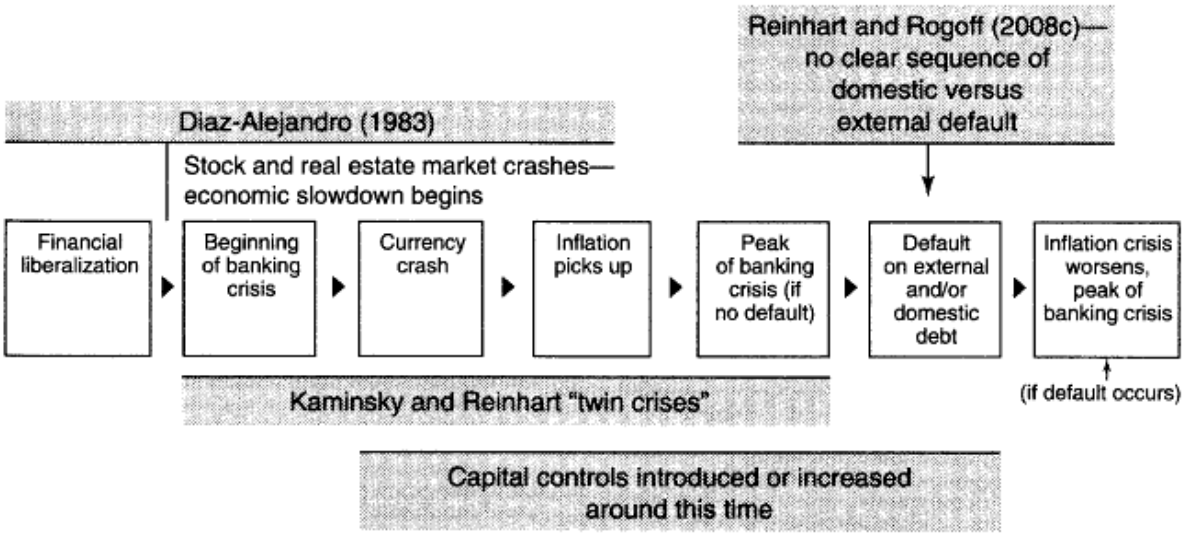
- banking crises;
- currency crashes;
- inflation outbursts;
- external sovereign default; and
- domestic sovereign default.

Sovereign defaults are the most extreme crisis and obviously not all crises escalate to that level. The remaining crises however have not been uncommon even among advanced economies. This section of the report will focus on the relationships and sequencing of banking, currency and inflation crises.

Empirical studies of financial crises give measured probabilities for the outcomes following a banking crisis. A prominent study by Kaminsky & Reinhart, (1999), on the linkages between banking crises and currency crashes found that at the onset of a banking crisis, with nothing else considered, there is approximately a 46% chance of a currency crash that follows. This is with nothing else considered, and before escalating to a global credit crisis and a global financial crisis, as we have recently experienced.

Banking crises often lead to currency crashes, inflation and outright sovereign default (Kaminsky & Reinhart, 1999). Figure 2, displays this normal sequencing.

Figure 2: The sequencing of crises



Source: This Time is Different, Eight Centuries of Financial Folly, Reinhart & Rogoff

Due to current events, it is worth mentioning at this juncture that divergences from the norm generally result from economies adopting variations of financial liberalisation. An economy that is truly financially liberalised has free globalised markets, floating foreign exchange rate, and a central bank. The individual economies of Dubai and Greece do not have these features, so the sovereign debt crisis came first.

It should also be understood that monetary inflation often leads a currency crash, the currency crash then triggers a vicious and rapid inflationary spiral that will continue until a complete system overhaul.

Reinhart and Rogoff, (2009) state:

> *Global financial crises can be so much more dangerous than local or regional ones. Fundamentally, when a crisis is truly global, exports no longer form a cushion for growth.*
>
> *Conceptually, it is not difficult to see that for a country to be pulled out of a post crisis slump is more difficult when the rest of the world is similarly affected than when exports offer a stimulus.*
>
> *We have hundreds of crises in our sample, but very few global ones, and, as noted, some of the earlier global crises were associated with wars, which complicates comparisons even further.*

In considering a global financial crisis with a global fiat monetary system, the world is in unchartered territory and faces testing times ahead.

3.2 CRISIS SEQUENCING

Financial Liberalisation is the starting point for the financial crisis sequence, as Diaz-Alejandro, (1983), states "Goodbye Financial Repression, Hello Financial Crash". Once an economy is financially liberalised, banks gain access to external credit and begin riskier lending practices. A deterioration in asset prices following a boom in credit leads to a weakening in bank balance sheets and this often leads to a banking crisis.

The next stage of the crisis begins when the central bank provides banks and other institutions with support by extending them credit. History shows that more often than not, there is an abandonment of the support for the foreign exchange rate in order to act as the lender of last resort for the troubled institutions. Further pressure is placed on the foreign exchange rate as money is created by the central bank to bring liquidity into financial markets and to boost the reserves of banks.

The currency devaluation consequently complicates the situation in at least three additional ways:

1) the balance sheets of banks with foreign currency borrowings are deteriorated further;
2) inflation increases; and
3) the risk of government debt default rises if the government has foreign currency denominated debt.

At this point, the banking crisis either peaks following the currency crash or deteriorates further as the financial crisis marches the economy toward a domestic or external sovereign default. After a default occurs inflation deteriorates even further. (Reinhart & Rogoff, 2009)

Table 1, illustrates the connection between banking crises and currency crashes. Quite often a banking crisis leads to a currency crash, which in turn exacerbates the banking crisis. Please note, a balance-of-payment crisis is equivalent to a currency crisis.

Table 1: The Timing of the Twin Crises and Financial Liberalisation

Currency Crisis

Country	Financial liberalization	Banking crisis		Closest balance-of-payment crisis
		Beginning	Peak	
Argentina	1977	March 1980	July 1982	February 1981
		May 1985	June 1989	September 1986
		December 1994	March 1995	February 1990
Bolivia	1985	October 1987	June 1988	September 1985
Brazil	1975	November 1985	November 1985	November 1986
		December 1994	March 1996	October 1991
Chile	1974	September 1981	March 1983	August 1982
Colombia	1980	July 1982	June 1985	March 1983
Denmark	Early 1980's	March 1987	June 1990	August 1983
Finland	1982	September 1991	June 1992	November 1991
Indonesia	1983	November 1992	November 1992	September 1986
Israel	1985	October 1983	June 1984	October 1983
Malaysia	1978	July 1985	August 1986	July 1975
Mexico	1974	September 1982	June 1984	December 1982
	1991	October 1992	March 1996	December 1994
Norway	1980	November 1988	October 1991	May 1986
Peru	1991	March 1983	April 1983	October 1987
Philippines	1980	January 1981	June 1985	October 1983
Spain	1974	November 1978	January 1983	July 1977
Sweden	1980	November 1991	September 1992	November 1992
Thailand	1989	March 1979	March 1979	November 1978
		October 1983	June 1985	November 1984
Turkey	1980	January 1991	March 1991	March 1994
Uruguay	1976–1979	March 1971	December 1971	December 1971
		March 1981	June 1985	October 1982
Venezuela	1981, 1989	October 1993	August 1994	May 1994
Memorandum item: Out of sample				
Indonesia		November 1992	Ongoing	August 1997
Malaysia		September 1997	Ongoing	August 1997
Philippines		July 1997	Ongoing	July 1997
Thailand		May 1996	Ongoing	July 1997

Note: Episodes in which the beginning of a banking crisis is followed by a balance-of-payment crisis within 48 months are classified as twin crises.
Sources: American Banker, various issues; Gerald Caprio, Jr. and Daniela Klingebiel (1996); *New York Times,* various issues; Sundararajan et al. (1991); *Wall Street Journal,* various issues.

Source: (Kaminsky & Reinhart, 1999)

3.3 BANKING CRISES

Banking crises almost invariably lead to sharp declines in tax revenues, higher deficits through bailouts and fiscal stimuluses, and higher interest payments due to rating downgrades and elevated risk premiums. Modern economies depend on sophisticated financial systems, and when banking systems freeze up, economic growth can quickly become impaired or even paralysed.

Since WWII, the most common policy response to a systemic banking crisis (in both emerging and advanced economies) has been to engineer a bailout of the banking sector. In many cases such actions have had major fiscal consequences, particularly in the early phases of the crisis. The total fiscal damage, including both direct and indirect costs, is an order of magnitude larger than the usual

bank bailout costs. According to Reinhart & Rogoff, (2009), government debt rises on average by 86% during the three years following a modern day banking crisis.

Advanced economies exhibit a stronger inclination than emerging economies to resort to fiscal stimulus measures in an attempt to cushion the economic effects.

All taken into account, the bailout of the banking sector, the shortfall in revenue, and the fiscal stimulus packages that have accompanied some of these crises result in the widening of budget deficits and an explosion of government debt. Considering this, it should not come as a surprise banking crises typically lead to other crises.

A total of 18 post war banking crises have occurred in the developed world. The "Big Five" banking crises are considered to be Spain 1977; Norway, 1987; Finland, 1991; Sweden, 1991; and Japan, 1992. (Reinhart & Rogoff, 2009)

3.4 CURRENCY & HYPERINFLATION CRISES

To an overwhelming extent, hyperinflationary episodes and currency crashes have travelled hand in hand across place and time. They operate in a negative feedback loop, continually feeding upon each other until complete reform is undertaken. Printing money leads to inflation, which in turn leads to a currency crash, leading to further inflation, which potentially leads to sovereign default, leading to further inflation.

When it comes to modern vintage fiat monetary system financial crises, inflation can rapidly spiral viciously out of control. The end result is the cataclysmically damaging economic phenomenon of hyperinflation.

Interestingly, no emerging market in history, including the United States has managed to escape bouts of high inflation. Money creation and interest costs on debt all enter the government's budget constraint, and in a funding crisis, a sovereign will typically grab from any and all sources.

As Reinhart & Rogoff, (2009), states:

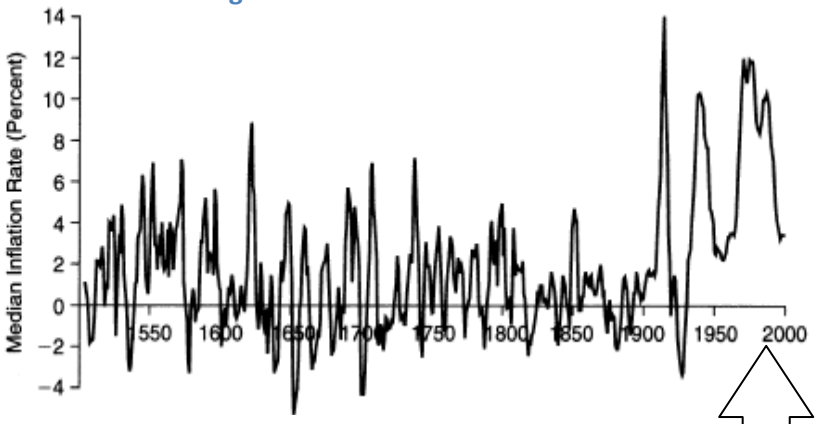
> *Inflation rates were much lower before World War I, as this was before common use of the modern paper currency or otherwise referred to as fiat currency. The median inflation rates before World War I were well below those of the more recent period: 0.5 percent per annum for 1500-1799 and 0.71 percent for 1800-1913, in contrast with 5.0 percent for 1914-2006...*
>
> *However spectacular some of the coinage debasement reported throughout history, without question the advent of the printing press elevated inflation to a whole new level.... When we began to work on this book, in terms of the magnitude of a single conversion, the record holder was China, which in 1948 had a conversion rate of three million to one. Alas, by the time of its completion, that record was surpassed by Zimbabwe with a ten-billion-to-one conversion!*

Figure 3, shows the median inflation rate for all the countries in Reinhart & Rogoff's sample from 1500 to 2007. Note, the radical spike in inflation in the twentieth century coinciding with the spike in currency crashes over the same period displayed in Figure 4.

Historically, derived probabilities for a currency crash and high inflation become overwhelming when all dynamics that currently exist in developed economies are considered. Every applicable bank and

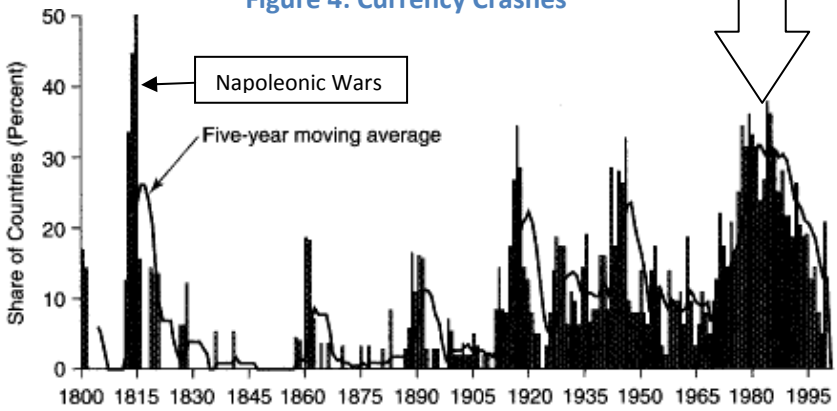
currency crisis linkage identified throughout numerous academic empirical studies exists right now today.

Figure 3: Median Inflation Rate



The median inflation rate: Five-year moving average for all countries, 1500-2007.
Sources: Given the long period covered and the large number of countries included, consumer prices (or cost-of-living indexes) are culled from many different sources.

Figure 4: Currency Crashes



Currency crashes: The share of countries with annual depreciation rates greater than 15 percent. 1800-2007.
Sources: The primary sources are Global Financial Data and Reinhart and Rogoff (2008a), but numerous others are listed in appendix A.1.
Note: The spike at the left of the figure marks the Napoleonic Wars, which lasted from 1799 to 1815.

Source: Reinhart & Rogoff, (2009)

Findings by Velasco, (1987), point to financial sector problems giving rise to the currency collapse. These findings concluded that when central banks finance the bailout of troubled financial institutions by printing money, a classic currency crash from excessive money creation ensues. The globe has recently had unprecedented global bank and corporate bailouts.

Krugman, (1979), asserts that currency crises can be the by-product of government budget deficits. The U.S. and the majority of developed economies currently have large budget deficits.

Demirguc-Kunt and Detragiache (1998), identified countries with an explicit deposit insurance scheme are particularly at risk of currency crises. Most developed nations enforced this to a larger

extent to help fight the banking crisis. It increases government debt risk and thus increases the likelihood of a currency crisis.

Fischer, Sahay, & Vegh's, (2002), study of Hyperinflation found:

- *Since 1957, inflation has been commonplace throughout the world. Based on a sample of 133 countries (for a total of close to 45,000 observations), we find that more than two-thirds of the countries have experienced an episode of more than 25% per-annum inflation; more than one-third has experienced episodes in excess of 50 percent per annum; close to 20 percent of countries have experienced inflation in excess of 100 percent; and around 8 percent have experienced episodes of more than 400 percent per annum inflation. The average duration of high inflation is remarkably similar and, at 3-4 years, surprisingly long.*
- *Higher inflation tends to be more unstable. ... we find that, as inflation rises, the probability of inflation staying in the same range decreases and the probability that inflation will rise above its current level increases.*
- *As expected,* ***the long-run relationship between money growth and inflation is very strong.***
- *The long-run relationship between fiscal balance and seigniorage is significant and negative. In the short run, the relationship is strong for high inflation countries but insignificant for low inflation countries.*
- *Periods of high inflation are associated with bad macroeconomic performance. In particular, high inflation is bad for growth.*

Seigniorage is the term used to explain the taxation like effect that inflation has on the public for the benefit of the government. Snowdon & Vane, (2002), state: "In macroeconomics, seigniorage is regarded as a form of inflation tax, as paying for government services by issuing new currency (rather than collecting taxes paid out of the existing money stock) has the effect of creating a de facto tax that falls on those who hold the existing currency, as a result of its effective devaluation through the introduction of additional money."

Reinhart & Rogoff, (2009), surmise that there exists a common paradox where governments often increase inflation above and beyond the seignorage-maximising rate. What this means is that governments tend to increase inflation beyond the point at which it is beneficial to their budget. Faber, (2009), writes: "inflation is a dynamic process and it is not possible to fix it at 6%. If inflation increases from the current level of, say, 2% per annum to 6%, it will likely thereafter accelerate to far higher levels".

Evidenced by the many cases of hyperinflation with almost uncountable inflation rates, Faber's assertion that central banks and governments simply lose control of inflation once it gains speed, appears undeniably correct.

3.5 DEFAULT THROUGH INFLATION

During the gold standard era, deflation and traditional style government debt defaults were the norm, now during the fiat currency era, inflationary defaults are the norm. Government liabilities are not indexed with inflation, thus a government is able to covertly default on their debt by inflating prices. The effect is simply this: money supply goes up; prices go up; liabilities stay the same. For

example, an inflation rate of 50% would leave a debt worth 50% less after a year. This is obviously because the value of the money is worth 50% less.

Once again, looking at Reinhart & Rogoff, (2009), the elements of an inflationary default:

> *First, inflation has long been the weapon of choice in sovereign defaults on domestic debt and, where possible, on international debt. Second, governments can be extremely creative in engineering defaults. Third, sovereigns have coercive power over their subjects that helps them orchestrate defaults on domestic debt "smoothly" that are not generally possible with international debt. Forth, governments engage in massive money expansion, in part because they can thereby gain a seignorage tax on real money balances (by inflating down the value of citizen's currency and issuing more to meet demand). But they also want to reduce, or even wipe out, the real value of public debts outstanding.*

Tables 2 and 3, illustrate the dominant role defaults through inflation have played across many economies since 1500. Note, the worst cases since the introduction of fiat currency and in particular in the post WWII era. Also note, that most of the worst bouts of high inflation came post WWII.

