Macro

Global Markets Research

Commodities

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Deutsche Bank

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# Gold: Adjusting For Zero

Market Update

- **Zero for growth, yield, velocity and confidence:** We believe there are nearly zero real options available to global policy-makers. The world needs growth and is willing to go to extraordinary lengths to get it. This is creating distortions where old rules don't seem to apply and where investors face a number of paradoxes.

- **Golden prospects:** We believe the macro-economic environment for gold is once again turning more positive and forecast prices to exceed USD2,000/oz in the first half of 2013. We believe the growth in supply of fiat currencies such as the USD will remain an important driver.

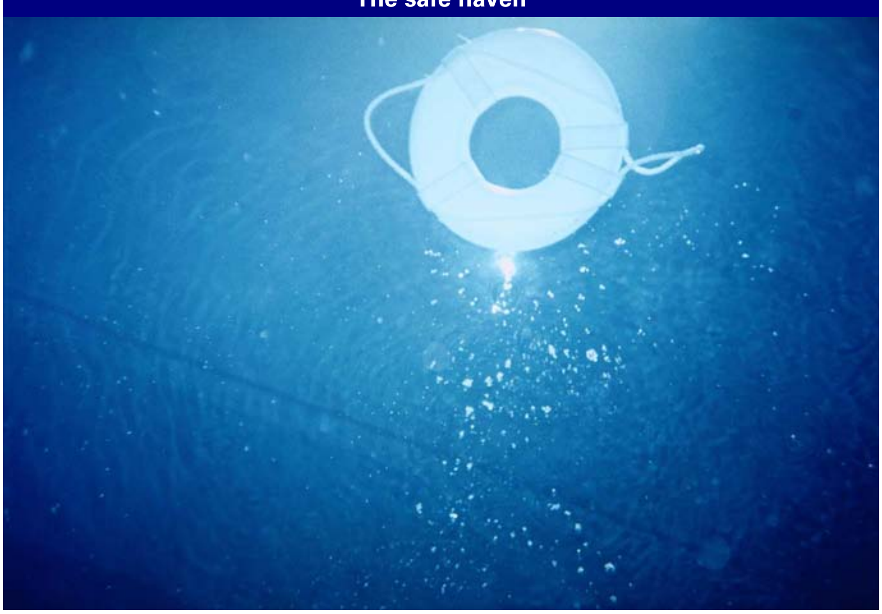
- **Gold as Money:** We describe the gold vs. fiat currency debate from the perspective of Gresham's Law. To describe it in the simplest of terms, gold's value depends in large part on the degree of 'badness' of bad money. This lends a certain art to the science of forecasting gold prices.

- **Gold as Value:** We believe the actions of central bankers continue to create disincentives for capital formation. Capital is an important resource, current monetary policy signals the opposite.

- **Gold and Emerging Markets:** Investment flows into gold are changing significantly with the emerging world a growing source of demand. China is poised to overtake India as the world's largest consumer of gold jewellery. Emerging market central bankers are a key source of long-term gold demand, in our view.

- **A future gold standard?** While we believe it can work, but remain skeptical that it will be seriously considered.

The safe haven



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## Zero for growth, yield, velocity and confidence

We believe the balance of 2012 could remain challenging for investors, given the many negative indicators and warning signs. Certainly extremes in leverage in the Western economies and questions regarding growth in China present investors with a worrying post-2012 future. However, in our view there are nearly zero real choices available to global policy makers. The world needs growth and it is willing to go to extraordinary lengths to get it. This is creating distortions where old rules don't seem to apply and where investors face a disturbing paradox:

1. Those who are right are likely to be wrong
2. Those who lose, often win
3. Those who are imprudent can be rewarded
4. Dumb money can win

In the first instance, we believe investors are right to worry; the imbalances in the global economy are extreme and need to be urgently addressed, proactively. This is unlikely however, making a necessary future adjustment likely to be involuntary and therefore unexpected. Those who are right are likely to be wrong for a considerable period of time.

In the second instance, as has been witnessed over the past several years; those who risk and lose, often don't in fact lose. Loss-makers are compensated by a system that is unable to tolerate the consequences of failure. Moral hazard continues to be encouraged.

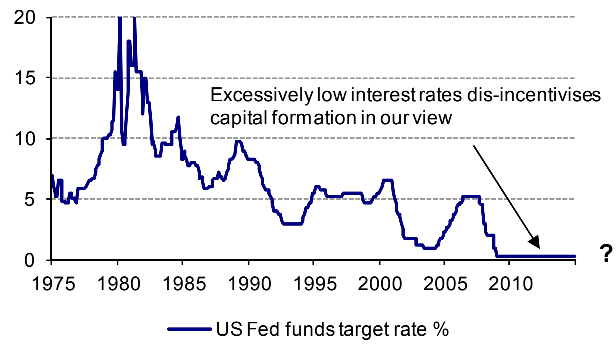
In the third and fourth instance we point out that those that have borrowed too much, those who have been negligent in managing their own personal finances are not likely to suffer the bitter consequences of such folly. The financial system in fact remains oriented to encourage further leverage and risk-taking. It is better to be a debtor than a creditor.

It seems that the 'smart' money needs to adjust for the irrational or emotional characteristics (and therefore poor predictability) of the current economic environment. This makes investment simpler in the sense that one only needs look to what is 'easiest' rather than what is 'right'.

### Golden Prospects

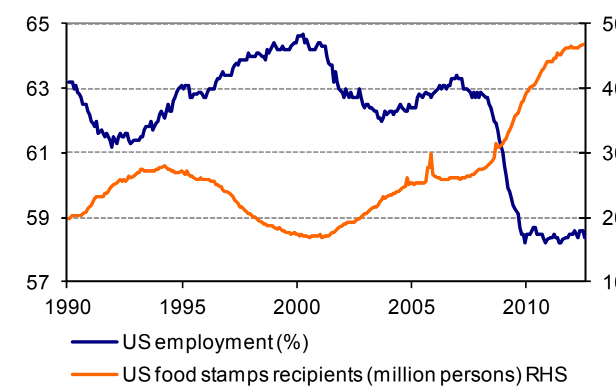
When one has accumulated too much debt, while the right thing to do is pay it back, the easiest thing to do is default and hope your creditor has a short memory. We believe the Western economies in general are biased towards the latter, whether they will admit it or not. We expect a soft default will likely be the preferable course of action; a managed form of currency depreciation through various stages of Quantitative Easing or successive bailouts by central banks of the banking system.

**Figure 1: US interest rates – near zero**



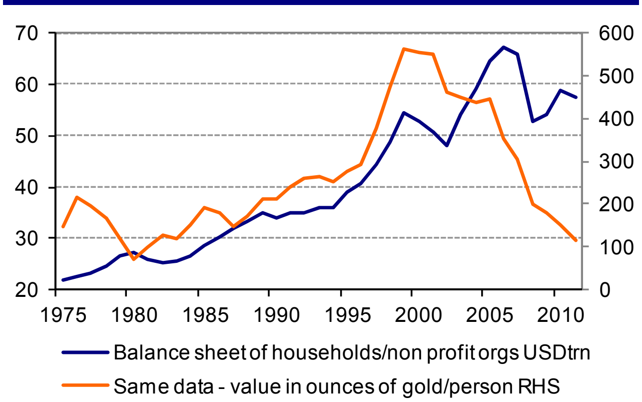

Source: Deutsche Bank

**Figure 2: US Food stamp recipients – all time high**




Source: USDA, Deutsche Bank

**Figure 3: US wealth in USD and Gold ounces/person**




Source: US Federal Reserve, Deutsche Bank

This 'easy' scenario is good for gold, in our view. We expect the gold market to continue to respond positively to further central bank activity – which in our view is likely to continue to be biased towards further monetary expansion.

