Financial Repression & Inflation: The positive implications for equities

February 2013

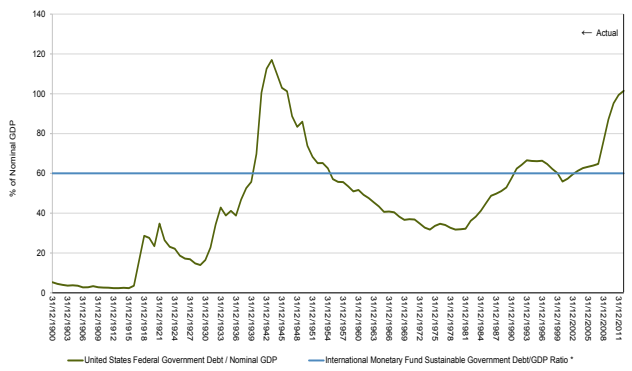
"The process by which banks create money is so simple the mind is repelled."

John Kenneth Galbraith (American Keynesian economist, 1908-2006)

Introduction: The elephant in the room

There is currently a lot of debate in markets, about the impact of financial repression and higher inflation on future equity market returns. This debate has been spawned by the extraordinary policy responses by governments and central banks to the 'Global Financial Crisis', or 'Great Recession'. The fiscal response from governments has resulted in a substantial increase in sovereign debt in many developed countries, exemplified by the increase in US Federal Government Debt[1] (see Chart 1 below).

Chart 1: US Federal Government Debt

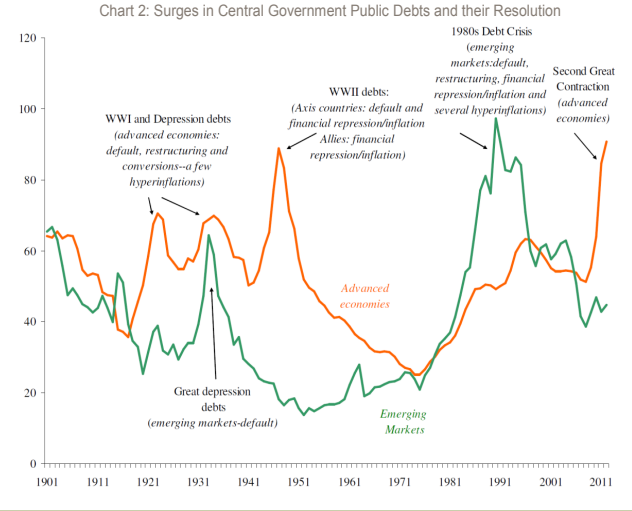


* This 60% figure is based on a paper published by the IMF in 2010, *Strategies for Fiscal Consolidation in the Post-Crisis World*: "A preferable strategy would aim at reducing debt ratios to more prudent levels in the medium term. The goal should be to present a comprehensive strategy aimed at lowering government debt over time to levels regarded as prudent and to keep debt at those levels during the following decades. A simultaneous fiscal consolidation in advanced economies might reduce aggregate demand in the near term but, on balance, any costs would be more than offset by sizable benefits. Indeed, debt reduction would help to keep interest rates in check, foster medium-and-long-term economic growth, and create space for a forceful fiscal response in the event of another crisis. For some countries, this will mean targeting a fiscal position that is stronger than before the crisis. To illustrate, for advanced economies, the scenarios developed below focus on reducing debt ratios by 2030 to below 60 per cent (i.e. the median pre-crisis debt ratio for the G-20 advanced economies)."

Source: ***Global Financial Data***

Reinhart and Sbrancia[2] identify four alternatives available to a government to reduce its debt burdens: (1) real economic growth[3] ; (2) fiscal adjustment (i.e. increases in taxes, reductions in government spending); (3) outright default or restructuring; and (4) inflation (either via inflation surprises or a combination of financial repression[4] and inflation).

Chart 2: Surges in Central Government Public Debts and their Resolution



In a separate paper, Sbrancia[5] explores whether countries can and do inflate away their debt. Focusing on the years after the Second World War[6], a period during which many countries had high levels of debt, she considers the relationship between inflation and debt in 12 countries with very different economic characteristics. She finds that inflation has played an important role in reducing government debt. Inflation can have an effect on debt through two main channels: unanticipated inflation and in combination of financial repression[7]. However, financial repression in combination with inflation is shown to be the predominant effect in reducing government debt. Sbrancia also looks at how equities performed during this period, and finds that:

> *For all the countries in the sample, the return from investing in stocks (especially for long periods of time) though more volatile proved to be higher than the return from investing in government bonds. The equity premium is shown to be relatively high during this period. For instance, the average equity premium, calculated as the excess return of stocks on T-Bills over rolling 30-year periods in the US between 1870 and 2010 and excluding 1945 to 1980, was 4.4 per cent, whereas the equity premium between 1945 and 1980 was 8.3 per cent on average. This is attributed in part to the presence of financial repression during the period which kept the return of bonds artificially low.*[8]

Table 1 below shows our calculations of the equity risk premium for Australia and the US in financial repression years, other years[9], and all years from our sample data. The additional, or 'financial repression' premium, is 2.9%p.a for Australia, and 3.6%p.a for the US, which is consistent with Sbrancia's empirical findings.