Table 2: "Default" through Inflation 1500-1799

"Default" through inflation: Asia, Europe, and the "New World," 1500–1799

Country	Period covered	Share of years in which inflation exceeded 20 percent	Share of years in which inflation exceeded 40 percent	Number of hyperinflations[a]	Maximum annual inflation	Year of peak inflation
Asia						
China	1639–1799	14.3	6.2	0	116.7	1651
Japan	1601–1650	34.0	14.0	0	98.9	1602
Korea	1743–1799	43.9	29.8	0	143.9	1787
Europe						
Austria	1501–1799	8.4	6.0	0	99.1	1623
Belgium	1501–1799	25.1	11.0	0	185.1	1708
Denmark	1749–1799	18.8	10.4	0	77.4	1772
France	1501–1799	12.4	2.0	0	121.3	1622
Germany	1501–1799	10.4	3.4	0	140.6	1622
Italy	1501–1799	19.1	7.0	0	173.1	1527
The Netherlands	1501–1799	4.0	0.3	0	40.0	1709
Norway	1666–1799	6.0	0.8	0	44.2	1709
Poland	1704–1799	43.8	31.9	0	92.1	1762
Portugal	1729–1799	19.7	2.8	0	83.1	1757
Spain	1501–1799	4.7	0.7	0	40.5	1521
Sweden	1540–1799	15.5	4.1	0	65.8	1572
Turkey	1586–1799	19.2	11.2	0	53.4	1621
United Kingdom	1501–1799	5.0	1.7	0	39.5	1587
The "New World"						
Argentina	1777–1799	4.2	0.0	0	30.8	1780
Brazil	1764–1799	25.0	4.0	0	33.0	1792
Chile	1751–1799	4.1	0.0	0	36.6	1763
Mexico	1742–1799	22.4	7.0	0	80.0	1770
Peru	1751–1799	10.2	0.0	0	31.6	1765
United States	1721–1799	7.6	4.0	0	192.5	1779

Source: Reinhart & Rogoff, (2009)

A comparison of the inflation rates from tables 2 and 3 clearly display much higher inflation rates during the modern era.

During the year of an external default the average inflation rate is high at 33%. However, during a domestic default the average rate is 170% for that year. After the default and in the years following

inflation remains above 100%. Defaults and inflation clearly coexist in the majority of cases. (Reinhart & Rogoff, 2009)

Table 3: "Default" through Inflation 1800-2008

Country	Beginning of period covered	Share of years in which inflation exceeded 20 percent	Share of years in which inflation exceeded 40 percent	Number of years of hyperinflation[a]	Maximum annual inflation	Year of peak inflation
Africa						
Algeria	1879	24.1	12.0	0	69.2	1947
Angola	1915	53.3	44.6	4	4,416.0	1996
Central African Republic	1957	4.0	0.0	0	27.7	1971
Côte d'Ivoire	1952	7.3	0.0	0	26.0	1994
Egypt	1860	7.5	0.7	0	40.8	1941
Kenya	1949	8.3	3.3	0	46.0	1993
Mauritius	1947	10.0	0.0	0	33.0	1980
Morocco	1940	14.9	4.5	0	57.5	1947
Nigeria	1940	22.6	9.4	0	72.9	1995
South Africa	1896	0.9	0.0	0	35.2	1919
Tunisia	1940	11.9	6.0	0	72.1	1943
Zambia	1943	29.7	15.6	0	183.3	1993
Zimbabwe	1920	23.3	14.0	Ongoing	66,000	
Asia						
China	1800	19.3	14.0	3	1,579.3	1947
Hong Kong	1948	1.7	0.0	0	21.7	1949
India	1801	7.3	1.5	0	53.8	1943
Indonesia	1819	18.6	9.6	1	939.8	1966
Japan	1819	12.2	4.8	1	568.0	1945
Korea	1800	35.3	24.6	0	210.4	1951
Malaysia	1949	1.7	0.0	0	22.0	1950
Myanmar	1872	22.2	6.7	0	58.1	2002
The Philippines	1938	11.6	7.2	0	141.7	1943
Singapore	1949	3.4	0.0	0	23.5	1973
Europe						
Austria	1800	20.8	12.1	2	1,733.0	1922
Belgium	1800	10.1	6.8	0	50.6	1812
Denmark	1800	2.1	0.5	0	48.3	1800
Finland	1861	5.5	2.7	0	242.0	1918
France	1800	5.8	1.9	0	74.0	1946
Germany	1800	9.7	4.3	2	2.22E + 10	1923
Greece	1834	13.3	5.2	4	3.02E + 10	1944
Hungary	1924	15.7	3.6	2	9.63E + 26	1946
Italy	1800	11.1	5.8	0	491.4	1944
The Netherlands	1800	1.0	0.0	0	21.0	1918
Norway	1800	5.3	1.9	0	152.0	1812
Poland	1800	28.0	17.4	2	51,699.4	1923
Portugal	1800	9.7	4.3	0	84.2	1808
Russia	1854	35.7	26.4	8	13,534.7	1923
Spain	1800	3.9	1.0	0	102.1	1808
Sweden	1800	1.9	0.0	0	35.8	1918
Turkey	1800	20.5	11.7	0	115.9	1942
United Kingdom	1800	2.4	0.0	0	34.4	1800
Latin America						
Argentina	1800	24.6	15.5	4	3,079.5	1989
Bolivia	1937	38.6	20.0	2	11,749.6	1985
Brazil	1800	28.0	17.9	6	2,947.7	1990
Chile	1800	19.8	5.8	0	469.9	1973
Colombia	1864	23.8	1.4	0	53.6	1882
Costa Rica	1937	12.9	1.4	0	90.1	1982
Dominican Republic	1943	17.2	9.4	0	51.5	2004
Ecuador	1939	36.8	14.7	0	96.1	2000
El Salvador	1938	8.7	0.0	0	31.9	1986
Guatemala	1938	8.7	1.4	0	41.0	1990
Honduras	1937	8.6	0.0	0	34.0	1991
Mexico	1800	42.5	35.7	0	131.8	1987
Nicaragua	1938	30.4	17.4	6	13,109.5	1987
Panama	1949	0.0	0.0	0	16.3	1974
Paraguay	1949	32.8	4.5	0	139.1	1952
Peru	1800	15.5	10.7	3	7,481.7	1990
Latin America (*continued*)						
Uruguay	1871	26.5	19.1	0	112.5	1990
Venezuela	1832	10.3	3.4	0	99.9	1996
North America						
Canada	1868	0.7	0.0	0	23.8	1917
United States	1800	1.0	0.0	0	24.0	1864
Oceania						
Australia	1819	4.8	1.1	0	57.4	1854
New Zealand	1858	0.0	0.0	0	17.2	1980

Sources: Given the long period covered and the large number of countries included, consumer prices (or cost of-living indexes) are culled from many different sources. They are listed in detail by country and period i appendix A.1.

[a]Hyperinflation is defined here as an annual inflation rate of 500 percent or higher (this is not the tradition Cagan definition).

Source: Reinhart & Rogoff, (2009)

4.0 INFLATION & CURRENT INFLATIONARY FORCES

4.1 OVERVIEW

If the governments devalue the currency in order to betray all creditors, you politely call this procedure inflation.

- George Bernard Shaw (Literature Nobel Prize Winner and Political Activist)

We live in this peculiar world where 3 percent inflation is stability but a half percent decline in the price index is deflation.

- Paul Volcker (Former U.S. Federal Reserve Chairman)

There are two types of inflation, *monetary inflation* and *price inflation*. These forms of inflation are strongly linked. Rapid monetary inflation leads to price inflation.

The traditional Austrian school of thought focuses on monetary inflation, as this is the driver for price inflation. There is a simple premise behind this. When more money is printed and the money supply of an economy is inflated, the value or purchasing power of the money erodes, requiring more of it to purchase goods and services. As fiat money has no intrinsic value, its value is determined by its supply.

Ludwig von Mises, the seminal scholar of the Austrian School of Economics, who witnessed the cataclysmic damage hyperinflation inflicted on Germany in the 1920s, asserts that:

> *Inflation, as this term was always used everywhere and especially in this country, means increasing the quantity of money and bank notes in circulation and the quantity of bank deposits subject to check. But people today use the term `inflation' to refer to the phenomenon that is an inevitable consequence of inflation, that is the tendency of all prices and wage rates to rise. The result of this deplorable confusion is that there is no term left to signify the cause of this rise in prices and wages. There is no longer any word available to signify the phenomenon that has been, up to now, called inflation. . . . As you cannot talk about something that has no name, you cannot fight it. Those who pretend to fight inflation are in fact only fighting what is the inevitable consequence of inflation, rising prices. Their ventures are doomed to failure because they do not attack the root of the evil. They try to keep prices low while firmly committed to a policy of increasing the quantity of money that must necessarily make them soar. As long as this terminological confusion is not entirely wiped out, there cannot be any question of stopping inflation.*

4.2 MONETARY POLICY

Monetary policy is undertaken by a central bank to influence the availability and supply of money and credit. This is conducted through the utilisation of three main tools: Open markets operations; discount rate; and reserve requirements.

The open market operations is the Feds principle monetary policy tool used to influence the *federal funds rate,* which determines the rate at which banks lend to each other. These operations take the form of purchases and sales of US Treasury and federal agency debt securities. The Fed will buy or sell securities in order to maintain the fed funds rate. (U.S. Federal Reserve Board, 2010)

Buying securities has the effect of decreasing the interest rate and increasing bank reserves. Selling securities has the effect of increasing the interest rate and decreasing bank reserves.

Open market operations are used to monetise debt. In its simplest form this happens through the central bank purchasing government debt with newly printed money.

4.3 MONEY SUPPLY & MONETISING DEBT

> *The conclusion that deflation is always reversible under a fiat money system follows from basic economic reasoning...U.S. dollars have value only to the extent that they are strictly limited in supply. But the U.S. government has a technology, called a printing press (or, today, its electronic equivalent), that allows it to produce as many U.S. dollars as it wishes at essentially no cost. By increasing the number of U.S. dollars in circulation, or even by credibly threatening to do so, the U.S. government can also reduce the value of a dollar in terms of goods and services, which is equivalent to raising the prices in dollars of those goods and services. We conclude that, under a paper-money system, a determined government can always generate higher spending and hence positive inflation.* (Bernanke B. S., 2002)

Quoted by Ben Bernanke, the chairman of the Federal Reserve.

Vast quantities of money are required to be printed in order to fight off *Public Enemy Number One,* Deflation, and vast quantities of money continue to be printed.

Figures 5,6 & 7, illustrate the dramatic monetary inflation in the U.S. and around the world. The most recent measure of the monetary base in the U.S., displayed in Figures 5 and 6, shows that since the GFC erupted the monetary base has increased 150%.

Figure 5: US Monetary Base 1990-2010

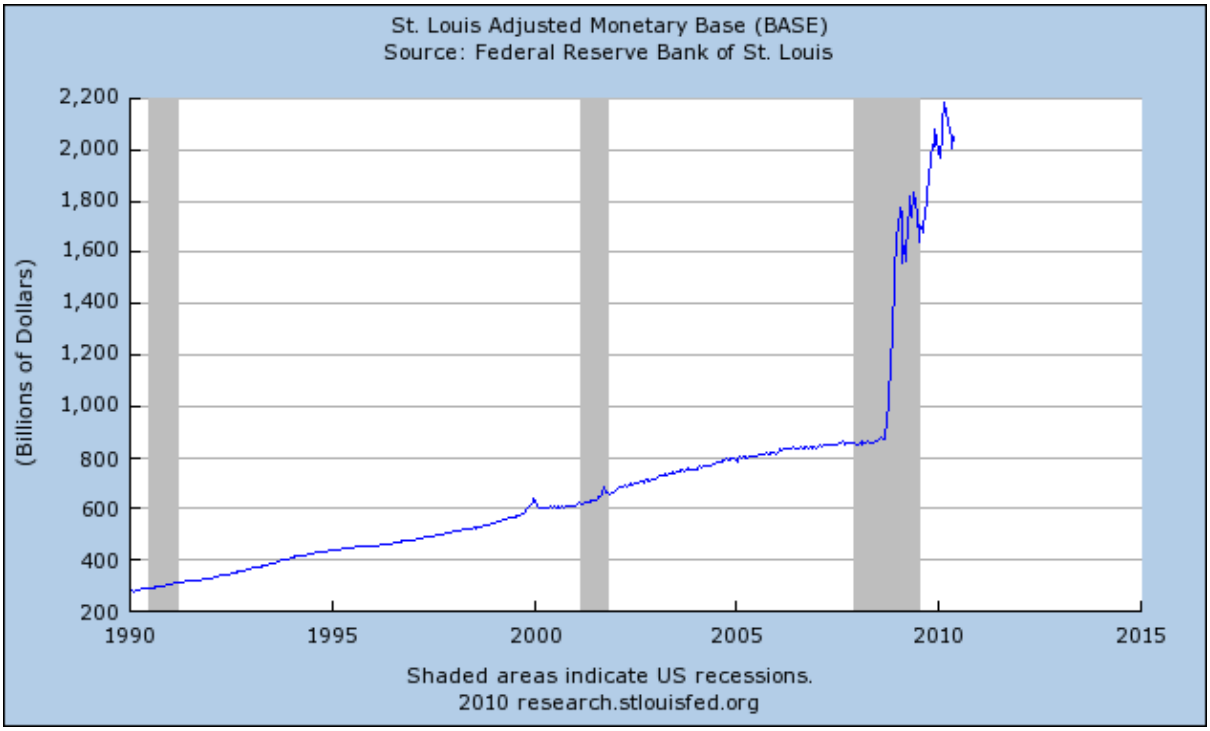
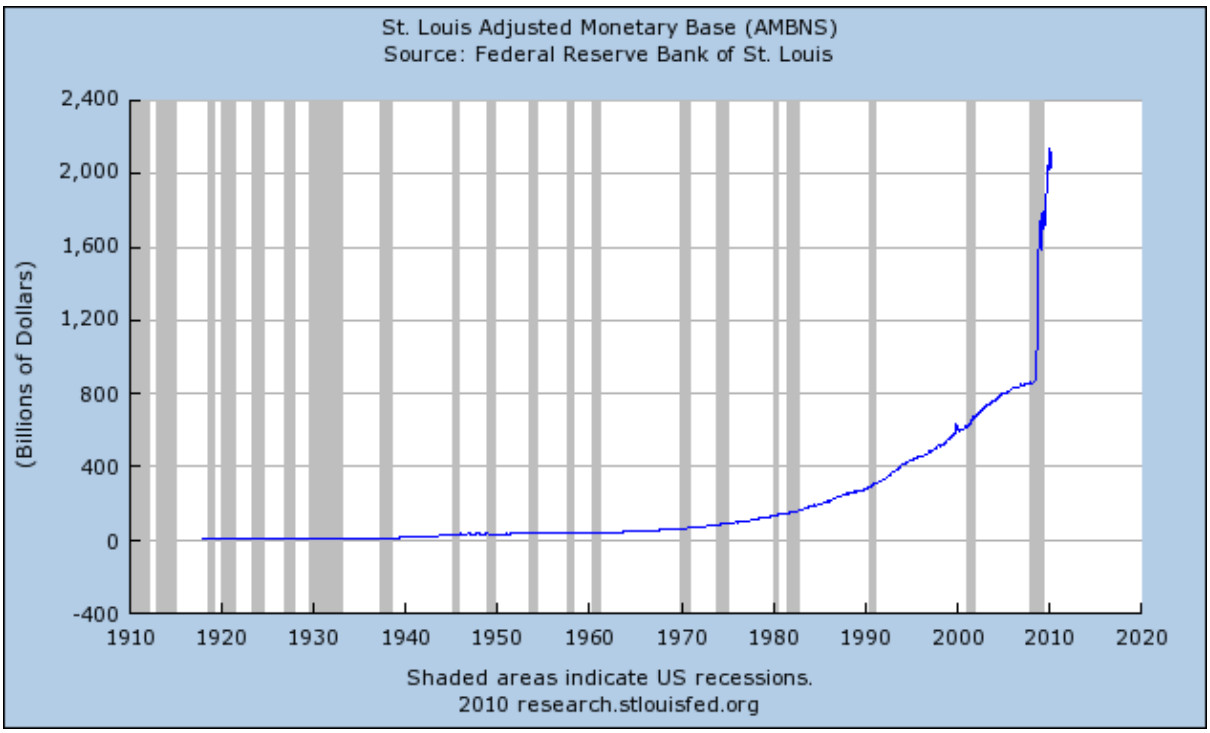
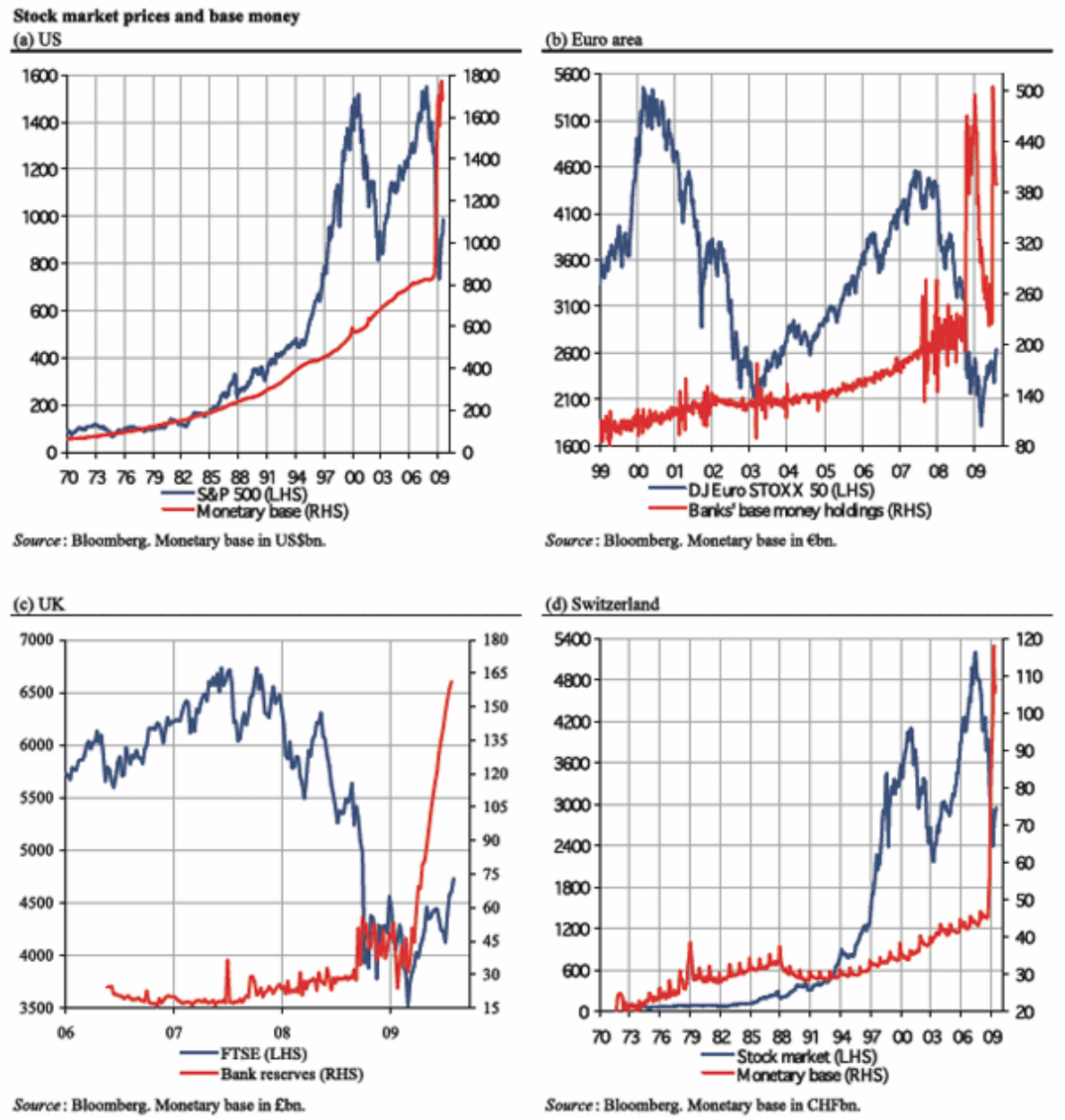


Figure 6: US Monetary base 1918-2010



And now a look at other developed regions as of August 2009 (they have increased further since then).