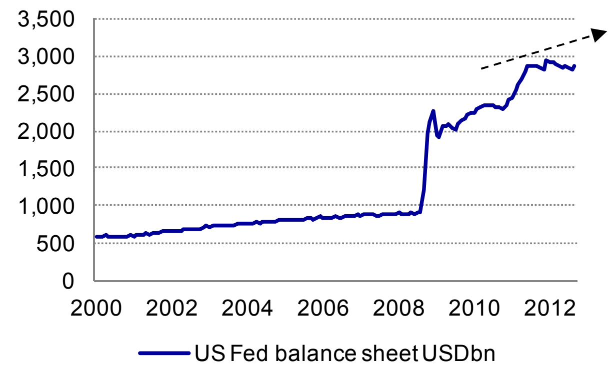
US Fed: The Fed remains highly accommodative on monetary policy. On 13 September, the Fed announced QE3, involving the extension of 'operation twist' and the introduction of new buying, on the order of USD40bn per month of mortgage backed securities. Furthermore the Fed committed to keeping rates low until mid-2015. The US economy continues to struggle with high unemployment and slowing manufacturing growth. We think this latest round of QE may not be the last; and therefore see the US Fed as a continuing source of strength for the gold market.

China PBOC: The Chinese government has been more restrained in its stimulus actions than expected. It has remained very much on the sidelines as the Chinese economy has slowed and there are indications that on-the-ground conditions could be worse than is widely thought – or than GDP/IP data would suggest. This may be partially a consequence of the transition of government which is expected to be finalised in October. Furthermore we believe the PBOC may see benefits in following the Fed's lead on stimulus, thereby co-ordinating a more synchronous global support for growth. Greater supportive actions may be forthcoming in Q4.

Eurozone ECB: Mario Draghi's 'big bazooka' was finally evinced over the past month with the announcement of the ECBs plan to alleviate peripheral Europe's finances with potentially unlimited bond purchases. Further support has come from the German court's recent dismissal of constitutional complaints. Nevertheless we remain concerned regarding the true flexibility of the ECB and long-term opposition by Germany regarding the use of its balance sheet. We see this region as a source of potential deflationary threat and therefore a possible catalyst for weaker gold prices.

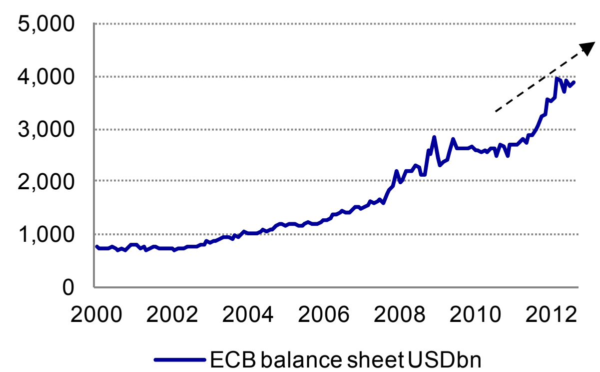
**Overall, we believe that the macroeconomic environment for gold is turning more positive and forecast prices to exceed USD2,000/oz in the first half of 2013.** We believe the growth in supply of fiat currencies, such as the USD (and dollar linked currencies such as RMB), is an important key driver, followed by concerns regarding inflation and inflation volatility which could follow. Furthermore we believe the low-interest rate environment is likely to continue to enhance gold's attractiveness given the negligible opportunity cost and longer-term fears regarding adequate stores of value and value/wealth preservation.

**Figure 4: US Fed balance sheet expansion continues...**



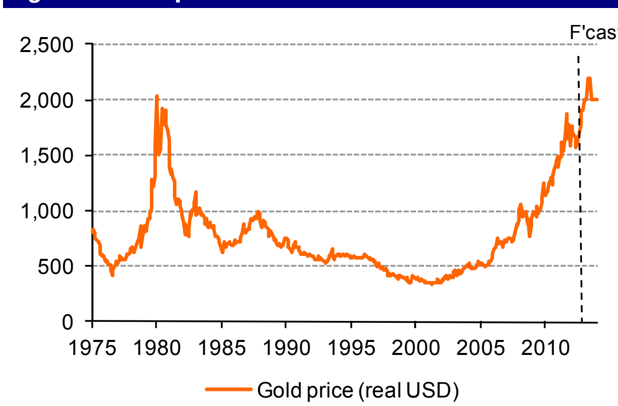

Source: Deutsche Bank

**Figure 5: ECB balance sheet expansion continues...**




Source: Deutsche Bank

**Figure 6: Gold price trend and forecast**




Source: Deutsche Bank

## Gold as Money

Gold is widely misunderstood, in our view. Many investors don't understand how it is valued and why it behaves the way it does. Many investors are uncomfortable that gold is not 'consumed' like other commodities – it is not eaten, or burned or forged as food, energy or industrial metals would be.

Gold has no use, according to many. But then gold is not really a commodity at all. While it is included in the commodities basket it is in fact a medium of exchange and one that is officially recognised (if not publically used as such). We see gold as an officially recognised form of money for one primary reason: it is widely held by most of the world's larger central banks as a component of reserves. We would go further however, and argue that gold could be characterised as 'good' money as opposed to 'bad' money which would be represented by many of today's fiat currencies. In describing gold as such we refer to Gresham's Law – when a government overvalues one type of money and undervalues another, the undervalued money (good) will leave the country or disappear from circulation into hoards, while the overvalued money (bad) will flood into circulation.

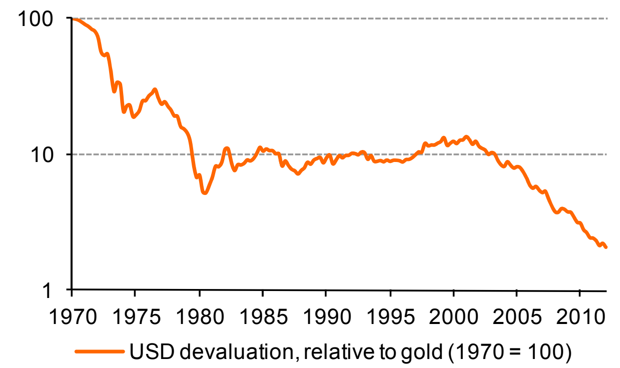
Support for this assertion comes from our interpretation of US government action at the end of dollar convertibility in 1971 (end of Bretton Woods system). The US ended convertibility because it did not want to send its gold to France or Britain who were demanding gold (or about to) rather than dollars; this in response to the decline in perceived value of the dollar due to profligate government spending during the 60s. The US government valued its 'good' gold money more than its 'bad' paper money and therefore set about hoarding it – officially. Thereafter the USD, the bad money, became the world's reserve currency, (with immense benefits for US government funding, in our view).

Our 'good' money assertion holds from this point, but for a short window during the late 1990s when several western governments (Britain, Canada, Switzerland, etc.) decided to convert their gold to other (presumably more valuable?) fiat currencies – most likely the US dollar. We would suggest that the US government did not object.

### Characteristics of 'good' money

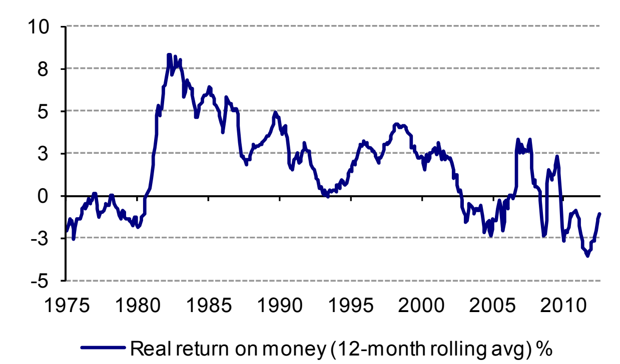
In our view the ideal medium of exchange must balance the paradox of representing value while having little intrinsic value itself. There are very few media which can do this. Fiat currencies physically have no use other than that which is prescribed to them by government and accepted by the public. That fiat currencies cost little to produce is of a secondary concern and we believe, quite irrelevant to the primary purpose.