Table 1: Equity Risk Premium in Periods of Financial Repression

Financial Repression

	Equity Risk Premium	Financial Repression Premium	Total Equity Return	10 Year Bond Yield	Inflation Rate
Units of measure:	%	%	%	%	%
Australia:					
Financial repression years [1945-1968, 1971, 1976]	9.64		12.23	4.68	5.50
Other years [1884-1944,1969-1970, 1972-1975, 1977-2012]	6.71	2.93	12.09	5.97	2.89
All years [1884-2012]	7.26	2.38	12.12	5.73	3.44
United States:					
Financial repression years [1945-1980, 2008-2012]	8.22		12.91	4.69	4.34
Other years [1821-1944,1981-2007]	4.62	3.60	9.21	4.59	1.49
All years [1821-2012]	6.13	2.09	10.63	4.50	2.78

Source: *JCP Investment Partners, Global Financial Data*

Wealth Transfer from Debt Holders to Equity Holders

Reinhart and Sbrancia explain in some detail the wealth transfer that occurs during periods of financial repression and unexpected inflation between savers and borrowers (especially sovereign borrowers). However, they give little attention to the concurrent wealth transfer that occurs between debt holders and equity holders. This latter transfer was explained in 1928, by the US economist Irving Fisher, who raised the question in his now famous book, *The Money Illusion*. Fisher answers the following question: "Who got the money in periods of inflation?" using the simple example below:

To illustrate how, as between stockholders and bondholders, how this (inflation) lottery works, consider a company which, say, before the War in 1913 had outstanding a hundred million dollars of bonded debt and a hundred millions dollars of stock. Each yields five per cent, five million dollars, so that, before the War, the corporation distributed between these two classes of investors, bondholders and stockholders, ten million dollars. This, for convenience, will be called profit. Let us now see what happens if the buying power of the dollar is cut in two, that is, if the price level doubles (which it actually did in the US between 1913 and 1919). Suppose then, that this company did the same physical volume of business after the War as it did before, but at the doubled price level. It would then have doubled the profit – in dollars. For, if the expenses double and the receipts double, the difference between the two must also double. But while nominally this twenty million (dollars) of profit would be double the original ten million, in real value it of course would merely be its equivalent. Now this twenty million dollars would not be distributed evenly between bondholders and stockholders, as the ten million had been! Why? Because the bondholders are restricted by contract [or financial repression] to their five per cent. They will get, out of twenty million, the same five million as before – the same, that is, nominally, but in real value only half. What is left out of the twenty million (fifteen million dollars) will now go to the stockholders. Nominally, then, the stockholders will get three times what they did before the War, but when we allow for the dollar having been depreciated one-half, what they really get is one-half times as much value. Thus the stockholders get more real value than before the War, while the bondholders get correspondingly less. Inflation, quite impersonally, if you please, has picked the pockets of the bondholders and put the value into the stockholders' pockets, simply by the change in the value of the dollar.[10]

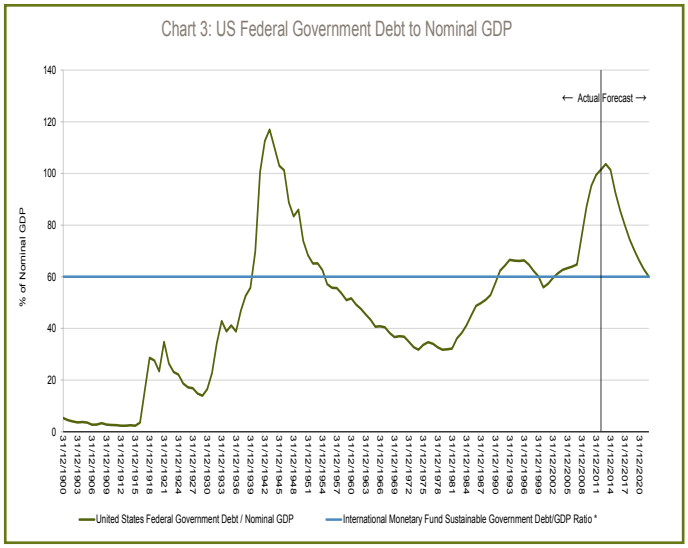
Fisher's example may seem somewhat dated, but the message is exactly the same today as it was back then: inflation and financial repression transfers wealth from debt holders to equity holders. In fact, the example above actually understates this wealth transfer process, because not only do debt holders get fleeced, but also, to some extent, the suppliers of capital goods, labour and other services to a company. Capital goods, sometimes purchased years ago, but not fully depreciated and still being used productively, enable companies to expand their profits (and for a time their capital turnover and EBIT margins), as the prices of their products rise in real time, whereas their capital equipment costs rise only with a lag. So too for the impact on labour and other services, as explained again by Fisher:

Monetary depreciation (rising price level) stimulates, and monetary appreciation (falling price level) depresses business. The reason is simple. When producers get higher prices they do not, at first, have to pay correspondingly higher costs; for instance, wages and salaries do not rise so fast, being fixed by contract for months or years in advance. Much less do they, at first, have to pay higher rent and interest? Such lagging of important expenses usually involves a lagging of total expenses behind total receipts. Consequently, profits, the excess of receipts over expenses, tend at first to increase.[11]

A Monetary Pathway to Higher Growth

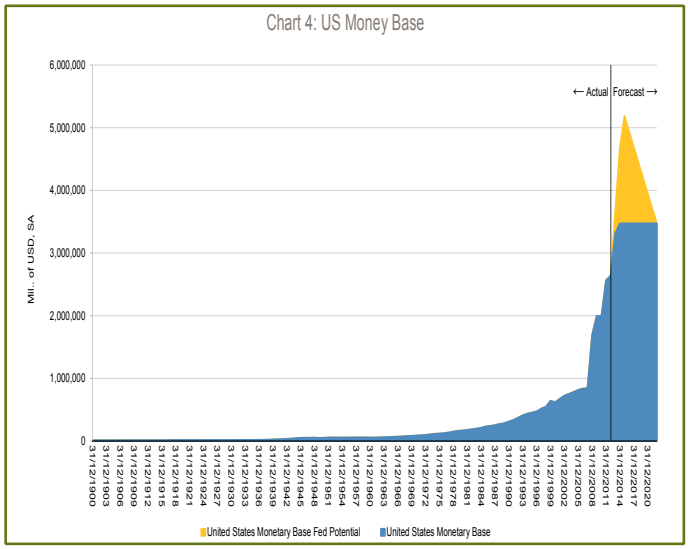
The 'great reflation trade' is something we explained in some detail in a research paper written early in 2012 and titled, The Gold Price: To print, or not to print, that is the question. Despite the title of the paper, it was not just about the gold price, but rather the process of deleveraging, or rebalancing between savers and borrowers, via quantitative easing and financial repression.