Figure 7: Monetary Base & Stock Market - US, Euro, UK & Swiss



Although being old data, Figure 7, displays global stock markets responding to monetary inflation. This representation helps illustrate that inflation, as Ben Bernanke purports, is a policy makers decision. Increasing the money supply, will always eventually translate into higher prices, thus under a fiat monetary system policy markers determine whether inflation is to exist or not.

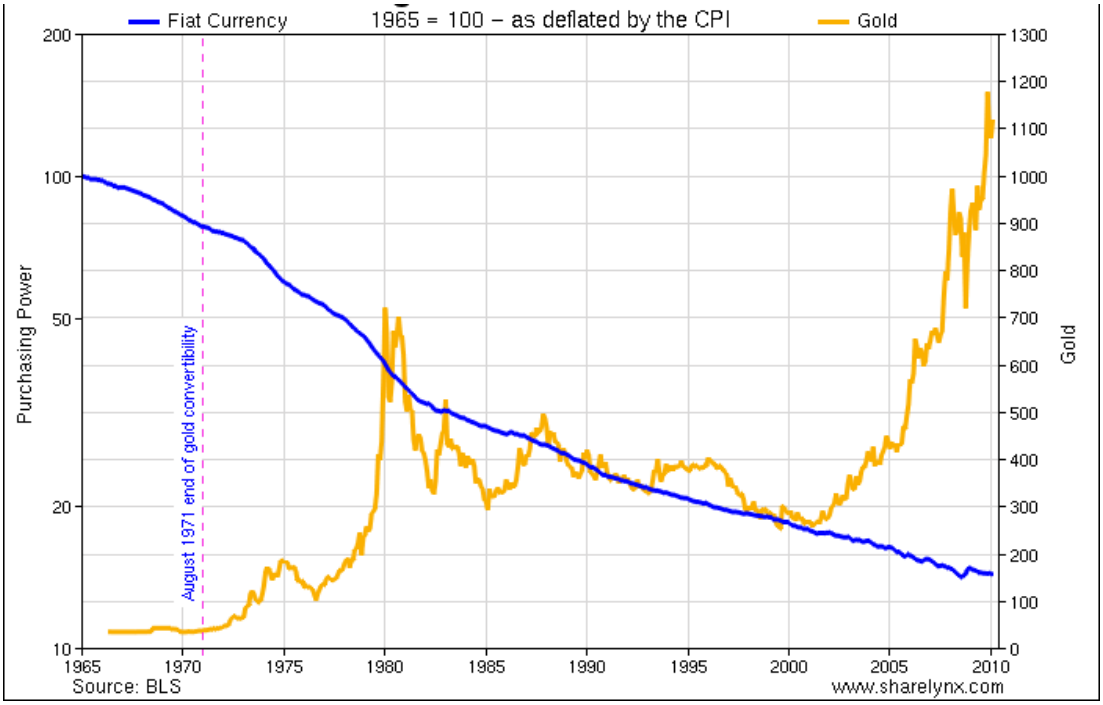
In order to prevent an inflation-induced boom from collapsing, it is never enough to keep credit and money stocks at current levels. Ever-greater doses of credit and money are needed.

As Marc Faber, 2009 states: "But print they will all do, as the mess central banks have created can only be cured through massive monetary inflation. Also, it should be obvious that the worse the mess that central bankers have created will become (notably the US Fed), the more money will be printed."

Faber's assertion has been recently evidenced through the $US1 trillion European Central Bank (ECB) bailout of problematic Euro economies. It is important to note that central banks are self-funded, So where does the money come from? The printing press, or its electronic equivalent, of course.

Foreign exchange rates only show the relative performance of two currencies against each other. For insight into the value or purchasing power of a fiat currency we look to the price of gold denominated in that currency (see Figure 8).

Figure 8: $US Purchasing power & Gold, 1965 - 2010



As previously discussed, monetary supply inflation leads to a devaluation of the currency, requiring more of the devalued currency to buy equal units of physical assets. The price of gold denominated in a certain currency, best represents the valuation of that currency. Cutting out speculative extremes as outliers, the inflation adjusted value of gold has remained essentially the same throughout modern history. One way to understand this is at any point in time 1 ounce of gold buys a good quality suit. The demand and supply equation for gold remains relatively stable compared to the demand and supply equation for fiat money.

Now we have identified the inflationary forces of money creation, we should also consider this coupled with negative real interest rates. The US Federal Funds rate (base target rate), is currently set at 0.00% - 0.25%. Taking into account inflation, this means that the interest rate is negative in real terms. Meaning depositors and savers are losing money and being penalised. We will come back to interest rates and the reasons why they cannot be lifted specifically in the US, under section 5.3 Interest Rates.

4.4 DEFICIT FINANCING

Peter Jeffreys, a veteran fund manager who is now director of Independent Risk Monitoring, noted:

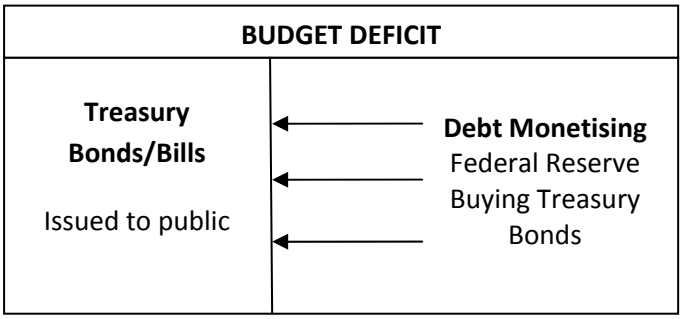
> *"There has never been a time in history when deficit financing, or quantitative easing, has not been followed by a period of rampant inflation." He warned the situation whereby Western economies were being "bailed out by the Chinese" through the recycling of Chinese currency reserves "could not last forever".* (Allen, 2010)

Federal budget deficits are financed by the issuance of government debt, in the form of treasury bonds, bills and notes. For the purpose of looking at the effect to the money supply, investors of this debt can be broken up into two different groups: 1) the public; and 2) the domestic central bank.

When the public buys the government's debt, it becomes a true debt to the government. When the central bank buys the government's debt, money is printed, the money supply increases and inflation is created.

The danger is when there is an upward trend for larger proportions of the deficit to be financed through debt monetisation. Figure 9, displays this process.

Figure 9: Deficit Financing



On 18 March 2009, the Federal Reserve announced plans to purchase $US300 billion in US Treasury over the next six months. This was an open and clear direction that the Fed was monetising debt.

Economists in the field have been alerted to further unpublicised debt monetising that has been hidden by utilising *currency swap lines* with other central banks. Martenson, 2009 states, "The Federal Reserve has effectively been monetising far more U.S. government debt than has openly been revealed, by cleverly enabling foreign central banks to swap their agency debt for Treasury debt".

David Buckner, a widely respected academic, expounded that, although foreign central banks were buying U.S. Treasury debt, the Fed was buying approximately 50% of it back in the secondary market ten days later. (Buckner, 2009)

Dornbusch, Sturzenegger, & Wolf, (1990), stipulate that:

> *An extreme inflation can occur in a country where inflation has been repressed and where deficit finance has built up a monetary "overhang". In this case, there is not only the ordinary flow problem in that the money supply is already too high relative to nominal income at*

> *controlled prices. Once prices are freed up, inflation gets rapidly underway. In the absence of strong stabilising factors, it can become extreme very quickly.*

The United States is in this position right now. Represented by the unprecedented increase in money supply, a significant monetary overhand has been built up. Dornbusch, Sturzenegger, & Wolf, (1990), further state:

> *In counties that have little experience with high inflation... an inflation shock can set the house on fire in no time. Because the financial structure is so unadapted to inflation, there will typically be an initial phase in which real balances rise rapidly as a result of deficit finance. Later, as escalating inflation becomes apparent, the flight from money into foreign assets accelerates dramatically.*

Following Dornbusch, Sturzenegger, & Wolf's, (1990) above statement:

1) The U.S. and other developed economies have in modern times had little experience with high inflation;
2) The global financial crisis was a significantly large shock to the financial system;
3) We have seen a recovery in the global economy where real balances, i.e. GDP have risen rapidly; and
4) It has been no secret that the developed world have been deficit financing through debt monetisation, printing money like mad.

These factors fit Dornbusch, Sturzenegger, & Wolf's high inflationary scenario.

Table 4, taken into consideration, it is ignorant to think developing economies (i.e. China) have the resources to lend at the current rate to developed economies. The shortfall for the required deficit finance will continue to be made up through debt monetisation.

Table 4: Advance Economies Public Debt Levels (as a % of GDP)

	Budget Deficit	Gross Debt
Australia	-5.0	15.5
Canada	-5.3	82.5
France	-8.2	77.4
Germany	-5.7	72.5
Greece	-8.1	115.1
Ireland	-12.2	64.5
Italy	-5.2	115.8
Japan	-9.8	217.7
Portugal	-8.8	77.1
Spain	-10.4	55.2
UK	-11.4	68.2
US	-11.0	83.2

Source: IMF Fiscal Monitor, May 2010

4.5 A COMPARISON TO THE GREAT DEPRESSION & THE FALLACY OF DEFLATION

Two vastly different monetary systems contribute to a comparison of the GFC and the Great Depression not being possible. The Great Depression occurred during the gold standard monetary system era and the GFC occurred during the fiat monetary system era. These two monetary systems have vastly different mechanics and dynamics.

During his studies of the Great Depression Ben Bernanke, states:

> *Recent research has provided strong circumstantial evidence for the proposition that sustained deflation—the result of a mismanaged international gold standard—was a major cause of the Great Depression of the 1930s.* (Bernanke & James, 1990)

Temin (1989), argues that structural flaws of the gold standard, combined with policy responses dictated "rules of the game", made an international monetary contraction and deflation almost inevitable during the great depression era.

Research by Hamilton (1987,1988), supports the propositions that contractionary monetary policies in France and the U.S. initiated the Great Slide of the depression, and that the defence of gold standard parities added to the deflationary pressure.

Bernanke & James, (1990), state:

> *The gold standard-based explanation of the Depression is in most respects compelling. The length and depth of the deflation during the late 1920s and early l930s strongly suggest a monetary origin, and the close correspondence between deflation and nations' adherence to the gold standard shows the power of that system to transmit contractionary monetary shocks.*

Bernanke & James, (1990), also assert, continuous banking panics under the deflationary gold standard monetary system was a large contributor towards the endurance of the Great Depression.

The federal response in the U.S. to the GFC was twelve times greater in 2008 than the entire Great Depression period. (French, 2009) Evidenced above in Figure 5, there has been an inflation in money supply rather than a deflation, that occurred during the Great Depression.

As an example of the infinitely large inflationary power central banks possess under a fiat monetary system, the *Financial Times* newspaper reported the existence of a U.S. Federal Reserve staff memorandum that makes the case for a −5% federal funds rate. So you get paid money to borrow and lose money on your deposits. This concept turns the conventional idea of credit and money upside down. In fact, during the height of the GFC, short-term U.S. interest rates securities went below zero.

Recent policy actions indicate, deflation is *Public Enemy Number One* for central banks and governments worldwide and they have the power and the tools in the war chest to win against it. This is further evidenced by, Japanese authorities recently toying with the idea of outlawing cash in the country. (French, 2009)

4.6 EXAMPLES OF INFLATION TODAY

Faber, (2009), writes that the explosion of the U.S. current account deficit between 1998 and 2007 (from $US150 billion to $US800 billion), is usually disregarded. This flooding of the world with $US has led to current account surpluses in emerging economies and to strong price increases in those countries.

Faber, (2009), examines the rampant inflation throughout Asia, particularly in property. He states:

> "Sun Hung Kai Properties Ltd., the world's largest developer by market value, raised the price of two penthouses in Hong Kong by 50 percent to a record HK$75,000 (US$9,700) a square foot as demand surges for luxury apartments. The units will be offered for HK$300 million (US$39 million) each..."

Despite the deflationary impacts of a rising Australian dollar (overseas goods are cheaper), inflation has recently been rearing its ugly head in a large way in Australia.

Below is a clipping from a recent article in the Australian newspaper:

> ***Inflation risks building: survey***
>
> *An indicator of inflation in Australia rose for the eighth straight month in June, supporting the view that price pressures are building.*
>
> *It also bolsters the view that higher interest rates will be needed to offset the pressures.*
>
> *In the 12 months to June, the monthly inflation gauge is up 3.6 per cent, well above the upper limit of the Reserve Bank of Australia's 2-3 per cent inflation target range.* (Rogow, 2010)

Also consider the following specialist quotes from the Reuters News article, Australian inflation above forecasts (2010), on 28 April 2010:

Brian Redican, Senior Economist, Macquarie:

> *It looks like inflation is troughing at a high level and the drivers of inlfation are now accelerating. That's a troubling outlook for the RBA...overall, the outlook for inflation is not good and out hunch is they will take another step toward normal next week and hike.*

Stephen Walters, Chief Economist, JPMorgan:

> *When you extract the beneficial impact impact of the high Aussie dollar, inflation was 1.5% on the quarter. Clearly that's a pretty ugly result. When we're just starting the next economic upswing, to get inflation already high is troubling... certainly when you get the historical inflation print this high and a deterioriating outlook, it does suggest that interest rates are too low."*

Su-Lin Ong, RBS Capital Markets, Senior Economist

> *It was a reasonably strong report across the board. If you look at it, inflation is probably running uncomfortably high at this stage of the business cycle.*

Michael Blythe, Chief Economist, CBA

> *The number are a tad on the high side. Certainly it will add to that level of discomfort the Reserve Bank seems to have about the inflation outlook right at the moment.*

Figure 10: AFR Commodity Prices Increase

THE AUSTRALIAN FINANCIAL REVIEW

WEDNESDAY 21 APRIL 2010 www.afr.com Price $3.00 (incl GST)

Commodity prices increase rates pressure on RBA

Adrian Rollins
Economics correspondent

The Reserve Bank of Australia appears poised to raise interest rates again as early as next month as soaring commodity prices promise to deliver a massive boost to income and investment.

Surprised by jumps of up to 100 per cent in the price of iron ore and coal, the RBA board decided at its meeting on April 6 that it would be "prudent" to remove most of the remaining monetary policy stimulus in the economy rather than wait, minutes released yesterday showed.

Markets remain sceptical of a follow-up rate rise on May 4, putting the odds of a rise of 0.25 of a percentage point next month at just 30 per cent.

But many economists expect the scale of the terms of trade boost to the economy amid a gradual global recovery will push the central bank to lift its cash rate to 4.5 per cent in order to return commercial lending rates to long-term average levels.

While the RBA is generally positive on the prospects for the global economy, the International Monetary Fund warned overnight of the risk that surging sovereign debt among major developed countries could undermine the recovery of the global financial system and usher in a new phase of the credit crisis.

The IMF is expected to substantially upgrade its global growth forecasts when its *World Economic Out-*

Continued page 10

EXPERT ANALYSIS

'House prices are rising strongly even though new lending is falling . . . and cashed-up foreign investors are prime suspects.' Alan Mitchell, page 62

Housing bubble warning, page 10
Market Wrap, page 19
Property reaction, page 54
Buyers flout rules, page 55

Figure 11: AFR Inflation Pressures

THE AUSTRALIAN FINANCIAL REVIEW

WEDNESDAY 5 MAY 2010 www.afr.com Price $3.00 (incl GST)

Inflation pressures trigger sixth RBA rate rise

Adrian Rollins
Economics correspondent

Interest rates are set to rise further after the Reserve Bank of Australia lifted the cash rate to "average" levels, but put inflation firmly back in its sights, warning that price pressures were proving stronger than it expected.

A surge in house and commodity prices amid stubborn underlying inflation helped convince the RBA board to raise its official cash rate by 0.25 of a percentage point to 4.5 per cent – a level it judged would restore most lending rates to the average of the past 10 years.

With the four major banks matching the move, the average standard variable mortgage rate will rise close to 7.5 per cent, its highest point in 18 months but still almost 2 percentage points below the mid-2008 peak.

In a development with significant implications for the federal budget to be delivered next Tuesday, the RBA appears set to substantially upgrade its growth, inflation and terms of trade forecasts in an assessment of monetary policy and the economy being released on Friday.

Announcing yesterday's rate increase, RBA governor Glenn Stevens said commodity prices were on track to regain the very high levels reached just before the global financial crisis struck, while inflation would not drop down to 2.5 per cent as previously thought.

Continued page 6

ECONOMIC OUTLOOK

'The government should start making additional discretionary spending cuts to tighten fiscal policy.' Alan Mitchell: comment, page 7

Property, retail hit, pages 7, 8
Banks pass on increase, page 8
Bassanese: analysis, page 23
Chanticleer, back page

Figures 10 and 11, are news clippings from the front page of the *Australian Financial Review*. Inflation is clearly starting to become problematic in Australia. With the recent Australia dollar retreat this will add a further updraft to inflation.