**Figure 7: USD devaluation vs. gold (rebased) log scale**



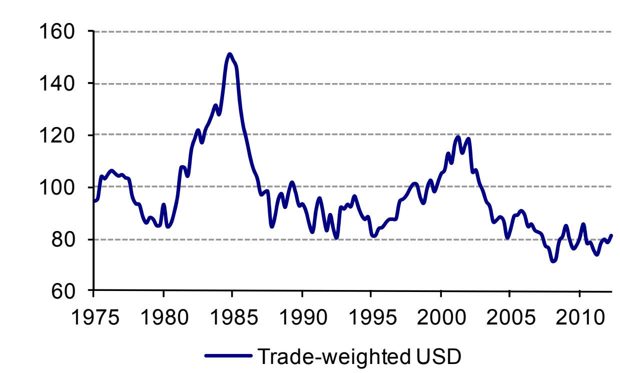

*Source: Deutsche Bank*

**Figure 8: Real return on money (USD)**




*Source: Deutsche Bank*

**Figure 9: US trade-weighted dollar**




*Source: Deutsche Bank*

Gold is neither production good nor consumption good. Jewellery we see as a form of storage or hoarding (the people of Portugal have all but exhausted their personal gold stores – hoarded in the form of jewellery – having converted them to survive the crisis). If gold did have a meaningful commercial use we believe that it would make the metal less attractive as a medium of exchange as the value of the metal in whatever market it was used in could periodically interfere with its medium-of-exchange role.

That gold is fairly costly/difficult to obtain is of secondary relevance to the value that it is used to represent in our view. The fact that this characteristic has throughout history continuously frustrated governments reliant on a gold-standard and therefore unable to expand their spending at will is secondary. Nevertheless we do believe that scarcity could be an important factor in ensuring the longevity of a currency. Scarcity may create some stability in the value that it represents and in turn impact the confidence with which the public regard it.

Other characteristics are important of course in fulfilling the requirements for 'good' money: indestructibility, divisibility, transportability and universal acceptability.

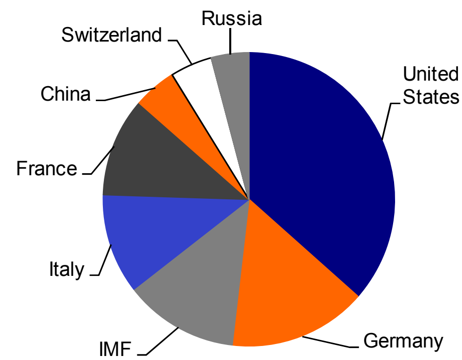
The conclusion from our overview of gold functionality is that the key difference between good and bad money is scarcity (imposed supply discipline could be another way of describing this). Fiat currencies can be scarce but this scarcity may change on a whim which may both impact its tenure as currency and/or relegate it to being characterised as bad money. Gold is truly scarce, having a concentration of around 3 parts per billion in the Earth's crust. If all the gold ever mined were to be put in one spot it would consist of a cube roughly 20 metres per side (see Figure 31). Furthermore and equally important, the rate of gold supply growth is normally quite slow and reasonably predictable.

## Gold's Price Behaviour

To describe it in the simplest of terms, gold's value depends in large part on the degree of badness of bad money. Following on from the previous discussion this factor is significantly reliant on relative scarcity.

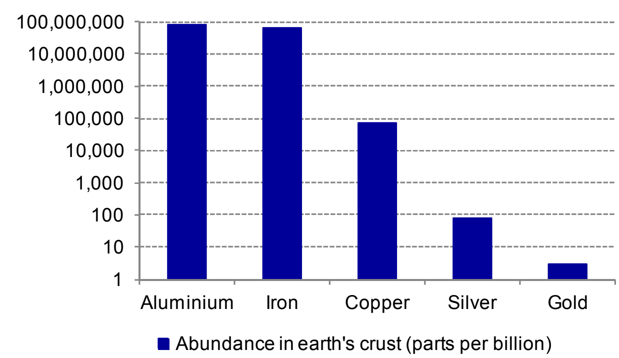
If bad money becomes less bad (supply growth constrained and interest rates at appropriate levels), then one would expect the desire/incentive to hold good money becomes less obvious. Hoarding of good money would, according to theory, fall. Gold's utility in this case would decline and prices would fall relative to the US dollar; the degree of this fall would likely be determined by the required supply contraction and therefore gold production costs (this secondary pricing factor becoming more important in determining value as the primary currency element diminishes in our view).

**Figure 10: Top central bank holders of gold (Q2 2012)**



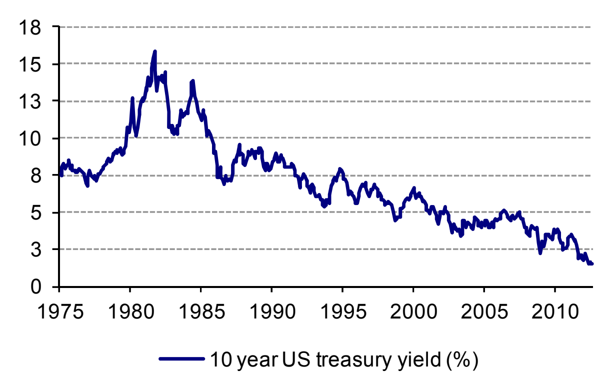

Source: WGC, Deutsche Bank

**Figure 11: Relative scarcity – selected elements**




Source: WebElements, Deutsche Bank

**Figure 12: US treasury yields**




Source: Deutsche Bank

If however, as seems to be the case currently, bad money becomes increasingly bad, then one would expect the desire/incentive to hold good money to increase coincident with the perceived deterioration in functionality of the bad money as a currency. In short this is why the gold price has been appreciating over the past 10 years in our view – coincident with the growing over-valuation or increased 'badness' of the US dollar.

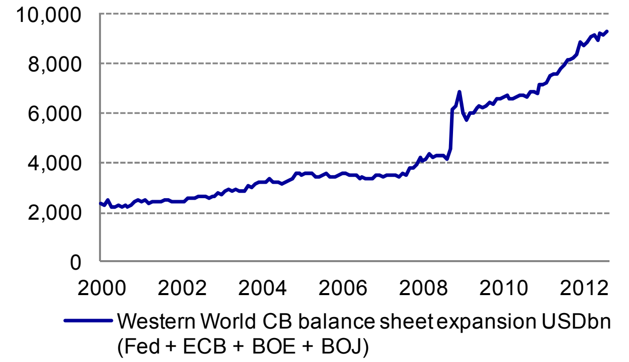
Throughout history there has been one consistent factor which has contributed to the over-valuation of fiat currencies vs. gold: excessive borrowing (often associated with war). In the past 100 years alone the US has experienced this twice: 1934 and 1971. In 1934 the dollar was devalued by 42% vs. gold and in 1971 the dollar was initially devalued by 8% and then by considerably more as the market pushed gold prices higher when inflation took hold into the late 70s (a function of easy monetary policy of the 60s, war and a supply shock in oil). History now appears to be repeating itself with excessive borrowing resulting in a new phase of devaluation for the dollar although the current situation may be unprecedented in modern history for the breadth and scale of the value adjustment that may be necessary.

We believe that the gold price is highly price sensitive to two monetary factors, 1) excessive fiat money supply growth (i.e. a rate above that justified by population and unlevered productivity growth combined) and 2) money velocity. We see velocity as an important factor as the higher the money velocity (greater transactions) the greater the accuracy in the relative pricing of economic goods, particularly during environments of changing money supply. Nevertheless we attached primary importance to supply.