For the last hundred years the US Government have become masters of monetisation and financial repression when faced with high levels of debt. Chart 3 shows the US Federal Government debt to nominal GDP ratio, including our forecasts of debt reduction to 60%[12] of nominal GDP from the process of financial repression, and higher inflation which is used to achieve higher nominal GDP growth.

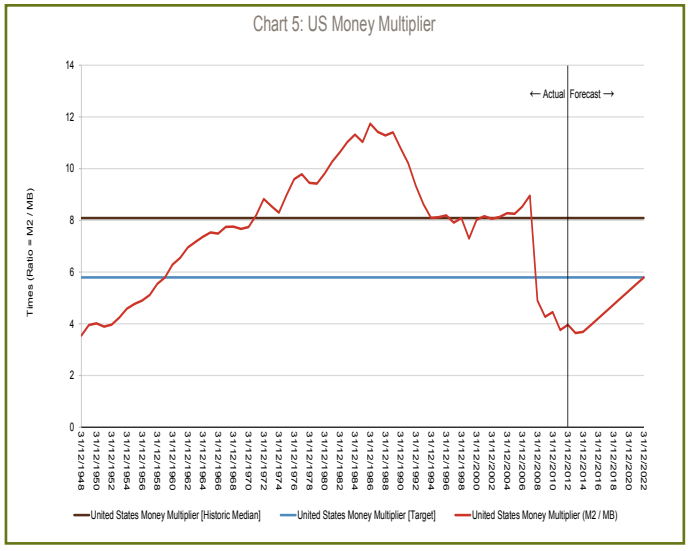


This substantial debt reduction is achieved based on the following assumptions:

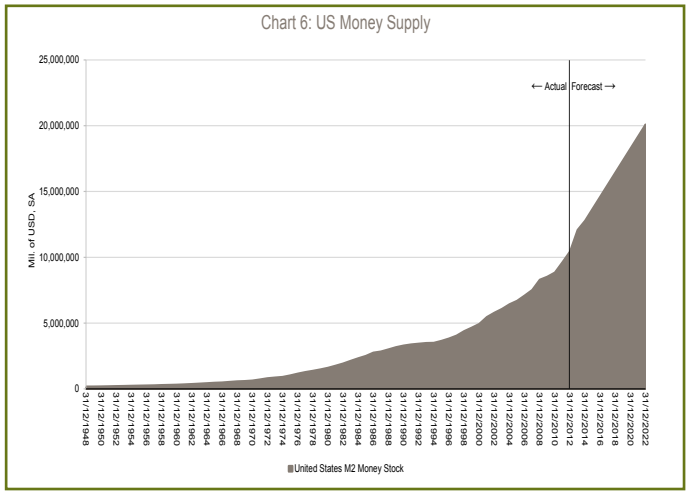
1. The US money base[13] increases by about 415%, from US$838b in 2007 to US$3.5t by the end of 2014 (see Chart 4). About US$1.8t of this increase was achieved via QE1, 2 and 3. The remaining US$1.0t will come from QE4 whereby the Fed will buy US$85b worth of mortgage backed securities (MBS) and longer-term Treasuries (US$45b MBS and US$40b Treasuries) per month until expected inflation hits 2.5%, or unemployment falls to 6.5%. The Fed's macroeconomic models predict that those economic thresholds won't be reached until mid-2015. Note that QE4 could be much larger than the US$1.0t we forecast (e.g. US$85 x 30 months = US$2.6b), but our forecasts implicitly assume than any excess above US$1t will be withdrawn from the money base via debt maturities or sales by the Fed as the US economic recovery gains momentum.



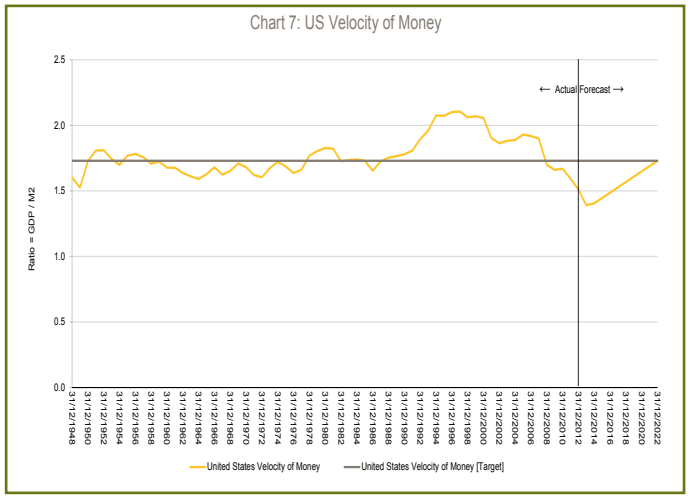
2. The US money multiplier[14] reverts to our target level of 5.8 times the US money base from 2012 to 2022. This is the 25th percentile of its historic range (3.5 to 11.7 times) and is lower than the historic median (8.0 times) due to re-regulation of the US financial system, the high starting point for US household leverage, and therefore its dependence of businesses borrowing to invest to stimulate any increase. The upward reversion starts in 2014 after falling to 3.6 times in 2013 and 2014 as we assume that the Fed would not be undertaking further quantitative easing in 2013 (US$680b) and 2014 (US$280b) if it thought the money multiplier was about to materially increase.



This has the effect of taking US money supply (measured using M2) from US$10.4t in 2012 to US$20.8t in 2022. That's a lot of extra money looking for a home!



3. The US velocity of money[15] reverts to its historic median level of 1.7 times the US money supply from 2012 to 2022 (historic range 1.5 to 2.1 times). We don't see any long-term real interest rate rationale to set a figure higher or lower than the historic median.