In the U.S. and according to John Fritze, who writes for USA Today, "an average family health insurance policy now costs more than some compact cars." The average cost of a family policy offered by employers was $US13,375 this year, up 5% from 2008, the Kaiser Family Foundation and the Health Research & Educational Trust survey found. By comparison, wages rose 3% over that

period, the study said… "The trends are crushing millions of businesses and American families", Senate Majority Leader Harry Reid of Nevada said.

Since 1999, health insurance premiums for families rose 131%, the report found, far more than the general rate of inflation, which increased 28% over the same period. Overall, health care in the United States is expected to cost $2.6 trillion this year, or 17% of the nation's economy.

The point is, apart from in Japan, you will be hard stretched to find any macroeconomic deflation cases throughout the world. Considering this, it is fascinating to think why so many people fear it.

5.0 CURRENT POSITION & LIMITED ABILITY TO FIGHT

5.1 US GOVERNMENT FINANCIAL POSITION AND FISCAL OUTLOOK

In 2009, the overall U.S. federal budget deficit reached 9.9% of GDP, the largest since 1945 (United States Government Accountability Office, 2010). For 2010, the budget deficit is forecast to increase to 10.6%. When looking at the US Federal Budget, it does not take an economist or accountant to determine that the United States government is financially troubled.

Receipts = $2,165 billion

Outlays = $3,721 billion

Receipts for the 2010 year are forecasted to only be 58% of outlays and the budget deficits are forecast to remain for the foreseeable future.

Table 5: U.S. 2011 Federal Budget

Table S–1. Budget Totals
(In billions of dollars)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Totals 2011-2015	Totals 2011-2020
Budget (Without Fiscal Commission)														
Budget Totals in Billions of Dollars:														
Receipts	2,105	2,165	2,567	2,926	3,188	3,455	3,634	3,887	4,094	4,299	4,507	4,710	15,771	37,268
Outlays	3,518	3,721	3,834	3,755	3,915	4,161	4,386	4,665	4,872	5,084	5,415	5,713	20,051	45,800
Deficit	1,413	1,556	1,267	828	727	706	752	778	778	785	908	1,003	4,280	8,532
Debt held by the public	7,545	9,298	10,498	11,472	12,326	13,139	13,988	14,833	15,686	16,535	17,502	18,573		
Debt net of financial assets	6,647	8,164	9,418	10,246	10,972	11,677	12,428	13,205	13,983	14,767	15,675	16,677		
Gross domestic product (GDP)	14,237	14,624	15,299	16,203	17,182	18,193	19,190	20,163	21,136	22,087	23,065	24,067		
Budget Totals as a Percent of GDP:														
Receipts	14.8%	14.8%	16.8%	18.1%	18.6%	19.0%	18.9%	19.3%	19.4%	19.5%	19.5%	19.6%	18.3%	18.9%
Outlays	24.7%	25.4%	25.1%	23.2%	22.8%	22.9%	22.9%	23.1%	23.1%	23.0%	23.5%	23.7%	23.3%	23.3%
Deficit	9.9%	10.6%	8.3%	5.1%	4.2%	3.9%	3.9%	3.9%	3.7%	3.6%	3.9%	4.2%	5.1%	4.5%
Debt held by the public	53.0%	63.6%	68.6%	70.8%	71.7%	72.2%	72.9%	73.6%	74.2%	74.9%	75.9%	77.2%		
Debt net of financial assets	46.7%	55.8%	61.6%	63.2%	63.9%	64.2%	64.8%	65.5%	66.2%	66.9%	68.0%	69.3%		

Source: Office of Management and Budget, 2010

The budget is published using "Baseline" figures that follow the Congressional Budget Office's (CBO) baseline estimates.

Revisiting inflation, Dornbusch, Sturzenegger, & Wolf, (1990), state:

> *"A major shock to the budget, the terms of trade, or the exchange rate is an essential ingredient for high inflation. An event such as a political disturbance - in its most extreme form, war - or an abrupt international credit rationing may trigger the inflation."*

Additionally, Krugman, (1979), asserts that currency crises can be the by-product of government budget deficits.

When a country has to finance 10% of its total GDP each year, very few would argue that this is a shock.

Table 6: U.S. Government's Financial Position Snapshot

NATION BY THE NUMBERS		
A Snapshot of The Government's Financial Position & Condition		
billions of dollars	2009	2008
Gross Costs	$ (3,735.6)	$ (3,891.6)
Earned Revenues	$ 300.9	$ 250.9
Net Cost	$ (3,434.7)	$ (3,640.7)
Total Taxes and Other Revenues	$ 2,198.4	$ 2,661.4
Other	$ (17.4)	$ (29.8)
Net Operating Cost	$ (1,253.7)	$ (1,009.1)
Assets:	$ 2,667.9	$ 1,974.7
Less: Liabilities, comprised of:		
Debt Held By the Public	$ (7,582.7)	$ (5,836.2)
Federal Employee & Veteran Benefits	$ (5,283.7)	$ (5,318.9)
Other Liabilities	$ (1,257.4)	$ (1,023.1)
Total Liabilities	$ (14,123.8)	$ (12,178.2)
Net Position (Assets Minus Liabilities)	$ (11,455.9)	$ (10,203.5)
Sustainability Measures:		
Statement of Social Insurance: [1]		
Closed Group (current participants) [2]	$ (52,145)	$ (49,135)
Open Group (current + future participants) [3]	$ (45,878)	$ (42,970)
Social Insurance as Percent of Gross Domestic Product (GDP)[4]:		
Closed Group (current participants)	-6.6%	-6.2%
Open Group (current + future participants)	-5.8%	-5.4%
Budget Results		
Unified Budget Deficit	$ (1,417.1)	$ (454.8)

Assets = $ 2,667.9
Liabilities = $(14,123.8)
Equity = $(11,455.9)

Source: United States Government Accountability Office, 2009

The U.S. is entering a period when 1.8 taxpayers will be supporting each retiree, with historically extreme budget deficits and a balance sheet that reads negative equity of US$11.45 trillion. (United States Government Accountability Office, 2004). If the United States government was a company it would have been *wound up* long ago for being hopelessly insolvent. However, the invention of the printing press allows it to continue on.

Without scrutiny, the face value U.S. government figures and forecasts are alarming. However, the International Monetary Fund (IMF) staff present evidence questioning the accuracy of U.S. government forecasts and arguably present a more objective view.

Celasun & Keim, 2010 from the IMF state:

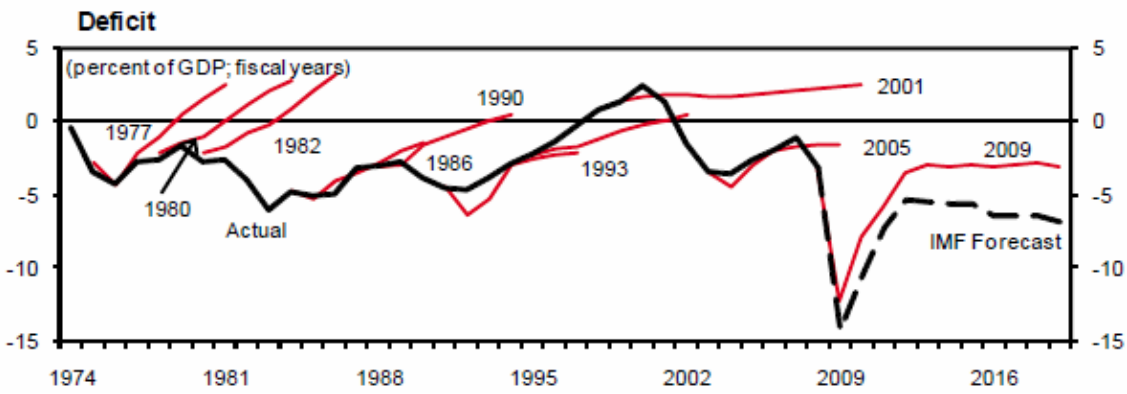
> *The OMB[1] remains significantly more optimistic than IMF staff on the overall future path of the recovery. The past record of budget projections shows a strong tendency for "optimistic" budget forecasts. Past experience with official budget forecasts portrays a record of large deviations between projections and outturns...*

[1] U.S. Office of Management and Budget

Celasun & Keim, (2010), further indicate that the OMB's budget projections have only been realistic twice since 1977, and that was only due to unexpected economic turnarounds. This shows the U.S. federal budget has been grousely optimistic for the majority of the last 33 years.

Figure 12, illustrates the OMB's optimistic budget forecasting, with the red lines being the forecasts and the black being reality.

Figure 12: U.S. Fiscal & Economic Forecast Errors



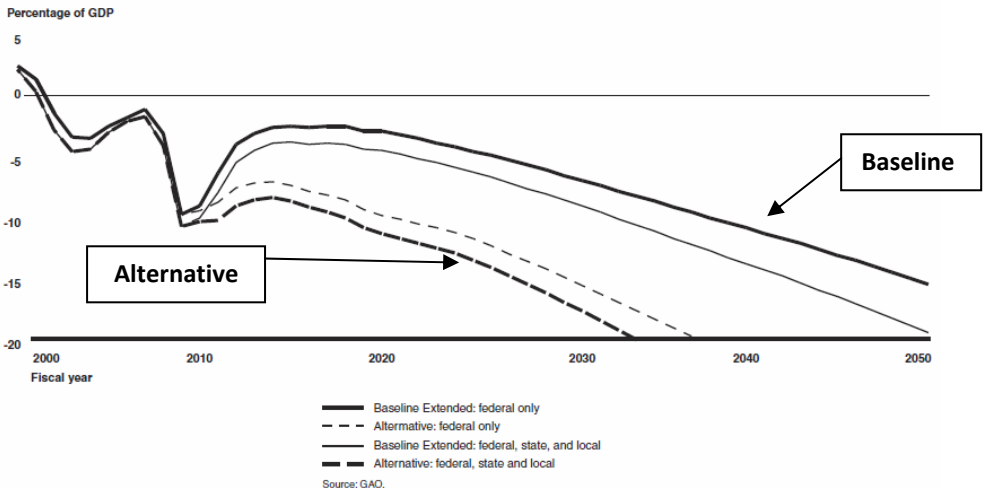
Source: (Celasun & Keim, 2010)

United States Government Accountability Office (GAO), (2007), indicate that since 1997 the GAO has been statutorily required to audit the U.S. government's annual consolidated financial statements. However, since engagement by the U.S. government, the GAO has remained unable to provide an audit opinion on the federal government's consolidated financial statements.

If an auditor cannot provide an audit opinion, this means they are unable to provide any assurance towards the correctness of the material they are auditing. Public companies in Australia are required to obtain an annual audit opinion. If the auditor believes there is material error of misstatement in the financial reports they will not issue an audit opinion.

The GAO in Figure 13, maps out both the Federal and Combined Federal, State and Local budget deficit forecast for the future. The *Baseline* forecasts are from CBO figures and the Alternative forecasts are the GAO figures. The *Alternative* forecast by the GAO use past and present trends projected into the future.

Figure 13: Federal and combined Federal, State, and Local Surpluses and Deficits



5.1.1 Fiscal Challenges

The GAO states:

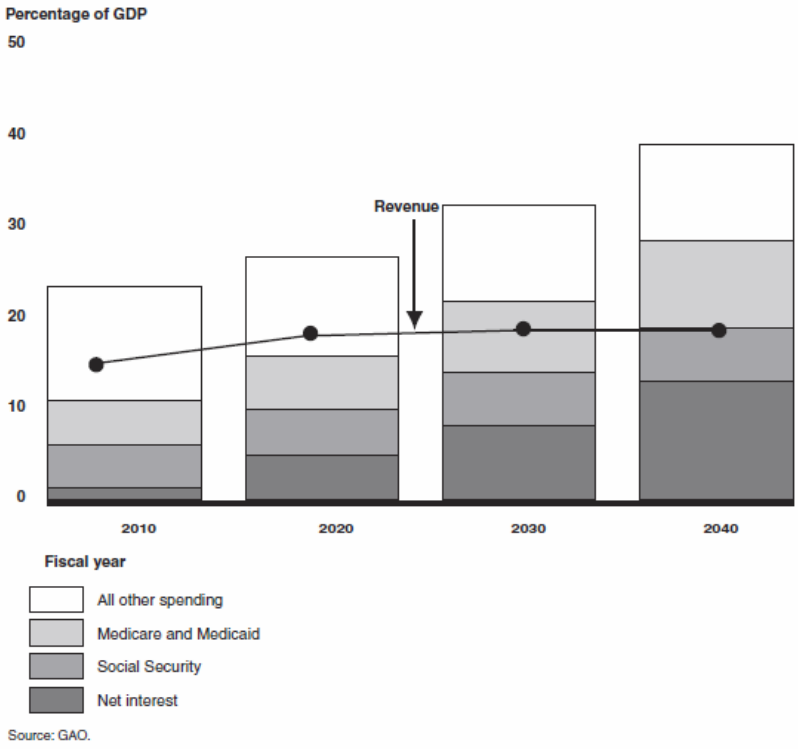
> *Our long-term budget model has consistently shown that current fiscal policy is unsustainable over time as the population ages and workforce growth slows.* (United States Government Accountability Office, 2007)
>
> *Many of the long-term challenges highlighted in past updates, including health care cost growth and the aging population, have already begun to affect the federal budget—in some cases sooner than previously estimated—and the pressures only grow in the coming decades.* (United States Government Accountability Office, 2010)

Additionally, all targets that the GAO has previously set for the U.S. Federal government have all expired unattained (United States Government Accountability Office, 2007).

The IMF warns that in order to reduce the budget deficit the major contributor would have to come from revenues, as discretionary spending outside of defence are near historical lows and a significant reduction to mandatory spending programs would be difficult to achieve. The required policy change in order to begin closing the budget deficit would require an adjustment that is significantly larger than anything that has occurred since the end of WWII. If this adjustment was delayed a sizable debt build up would continue. (Celasun & Keim, 2010)

According to the U.S. GAO, (2004), "Over the longer term, declining personal savings, coupled with the overall aging of the population, presents significant challenges to meeting the commitments to Social Security, Medicare, Medicaid, and other national priorities"

Figure 14: Potential Fiscal Outcomes: Revenues and Composition of Spending



The most important consideration for Long-term fiscal spending is curbing health care costs, and there are no well-understood and easy solutions to this problem. The CBO frequently emphasises that serious reductions to costs could prove elusive and will require constant policy effort, experimentation, and immense political determination. A failure to reduce health care entitlements before significant effects are felt from the aging population, will make the required changes even more politically challenging. (Celasun & Keim, 2010)

Using forecasted estimates, Figure 14 articulates the potential relationship between government expenditure and revenue, showing a massive fiscal squeeze if no dramatic action is taken. The GAO states:

> *Assuming revenue remains constant at 20.2 percent of GDP—higher than the historical average—by 2030 there will be little room for "all other spending," which consists of what many think of as "government," including national defence, homeland security, investment in highways and mass transit and alternative energy sources.* (United States Government Accountability Office, 2010)

Represented in Table 7, delaying austerity action for 10 years would increase the fiscal gap to 11.0% of GDP. This would mean a revenue increase of about 61% is required, alternatively a noninterest spending cut of about 40%, or some combination of the two would be required to bring debt back to today's level by 2084.

Table 7: Federal Fiscal Gap under GAO's Assumptions 2010-2084

	Fiscal gap		Average percent change required to close gap If action is taken today		If action is delayed until 2020	
	Trillions of present value 2009 dollars	Percent of GDP	Solely through increases in revenue	Solely through decreases in noninterest spending	Solely through increases in revenue	Solely through decreases in noninterest spending
Baseline Extended	41.1	4.8	24.2	20.0	29.1	23.4
Alternative	76.4	9.0	50.5	34.2	60.7	40.2

Source: GAO.

Note: Data are from GAO's January 2010 analysis based on the Trustees' assumptions for Social Security and Medicare.

One thing is clear, the longer action is delayed in dealing with the medium to long-term fiscal outlook, the more disruptive and destabilising the eventual fiscal changes will be. (United States Government Accountability Office, 2010)

These fiscal changes eluded to by the GAO, can only come in the form of cutting government expenditure, equating to a default on public commitments. This ties back to the inflationary scenario as policy makers can choose not to directly default, but rather indirectly default through the populist inflation route. More money in the system, means there is more money to pay for current commitments at present value.

5.1.2 Fiscal Tightening

Increasing taxes or cutting government expenditure would likely spiral the United States economy back into recession. Please consider Figure 15, showing the percentage of domestic consumption contributing to overall national GDP. With consumption so high, general tax increases and expenditure cuts will wreak havoc on the consumption-dependent economy. (Faber, 2010)

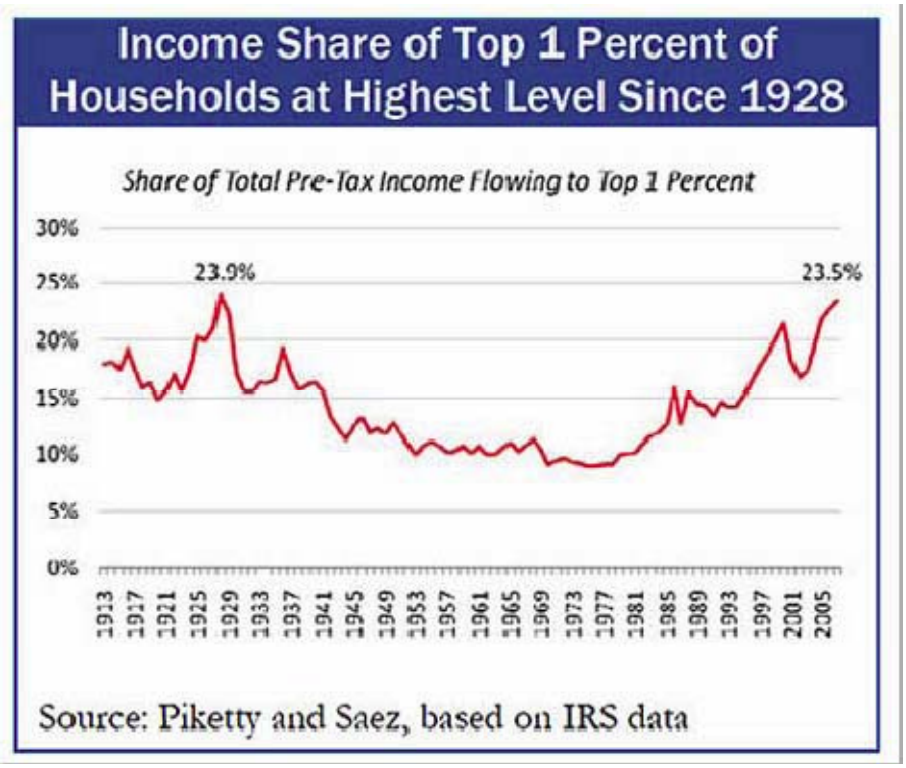
Figure 15: US Consumption - Share of GDP

Source: Gerard Minack, Morgan Stanley

Thomas Piketty and Emmanuel Saez, leading economists in the field of *Income Distribution*, recently released a report showing two-thirds of all U.S. income gains from 2002 to 2007 flowed to the top 1% of US households, giving the top 1% a larger share of income at the end of 2007 than at any time since 1928 (see Figure 16). During the period, the average inflation adjusted income of the top 1% of households soared by 62% compared to a gain of just 4% for the bottom 90% of households. (Feller & Stone, 2009)

According to Hobson, extreme wealth disparity leads to the paradoxical situation where those at the low end of the income scale would be glad to consume but are not able to do so, while those at the high end have the ability to consume but not the desire. (Faber, 2010)

Figure 16: U.S. Income Share of Top 1% of Households



Further increases in GDP through consumption will be unlikely, considering:

1) U.S. domestic consumption is the largest contributor to GPD at over 70%;
2) Consumption is currently at the highest level in recorded history; and
3) The wealth disparity picture has the wealthiest 1% holding the majority of wealth.