We understand that some economists would argue that it is not sufficient to look only at money supply, that demand for money is also important. We disagree with this assessment; money is not a production/consumption good as we have previously discussed. What is the marginal demand for money? The question itself is a non sequitur. There is constant demand for money whatever the economic condition. The important questionm of coursem is how this money is used once it is acquired.

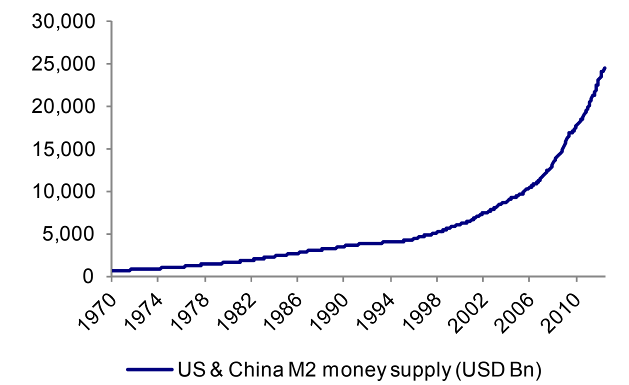
In Figure 14 we illustrate the conventional metric to view money supply, M2, for both the US and China. In our view it is important to use both regions given the RMB peg, creating a kind of USD axis which dominates the global economy. In Figure 15 we combined the Fed balance sheet and China F/X reserves. We see this as a potentially superior representation of incremental money supply. Note that much of this expansion is backed by credit; credit fuelled spending by the US consumer for Chinese products resulting in increased China reserves combined with the Fed bailouts of the US financial system.

**Figure 13: Western World CB B/S* expansion**



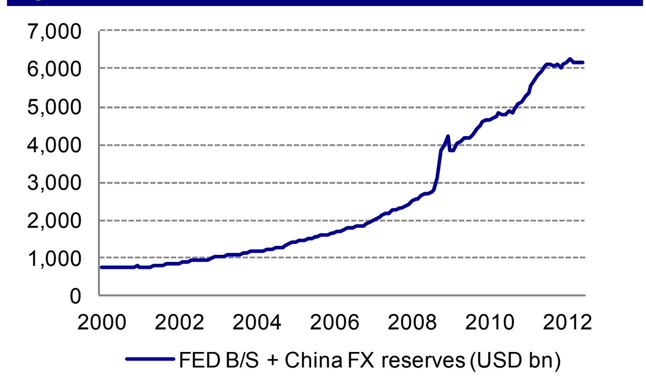

Source: Deutsche Bank * CB B/S= central bank balance sheet

**Figure 14: US and China M2 money supply**




Source: Deutsche Bank

**Figure 15: US Fed B/S and China FX reserves**




Source: Deutsche Bank

There may be some double counting in the combination of this data but we don't believe it is significant.

Figure 16 shows the relationship between the growth in USD supply and appreciation in the gold price. By association of course we imply causation which should always be treated with caution (as Hume would advise). We previously argued however that by using historic precedent excess supply can be associated with over-valuation; we make this assertion here.

Taking the ratio between the two data series we derive Figure 17. The ratio between gold and money supply remained fairly stable until late 2008, coincident with the collapse of Lehman and a peak in the intensity of the financial crisis at that time. Interestingly the expansion of the Fed balance sheet at that time actually resulted in an initial de-rating of gold against the supply of dollars. Yet this is opposite to what we have argued; instead we should have expected to see gold's price move higher coincident with the increase in supply. What happened?

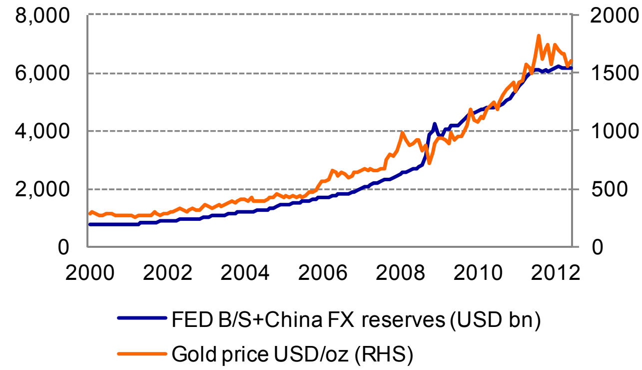
Figure 18 takes our analysis a step further by including US CPI (we admit that is a poor gauge of inflation but it serves its purpose sufficiently here in our view). In late 2009 deflation emerged in the Western economies as consumption contracted and money velocity sank. On this basis we believe that while the supply of money grew considerably, valuations in US dollar terms were impacted by the constraints on the flow of money through the economic system at the time. We note that much, if not all, of the new money created by the Fed went to banks which then purchased US short-term bonds – we argue that this hoarding occurrence temporarily inversed the good/bad money dynamic between gold and the dollar. Gold did not see increased hoarding at this time as the principal beneficiaries of the increase in money supply must operate within the confines of the fiat regime and do not have the flexibility that the public and the state do.

**Implications for forecasting**

How does one go about forecasting gold prices? Implied in our above argument is the necessity to forecast future central bank action with respect to monetary policy and also how additional money would subsequently flow through to the rest of the economy. The latter aspect, effectively: how will the individuals receiving this new money spend it has important implications for inflation. In the case of 2008, the new funds were used by financial institutions to bolster their liquidity requirements – resulting in inflation in a particular asset class benefiting from such purchases – US treasuries.

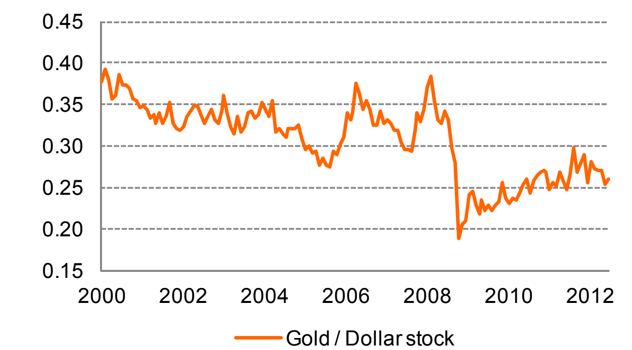
In a future QE scenario the question is not only who will receive this incremental money but also, how it will be spent given this could lead to selective price inflation with repercussions for gold price performance.

**Figure 16: Fed B/S + China FX and Gold price**



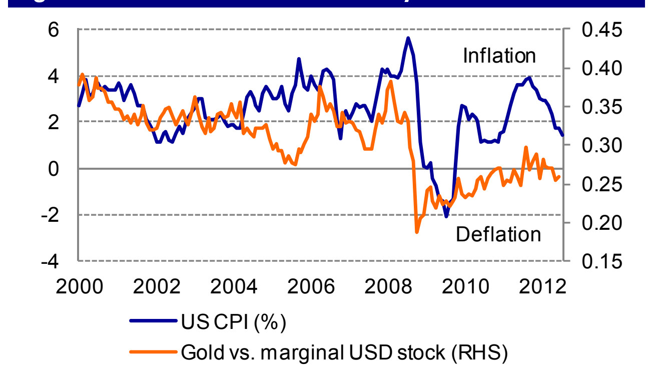

Source: Deutsche Bank

**Figure 17: Gold price vs. Money stock***




Source: Deutsche Bank *Incremental USD stock as described by the Fed B/S + Chin FX reserves

**Figure 18: US CPI vs. Gold / Money stock ratio**




Source: Deutsche Bank

While we believe the US Fed could continue to expand its balance sheet further in the future, the extent of money expansion is difficult to determine. But even more challenging is predicting how (if?) this money will move through the broader economy.