Nominal GDP is a function of:

Money base x Money multiplier = M2 x Velocity of money = Nominal GDP

Therefore, and at least theoretically, the large increase in the US money base, when combined with some degree of mean reversion in the money multiplier (to the 25th percentile of its historic range), and also in the velocity of money (to the 50th percentile of its historic range), should have a very positive impact on US nominal GDP growth at some stage in the future.

This positive impact can be seen in Table 2 and Chart 8 (light green area), with a compound average growth rate in US nominal GDP of 8.2%pa from 2012 to 2022, versus our baseline forecast of 4.9%p.a, i.e. incremental nominal growth of 3.3%p.a from the magic of printing money!

Some readers of this paper will no doubt point out that there has been no real economic growth created here, and that surely there is a long-term cost to this apparent monetary alchemy.

As to the impact of financial repression on real economic growth, James Tobin[16] argues that:

> *"If the rate on one asset, "money", is fixed, then the market return on capital can, indeed must, be among the n-1 rates to be determined. This enables the monetary authority to force the market return on physical capital to diverge from its technological marginal efficiency – or, what is the same thing, to force the market valuation of existing capital to diverge from its reproduction cost. By creating these divergences, the monetary authority can affect the current rate of production and accumulation of capital assets. This is the manner in which the monetary authority can effect aggregate demand in the short run…" Therefore, "…the principal way in which financial policies and events affect aggregate demand is by changing the valuations of physical assets to their replacement costs. Monetary policies can accomplish such changes…"*

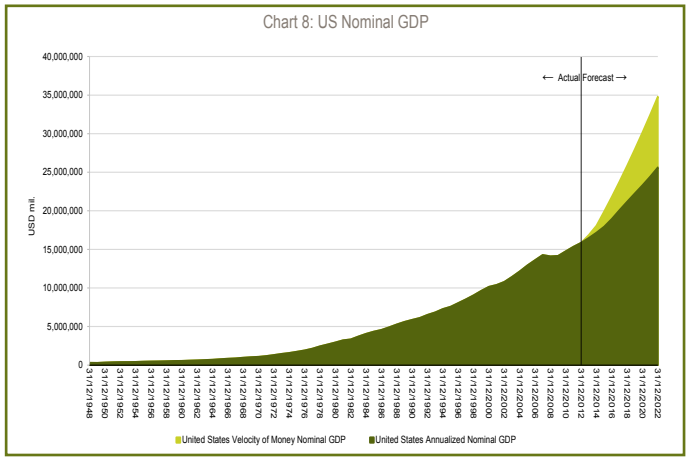
To the extent that Tobin's new investment does not lead to productivity gains, then ultimately product inflation will rise to satisfy the required rates of return demanded by the owners of higher priced capital. This excess inflation will at some stage need to be reduced by more restrictive monetary policy, which will undoubtedly have a negative affect on asset prices, but this is an end of monetary cycle problem that in our view may be ten to twenty years away, based on past episodes of financial repression which have an average duration of 22 years.[17]

Regardless of this debate, financial repression and higher inflation is primarily a process for transferring wealth within an economy from savers to borrowers (i.e. governments), with the corollary effect of transferring wealth from debt holders to equity holders, and thus any short-term real economic benefits are an added windfall for equity holders.

Table 2: US Nominal GDP Growth

	US GDP_n Growth Baseline	US GDP_n Growth Including Impact of Money Supply
	A	B
Unit of measure:	% y-o-y	
Actual:		
2003	6.02%	
2004	6.21%	
2005	6.41%	
2006	5.29%	
2007	4.92%	
2008	-1.20%	
2009	0.37%	
2010	4.26%	
2011	3.97%	
2012	3.32%	
CAGR	3.93%	
Forecasts:		
2013	4.04%	6.42%
2014	4.22%	7.01%
2015	4.52%	10.16%
2016	5.58%	9.60%
2017	5.93%	9.09%
2018	5.36%	8.65%
2019	4.99%	8.24%
2020	4.65%	7.88%
2021	4.68%	7.55%
2022	4.81%	7.25%
CAGR	4.88%	8.18%

Source: *JCP Investment Partners, Global Financial Data*



Will the Monetary Alchemy in the US Work This Time?

> *By increasing the volume of their government securities and loans and by lowering Member Bank legal reserve requirements, the Reserve Banks can encourage an increase in the supply of money and bank deposits. They can encourage but, without taking drastic action, they cannot compel. For in the middle of a deep depression just when we want Reserve policy to be most effective, the Member Banks are likely to be timid about buying new investments or making loans. If the Reserve authorities buy government bonds in the open market and thereby swell bank reserves, the banks will not put these funds to work but will simply hold reserves. Result: no 5 for 1, "no nothing," simply a substitution on the bank's balance sheet of idle cash for old government bonds.*[18]

This is an important reminder from Paul Samuelson that monetary policy can be like 'pushing on a piece of string'. Because much of the thesis of this paper is contingent on an increase in the money multiplier, there is no guarantee that such an increase is inevitable in the foreseeable future. The pre-conditions for such an increase are dependent on expectations, estimates of risk, attitudes towards risk, and a host of other factors.[19]

Also, in her research paper, Sbrancia concludes with the following remarks:

> *The world has moved in the last three decades towards a more financially liberalized environment, which poses the question of to what extent the results of this paper could be expected to be relevant in the future. And though it is hard to imagine a return to an environment like Bretton Woods, some of the recent regulatory changes have many points in common to policies that characterized the period of financial repression.*[20]

The answer to the question of the effectiveness of Fed monetary policy achieving the goals we outline in this paper is not 'black or white' but, as is always the case when predicting the future, a question of probability. Our view is that the US has a serious sovereign debt problem and that the US Government will do whatever it takes to deal with this problem in the most politically expedient manner possible. We don't believe 'this time is different' given that the Fed is already well down the familiar pathway of financial repression and higher inflation.

