



REDBURN
P A R T N E R S

Gold War

“Gold is money and nothing else”

12 November 2007

Paul Mylchreest

Thesis: **The biggest credit bubble in modern history is showing signs of unravelling in the US. Debt/credit expansion brings forward consumption – it must either be purged in a deflationary recession, or inflated away through currency debasement. Gold wins in either scenario and is the “go to” asset along with basic commodities, like food and energy.**

Gold War

*“Gold is money and nothing else”**

- > **Gold price will reach at least US\$1,500/oz:** we are raising our long-term gold price estimate to US\$1,500/oz (from US\$900/oz) with the possibility of a spike to US\$4,000-5,000/oz. We see gold acting as a ‘Giffen good’ for a period – a rising price leading to accelerating demand as its investment profile sees a resurgence.
- > **Rising gold price is a warning signal:** it casts doubt on the US economy. We believe inflation is far higher than reported, money supply growth is running at 14%, debt/GDP is nearly 350% (vs the 270% peak in the Depression) and the ‘fiscal gap’ faced by the Federal Government is US\$50-70trn. The Federal Government’s accounts have not been signed off by its auditors for ten years.
- > **The US faces rapidly rising inflation or deflationary recession:** credit cycles (and this one is extreme) always end in a deflationary bust – this is the lesson of the Kondratieff Cycle. The Fed will most likely try to defy economic gravity using increasingly inflationary means. Gold is the only asset to outperform in periods of either uncontrollable inflation or deflation: the US economy is on a knife-edge between the two.
- > **A “Crack-up Boom”?:** should the Fed choose to stave off recession via inflation, the scene could be set for a “Crack-up Boom”. If inflation is perceived to be a deliberate policy, there will be major shift out of financial assets (like cash and bonds) and into “real” assets. Gold will be the asset of choice and gold stocks will experience a bull market. In the report, we highlight **Peter Hambro Mining** (rated Buy). Natural resources and natural resource stocks will also benefit: the Mining sector as a whole would continue to outperform.
- > **Lack of transparency:** gold is a vital barometer and if the gold market is not free and transparent, it acts against the interests of businesses, investors and the public. IMF accounting regulations continue to obscure the level of gold remaining in central bank vaults. Furthermore, the use of unallocated gold accounts masks the fractional reserve nature of most gold banking/trading and private investment. Holders of “unallocated” gold are simply unsecured creditors with general claims on “pools” of gold. If all those claiming gold ownership demanded physical delivery, we argue the gold price would soar.

12 November 2007

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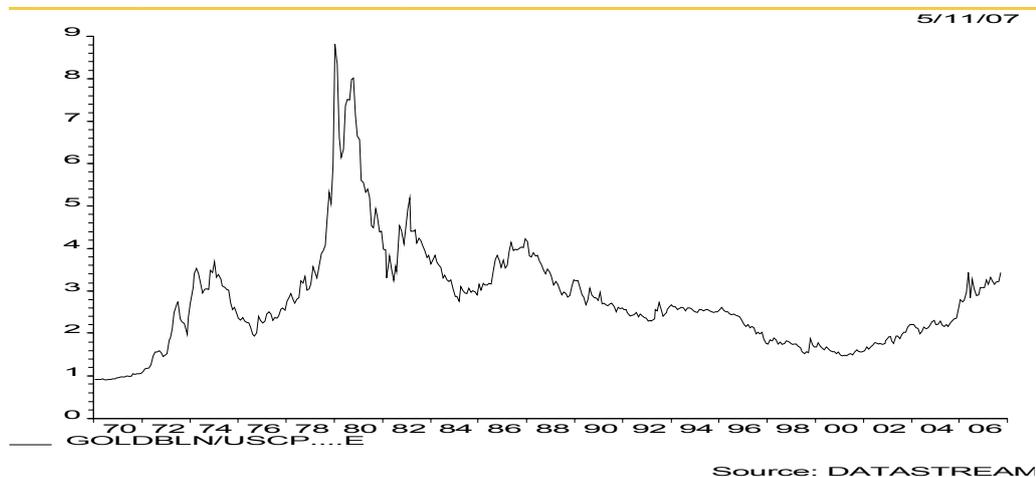
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Important Note:
See Regulatory Statement
on page 99 of this report.