Additionally, general tax increases will greatly impact upon consumption and consequently the economy.

The U.S. administration could potentially look to increase taxes on the rich, and this may help slightly. However, evidence also suggests that the rich tend to move to lower tax jurisdictions when this happens. (Faber, 2010)

So, with government expenditures unlikely to be cut and with modest tax revenue increases, further massive fiscal deficits accompanied by additional debt monetisation of the government's debt will be the order of the day.

5.1.3 Aging Population

The aging population trend presents significant fiscal challenges for the U.S. government at the most economically inopportune time. The fiscal forces of an aging population are dramatic, as they place pressure on revenue and inflate expenditure.

The expenses are inflated through: health care, social security and pension entitlements, and other necessary services for the elderly. Revenue is pressured from the decreasing relative size of the overall labour force. Approximately, 3.3 people currently pay into Social Security for every person receiving benefits. By 2030, this ratio is projected to decline to 2.2; and by 2080 the ratio is expected to fall to 1.8. (United States Government Accountability Office, 2004)

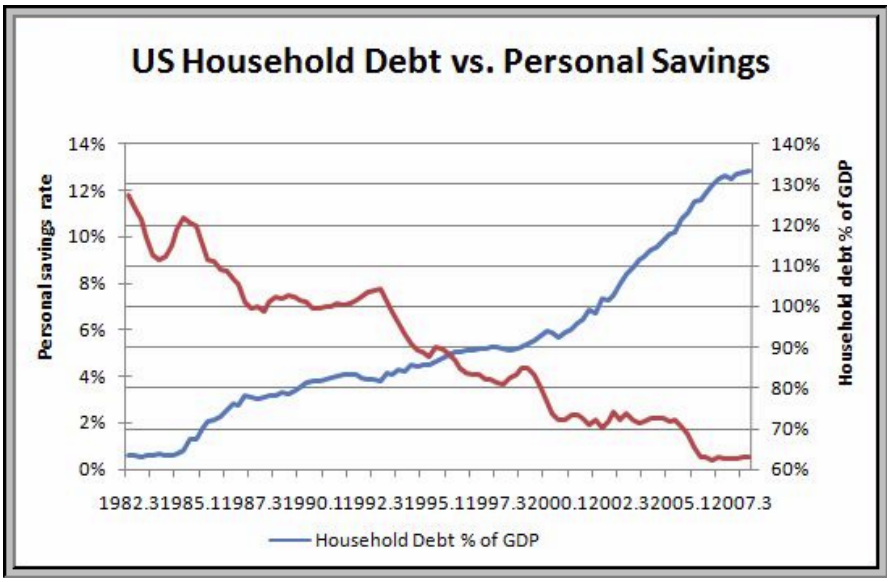
The United States Government Accountability Office, 2007 asserts:

> *The burgeoning federal deficit—especially in federal retirement programs such as Social Security and Medicare—and declining coverage of employer-provided pension plans suggest a shift in responsibility to individual workers for ensuring an adequate and secure retirement.*
>
> *Given current benefit and revenue streams, the federal retirement programs are unsustainable over the long run, and the federal government is going to have to make some hard choices in reforming them.*
>
> *The decline means that workers approaching retirement will have to make up the difference in income from another source, most likely from personal saving or extending work life.*

So, considering the US Federal government's fiscal position and the GAO's findings, there does not appear to be any certainties with government assistance for baby boomers entering retirement. Further, the GAO warns that workers approaching retirement should provision for their own retirement and may need to stay in the workforce for longer than the typical age of 62. (United States Government Accountability Office, 2007)

Figure 17, illustrates the run up in household debt depletion of savings of the U.S. public. The baby boomers have not been provisioning well for retirement.

Figure 17: Personal Saving Rate, 1982-2006



Source: (Faber, Gloom Boom & Doom Report, 2009)

5.1.4 Fed Balance Sheet

The Federal Reserve's balance sheet since the GFC has mushroomed. This represents continuing debt monetisation, with the Fed now the largest holder of U.S. Treasury debt. Dr Robert Eisenbeis, Former Vice President of the Federal Reserve Bank of Atlanta, has highlighted a problem where a 0.7% interest rate rise would wipe out the remaining $55 billion in the Federal Reserve's equity (see Table 8).

If the Fed was to further increase its Treasury bond holdings to what it is currently mandatorily permitted to, it would only require a 0.4% rate increase to wipe out the equity in its balance sheet. This may serve to paralyse the Fed in raising interest rates to combat inflation, as it simply cannot afford to. The significance of this problem has been addressed and argued by U.S. congressmen, Mark Kirk.

Table 8: Federal Reserve Balance Sheet

10. Consolidated Statement of Condition of All Federal Reserve Banks

Millions of dollars

Assets, liabilities, and capital	Eliminations from consolidation	Wednesday May 26, 2010	Change since Wednesday May 19, 2010	Change since Wednesday May 27, 2009
Assets				
Gold certificate account		11,037	0	0
Special drawing rights certificate account		5,200	0	+ 3,000
Coin		2,014	- 28	+ 224
Securities, repurchase agreements, term auction credit, and other loans		2,132,101	- 7,657	+ 528,542
Securities held outright[1]		2,057,164	- 6,732	+ 949,717
U.S. Treasury securities		776,877	+ 43	+ 176,735
Bills[2]		18,423	0	0
Notes and bonds, nominal[2]		712,023	0	+ 178,001
Notes and bonds, inflation-indexed[2]		41,125	0	- 1,678
Inflation compensation[3]		5,306	+ 43	+ 412
Federal agency debt securities[2]		167,377	- 200	+ 87,624
Mortgage-backed securities[4]		1,112,910	- 6,575	+ 685,358
Repurchase agreements[5]		0	0	0
Term auction credit		0	0	- 372,540
Other loans		74,937	- 924	- 48,635
Net portfolio holdings of Commercial Paper Funding Facility LLC[6]		2	0	- 149,387
Net portfolio holdings of Maiden Lane LLC[7]		28,329	+ 21	+ 2,612
Net portfolio holdings of Maiden Lane II LLC[8]		15,910	+ 63	- 342
Net portfolio holdings of Maiden Lane III LLC[9]		23,380	+ 8	+ 3,001
Net portfolio holdings of TALF LLC[10]		478	+ 39	+ 478
Preferred interests in AIA Aurora LLC and ALICO Holdings LLC[11]		25,416	0	+ 25,416
Items in process of collection	(40)	274	+ 45	- 985
Bank premises		2,236	- 2	+ 38
Central bank liquidity swaps[12]		1,242	- 7,963	- 180,405
Other assets[13]		89,889	- 1,382	+ 23,656
Total assets	(40)	2,337,507	- 16,857	+ 255,848

Assets, liabilities, and capital	Eliminations from consolidation	Wednesday May 26, 2010	Change since Wednesday May 19, 2010	Change since Wednesday May 27, 2009
Liabilities				
Federal Reserve notes, net of F.R. Bank holdings		899,782	+ 2,214	+ 29,765
Reverse repurchase agreements[14]		58,158	+ 2,394	- 7,721
Deposits	(0)	1,306,800	- 20,911	+ 216,362
Depository institutions		1,088,403	- 7,336	+ 211,392
U.S. Treasury, general account		16,728	- 13,485	+ 5,680
U.S. Treasury, supplementary financing account		199,957	- 2	+ 25
Foreign official		1,349	- 129	- 783
Other	(0)	362	+ 40	+ 47
Deferred availability cash items	(40)	2,092	- 267	- 2,028
Other liabilities and accrued dividends[15]		15,627	- 314	+ 9,344
Total liabilities	(40)	2,282,459	- 16,883	+ 245,722
Capital accounts				
Capital paid in		26,416	- 7	+ 2,389
Surplus		25,668	+ 32	+ 6,494
Other capital accounts		2,963	- 1	+ 1,242
Total capital		55,048	+ 26	+ 10,126

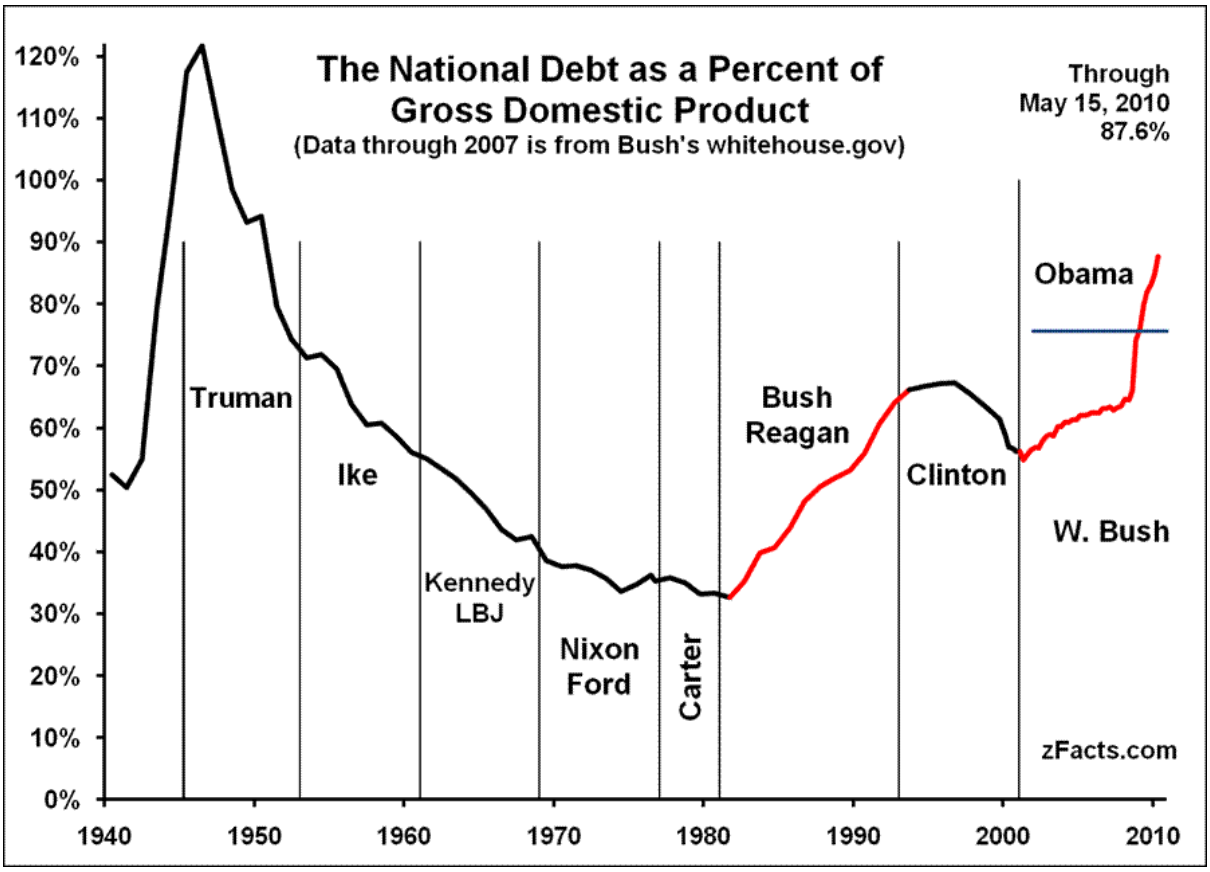
Note: Components may not sum to totals because of rounding.

Source: (The Federal Reserve Banks, 2009)

5.2 GOVERNMENT DEBT

The U.S. gross federal debt in May surpassed $US13 trillion (87.6% of GDP), with the IMF expecting gross debt to reach 100% of GDP in 2012. (Reynolds & Goodman, 2010) The trajectory of the increase is displayed in Figure 18.

Figure 18: The National Debt as a Percent of GDP

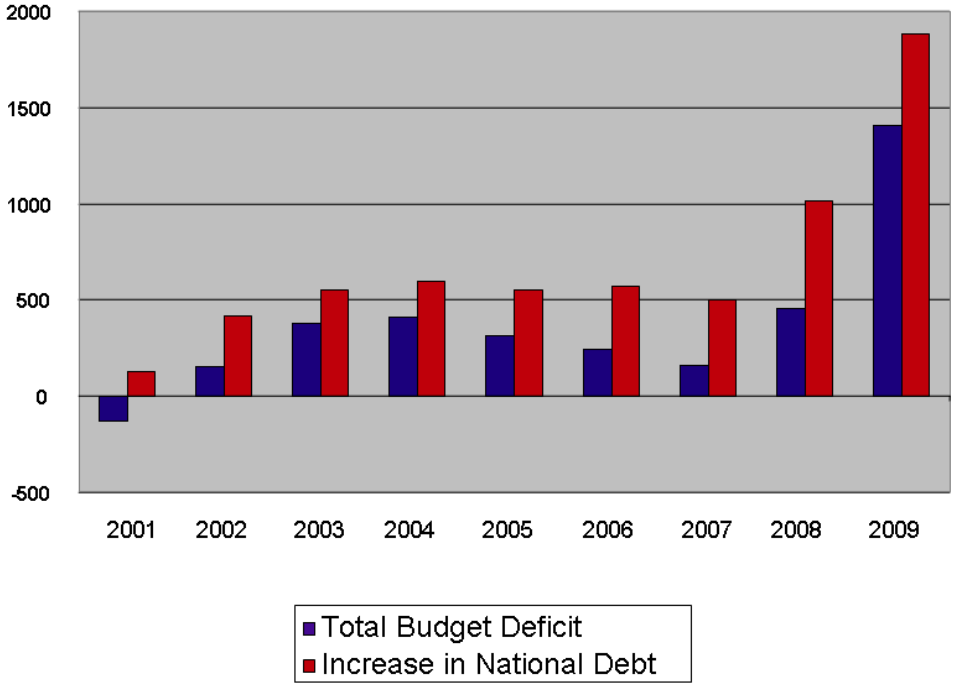


Source: zFacts.com

Federal budget deficits, as described in sections above, are either monetised or they are converted into publicly held debt. However, Figure 19 indicates that the change in annual federal debt in the U.S. is generally much larger than the federal budget deficit.

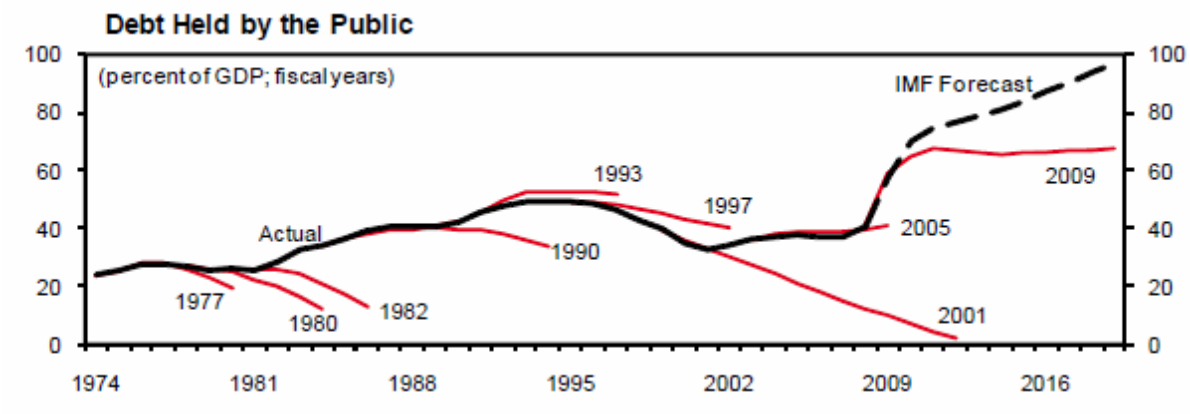
Items that have not been budgeted for are responsible for this. Major *off-budget items* include wars on the expense side and a social security funding surpluses on the revenue side. That is correct wars are not budgeted for, and as indicated in Figure 19 account for the majority of the additional increase in debt over the deficit financing.