For example, if the Fed were to announce a QE of a magnitude of USD1 trillion then the gold price would likely move to USD1,900/oz ±100/oz; assuming perceptions of inflation remained the same. If however inflationary fears escalated, a price of USD2,500/oz could be justified in our view. In this latter scenario, we expect that this excess money would need to be more broadly distributed. It is possible that this could occur if in fact commercial banks who are principal beneficiaries of the Fed's balance sheet expansion in turn expand their balance sheets to the benefit of consumers and/or corporations.

For gold to react to its maximum potential new 'bad' money needs to be created and subsequently disseminated efficiently into an economy where a sufficient frequency of transactions results in a wholesale re-pricing of production/consumption goods.

## Gold as Value

In our discussion on the prospects for the gold market we believe it is instructive to review public motive; by this we mean the public's perception of monetary utility and therefore its value. Economics, modern or otherwise, begins with a fundamental building block, this is capital. Capital effectively represents one thing: human effort – a manifestation of either physical or intellectual labour. A convenient way of considering this is to think of the capital that you posses as cumulative effort or working time. But how is this effort represented? How is this effort stored for later use? How is your effort being priced? This is where some method for measuring the relative value of capital is needed, a medium by which one may exchange this effort for someone else's. An intermediary for capital exchange or money is necessary.

Presenting capital in this way, most would consider (on a quite personal level) that it is an important and valuable resource. Furthermore, given the utility of money in its function as an intermediary for capital exchange, this respect for value should be well associated. Indeed one could go further and suggest that the role of managing money represents one of considerable responsibility given, once accepted by society, the trust/confidence that must be associated with such an instrument.

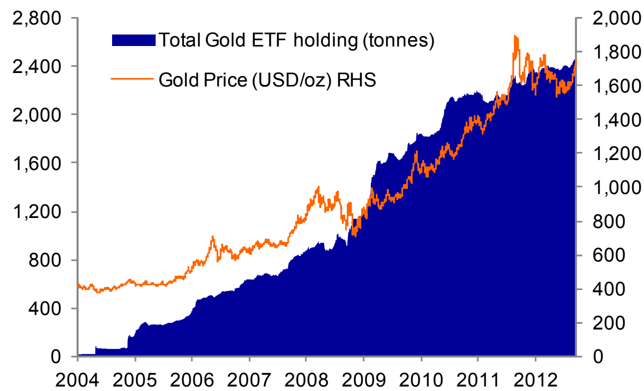
Once there is sufficient confidence in the manner in which to efficiently and safely 'store' liquid capital the incentive to build or produce more capital is introduced. This characteristic, in our view, is represented in the future perceptions of value stability and, ideally, bolstered by an attractive real return-on-capital. In fact we would argue that sufficient positive real returns on capital act as an important public/corporate incentive for ongoing sustainable capital formation within an economy. Certainly the free market should, in our view, be structured such that the pricing of capital is reflective of the supply/demand of capital itself.

In this matter, we would clarify that capital and money are not the same.

### How safe is your effort?

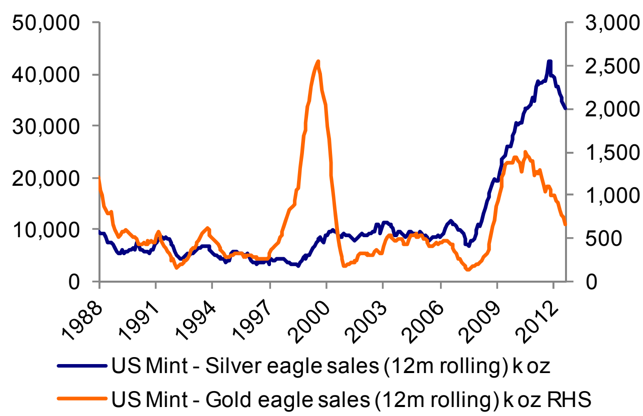
When was the last time you read your money? It is useful to do so as it will call attention to its subtle warnings. A £20 note reads: *I promise to pay the bearer on demand the sum of twenty pounds*. Two immediate questions arise: 1) 20 pounds of what? 2) Who is *I*, and can he/she be trusted? The US dollar bill is more prosaic, its nebulous message being: *This note is legal tender for all debts, public and private.* Our only comment would be that since fiat money is inherently a form of obligation (liability) that it is simply a tool for exchanging debts of different riskiness, and thus underscores that there is an inherent risk in such an instrument.

**Figure 19: Gold ETF holdings**



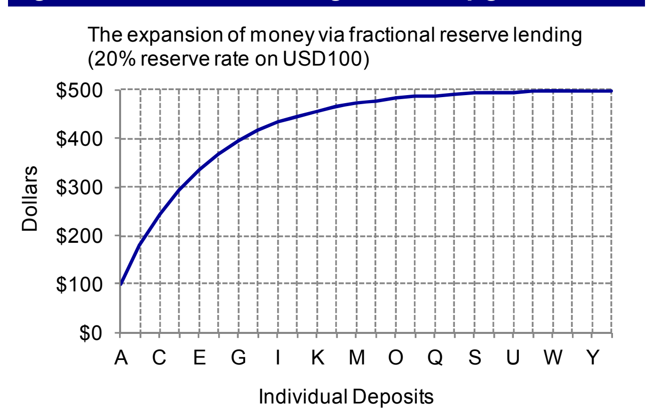

Source: Deutsche Bank

**Figure 20: US Mint – Gold/Silver coin sales**




Source: United States Mint, Deutsche Bank

**Figure 21: Fractional banking and money growth**




Source: Deutsche Bank

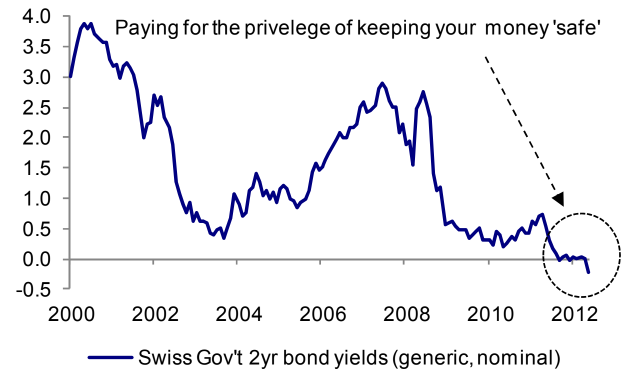
In their role as managers of money, central bankers can exert a considerable influence on the relative value and rate of capital formation in their respective economies, with some influencing capital far beyond their own borders. Under ideal conditions the formation of money should, in our view, parallel the formation of value created within a society (a combination of population growth and per capita productivity), this, combined with sufficient money velocity (trade/transactions) should, ceteris paribus, result in genuine price stability. However, we believe that the introduction of the assumption of future value creation (future individual/corporate effort) in the form of credit can create distortions. Credit is not necessarily negative and in fact may provide an economy with sufficient flexibility to actually enhance price stability over time. However excessive credit formation – the assumption of future value creation which does not adequately reflect the risk that this value creation may not occur – may, in our view, create negative or counterproductive distortions in how capital is valued over time. In such a case we believe that this could result in an excess in supply of perceived capital, resulting in a mispricing or undervaluation of such a resource. Extending this further, the impact of ultra-accommodative monetary policy (money printing) creates additional distortions and, in our view, could impact the rate of capital formation given the disincentives that could be generated in such an environment. In this regard, money becomes truly a mix of genuine capital (earned effort) credit and in the extreme, zero value paper. Capital effectively becomes increasingly disassociated from money during an ultra-accommodative monetary phase in our view (or at the least, threatens to be so).

Over the past several years the vast increase in supply of paper money coincident with a low real yield has important negative implications for the future value of your efforts. Furthermore, **the incentive to increase your effort has been necessarily curtailed**. We believe that effort stored in another medium, such as gold, may have more encouraging prospects and represent an increasingly ideal medium to represent individual effort.