*JP Morgan in testimony to the Pujo hearings in 1913

Performance and summary data

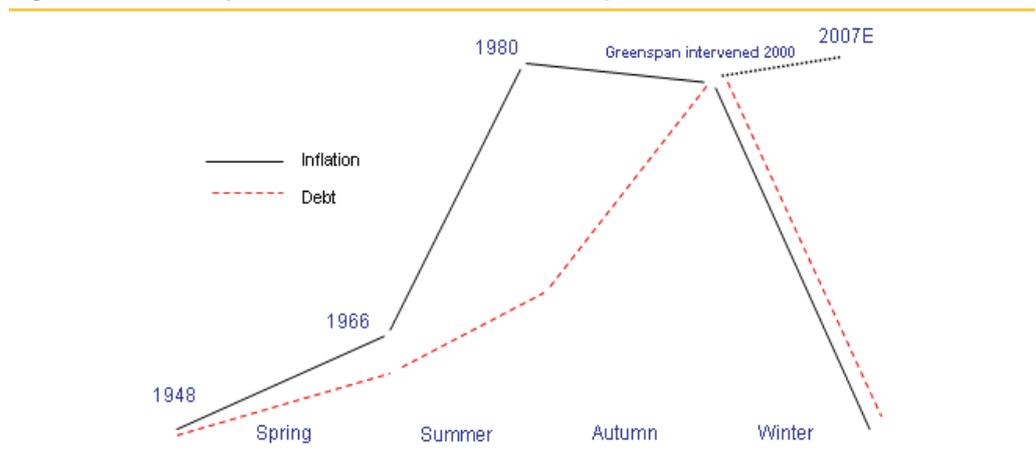
Fig 1: Gold price in “real terms” adjusted for US CPI



Source: Datastream

Source: DATASTREAM

Fig 2: Redburn – representation of the Kondratieff Cycle



Source: Redburn Partners

Fig 3: Peter Hambro Mining – financial summary 2006-12E

(US\$ 000s)	2006	2007E	2008E	2009E	2010E	2011E	2012E
Gold Production	261.3	283.6	380.4	837.9	945.3	975.0	987.6
Consolidated Sales	157,807	198,860	328,560	818,022	1,046,763	1,203,499	1,349,984
Operating Profit (Group)	49,729	77,551	165,908	463,293	620,964	793,917	920,769
Income before Taxes	45,092	71,876	149,908	446,493	607,964	789,417	928,769
Net Income	30,556	48,984	103,350	308,069	419,581	544,928	641,259
Adj EPS (dil.)	0.38	0.60	1.27	3.80	5.17	6.71	7.90
Dividend	0.00	0.00	0.24	1.20	1.80	2.25	2.70
Net Debt/(Cash)	61,653	114,397	173,396	63,583	-143,783	-456,470	-923,940
PER	89.6	56.4	26.8	9.0	6.6	5.1	4.3
Gross Yield	0.0%	0.0%	0.7%	3.5%	5.3%	6.6%	7.9%

Source: PHM, Redburn Partners estimates

Executive summary

In our view, the majority of investors are still not taking gold seriously as an asset class. Most of today's financial market participants do not remember the last bull market in gold, which ended in 1980, when the gold price reached US\$850/oz. Even adjusting this price for the low-balled US CPI gives a price well over US\$2,000/oz. The last phase of that bull market, when the price rose 128%, took place in less than three months – when big money really moves into the gold market, the price will rise very quickly.

The fact that many investors had not perceived there was a credit bubble (and an extreme one at that) before the well-publicised problems with the Bear Stearns' sub-prime funds, suggests that the perils of unlimited debt/credit creation and the extreme debasement of currencies taking place today remains poorly understood. There is a long way to go in this gold bull market.