Figure 19: Trade Deficits vs Federal Debt Increases ($ Billions)



Source: (Executive Office of the Presendent of the United State, 2009)

Figure 20: U.S. Debt Held by the Public



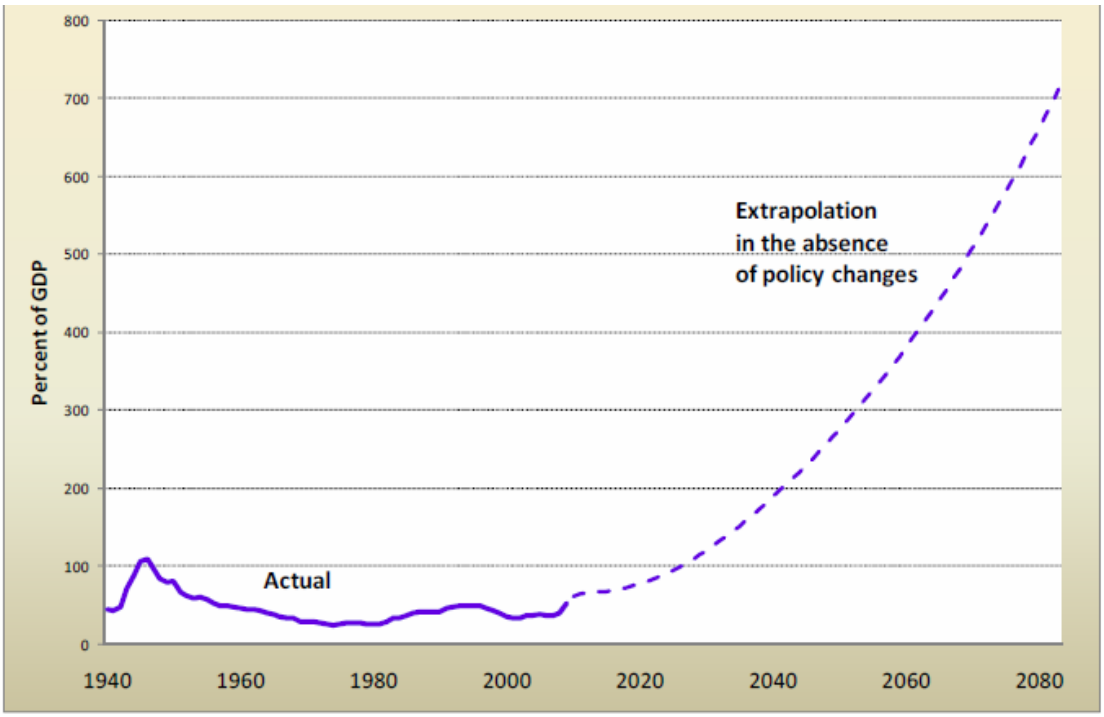
Source: (Celasun & Keim, 2010)

The IMF staff display the OMB's optimistic forecasting with publicly held U.S. debt in Figure 20. 1993 and 1997 are the two occasions since 1977 where their forecasts proved to be pessimistic. Note, this is debt held by the public and not gross debt.

The IMF's economic projections indicate publicly held debt will reach 105% of GDP by 2020. This projection results from revenues forecasted to be slightly lower than projected by the OMB and expenditure significantly higher, reflecting the higher costs of debt servicing. (Celasun & Keim, 2010)

By utilising statistical modelling the IMF has placed an 80% probability that debt in the U.S. will be higher than this Administrations projection of 77% of GDP. They further, give a 20% probability that debt will exceed their projection of 105% of GDP by 2020. (Celasun & Keim, 2010)

Figure 21: U.S. Government Debt Held by the Public

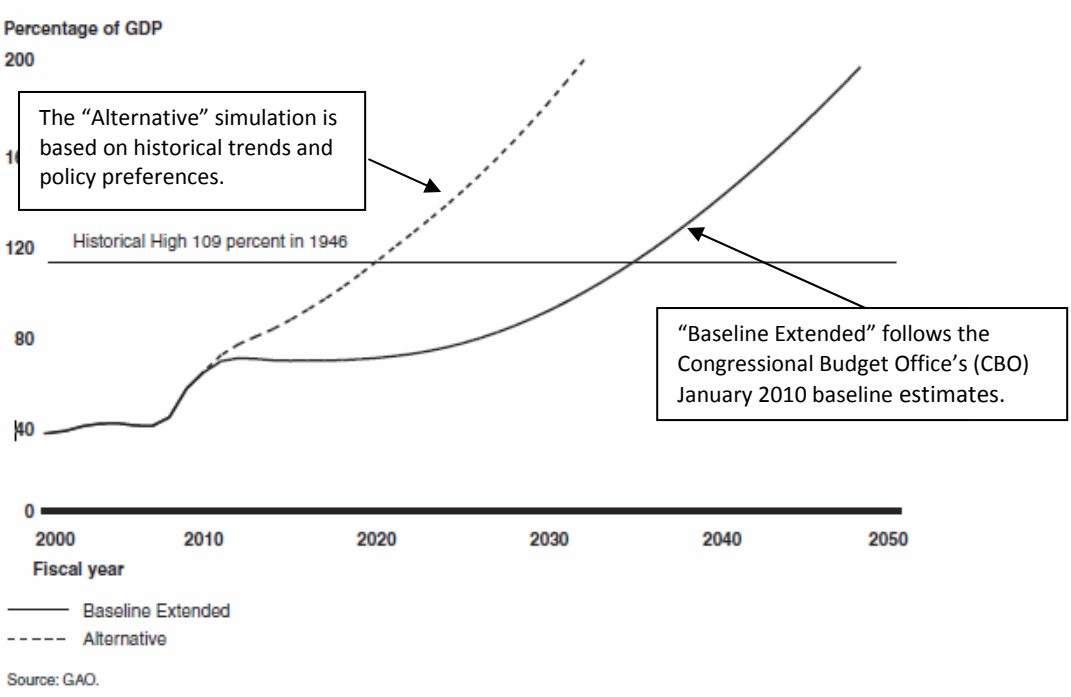


Source: (United States Government Accountability Office, 2009)

The GAO states, "absent policy changes the federal government faces an unsustainable growth in debt".

Figure 21 and Figure 22, display the GAO's view on the trajectory of U.S. public debt. Figure 22, shows a comparison of the GAO's model compared with the CBO's.

Figure 22: Debt Held by the Public under Two Policy Simulations



Source: (United States Government Accountability Office, 2009)

Faber, 2009, states:

> *An ever increasing quantity of government debt will have to be issued just to pay the interest on the existing government debt... within the next five years the US government will essentially be running a Ponzi scheme, which inevitably leads to a further depreciation of a currency's purchasing power and will eventually lead to a complete collapse of the system.*

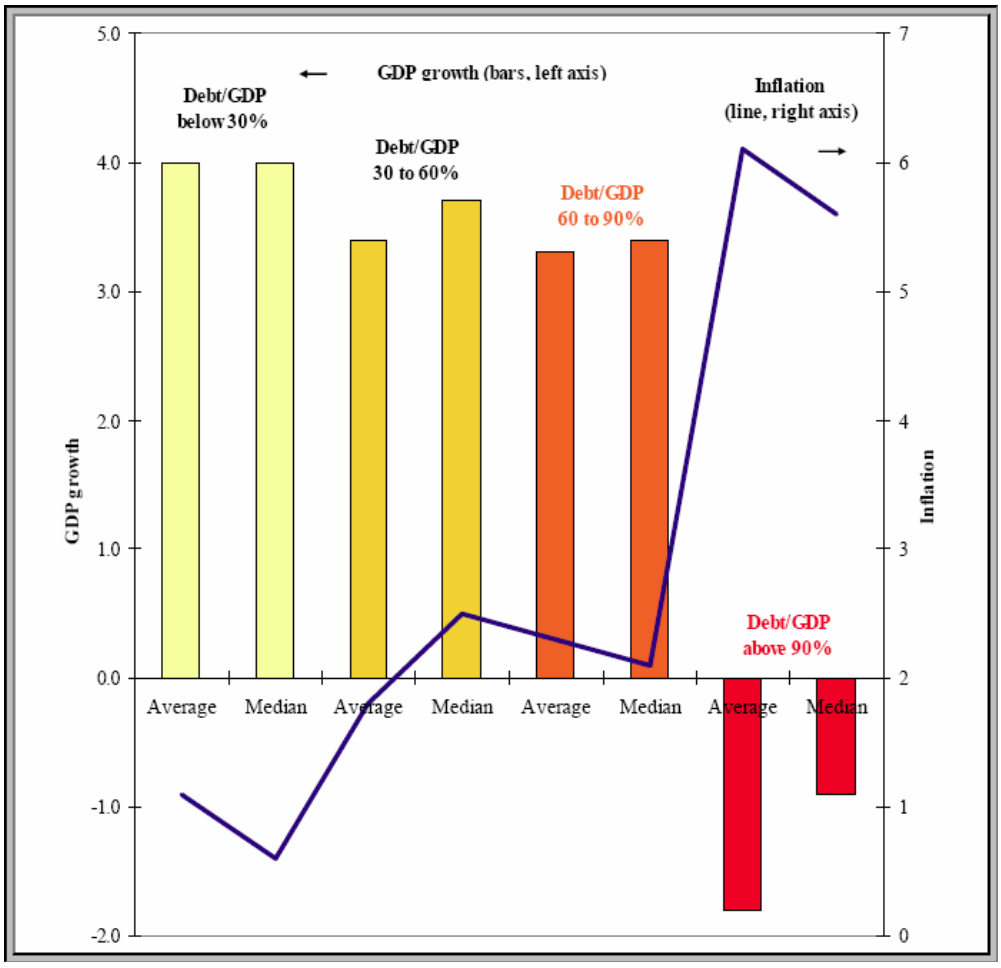
In a later report, Faber goes on to assert, that applying the U.S. Generally Accepted Accounting Principles (GAAP) to the U.S. government's financial position shows a starker debt picture. The U.S. government debt under GAAP is approximately 600%, dwarfing the 87.6% of gross Treasury debt. (Faber, 2010)

Reinhart & Rogoff, 2009 display in Figure 23, that when government debt increases, GDP growth slows and inflation accelerates.

Reinhart & Rogoff, 2009 state:

> *We examine the experience of forty four countries spanning up to two centuries of data on central government debt, inflation and growth. Our main finding is that across both advanced countries and emerging markets, high debt/GDP levels (90 percent and above) are associated with notably lower growth outcomes...Seldom do countries simply 'grow' their way out of deep debt burdens…*

Figure 23: U.S. Government Debt, Growth, and Inflation, 1790-2009



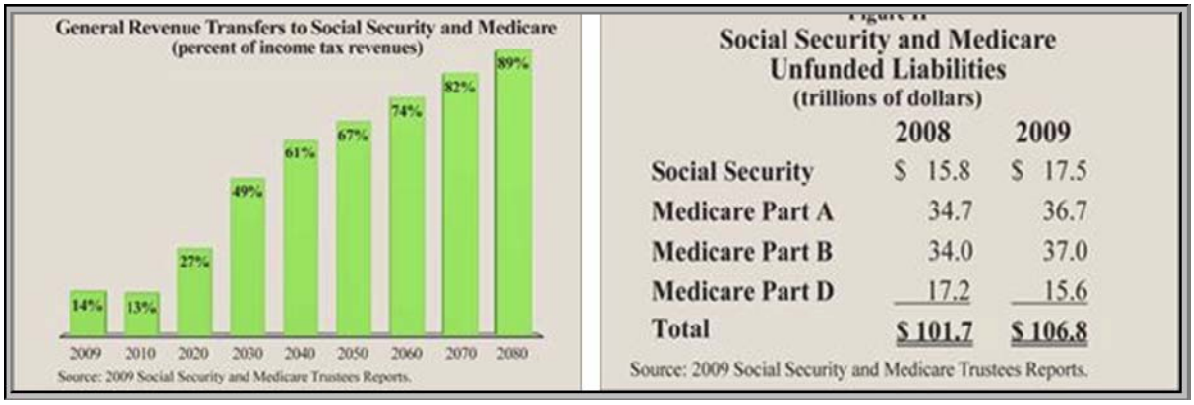
Source: (Reinhart & Rogoff, 2009)

5.2.1 Unfunded Liabilities

If one was to consider future legislated mandatory commitments by the U.S. government to payments for health care and social security programs a liability, then the U.S. government debt picture deteriorates further.

James Quinn, who has identified himself as a senior director of strategic planning at a major U.S. university recently wrote a report on the so called *unfunded liabilities* in the U.S. Using forecasts from the GAO he brought the commitments to 2080 back to present day value. Figure 24, shows the unfunded liabilities to be $106.8 trillion in 2009.

Figure 24: U.S. Unfunded Liabilities



Social Security and Medicare Unfunded Liabilities
(trillions of dollars)

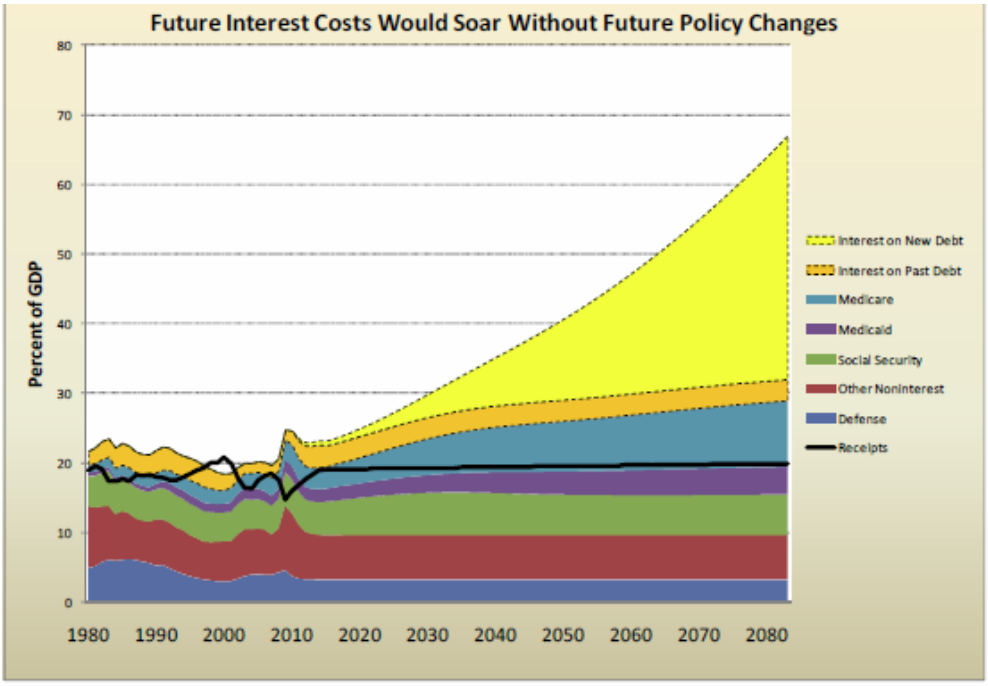
	2008	2009
Social Security	$ 15.8	$ 17.5
Medicare Part A	34.7	36.7
Medicare Part B	34.0	37.0
Medicare Part D	17.2	15.6
Total	$ 101.7	$ 106.8

Source: 2009 Social Security and Medicare Trustees Reports.

Source: 2009 Social Security and Medicare Trustees Reports, James Quinn.

Unfunded liabilities are being discussed because they have received a significant amount of media attention. In my view, they are not a liability as legislation can be changed and the government does not pay interest on these future commitments. Rather, they are a budget item and as Figure 25 displays, they contributed to the vast majority of budget outlays.

Figure 25: Budget forecasted receipts & Outlays



Source: (United States Government Accountability Office, 2009)

5.2.2 Off Balance Sheet Liabilities

In 2008, the two largest mortgage providers in the U.S., Fannie Mae and Freddie Mac, were placed into conservatorship. These companies were two of twelve Government Sponsored Enterprises (GSEs), to eventually be placed into conservatorship. Conservatorship is similar to Nationalisation in that the government takes control of the company, however implies a more temporary nature to the takeover.

Fannie Mae and Freddie Mac own or guarantee 53% of the country's $US10.7 trillion in residential mortgages, equating to approximately $US5.7 trillion, according to a June 10 Federal Reserve report (Woellert, 2010). According to Barr, (2008), at the time of conservatorship Fannie Mae and Freddie Mac owned or guaranteed just over $US5 trillion in home loans. Fannie and Freddie have also sold $US1.4 trillion in mortgage-backed securities to the Fed during September 2008 (Woellert, 2010). This indicates $US2.1 trillion of mortgages have been originated since September 2008 to present.

Furthermore, in 2009, the two companies bought or guaranteed three quarters of all U.S. home loans. The U.S. government has become the largest mortgage lender in the country and exposed to an impairment in mortgage assets (Shenn, 2009). This continuous mortgage issuance and re-finance, that in some cases is for an amount greater than the value of the houses (Woellert, 2010), exposes the U.S. government to a further escalating debt burden, and ultimately interest rate risk on its own debt.

To date, the U.S. government has pumped $US145 billion into the two companies to keep them afloat. In August 2009, the CBO[2] calculated that $US389 billion would be required in support until 2019.

Barclays Capital Inc. analyst placed the cost to the government as high as $US500 billion, with Egan saying "One trillion dollars is a reasonable worst-case scenario for the companies". Egan's firm has a strong reputation for warning clients of impending financial crises (Woellert, 2010). Edward Pinto a former chief credit officer at Fannie Mae said "It is the mother of all bailouts".

Phyllis Caldwell, chief of the Treasury's Homeownership Preservation Office, states the cost of supporting Fannie Mae and Freddie Mac "needs to be evaluated against the cost of not having a mortgage market". Meaning, if they are not supported by the government there will not be a mortgage market in the U.S.

Before conservatorship, Fannie Mae and Freddie Mac relied heavily on their ability to borrow money at low rates of interest. Now consequently, they rely on the ability of the U.S. government to borrow at low rates of interest.

5.2 3 Foreign Ownership

Since the introduction of the Bretton Woods agreement in 1944, the $US has been considered the global reserve currency (Pento, 2010). As a great deal of foreign trade is conducted in $US, exporting economies have accumulated large $US investments or reserves. These investments have predominantly been made into U.S. Treasury debt securities, as they have been considered the safest asset.