**Another way to look at debt**

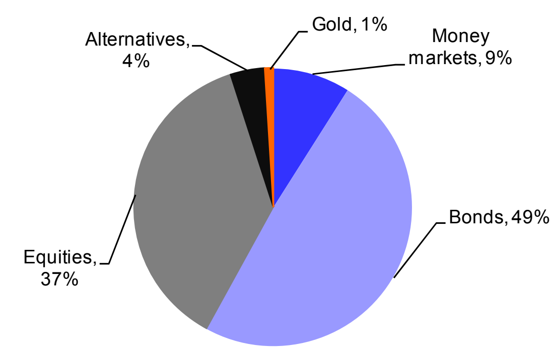
Simplistically, if capital is stored effort, then debt is borrowed effort: either someone else's or your own estimated future output. With the rent for this effort (yield on capital) currently mandated at a very low level, this implies there is a considerable incentive to borrow. Furthermore the regional mismatch in the value of human effort, productivity, while likely a temporary phenomenon, also carries a strong incentive: to borrow capital where it is perceived to be growing rapidly (emerging markets) as compared to other regions (Western World).

**Figure 22: Swiss bond yields - negative**



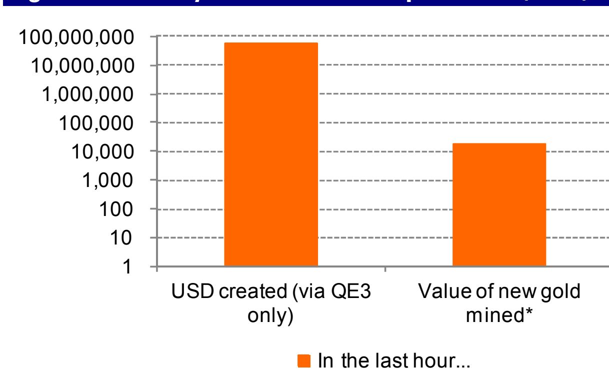

Source: Deutsche Bank

**Figure 23: Global asset allocations**




Source: WGC, Deutsche Bank

**Figure 24: Money created over the past hour (USD)**




Source: Deutsche Bank, * Valued at USD1,770/oz

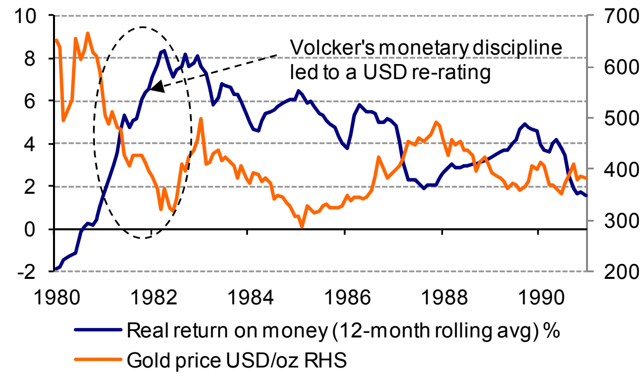
The current monetary environment is oriented towards encouraging further borrowing. This should come as a surprise given the excessive debt levels in many economies currently, and at multiple levels within these economies. This is distinct from a free market system where the cost of debt would in fact rise, coincident with the growing risks with respect to capital return. This would necessarily involve a disincentive to borrow and instead incentivise the creation of additional capital. Furthermore a contraction in credit would normally coincide with a considerable deceleration in money supply growth and probable decline in money velocity as trading/spending levels moderated. Any deflationary pricing environment resulting would, in our view, only serve to exacerbate the incentive to build liquid capital. We believe that such a scenario represents a kind of natural re-balancing of credit excesses.

The economic strategy in favour by western central bankers is one where the cost of borrowing is being kept artificially low which disables the normal rebalancing which we believe would ordinarily occur. The Western World has quite obviously borrowed excessively from its own future and from others (and perhaps their futures as well). Capital formation has in fact been disincentivised which worsens this imbalance. And while deflation threatens from time to time, an inflationary bias is being pursued, augmenting the incentive to spend.

China on the counter has arguably been highly productive, largely benefitting from its advantage in cheap labour. Interestingly we see China as a critical component of this massive phase of credit expansion which has been experienced in the West. China has absorbed some of the normal inflationary signals which would usually have evinced themselves with such credit expansion; furthermore China itself has been a recipient of credit-derived liquid capital as US consumers borrow to fund the purchase of Chinese goods. The Chinese are lending to the US while Americans are buying using borrowed funds.

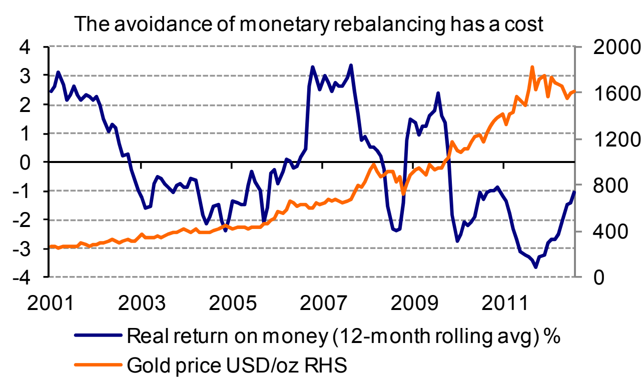
It's instructive to consider that in this context a debt default means that, conceptually, someone somewhere has worked for nothing or worse, that their future work is equally worthless.

**Figure 25: Volcker's discipline**



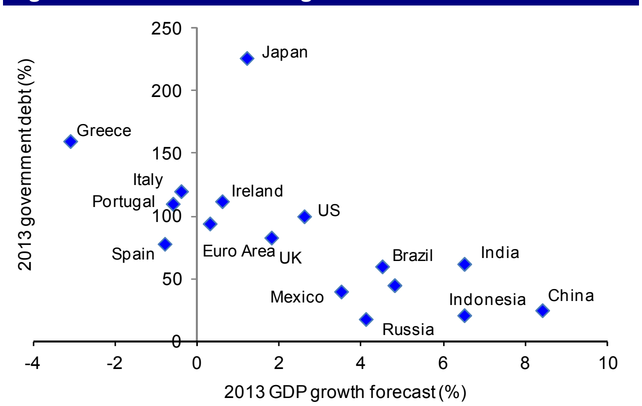

Source: Deutsche Bank

**Figure 26: The doves* now rule**




Source: Deutsche Bank *Dove = biased towards monetary accommodation

**Figure 27: Debt/GDP and growth (selected countries)**




Source: Deutsche Bank,

**Conclusion**

The Western World faces the prospect of having to return capital to its creditors (which include its children). This would entail a painful re-adjustment, particularly if the capital borrowed has not been used wisely. In order to avoid this pain, two things need to happen: 1) the Western World must undergo a renaissance of productivity – technological or resource related for example, or 2) the intermediary of capital exchange (money) must be adjusted. Since the first option is impossible to forecast (or more importantly, borrow off of), the second option is left.

The above issues do indeed seem to have impacted the public's perception regarding monetary risks and stores of value. It is been largely due to this concern that has motivated a considerable portion of the investing public to trade their paper currencies for gold bullion or other precious metals. Not only have gold ETF's been popular, but direct coin purchases from various regional mints as well. Certainly there has been a considerable deceleration in this trend over the past year, as risk perceptions have eased, however we believe that this bias will remain in place as long as monetary authorities continue to undervalue earned capital.

## Gold and Emerging Markets

Over the past decade there have been several key demand-related transformations in the gold market.

1) The most crucial change, and that which is primarily responsible for the rise in gold prices from around USD250/oz in 2001 to the current level of USD1,770/oz has been the growth in investor demand. This can be most easily observed by examining the increase in holdings of global gold ETF's but also in the physical demand observed in coin/bar sales in most regions around the world.