Understanding the Kondratieff Cycle (K-Cycle) is critical to the outlook for the gold price. This is a long-wave economic cycle driven by prices and debt. The current K-Cycle began in 1948 and is the fourth since the Industrial Revolution. A deflationary recession, known as a "Kondratieff Winter", which purges the debt and the asset bubbles from the system, is the natural tendency in an economy when a credit bubble bursts.

In our view, the US would have gone into a deflationary recession following the TMT-driven stock market crash in 2000, had it not been for the dramatic loosening in monetary policy by the Fed. This revived the real estate market and, subsequently, the stock market so that by early 2007, we were in the highly unusual position of every asset class being in a bull market.

We believe that the US will take extreme measures in an effort to avoid sliding into a K-Winter now – the deflationary recession could be unparalleled and threaten US geopolitical strategy. We expect the Fed to use inflationary means to sustain this credit bubble, risking uncontrollable inflation and a "Crack-up Boom", when there is a shift out of financial assets, like cash and bonds, into real assets, particularly gold.

Gold supply and demand cannot be modelled since almost all the gold ever mined remains as potential supply; the question is, at what price is that supply mobilised? Gold held back from the market is effectively demand. A key price driver is the huge speculative flows back and forth in these gold inventories.

The central banks of China, Russia and India are very underweight gold as a percentage of their rapidly growing foreign exchange reserves: China's reserves are growing at an annualised rate of US\$0.5trn pa. We believe gold forms part of their diversification strategy. Private demand is very strong in India, the world's largest gold market – the World Gold Council estimated that consumer demand for gold in India increased 72% in H106 to 36% of the worldwide total.

World gold production has been flat at about 2,500 tonnes pa for nearly a decade. That is unlikely to change for the next few years. The three largest producers, Barrick, Newmont and AngloGold Ashanti, will see flat/down production through 2009.

The majority of gold is traded "*loco London*" on an OTC basis where trades are settled through transfers in metal accounts with LBMA clearing members. The gold trading and banking business operates on a fractional reserve basis, which is little understood by outsiders. Gold held in the vaults of bullion banks for trading and investment purposes is mostly held in unallocated form, where holders have a paper claim to a general pool of gold. In legal terms, these holders are simply unsecured creditors: ownership of the gold resides with the bank, which can lend, swap or even sell it. A major reason for holding gold is protection against financial crises. Perversely, investors in unallocated gold are

Executive summary

even more dependent on the stability of the financial system than customers with checking/current accounts. Banking crises are a feature of Kondratieff Winters.

In the current war on gold, outright sales by European central banks remain one weapon, but “covert” means of influencing gold prices have been used. These include gold lending/swaps and options. We estimate that 7,000-7,500 tonnes of gold have been lent or swapped out of central bank vaults to provide liquidity in the gold derivatives markets (equivalent to about 25% of central bank reserves). If every central bank, bank, gold trader and private individual demanded physical delivery of the gold bullion they hold a claim to, the shortfall could be 10,000-15,000 tonnes. If there was ever a time for investors to ensure ownership of allocated gold, where physical gold is set aside in their name, it is now.

Peter Hambro Mining: PHM has the lowest costs and the strongest growth prospects of the senior UK-quoted gold mining stocks. The company is on track to achieve more than 280k oz of attributable production in 2007 and should grow to nearly 1.0m oz by 2010. Based on our well-above consensus forecasts for the gold price, our long-term DCF-based target price for PHM shares is £34.00 compared with the current share price of £16.40.

The following table shows the market caps of the 20 largest gold stocks. In aggregate, they amount to US\$205.1bn, somewhat less than the market capitalisation of Google.