[2] Congressional Budget Office

Demand may be adversely affected for U.S. debt with a devaluation of: 1) U.S. Treasury debt securities; or 2) the $US. The Bank of International Settlements stated, "'Foreign investors in U.S. dollar assets have seen big losses measured in dollars, and still bigger ones measured in their own currency... a sudden rush for the exits cannot be ruled out completely." (Thompson Financial News, 2008)

In September 2009, China, India and Russia said they were interested in buying IMF gold to diversify their dollar-denominated securities. On 3 November 2009 India purchased 200 tonnes from the IMF, being approximately 50% of the 403 tonnes the IMF had for sale. (Gupta & Lesley, 2009) China has been selling down its U.S. Treasury securities since October 2009 from $US938.3 billion to $US895.2 billion in March 2010. (U.S. Treasury, 2010)

Consider the following news article quotes:

The Crash of 2013 - The Daily Caller

> *"The Chinese have been big buyers of Treasuries but are no longer running surpluses," said Societe Generale economist Aneta Markowska. "They just don't have the marginal dollars to recycle back into the Treasury market." If China slows or stops buying, it is hard to visualise what the U.S. Treasury could do to promote bond sales that are so essential to pay the interest on the growing national debt.* (Nagle, 2010)

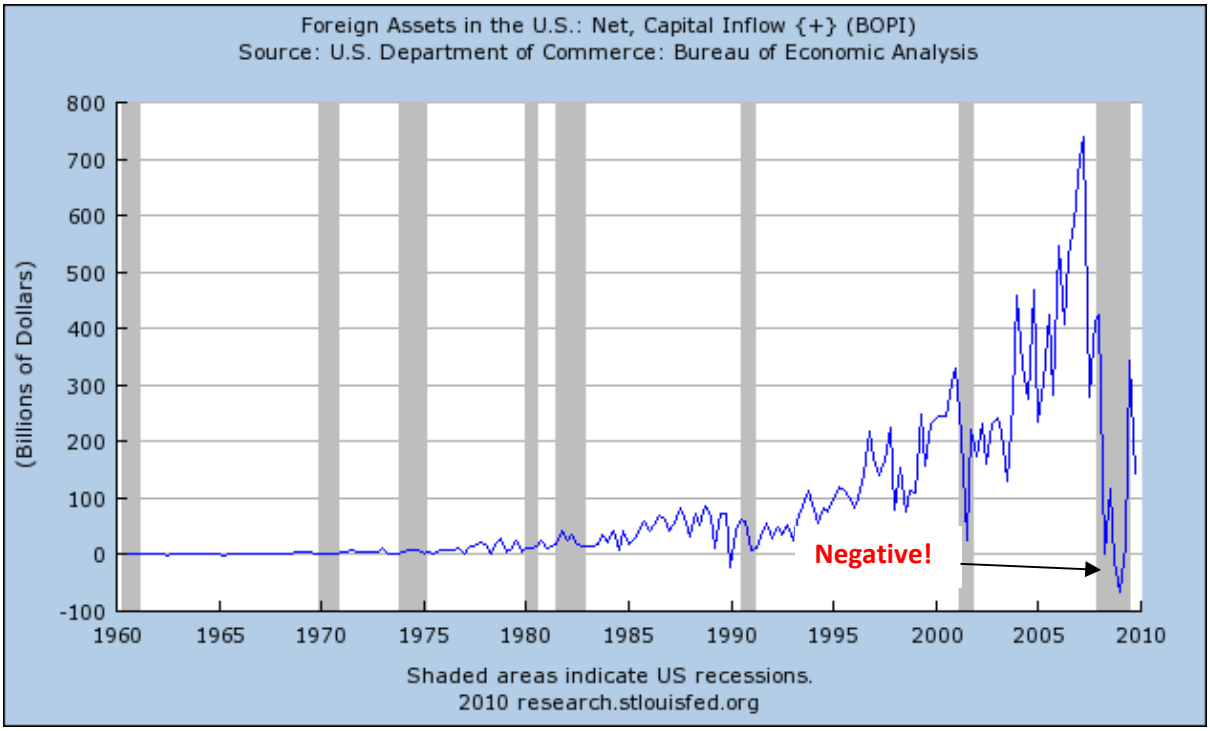
Foreigners cut Treasury stakes; rates could rise - AP Business

> *The Treasury Department said foreign holdings of U.S. Treasury bills fell by a record $53 billion in December 2009. That topped the previous record drop of $44.5 billion in April 2009.*
>
> *The Treasury report showed that China reduced its holdings of Treasury securities by $34.2 billion in December 2009.*
>
> *"The Chinese are worried that we have unsustainable debt levels, and we do not have a policy for dealing with it," Meltzer said.*
>
> *He said the Chinese worry that confidence in the US government's ability to repay its debt could erode. That would cause the value of Treasuries and the dollar to fall - and lead to losses on Beijing's US debt holdings.* (Crutsinger & Condon, 2010)

Foreign investors holding this U.S. debt also hold the currency risk associated with holding $US denominated assets. As the U.S. Treasury debt is so large, a drying up in demand for this asset class will adversely affect the $US. This potentially leads to a vicious cycle that feeds on itself.

If the $US was to fall, foreign investors in U.S. Treasuries lose value in their investment. Should the $US continue to fall and the value of foreign assets continue to decline, then demand from foreigners will likely diminish or even reverse, as these investors are holding assets that continue to decline in value. The lack of demand for U.S. Treasury debt and other U.S. assets results in less demand for $US, plus requires the Fed to print more money to finance the budget deficit. If this process builds momentum and begins feeding on itself, the result is the dangerous downward spiral that eventually equates in an all out collapse in the currency.

Figure 26: Foreign Assets in the U.S. : Net Capital Inflow



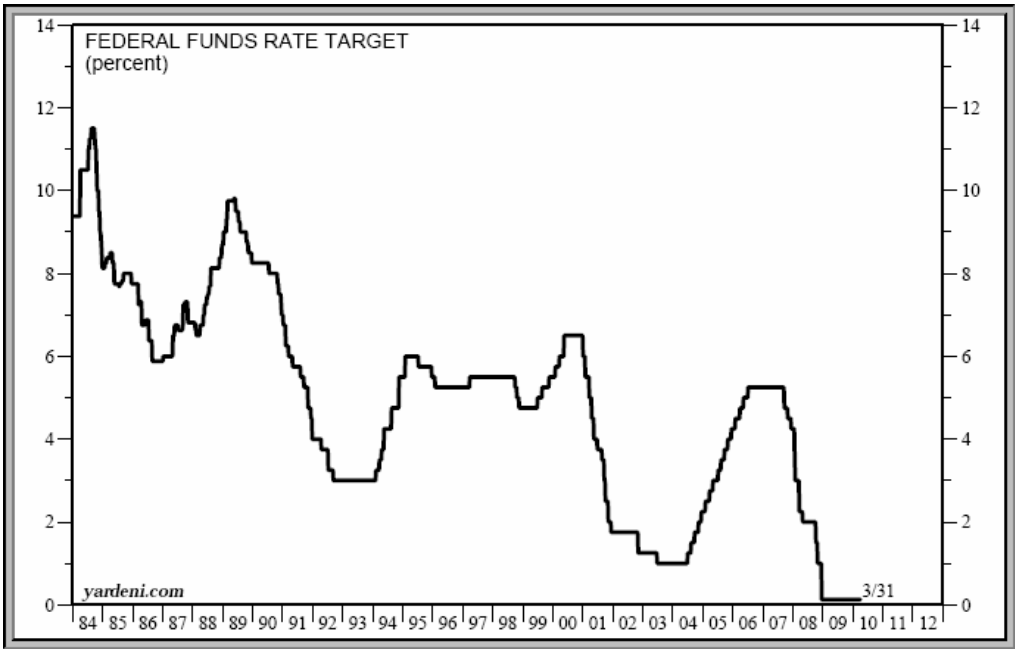
As seen in Figure 26, although having recently rebounded, there has been a significant and rapid fall in demand for U.S. assets. There have been record drops in foreign held U.S. Treasury securities, with China selling down its holdings since October 2009. (U.S. Department of the Treasury, 2010)

This comes at a time when record levels of U.S. Treasury debt are being issued. This trend is dangerous and will only bring further debt monetising.

5.3 INTEREST RATES

5.3.1 Overview

Figure 27: U.S. Federal Funds Rate, 1984- 2010



Source: Yardeni.com

If the United States was an emerging market, since the GFC began, its exchange rate would have plummeted, interest rates soared and access to capital markets would have been suddenly lost. However, during 2007, the first year of the crisis, exactly the opposite happened. The U.S. dollar appreciated and interest rates fell as global investors viewed the U.S. as having less relative risk than other countries. Due to this *safe haven* perception global investors turned to U.S. Treasury securities, buying them with an unquenchable thirst. "But buyer beware! Over the long run, the U.S. exchange rate and interest rates could well revert to form, especially if policies are not made to re-establish a firm base for long-term fiscal sustainability." (Reinhart & Rogoff, 2009)

As illustrated in above sections, **the problem is the United States: government; public; banks; corporations; and central bank cannot afford higher interest rates.**

The U.S. *federal funds rate* was set at between 0.00% and 0.25%, despite this interest rate being negative in real terms (inflation adjusted), this alone was not and still is not enough to pick up the economy and provide the required liquidity to the financial markets.

5.3.2 Ratings Agencies

Moody's, the ratings agency states it will downgrade US debt when interest costs reach 18% of revenue (tax receipts). (Nagle, 2010)

This presents an interesting situation where, if inflation picked up and the Federal Reserve wanted to fight the inflation by raising interest rates, it could potentially result in U.S. government interest costs reaching 18% of revenue and therefore having its debt downgraded. This would have the effect of interest rates rising and the $US falling, as investors become concerned about Treasury debt.

The United States government are clearly not happy with the level of power the rating agencies have. Consider the follow headlines:

- 04/02/2010 - US credit rating at risk, Moody's warns (Telegraph)
- 15/03/2010 - Moody's Says US Debt could test triple-A rating (The New York Times)
- 13/05/2010 - Rating agencies face new US regulation (BBC)
- 13/05/2010 - US Senate votes to boost credit agency regulation (Reuters)
- 17/05/2010 - Credit-Rating Companies may be endangered species (Bloomberg)
- 17/05/2010 - The crash of 2013 (The Daily Caller)

There is an evident war going on between the U.S. government and the rating agencies. Consider the following news clippings:

US credit rating at risk, Moody's warns - Telegraph

> *Moody's says "Economic growth is very important to our assessment (of the sovereign rating), " Steven Hess, Moody's senior credit officer in its sovereign risk division, told Reuters.*
>
> *"The implications would not be good if the US were in for anaemic growth for some time to come because the government could have problems for revenue growth. " Mr Hess said.*
>
> *"We think that either economic growth has to be much more vigorous than the administration is assuming so that revenues would be higher or they need to do something further to increase revenues or cut expenditures," Mr Hess Continued.*

Moody's says U.S. debt could test Triple-A rating

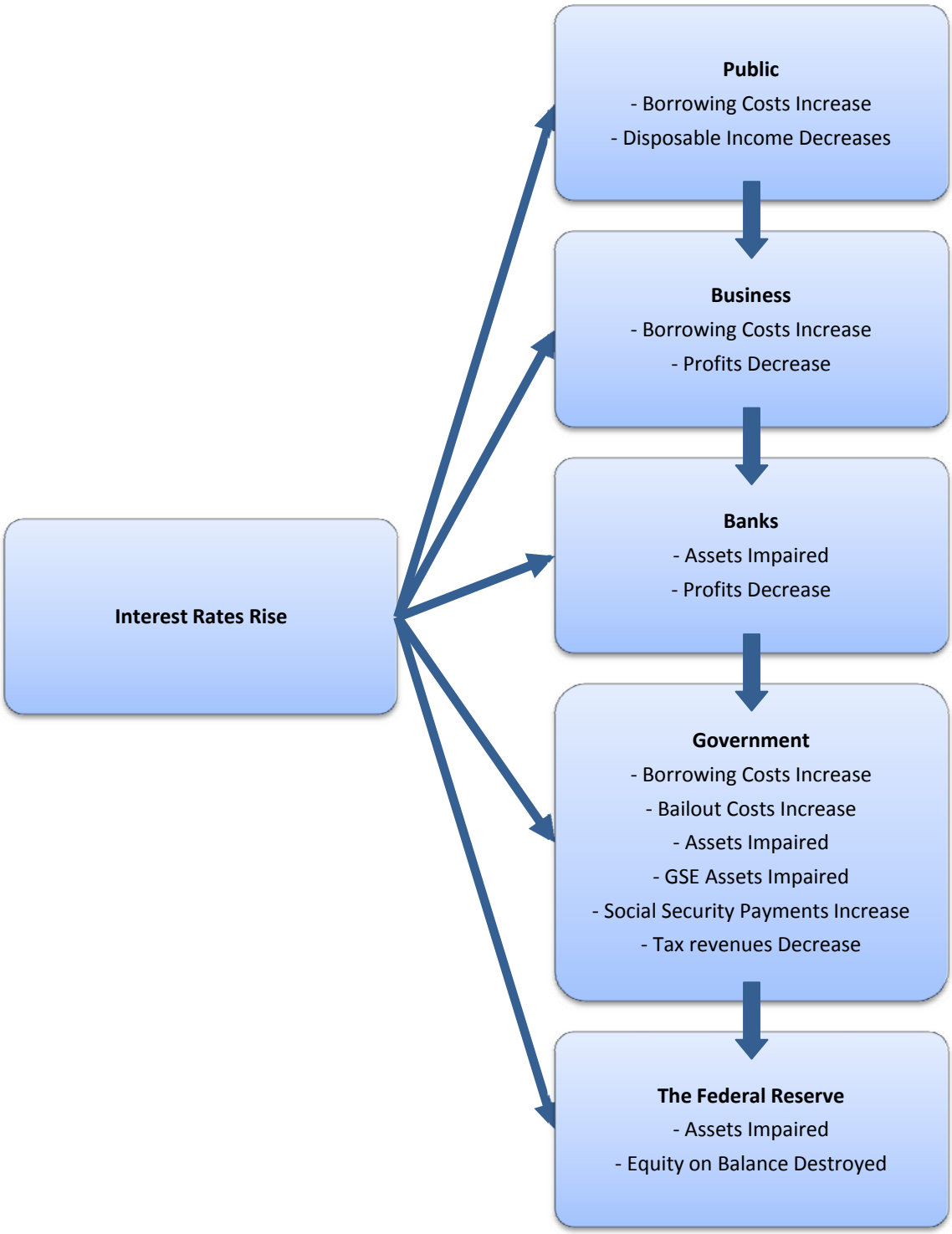
> *"Growth alone will not resolve an increasingly complicated debt equation.' Moody's said. "Preserving debt affordability" - the ratio interest payments to government revenue - "at levels consistent with Aaa ratings will invariably require fiscal adjustments of a magnitude that, in some cases, will test social cohesion."*
>
> *The administration of President Obama estimates that the United States deficit will rise to 10.6 percent of GDP in the current fiscal year, the highest since 1946.*

The crash of 2013 - The Daily Caller

> *Moody's managing director Pierre Cailleteau said 18% is the outer limit of AAA rating.*
>
> *Considering these less than optimum conditions, Moody's now estimates the debt service will hit 22.4% of revenue in 2013, signally the US debt rating might fall in the next three years.*

The bottom line is this, if the ratings agencies are still in existence, they will downgrade United States government debt once the U.S. interest expense reaches 18% of government revenues.

5.3.3 Rising Effect



An increase in interest rates has a direct effect on the entire economy, plus has a follow through indirect effect. The U.S. government is now particularly vulnerable considering:

1) Its historically high debt levels;
2) Its historically high budget deficit;
3) Its multi $US trillion holdings in GSEs and other converted private sector assets;
4) The fiscal challenges of the aging population and a potential shrinking of the workforce; and
5) Potential downgrade in government debt.

With the Moody's debt downgrade at 18% of government receipts in focus, we conducted a simple interest rate stress test on the budget. Table 9, displays the outlays section of the U.S. federal budget with the interest expense forecasted.

It is worth noting that in Table 9, the interest rate is forecasted by the federal government to remain below 5% for the next ten years. That is only 3% above what they are paying now with the target rate at 0%-0.25%. They obviously expect interest rates to remain low for a long time.

Table 9: U.S. Budget - Interest Expense

Table S–3. Baseline Projection of Current Policy by Category [1]
(In billions of dollars)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Totals 2011–2015	Totals 2011–2020
Outlays:														
Appropriated ("discretionary") programs:														
Security	782	844	846	850	863	882	903	921	944	968	993	1,019	4,344	9,187
Non-security	437	553	530	490	480	484	493	504	516	528	541	554	2,477	5,120
Subtotal, appropriated programs	1,219	1,397	1,376	1,340	1,343	1,367	1,396	1,425	1,460	1,496	1,534	1,573	6,821	14,307
Mandatory programs:														
Social Security	678	703	730	762	801	846	894	947	1,004	1,067	1,133	1,204	4,033	9,388
Medicare	425	451	492	502	557	625	654	727	760	795	886	957	2,830	6,955
Medicaid	251	275	271	274	293	313	337	363	390	420	453	488	1,488	3,602
Troubled Asset Relief Program (TARP)[2]	151	–73	11	10	7	6	3	1	*	*	.....	.....	37	39
Other mandatory programs	607	701	596	532	532	526	525	542	543	542	588	606	2,710	5,532
Subtotal, mandatory programs	2,112	2,057	2,100	2,079	2,191	2,316	2,413	2,579	2,698	2,823	3,060	3,256	11,098	25,515
Net interest	187	188	250	340	434	516	586	652	716	779	844	912	2,126	6,029
Disaster costs[3]	.....	1	3	4	4	4	5	5	5	5	5	5	21	46
Total outlays	3,518	3,643	3,728	3,762	3,973	4,203	4,400	4,661	4,879	5,103	5,443	5,746	20,066	45,897

Source: Office of Management and Budget, 2010

Table 10: Interest Stress Test

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Receipts	2,105	2,165	2,567	2,926	3,188	3,455	3,634	3,887	4,094	4,299	4,507	4,710
Debt held by public	7,545	9,298	10,498	11,472	12,326	13,139	13,988	14,833	15,686	16,535	17,502	18,573
Net Interest	187	188	250	340	434	516	586	652	716	779	844	912
Interest Rate	**2.48%**	**2.02%**	**2.38%**	**2.96%**	**3.52%**	**3.93%**	**4.19%**	**4.40%**	**4.56%**	**4.71%**	**4.82%**	**4.91%**
%of Receipts	8.88%	8.68%	9.74%	11.62%	13.61%	14.93%	16.13%	16.77%	17.49%	18.12%	18.73%	19.36%
STRESS TEST												
3.00%	226	280	319	350	376	399	421	441	460	478	498	520
%of Receipts	**10.97%**	**13.20%**	**12.68%**	**11.97%**	**11.80%**	**11.54%**	**11.58%**	**11.35%**	**11.24%**	**11.12%**	**11.05%**	**11.04%**
3.50%	264	328	375	413	446	475	503	530	555	579	606	635
%of Receipts	**12.93%**	**15.62%**	**15.06%**	**14.27%**	**13.99%**	**13.74%**	**13.84%**	**13.63%**	**13.57%**	**13.48%**	**13.45%**	**13.49%**
4.00%	302	377	432	478	518	554	589	623	656	688	723	761
%of Receipts	**14.93%**	**18.12%**	**17.53%**	**16.68%**	**16.41%**	**16.03%**	**16.22%**	**16.03%**	**16.03%**	**16.00%**	**16.04%**	**16.15%**
4.50%	340	425	490	545	592	636	680	722	763	804	848	897
%of Receipts	**16.98%**	**20.68%**	**20.09%**	**19.19%**	**18.96%**	**18.59%**	**18.89%**	**18.57%**	**18.64%**	**18.69%**	**18.82%**	**19.04%**
5.00%	377	474	549	612	669	721	774	825	877	927	983	1,043
%of Receipts	**19.07%**	**23.31%**	**22.74%**	**21.80%**	**21.62%**	**21.30%**	**21.73%**	**21.45%**	**21.63%**	**21.57%**	**21.81%**	**22.15%**
5.50%	415	524	608	682	747	809	872	934	997	1,059	1,128	1,202
%of Receipts	**21.20%**	**26.02%**	**25.48%**	**24.52%**	**24.42%**	**24.15%**	**24.74%**	**24.53%**	**24.85%**	**24.88%**	**25.27%**	**25.78%**
6.00%	453	574	669	753	829	901	975	1,049	1,124	1,200	1,283	1,373
%of Receipts	**23.38%**	**28.81%**	**28.33%**	**27.36%**	**27.36%**	**27.16%**	**27.95%**	**27.82%**	**28.31%**	**28.47%**	**29.04%**	**29.75%**
6.50%	490	624	730	825	912	996	1,082	1,169	1,259	1,349	1,449	1,558
%of Receipts	**25.60%**	**31.68%**	**31.27%**	**30.32%**	**30.43%**	**30.34%**	**31.35%**	**31.34%**	**32.02%**	**32.35%**	**33.14%**	**34.10%**
7.00%	528	675	793	899	998	1,094	1,194	1,296	1,401	1,508	1,627	1,757
%of Receipts	**27.88%**	**34.63%**	**34.32%**	**33.40%**	**33.66%**	**33.69%**	**34.96%**	**35.09%**	**36.01%**	**36.54%**	**37.60%**	**38.85%**

Source: TRAC Financial Group

18% = Debt Downgrade

= Interest Rate level debt downgrade occurs

Table 10, assumes a 2% reduction in receipts for every 1% interest rate increase over the budgeted interest rate. Considering, the extreme leverage of the entire economy, we believe this to be very modest. The real effect on receipts may well be a multiple of this. Additionally, the stress test includes a flow through of debt at the same interest rate from the prior years.