But we do recognise that nothing about predicting the future is ever certain, so the probability distribution we ascribe to the US achieving the nominal GDP growth figures set out in Table 2 is a uniform distribution with probability range from 60% to 100%, and a central estimate of 80%.

Using this 80% central estimate probability, the far right column of Table 3 shows our probability-weighted US nominal GDP forecasts.

Table 3: US Nominal GDP Growth: Probability-weighted

	US GDP_n Growth Baseline	US GDP_n Growth Including Impact of Money Supply	US Forecasting Certainty Probability	US GDP_n Growth Probability-Weighted
	A	B	P	C=A+(B-A)xP
Unit of measure:	% y-o-y		%	% y-o-y
Actual:				
2002				
2003	6.02%			
2004	6.21%			
2005	6.41%			
2006	5.29%			
2007	4.92%			
2008	-1.20%			
2009	0.37%			
2010	4.26%			
2011	3.97%			
2012	3.32%			
CAGR	3.93%			
Forecasts:				
2013	4.04%	6.42%	80.0%	5.94%
2014	4.22%	7.01%	80.0%	6.45%
2015	4.52%	10.16%	80.0%	9.04%
2016	5.58%	9.60%	80.0%	8.79%
2017	5.93%	9.09%	80.0%	8.46%
2018	5.36%	8.65%	80.0%	7.99%
2019	4.99%	8.24%	80.0%	7.59%
2020	4.65%	7.88%	80.0%	7.23%
2021	4.68%	7.55%	80.0%	6.98%
2022	4.81%	7.25%	80.0%	6.76%
CAGR	4.88%	8.18%	80.0%	7.52%

Source: *JCP Investment Partners, Global Financial Data*

What This Means for Australian Nominal GDP Growth

Higher US nominal GDP growth can impact the Australian economy, and indirectly, the Australian equity market, in a number of ways. Two obvious more fundamental transmission mechanisms are via the AUD/USD exchange rate and/or Australia's nominal GDP growth rate.

The RBA has for some time now taken an orthodox, free-market approach to exchange rate policy, allowing the AUD to float freely with little intervention[21] even through the Global Financial Crisis in 2007/08, and the large foreign central bank buying of the AUD over the last couple of years[22].

Part of the rationale for this approach has been the commonly held view that there is little the RBA could do to intervene given the size of capital flows that influence the AUD exchange rate. But as a recent article in The Economist points out, it is much easier to push an exchange rate down than it is to support a currency:

> *The success of the tactic illustrated the different issues that face central banks that want to drive their currencies down, as opposed to those that want to prop them up. Central banks that support their currency rely on finite foreign-exchange reserves and a willingness to push up interest rates, a measure that causes huge damage to the domestic economy. In contrast, a determined central bank can always drive its currency lower provided it is willing to create enough currency and it is not worried about inflation.[23] [Recent example was Switzerland, see footnote [25]]*

In our view it is really a question of timing, politics, and the fallacy of central bank independence. Australia's current RBA Governor, Glenn Stevens seems to have convinced the current Federal Government that Australian industry can adapt to a higher AUD exchange rate. His philosophical view on this issue was publicly communicated in a speech he made in 2006:

> *On the contrary, I think that the most serious potential problem for the internationally exposed sectors is not short-term exchange rate variability, but medium-term misalignment in the exchange rate. Allowing market forces to move the exchange rate makes such an outcome much less likely. Better monetary control afforded by the flexible exchange rate, on the other hand, has been an unalloyed benefit to all sectors of the economy, traded and non-traded.[24]*

This probably means that Australia will continue, for a while at least, to 'play a fair game' on exchange rate policy whilst many other countries (including some of our important trading partners) continue to 'cheat', e.g. China, Japan, US, Brazil, UK, and Switzerland[25]. The transmission effect of a rapidly expanding US money supply (M2) into Australia is therefore likely to show up more in a higher AUD, rather than higher Australian nominal GDP growth and Australian equity prices. We forecast the latter will only be impacted by 30% for the period from 2013 to 2017 (within a uniform distribution of 0% to 60%).

Table 4 (right column) shows that by 2017, higher US inflation relative to Australian inflation takes the AUD to 1.16. At this point we think the political pressure builds to the point where the RBA is forced to change its stance whereby Australia grows is money supply at a much faster rate – we forecast 70% (within a uniform distribution of 40% to 100%) of the pace of US money supply growth during this period. This would mean a much reduced appreciation of the AUD against the USD per year thereafter, giving the Australian economy more opportunity to adjust to a higher exchange rate. If history is any guide, this radical change of policy by the RBA will probably be preceded by a change of leadership.[26]

Table 4: US Nominal GDP Growth: Impact on AUD Forecasts

	US GDP_n Growth Baseline	US GDP_n Growth Including Impact of Money Supply	US Forecasting Certainty Probability	US GDP_n Growth Probability-Weighted	AU GDP_n Impact	AUD Impact Adjusted Forecast
	A	B	P	C=A+(B-A)xP	T	D=D_{-1}x(1+(C-A)x(1-T))
Unit of measure:	% y-o-y		%	% y-o-y	%	AUD/USD
Actual:						
2003	6.02%					0.7516
2004	6.21%					0.7819
2005	6.41%					0.7333
2006	5.29%					0.7890
2007	4.92%					0.8757
2008	-1.20%					0.7073
2009	0.37%					0.8972
2010	4.26%					1.0203
2011	3.97%					1.0225
2012	3.32%					1.0393
CAGR	3.93%					
Forecasts:						
2013	4.04%	6.42%	80.0%	5.94%	0.0%	1.0591
2014	4.22%	7.01%	80.0%	6.45%	0.0%	1.0828
2015	4.52%	10.16%	80.0%	9.04%	30.0%	1.1170
2016	5.58%	9.60%	80.0%	8.79%	30.0%	1.1421
2017	5.93%	9.09%	80.0%	8.46%	30.0%	1.1624

Source: *JCP Investment Partners, Global Financial Data*

Given the assumptions above: How much extra nominal growth do we expect for the Australian economy? The answer to this question is shown in right column of Table 5. From 2013 to 2022 we calculate that Australia's nominal GDP growth is 1.2% higher than our baseline forecasts, but because we assume that there is no nominal GDP impact in 2013 and 2014 (i.e. it all transmits into a higher AUD in these years), the extra growth is concentrated in the years from 2015 to 2022 where growth is 1.4% higher than our baseline forecasts.