Fig 4: Top 20 gold stocks – market cap vs Google

Company	Market Cap (US\$m)
Barrick Gold	40.0
Goldcorp	25.6
Newmont Mining	23.5
Newcrest	14.6
AngloGold Ashanti	13.1
Gold Fields	12.6
Kinross Gold	11.8
Yamana Gold	9.0
Polyus	8.9
Buenaventura	8.4
Agnico Eagle	7.6
Lihir Gold	7.6
Harmony	4.7
Meridian	4.1
IAM Gold	2.8
Peter Hambro Mining	2.7
Centerra	2.6
RandGold Resources	2.6
Novagold Resources	2.2
Eldorado Gold	2.1
Total – Top 20 Gold Mining Companies	205.1
Google	217.1

Source: Reuters

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Gold price forecast

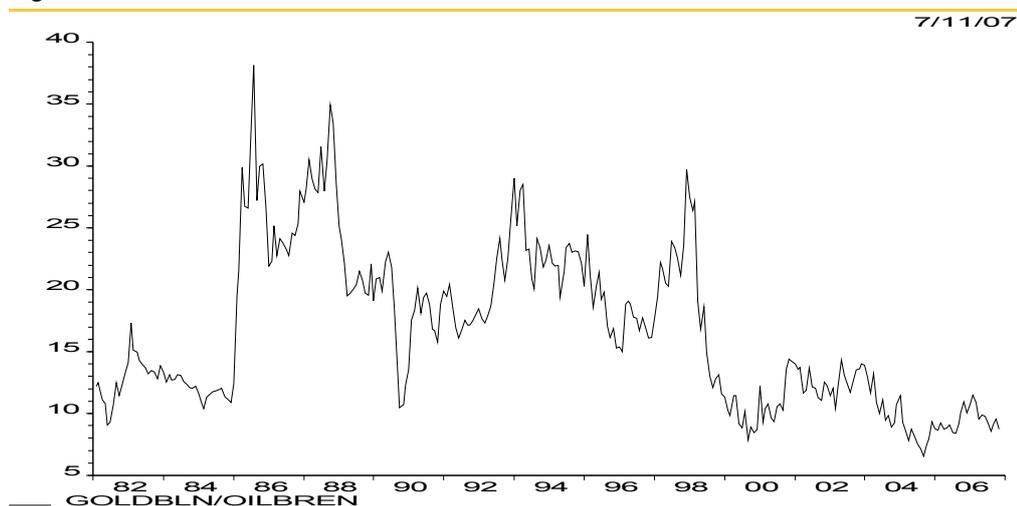
"Gold is not less, but more rational than paper money. Money holds value so long as it is in limited supply; gold will always be in limited supply."

William Rees-Mogg, former editor of The Times

In updating our mid-cycle forecast for the gold price we have considered the following:

- > **Gold/Oil ratio:** the long-term average for the Gold/Oil (Brent crude) ratio has been slightly over 16x and is currently trading at 9.0x. Empirical evidence (see the reference to RW Jastram's "The Golden Constant" below) shows that gold maintains its purchasing power versus other commodities over time and crude oil is the world's pre-eminent commodity. In addition, the debate over how long the world can continue to increase oil production applies equally to the gold mining industry as production has flat-lined for almost a decade. A reversion to the mean in the Gold/Oil ratio would imply a gold price of US\$1,480/oz.