Using the U.S. administrations historically proven overly optimistic budget figures, the stress test clearly displays that the government has little room to manoeuvre with interest rates, without being downgraded by the rating agencies. With the IMF allocating an 80% chance that the administrations figures are overly optimistic, that presents a situation where interest rates in the US simply have to remain low to avoid a crisis erupting at any sign of poor demand for Treasury debt.

This means the Fed must continue to buy Treasury debt to keep interest rates low, and at any sign of demand drying up for U.S. debt they must buy more. This is where the debt monetisation and inflation pictures gets completely out of control.

There is no choice but for the Federal Reserve to continue to finance the budget deficit and monetise debt. The Fed is paralysed in their ability to fight any outbreak of inflation. Their only choice, which they don't seem too unhappy about, is to continue to inflate their way out of the debt problem.

In their *open market operations* the Fed normally only manipulates the short-dated Treasury securities. There are now signs they are taking control over the whole yield curve. Meaning they are

manipulating short, medium and long-term interest rates. The pegging or manipulation of interest rates like this, is an inflationary policy with an inevitable enduring legacy.

Marc Faber states:

> *The chances of the US government implementing tight monetary policies in the next few years are exactly **zero.***
>
> *Once a government embarks on highly expansionary fiscal policies which entail government expenditures vastly exceeding revenues (leading to enormous budget deficits and soaring government debt) and simultaneous monetisation ("printing money"), the reversal of these inflationary policies becomes for all practical purposes impossible. Inflation and higher interest rates follow.*
>
> *Any upward pressure on interest rates brought about by the market participants will actually force a central bank that embarked on monetisation to monetise even more.* (Faber, 2010)

5.4 T POPULIST WAY OUT

Let me emphasise at this juncture that the decision to inflate or deflate is a political one. Let's consider Ben Bernanke's words again:

> *The conclusion that deflation is always reversible under a fiat money system follows from basic economic reasoning...U.S. dollars have value only to the extent that they are strictly limited in supply. But the U.S. government has a technology, called a printing press (or, today, its electronic equivalent), that allows it to produce as many U.S. dollars as it wishes at essentially no cost. By increasing the number of U.S. dollars in circulation, or even by credibly threatening to do so, the U.S. government can also reduce the value of a dollar in terms of goods and services, which is equivalent to raising the prices in dollars of those goods and services. We conclude that, under a paper-money system, a determined government can always generate higher spending and hence positive inflation.* (Bernanke B. S., 2002)

So, how will the United States get out of this debt trap? There are two ways:

1) Directly default on its commitments; and
2) Inflate away the relative size of the debts.

Direct default involves, directly defaulting on municipal, state and federal government debts, and/or through much smaller entitlement payments to the public.

Mises L., (2007), wrote: "The favour of the masses and of the writers and politicians eager for applause goes to inflation." Faced with the massive economic pain and unemployment of the millions, the U.S. have begun and will likely continue down the populist path of inflating away the debt with massive debt monetisation.

Importantly, Fischer, Sahay, & Vegh, (2002), state:

> *Those who argue that it might be wise to wait for hyperinflation before stabilising are-or should be-making a political and not an economic argument. The point is not that relative prices are more likely to be right when the inflation rate is high but that politicians are unlikely to move until the public is fully persuaded that the costs of inflation outweigh the costs of stabilising.*

Another very important issue we need to consider is the fact that the U.S. hold the global reserve currency. What this means is, essentially all U.S government debt is held in $US, making a devaluation of their currency of benefit to the U.S. government at the expense of all their creditors.

Leaving foreign investors holding U.S. denominated assets, including Treasury debt, with foreign exchange related losses. So, unlike Iceland, Hungry and others with a great deal of foreign denominated debt, a debasement of the $US serves to benefit the US government as they gain relative power over all countries with $US assets.

U.S. policy makers are faced with two decisions: 1) direct default, that will impoverish their nation and threaten their super power status; or 2) inflate away their debts, impoverishing the rest of the world and empowering their own. It's not an overly difficult quandary on which option they are going to choose.

6.0 CONCLUSION

Hyperinflation is the single largest problem an economy can face and should be of extreme concern for anyone who is positioned defensively for deflation. It leads to the systematic destruction of savings and if not confronted correctly, the total destruction of middle-class wealth. It empowers the government, but can also enrich anyone who sees it coming and positions themselves correctly.

As a consequence of the United States being: the single largest economy in the world; a political and economic superpower of extreme influence; the $US being the global currency of trade and consequently the global reserve currency, this report has primarily focussed on the United States.

The report delved into the key factors contributing towards the probability of high inflation, by:

- Providing a historical and present overview of the global monetary system;
- Exploring historical empirical studies of crisis sequencing;
- Examining the current inflationary forces, showing the key differences between now and the Great Depression;
- Evaluating the current economic and financial position, and performing a brief stress test displaying the limited ability of the United States to fight inflation from a financial, economic and political standpoint.

6.1 KEY POINTS

6.1.1 Monetary System Overview

1. The global economy operates in what is termed a *fiat monetary system*. A fiat monetary system is made up of money that has no intrinsic value.
2. The value of the paper money is controlled by central banks charged with the exclusive monopolising power to print or issue its national currency.
3. Before the fiat system global economies largely operated under the *gold standard*.
4. Printing money is the loose terminology for *debt monetisation* and is a form of central bank quantitative easing.

6.1.2 Financial Crises and Their Sequencing

1. There are five types of crises: banking crises; currency crashes; inflation outbursts; external and domestic sovereign default.
2. Financial Crisis sequencing generally occurs in this order:
   1) Financial liberalisation; 2) Beginning of banking crisis; 2) Currency crash; 3) Inflation picks up; 4) Peak of banking crisis (if no default); 5) Default on external and/or domestic debt; and 6) Inflation crisis worsens, peak of banking crisis.
3. Hyperinflationary episodes and currency crashes have travelled hand in hand across time and place.
4. The median inflation rates before World War I were well below those of the more recent period: 0.5% per annum for 1500-1799 and 0.71% for 1800-1913, in contrast with 5.0% for 1914-2006.
5. Periods of high inflation are associated with poor macroeconomic performance.

6. During the gold standard era, deflation and traditional style government debt defaults were the norm, now during the fiat currency era, inflationary defaults are the norm.

6.1.3 Inflation & Current Inflationary Forces

1. Rapid monetary inflation leads to price inflation.
2. *...deflation is always reversible under a fiat money system... under a paper-money system, a determined government can always generate higher spending and hence positive inflation.* (Bernanke B. S., 2002)
3. There has never been a time in history when deficit financing, or quantitative easing, has not been followed by a period of rampant inflation.
4. Extreme inflation can occur in a country where inflation has been repressed and where deficit finance has built up a monetary *overhang*.
5. In counties that have little experience with high inflation an inflation shock can set the proverbial house on fire in no time.
6. The Great Depression occurred during the gold standard monetary system era and the GFC occurred during the fiat monetary system era.
7. A major cause of the Great Depression in the 1930's was the mismanagement of the international gold standard. (Bernanke & James, 1990)
8. In 2008, the federal response in the U.S. to the GFC was twelve times greater than the entire Great Depression period.

6.1.4 Current Economic Situation & Limited Ability to Fight

1. Receipts for the 2010 year are forecasted to only be 58% of outlays and the budget deficits are forecast to remain for the foreseeable future.
2. The U.S. is entering a period when 1.8 taxpayers will be supporting each retiree, with historically extreme budget deficits and a balance sheet that reads negative equity of US$11.45 trillion.
3. The U.S. federal budget has been grousely optimistic for the majority of the last 33 years.
4. Long-term budget models have consistently shown that current U.S. fiscal policy is unsustainable over time.
5. In order to begin closing the U.S. budget deficit the policy adjustment required is significantly larger than anything that has occurred since the end of WWII.
6. The aging population trend presents significant fiscal challenges for the U.S. government.
7. A 0.7% interest rate rise would wipe out the remaining $55 billion in the Federal Reserve's equity. If the Fed was to further increase its Treasury bond holdings to what it is currently mandatorily permitted to, it would only require a 0.4% rate increase to wipe out the equity in its balance sheet.
8. The U.S. gross federal debt in May surpassed $US13 Trillion (87.6% of GDP), with the IMF expecting gross debt to reach 100% of GDP in 2012.
9. The IMF has placed an 80% probability that debt in the U.S. will be higher than the Administrations projection of 77% of GDP.
10. Government debt will have to be issued just to pay the interest on the existing government debt.
11. Seldom do countries simply *grow* their way out of deep debt burdens.
12. In 2009, the U.S. had $106.8 trillion in unfunded liabilities.

13. Government owned Fannie Mae and Freddie Mac own or guarantee 53% of the country's $US10.7 trillion in residential mortgages, equating to approximately $US5.7 trillion, according to a June 10 Federal Reserve report.
14. If the GSE's are not supported by the government there will not be a mortgage market in the U.S.
15. Before conservatorship, Fannie Mae and Freddie Mac relied heavily on their ability to borrow money at low rates of interest. Now consequently, they rely on the ability of the U.S. government to borrow at low rates of interest.
16. There has been a significant and rapid fall in demand for U.S. assets .
17. The United States: government; public; banks; corporations; and central bank cannot afford for interest rates to rise.
18. Current U.S. interest rates are negative in real terms and this is still not enough to pick up the economy and provide the required liquidity to the financial markets.
19. The government has little room to manoeuvre with rates, without being downgraded by the rating agencies.
20. Any upward pressure on interest rates brought about by the market participants will force the U.S. Federal Reserve to embark on further monetisation to keep interest rates low.
21. U.S government debt is held in $US, making a devaluation of the currency of benefit to the U.S. government at the expense of their creditors.
22. U.S. policy makers are faced with two decisions: 1) direct default, that will impoverish their nation and threaten their super power status; or 2) inflate away their debts, impoverishing the rest of the world and empowering their own.

6.2 CONCLUDING REMARKS

We can't solve problems by using the same kind of thinking we used when we created them.

- Albert Einstein

Since WWII, inflation has been engrained in Western society. It is embedded in our expectations and written into our legislation. Inflation is the culture of the baby boomers. Society expects prices to go up, and is convinced something is wrong if they do not. It is this inflationary expectation that causes pronounced boom and bust cycles. The GFC was caused by society's expectation that prices would continue to go up.

Currently, the historically proven antecedents to price inflation exist to an overwhelming degree. History shows us that monetary inflation translates into price inflation. Currently, extreme and rapid monetary inflation exists.

The world has grappled with a severe and painful global banking crisis. Banking crises have been shown to ordinarily precede currency crashes. Currency crashes result in high to hyper-inflation.

The United States government is stricken with debilitating levels of debt and are in severe financial difficulty, with the IMF and government departments warning of this dire economic situation. Considering this, it has been shown that there is a limited capacity for the U.S. to fight the onset of inflation, without crippling itself economically.

Evaluation of the limited ability to fight inflation is the most important aspect of this report. It is a question of fact whether historically proven precursors to hyperinflation exist or not, unfortunately

this is fact. What would ordinarily make a future inflationary outlook less certain is the ability to wage an all out attack on inflation. Currently, the attack ability is highly limited.

One must also consider the profound political ramifications of a deflationary policy stance. Let us, cast a thought to the recent civil unrest and rioting in Greece and Spain. Even if a government wanted to implement fiscal conservatism, it may not be able to do so without revolt.

Fiscal conservatism in the current environment for many developed economies equates to a default on domestic or foreign commitments. This would potentially result in near-term global financial and economic disruptions never seen before. There is no political will or way for this to happen.

Barrack Obama, is not going to let this happen on his watch - a deflationary stance is political suicide, he will be out of a job in no time.

Ben Bernanke, who has spent the majority of his career studying the Great Depression and hypothesising that it would have been avoided if money could be printed, is not about to abandon his life work and let deflation occur. A deflationary stance, would also have Bernanke out of a job in no time.

Endless amounts of money are required to be printed in order to fight off *Public Enemy Number One,* Deflation, and endless amounts of money continue to be printed. The politically popular path is to inflate now, see what happens later. Central bankers and politicians have already shown their cards with this inflationary stance. The inflationary wheels are in motion and they are treacherously difficult to stop.

As the United States holds control of the global reserve and trade currency, it holds the power the global monetary dynamics to a large degree. Opposition against the United States inflationary policy by other sovereign economies, will leave those opposing economies with severe losses on their $US reserves. Furthermore, the opposing economies will have their global trade competiveness affected with a relatively high foreign exchange rate.

Currently, the U.S. is inflating, so the result is the rest of the developed world is inflating as well. From this, we may potentially see a debasement of global paper currency values in comparison to physical assets.

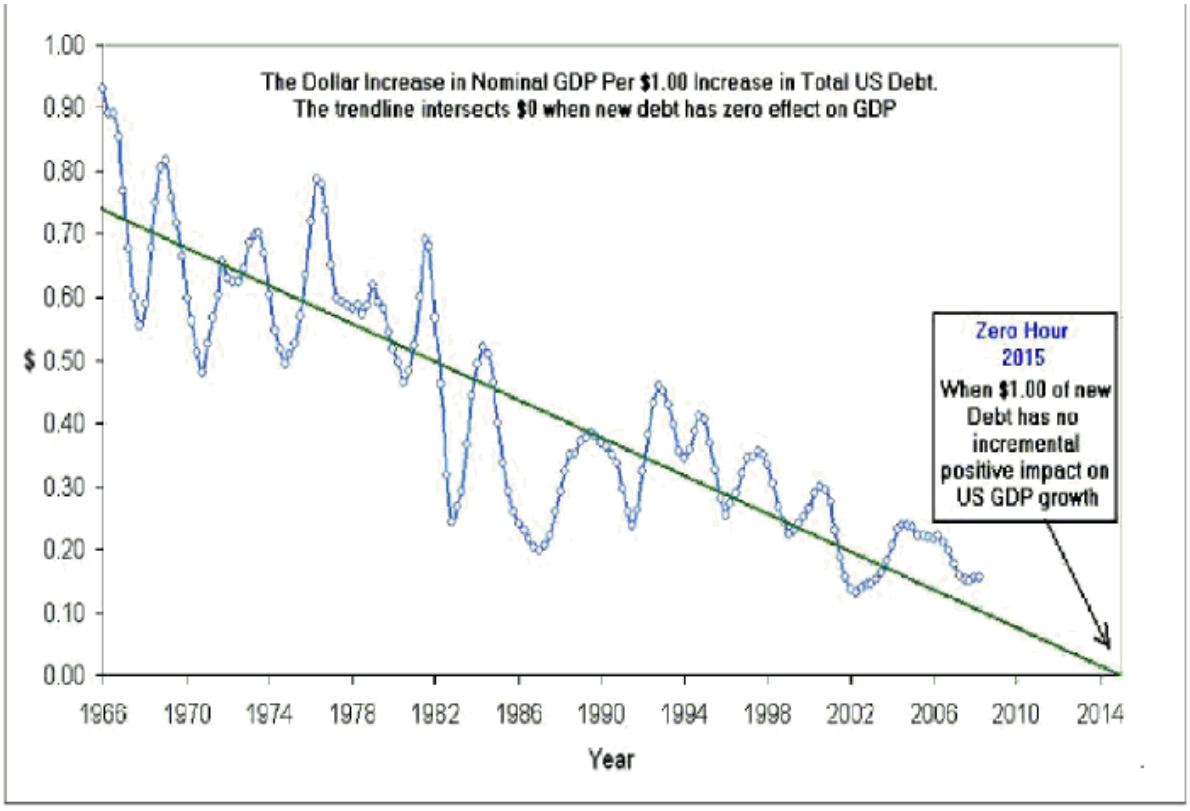
The general fear of deflation is unfounded. The present situation is this; bank reserves are extraordinarily high, as central banks pump money into the banking system; however banks are applying higher credit standards and lending less. Once banks start lending at normal levels again, the inflation genie will be out of the bottle. This may happen on the banks accord, or it may happen through central bankers penalising the banks for not lending.

The inflationary policy that is currently being undertaken is the short-term populist method, but for the people who do not know how to handle it, much greater pain will ensue. Many people have learnt to be conservative with savings to survive difficult times. Inflation destroys savings.

This report is a warning for investors who believe they are safely and conservatively invested in cash. Investors with heavily weighted cash savings for retirement heed warning, and stay safe.

Figure 28, shows the trend of the $US since the 1960's. The trend hits zero in 2015.

Figure 28: Diminishing Returns for Each $US1 of New Debt in the US Economy



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