2) A second but nevertheless important change has been the regional shift in buying. Whereas 10 years ago, western demand (plus India) was dominant, global demand is now much more balanced, with Asian/Middle Eastern/Latam demand an increasingly important component. Asian demand in particular has grown dramatically, where China is expected to become the world's largest buyer of gold as soon as this year.

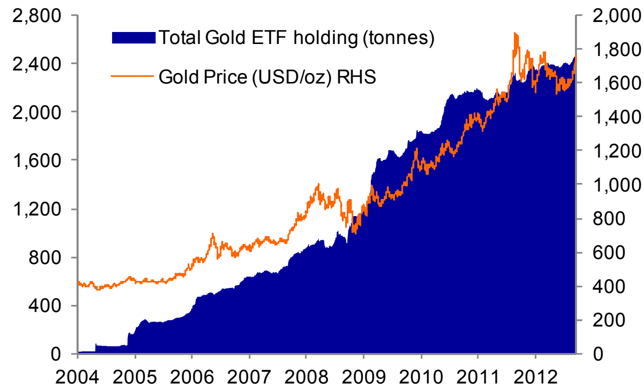
Not only are investment flows into gold changing significantly, but official sector (central banker) trading patterns have also been changing materially. While selling by Western European central banks has all but ceased, buying by Asian, Eurasian and Middle Eastern central banks has grown. Not only has official buying interest increased significantly over the past several years, but the breadth of this buying has been impressive as well; from quite small central banks in Eurasia, to larger regions such as Russia, China and Mexico.

We expect that emerging/developing markets, particularly those with positive current account balances, view the growing indebtedness in the Western World with some alarm. From a diversification perspective alone, many of these central bankers are looking at options other than the usual USD, JPY, GBP and EUR. In addition to CAD, AUD, NOK and other secondary currencies (which are noted resource dominated countries) gold is also being proactively considered.

### China

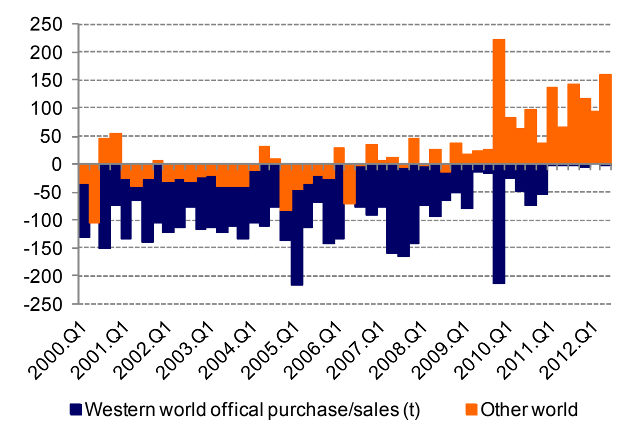
We would argue that China's long-term strategy on trade and finance likely includes a definitive position on gold. Given the possibility that China's could be the world's largest economy in the second half of the century we expect that at some point over the long-term the RMB may be in a position to challenge the USD as the world's reserve currency. If this is envisioned by the PBOC we would expect that in preparation for such an event and to support reserve currency legitimacy in the eyes of its trading partners, the country may see a stock-pile of gold rivalling that of the US as a requirement. On this basis we would expect that China could be quietly building its gold reserves.

**Figure 28: Gold ETF holdings**



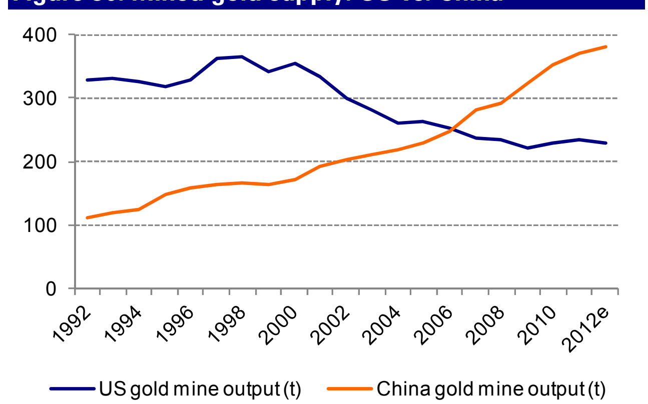

Source: Deutsche Bank

**Figure 29: Official sector purchase/sales, by region**




Source: GFMS

**Figure 30: Mined gold supply: US vs. China**




Source: GFMS, Deutsche Bank,

## A Future Gold Standard?

A common theme in discussing the gold market is the prospect for a new gold standard in the future. That such a topic is now common says much about the change in attitudes by investors, many who would have ridiculed the mere mention of such a thing as little as five years ago. It also, perhaps, gives a hint as to the desperation of investors in their search for assets which they believe may protect their wealth over the long-term, a period which may experience more than its fair share of event risk.

If gold were to regain its crown as the primary medium of exchange it would dramatically change the way that governments manage their economies – which some would say is a good thing given the results of their management skills thus far. Nevertheless, the imposition of a gold standard would limit the ability of government to affect the supply of money in the economy. The supply of money would rest entirely with the volume of gold holdings that a country would possess and grow in line with its trade balances plus domestic gold production (depending on domestic resources and whether these resources in fact became state property – which we expect should be of consideration).

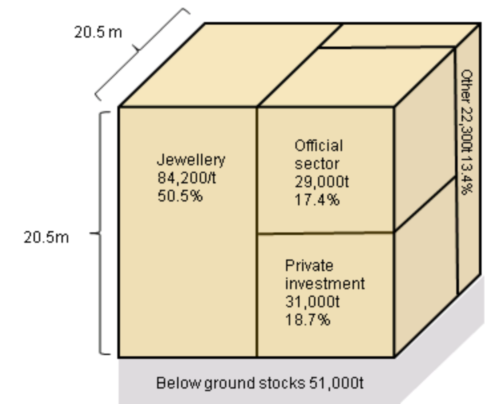
### Why it can work

Many economists shudder at the notion of a gold standard; this is understandable given the school of thought to which most adhere: Keynesian or Keynesian derivative. Keynes saw flexible monetary policy as an important tool in optimising an economy. Gold ostensibly removes this flexibility – and was therefore derided as a 'barbarous relic' by Keynes himself. In fact we agree that during certain periods of extreme economic imbalance, such as the Great Depression, substantial monetary flexibility may be required.

Most economists see the great problem of gold as twofold: 1) there is insufficient supply and 2) there is insufficient supply growth.

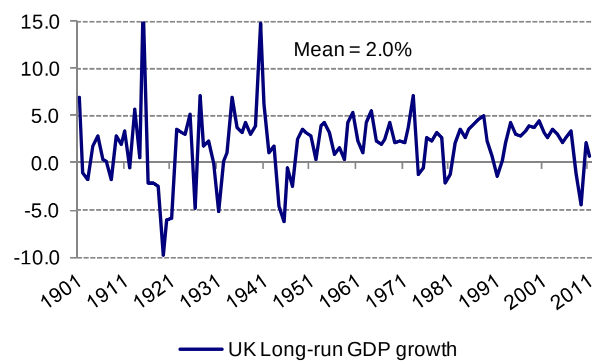
The first argument is spurious. The volume of gold is not important; instead it is the value that is ascribed to this gold that is important. A zero can easily be added to a paper bill to change its value; similarly it can be added to the value of an ounce of gold. Absolute values are in fact unimportant. As we have already asserted, gold is infinitely divisible. Does it matter that a paper bill is backed by a gram or a kilogram of gold? Theoretically it shouldn't matter in our view.