Fig 5: Gold/Oil ratio

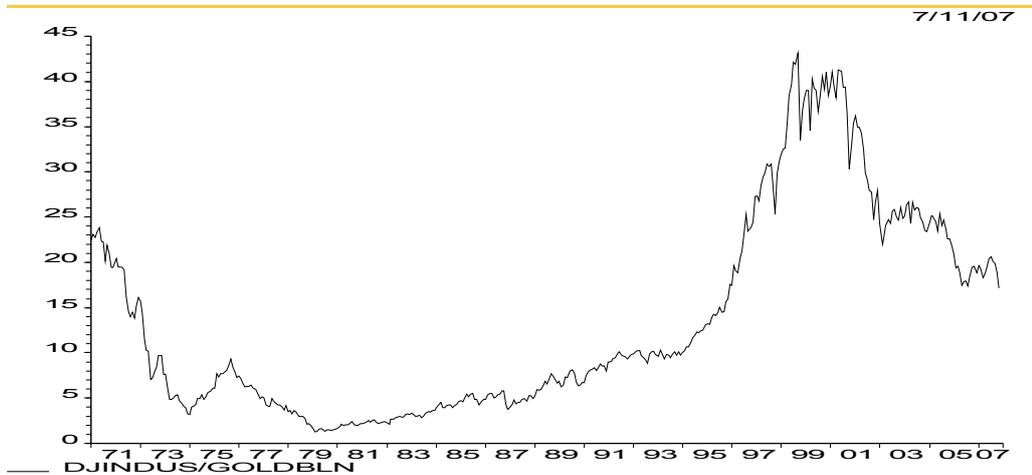


Source: Datastream

- > **Dow Jones/Gold ratio:** this ratio is one way of comparing the performance of financial assets – equities in this case – with the ultimate store of value, gold. Equities outperformed gold dramatically for 20 years: the Dow Jones/Gold multiple rose from a low of 1.04x on 18 January 1980 to a blow-off peak of 44.78x on 25 August 1999 – a rise of some 43-fold. The chart below may surprise some investors as it shows how the bear market in the Dow Jones versus the gold price is already well established. The Dow Jones/Gold ratio is already down by more than half to a current level of 16.2x.

Gold price forecast

Fig 6: Dow Jones/Gold ratio



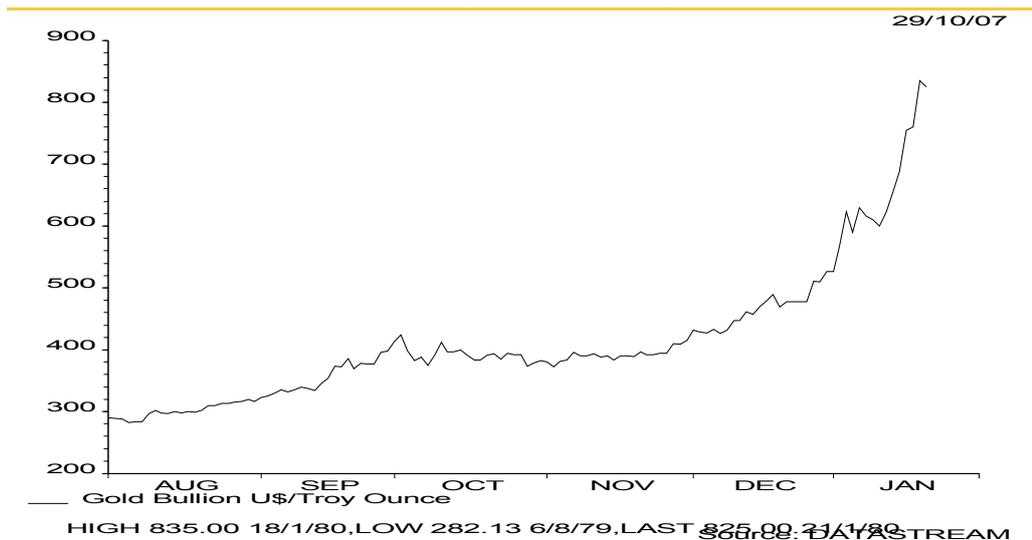
Source: DATASTREAM

Source: Datastream

Since the collapse of the Bretton Woods (quasi-gold standard) system in 1971, the **Dow Jones/Gold ratio has averaged 13x**. Applying this ratio to the Dow's current level of 13,888 would imply a gold price of approximately US\$1,050/oz.

The gold price trades in a pattern that is far from linear, especially as economic/financial crises and/or the debasement of currencies become apparent. For example, while the intra-day all-time high in the gold price of US\$850/oz is well known, what is less appreciated is that the final move in the price from US\$372/oz up to US\$850/oz, an increase of 128%, took less than three months.