Table 5: US Nominal GDP Growth: Impact on Australian Nominal GDP Growth Forecasts

	$US GDP_N$ Growth Baseline	$US GDP_N$ Growth Including Impact of Money Supply	US Forecasting Certainty Probability	$US GDP_N$ Growth Probability-Weighted	$AU GDP_R$ Impact	AUD Impact Adjusted Forecast	$AU GDP_N$ Growth Baseline	$AU GDP_N$ Growth Including Impact of Money Supply
	A	B	P	C=A+(B-A)xP	T	D=D.at.1+(C-A)x(1-T))	E	F=E+(C-A)xT
Unit of measure:	% y-o-y		%	% y-o-y	%	AUD/USD	% y-o-y	
Actual:								
2002								
2003	6.02%					0.7516	5.79%	
2004	6.21%					0.7819	7.43%	
2005	6.41%					0.7333	7.35%	
2006	5.29%					0.7690	7.49%	
2007	4.92%					0.8757	8.21%	
2008	-1.20%					0.7073	8.86%	
2009	0.37%					0.8972	5.38%	
2010	4.26%					1.0203	8.24%	
2011	3.97%					1.0225	6.60%	
2012	3.32%					1.0393	3.36%	
CAGR	3.93%						6.86%	
Forecasts:								
2013	4.04%	6.42%	80.0%	5.94%	0.0%	1.0591	4.55%	4.55%
2014	4.22%	7.01%	80.0%	6.45%	0.0%	1.0828	5.06%	5.06%
2015	4.52%	10.16%	80.0%	9.04%	30.0%	1.1170	5.34%	6.69%
2016	5.58%	9.60%	80.0%	8.79%	30.0%	1.1421	5.73%	6.70%
2017	5.93%	9.09%	80.0%	8.46%	30.0%	1.1624	6.06%	6.82%
2018	5.36%	8.65%	80.0%	7.99%	70.0%	1.1716	5.48%	7.32%
2019	4.99%	8.24%	80.0%	7.59%	70.0%	1.1807	5.35%	7.17%
2020	4.65%	7.88%	80.0%	7.23%	70.0%	1.1899	6.16%	7.97%
2021	4.68%	7.55%	80.0%	6.98%	70.0%	1.1981	6.36%	7.97%
2022	4.81%	7.25%	80.0%	6.76%	70.0%	1.2051	5.86%	7.22%
CAGR	4.88%	8.18%	80.0%	7.52%			5.59%	6.74%

Source: *JCP Investment Partners, Global Financial Data*

The Positive Implications for Australian Equities

The value of an equity security is a function of three factors:

Value = Payout ratio / (Cost of equity - Growth in dividends)

Where:

Payout ratio = Dividends / Net profit after tax [NPAT]

Cost of equity = Risk-free interest rate + Equity risk premium

This equation illustrates the incremental value that accrues to equity holders from financial repression and higher inflation. The risk-free component of the cost of equity is repressed, whilst the nominal growth in dividends rises via higher nominal GDP growth.

Using this equation[27] we can calculate the incremental equity value of this extra dividend growth.

Table 6 shows three equity value and excess return scenarios: 'Pessimistic', 'Base', and 'Optimistic'. The 'Pessimistic' scenario uses our baseline research analysts' NPAT growth forecasts excluding any impact from the higher nominal GDP growth forecasts calculated above. The 'Base' scenario adds the Australian incremental GDP growth to our research analysts' short term (from 2015 to 2017) and medium term (from 2018 to 2022) NPAT growth[28] forecasts using the '80% US forecasting probability' figure, and 'Australian transmission to nominal GDP' figures of 30% (from 2015 to 2017) and 70% (from 2018 to 2022). The 'Optimistic' scenario is the same as the 'Base' scenario, but the US forecasting probability is increased to 100%, and the Australian transmission figures are both set at 100% (from 2015 to 2022).

Table 6 shows the market price discount to its fundamental value increases from 2% for the 'Pessimist' scenario, to 10% for the 'Base' scenario, and to 20% for the 'Optimistic' scenario. Market excess returns increase from 2%, to 10%, and to 25%, respectively.