**Figure 31: Stock of gold**



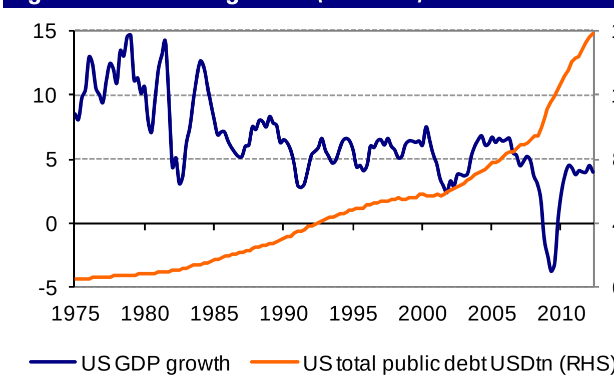

Source: WGC, Deutsche Bank

**Figure 32: Long-run UK GDP growth (from 1901)**




Source: Deutsche Bank

**Figure 33: US GDP growth (nominal) and US Debt**




Source: Deutsche Bank,

The second argument, in addition to being fallacious, shows a certain lack of humility. In order to achieve reasonable price stability within a growing economy money supply also needs to grow. The critical question is, how fast. The rate is important, grow the money supply too quickly and inflation results, too slowly and deflation is the consequence (assuming money velocity is constant in both situations).

We believe there are two key elements which are needed to approach an appropriate rate of money supply growth.

The first: population growth – as the number of users of money changes, a money supply adjustment is needed to prevent the distortions in pricing that this would create.

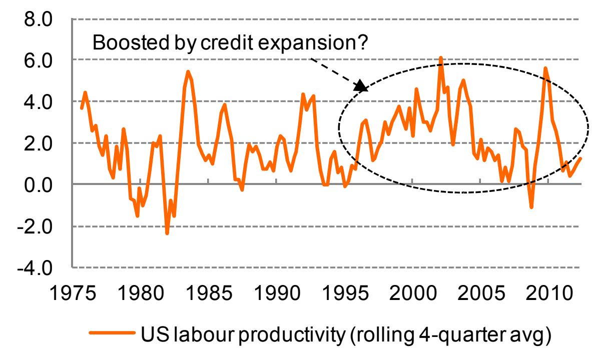
The second: unleveraged productivity – an estimate of the increase in per capita productivity (or value creation) that a society experiences over time – without the assistance of credit growth.

We start by using general metrics for economic activity. There are several, including GDP and trade figures. The difficulty however is stripping out the impact of significant credit growth on these figures to get the genuine, unassisted, growth for a specific economy. For example, over the past 32 years real US GDP has averaged 2.7% (CAGR). Over the same time frame the US population has grown by 1.1% on average. On this basis average US GDP growth after a population adjustment is around 1.6%. Of this rate, what has been the debt contribution to growth? If, to keep things simple, we assume that credit has contributed roughly 0.5% per year, this leaves an average 1.1% per annum increase in value or productivity for the US. For this reason we believe that humility is a necessity – there is considerable evidence to suggest that the impressive growth rates and productivity advances experienced over the past several decades have been temporarily boosted by the assumption of unprecedented quantities of debt, on a global level. Perhaps we are not the geniuses we think ourselves to be.

On this basis our expectation would be that the US would need to grow its monetary base by only about 2.2% or so.

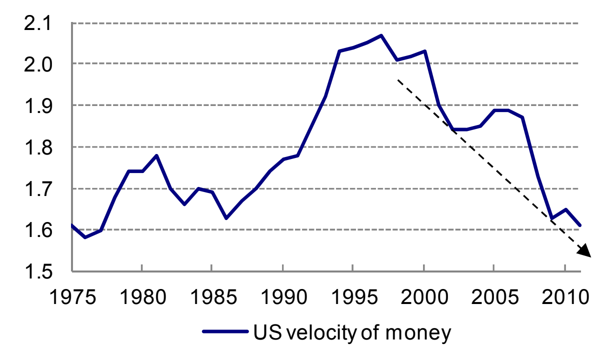
Long-term gold supply growth trends show a CAGR of 1.6%. While this is close to the necessary 2.2% rate needed to avoid deflationary pressure, it could still be a source of concern for those looking at gold as a viable currency alternative. However this need not invalidate gold as a preferred medium of exchange for while volume growth may remain a challenge, the exact value is still determinable by government – in fact periodic valuation adjustments for gold could conceivably be an ongoing option. Thus a low growth rate in gold volumes could be offset by a small revaluation of the metal itself, thereby preventing deflationary price pressure in an economy.

**Figure 34: US labour productivity**



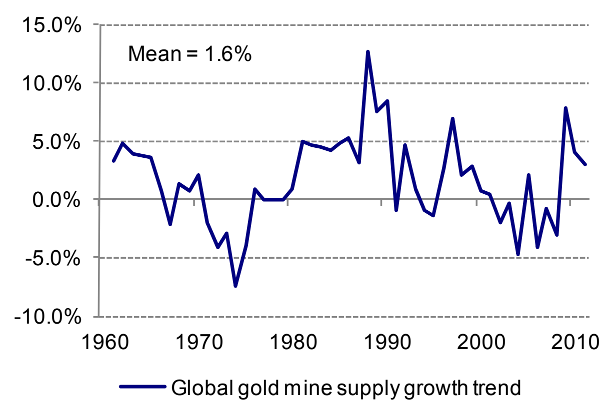

Source: Deutsche Bank

**Figure 35: US velocity of money**




Source: OECD, Deutsche Bank

**Figure 36: Gold supply growth**




Source: USGS, Deutsche Bank,

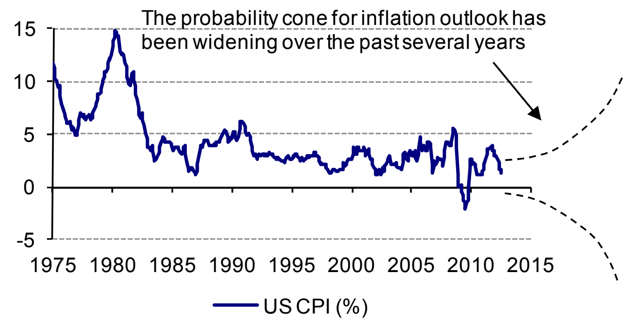
The problem with the above solution for gold's apparent excessive scarcity is that it puts government monetary policy makers back in a position whereby they can misprice money with consequential capital distortions a possibility. This is something that market purists would rather not see, but may make a transition to gold more palatable for those accustomed to the flexibility that a fiat currency affords.

**Why it probably won't**

While a gold standard could work, we remain sceptical that it will be considered (barring a serious financial crisis, perhaps associated with highly volatile inflation).

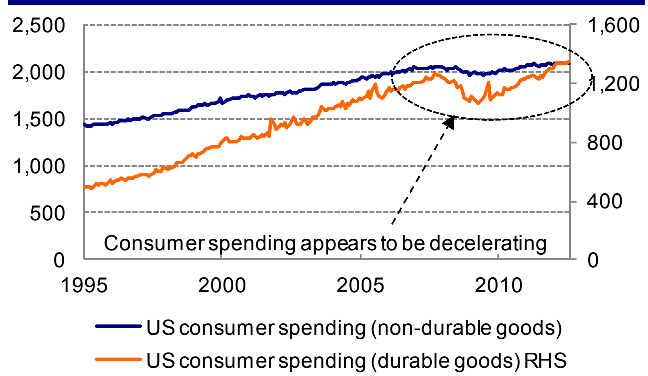
In large part we blame the low probability on culture. The world economy has, over the past century, morphed into a highly integrated, government dominated system guided by conventional wisdom (group think). The self-reliant, individualism of the free market has been left behind in favour of a 'new age' of coddled consumerism. Culturally this represents a very powerful force in our view, one which minimises creative options/solutions to economic impasses. On this basis we are cautious of predicting such a radical solution to monetary imbalances.

**Figure 37: US CPI**




Source: Deutsche Bank

**Figure 38: US Consumer spending**




Source: Deutsche Bank

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# Appendix 1

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