Table 6: Equity Valuation Model: Financial Repression and Higher Growth

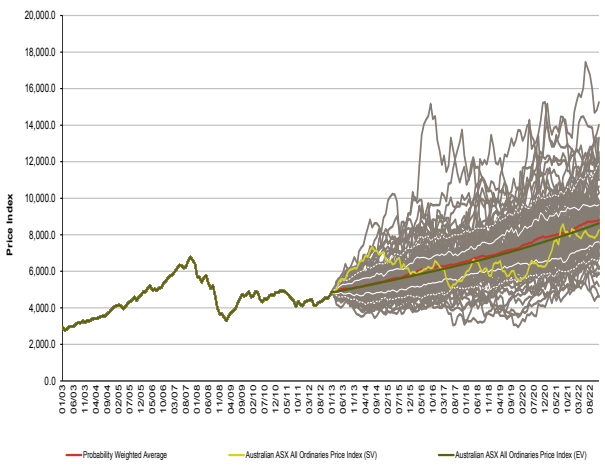
	Scenarios		
	Pessimistic	Base	Optimistic
US forecasting certainty [money base, multiplier, velocity]	0.0%	80.0%	100.0%
Australian transmission [higher nominal GDP versus AUD]			
From 2014 to 2017	0.0%	30.0%	100.0%
From 2017 to 2022	0.0%	70.0%	100.0%
Financial assumptions:			
Payout ratio [PR]	64.1%	64.1%	64.1%
Risk-free rate [Rf]	4.4%	4.4%	4.4%
Equity risk premium [ERP]	6.0%	6.0%	6.0%
Corporate tax rate [T]	30.0%	30.0%	30.0%
% Market value of franking credits [γ]	63.0%	63.0%	63.0%
% Dividend franked [%F]	68.8%	68.8%	68.8%
Cost of equity [k_e] = (Rf + ERP) x (1 - T) / (1 - T x (1 - γ x %F))	8.8%	8.8%	8.8%
Growth rate:			
Perpetuity [g]	4.2%	4.6%	5.0%
From 2014 to 2017	6.3%	7.4%	10.6%
From 2017 to 2022	1.7%	3.4%	4.7%
Residual	4.4%	4.4%	4.4%
Value PER [PER_V] = PR / (k_e - g)	13.7x	15.0x	16.8x
Price PER [PER_P]	13.5x	13.5x	13.5x
Accumulation index price [P]	38,814.3	38,814.3	38,814.3
Accumulation index value [V] = PER_V / PER_P x P	39,497.4	43,186.8	48,304.7
Premium (discount) = P / V -1	-1.7%	-10.1%	-19.6%
Excess return [α] = V / P - 1	1.8%	11.3%	24.5%

Source: *JCP Investment Partners, Global Financial Data*

However, given the uncertainty around our 'US forecast probability' and the 'transmission to Australian nominal GDP growth' (and also to listed company dividend growth), we don't expect the market to increase immediately to reflect this incremental value. Our best estimate is that this may take six to seven years, implying and excess return in USD terms on average of about 3% per annum which is consistent with our historic 3% figure in Table 1, and also that calculated by Sbrancia[29]. However, we do think that the excess returns could be larger in the first few of years and lower in the latter years, but we do need to do more work on this.

Chart 9 shows our stochastic forecasts for the All Ordinaries Index including the additional excess returns from the impact of financial repression and nominal growth. This chart also incorporates our estimates of the uniform distributions for the 'US forecasting probability' (60% to 100%) and the 'Australian transmission to nominal GDP' (0% to 60% for 2015 to 2017) and (40% to 100% for 2018 to 2022).

Chart 9: All Ordinaries Index Cone of Uncertainty



Conclusion:

If you had a reserve currency, a legal money printing machine, and a debt problem – What would you do?

The US Federal Government has a major debt problem that it must contend with over the next decade or so. Its policy alternatives to deal with this debt problem are effectively limited to: (1) fiscal adjustment; (2) outright default or restructuring; or (3) inflation (either via inflation surprises or a combination of financial repression and inflation). Although all three alternatives may be used to some extent, the policy actions of the Fed since 2007 indicate that there will be a heavy reliance on option (3). Reinhart and Sbrancia find that historically this has also been the most common method for governments to deal with the debt problems. Based on these observations and empirical findings, we plot a potential pathway from an expanding US money base, to a doubling of US money supply, and what this probably means for US nominal GDP growth over the next decade. We then consider the transmission mechanism through to the AUD and higher Australian nominal GDP growth, and finally what this means for the valuation of the Australian equity markets and for future Australian equity market excess returns.

However, the financial world is an uncertain place, and many things can change over the next decade, so our model and forecasts rely heavily on all other things being equal and held constant. But investing is about assessing probabilities and payoffs, and we therefore think that the time is now to be bullish and to 'bring down the curtain' on the Great Recession bear market. The only missing ingredient is a generally accepted real innovation and productivity story, probably in the energy realm, to make the 'bulls really roar' (e.g. US shale gas, French cold fusion, etc.).

I started this paper with a quote, so I end with a quote

"There have been three great inventions since the beginning of time: fire, the wheel and central banking.":

Will Rogers (American humourist and social commentator, 1879-1935)

End Notes:

1. Source: Global Financial Data taken from Federal Reserve Bank of St. Louis. The data is collected from the FRED database. The FRED database uses data from the Board of Governors of the Federal Reserve System, the Federal Reserve Bank of Philadelphia, the Federal Reserve Bank of St. Louis, the Office of Federal Housing Enterprise Oversight, The White House Council of Economic Advisors and Office of Management and Budget, the Congressional Budget Office, the U.S. Department of Commerce, the U.S. Department of Housing and Urban Development, the Bureau of Labor Statistics and the U.S. Department of the Treasury.

2. Carmen Reinhart, Belen Sbrancia, The Liquidation of Government Debt, (NBER Working Paper 16893, March 2011), pp. 1-2.

3. "Hoping that substantial public and private debt overhangs are resolved by ([real] growth may be uplifting but it is not particularly practical from a policy standpoint. The evidence, at any rate, is not particularly encouraging, as high levels of public debt appear to be associated with lower growth." See Checherita and Rother (2010), Kumar and Woo (2010), and Reinhart and Rogoff (2010). Ibid. p. 2.

4. Ibid. p. 6. Reinhart and Sbrancia define 'financial repression' as: (1) Explicit or indirect caps or ceilings on interest rates, particularly (but not exclusively) those on government debts. These interest rate ceilings could be implemented through various means including: (a) explicit government regulation (for instance, Regulation Q in the United States prohibited banks from paying interest on demand deposits and capped interest rates on saving deposits). (b) In many cases ceilings on banks' lending rates were a direct subsidy to the government in cases where the government borrowed directly from the banks (via loans rather than securitized debt); (c) the interest rate cap could be in the context of fixed coupon rate non-marketable debt; (d) or it could be maintained through central bank interest rate targets (often at the directive of the Treasury or Ministry of Finance when central bank independence was limited or non-existent). (2) Creation and maintenance of a captive domestic audience that facilitated directed credit to the government. This was achieved through multiple layers of regulations from very blunt to more subtle measures. (a) Capital account restrictions and exchange controls orchestrated a "forced home bias" in the portfolio of financial institutions and individuals under the Bretton Woods arrangements. (b) High reserve requirements (usually non-remunerated) as a tax levy on banks. (c) Among more subtle measures, "prudential" regulatory measures requiring that institutions (almost exclusively domestic ones) hold government debts in their portfolios (pension funds have historically been a primary target); and (d) transaction taxes on equities also act to direct investors toward government (and other) types of debt instruments. (e) Prohibitions on gold transactions. (3) Other common measures associated with financial repression aside from the ones discussed above are, direct ownership (China or India) of banks or extensive management of banks and other financial institutions (i.e. Japan). Restrictions of entry to the financial industry and directing credit to certain industries are also features of repressed financial markets.

5. M. Belen Sbrancia, Debt, Inflation, and the Liquidation Effect, (Department of Economics, University of Maryland, August 2011), p. 1.

6. The main focus of the paper was between 1945 and 1980.

7. Ibid. p. 1, "There is a third channel (changes in the market value of the debt), but this is shown to be less important at least for the period under study."

8. Ibid. p. 5.

9. Reinhart, Sbrancia, op. cit., p. 34.

10. Irving Fisher, "The Money Illusion", (First Edition, 1928, Wilder Publications, Blacksburg), p. 43.

11. Ibid. p. 48.

12. In our original "The Gold Price: To print or not to print, that is the question" paper, we targeted a US Federal Government debt to GDP ratio figure of 49% (i.e. its long term median level. We have since updated this figure to 60% based on a paper published by the IMF in 2010 referred to at the bottom of Chart 1.

13. The money base is highly liquid money that consists of coins, paper money (both as bank vault cash and as currency circulating in the public), and commercial banks' reserves with the central bank.

14. The money multiplier is defined as M2 dividend by the money base. M2 is broadly defined as the currency in circulation plus customer deposits with commercial banks.

15. The velocity of money is the average frequency with which a unit of money is spent on new goods and services produced. Velocity has to do with the amount of economic activity associated with a given money supply. It is measured as: nominal GDP divided by M2.

16. James Tobin, A General Equilibrium Approach to Monetary Theory, (Journal of Money, Credit and Banking, Vol. 1, Feb. 1969), p. 26, 29.

17. Reinhart, Sbrancia, op. cit., p. 34.

18. Paul A. Samuelson, William D. Nordhaus, Economics, (19th Edition, 2010, McGraw Hill), pp. 353-354.

19. Tobin, op. cit., p. 29.

20. Sbrancia, op. cit., p. 36.

21. "This evolution reflects a recognition that when foreign exchange markets are deep and liquid (and the capital account is open), the effects of intervention on the level of the exchange rate are generally short-lived. Moreover, under these 'normal' circumstances, the practical difficulties involved in determining what the 'fair value' of an exchange rate should be suggest that it is difficult for policy-makers to systematically improve on market outcomes, particularly in real time. Nevertheless, in instances of severe market dysfunction, intervention can exert an important stabilising influence on the foreign exchange market." Vicki Newman, Chris Potter and Michelle Wright, Foreign Exchange Market Intervention, (RBA Bulletin, December Quarter 2011), p. 76.

22."The Reserve Bank has been very reluctant to enter the market to influence the price of the dollar. The currency this week traded at a four-month high of $US1.055 and a record €0.8588, after touching a record high earlier this year on a trade-weighted basis, at 78.6 index points. "The logic is that foreigners want to hold more of our currency – they're not wanting to buy more of our goods, they want to just hold more of our currency," Professor McKibbin told The Australian Financial Review. "So the optimal response is just to supply them with more of our currency and not to let that affect the economy. If you don't supply them with more currency, then they will still buy more which will drive up exchange rates and then that will be changing relative prices in the Australian economy, which you don't want to change." Joanna Heath, McKibbin urges RBA to tame $A, (Australian Financial Review, 02 August 2012).

23. Buttonwood, War Games: Another battle to achieve currency depreciation, (The Economist, 19th January 2013).

24. Glenn Steven, Capital Flows and Monetary Policy: Remarks to 'Investor Insights: ANZ Asia Pacific 2006' Seminar, (Reserve Bank of Australia, 17 September 2006).

25. **China**: fixed exchange rate to the USD. **Japan**: Shinzo Abe, the new prime minister, has promised bold stimulus to restart growth and vanquish deflation. He has also called for a weaker yen to bolster exports; it has since fallen by 16% against the dollar and 19% against the euro since the end of September (when it was clear that Mr Abe was heading for power). **Brazil:** Introduced taxes on foreign purchases of fixed-income assets between 2006 and 2011. **Switzerland**: In 2011 Swiss National Bank pledged to cap the value of the currency at SFr1.20 to the euro by creating new francs as and when necessary.

26. From December 1932 to March 1933, as the national banking system careened towards collapse, the Atlanta Fed repeated this performance, and advanced funds to "member banks on any asset having value (Gamble, 1989, pp. 22-23)." At that time, as they had throughout the contraction, the leaders of the Federal Reserve Bank of Atlanta advocated Bagehotian doctrines. The Governors of the Atlanta and New York Federal Reserve Banks, Eugene Black and George Harrison, "were the only Reserve Bank governors who advocated significant open-market purchases during the depression (Wheelock, 1991, p. 97; see also Meltzer 2003 p. 293)." Black's insistent advocacy of expansionary initiatives eventually won the ear of Congress and the President, who appointed Black chairman of the Federal Reserve Board of Governors in 1933. Gary Richardson, William Troost, Monetary Intervention Mitigated Banking Panics During the Great Depression: Quasi-Experimental Evidence from the Federal Reserve District Border in Mississippi, 1929 to 1933, (May 2005), pp. 9-10.

27. In our calculation of the cost of equity we also adjust for the market value of franking credits.

28. NPAT growth is used a proxy for dividend growth.

29. Sbrancia, op. cit., p. 53.

This paper was written by Michael Fitzsimmons
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