Fig 7: Gold price more than doubles: August 1979-January 1980 (US\$/oz)



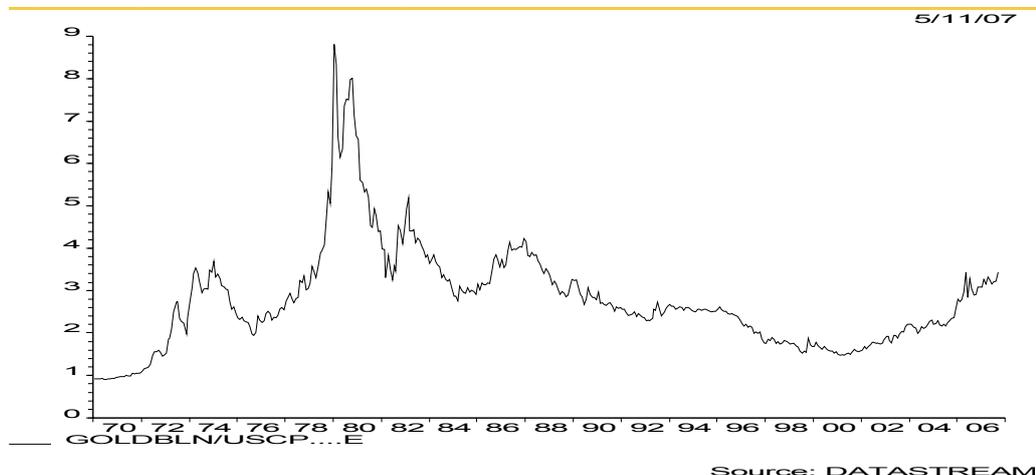
Source: DATASTREAM

Source: Datastream

An equivalent 128% rise today would give a gold price of almost US\$1,750/oz. Adjusting the all-time high in the gold price for the subsequent change in the US CPI gives a gold price of over US\$2,100/oz – and the reported CPI we maintain understates the true rate of US inflation.

Gold price forecast

Fig 8: Gold price in “real terms” adjusted for US CPI



Source: Datastream

Despite the trebling in the gold price since its 1999 low of US\$252/oz, our sense is that the **majority of investors, never mind the general public, are still not taking gold seriously**. Many brokers/fund managers had not perceived the credit bubble until the high-profile problems with Bear Stearns' funds, showing how poorly understood the dangers of excess fiat money creation are. Given the extreme nature of currency debasement in this credit cycle we believe that the long-term price of gold can be sustained at a level above the historic averages of the Gold/Oil and Dow Jones/Gold ratios. We are therefore assuming a long-term gold price of US\$1,500/oz. We assume that gold reaches this level by 2012.

As the US economy heads towards a crisis of either uncontrollable inflation or deflation, gold's investment profile will rise. **We envisage a period when gold exhibits the characteristics of a 'Giffen good'**, contradicting the usual negative price elasticity for other goods. The term refers to Sir Robert Giffen, who was credited with the observation. Classic examples of Giffen goods are normally staple foodstuffs, such as bread and potatoes, in poor communities. When their price rises, the drain on incomes is so great that the community is forced to reduce consumption of expensive foodstuffs, e.g. meat, and consume even more of the staples to sustain their diet.

At some point, we think that **the rise in the price of gold will lead to an acceleration in demand from central banks in emerging economies (especially those with large US dollar reserves), investment funds and latterly private citizens**. This could be when gold breaches its all-time high of US\$850/oz, or when it breaches US\$1,000/oz, or in response to an economic event, for example one which highlights the risks of unlimited credit/debt expansion. What the catalyst will be we do not know, but our advice is to keep hoarding. Indeed, it is even possible that historic ratios of gold versus other asset prices could be stretched in favour of gold. While our forecast for the long-term average gold price is US\$1,500/oz, there is a possibility of a spike to US\$4,000-5,000/oz in a full-blown Crack-up Boom or deflationary depression.

Fig 9: Redburn: Gold price forecasts 2006-12E

US\$/oz	2006	2007E	2008E	2009E	2010E	2011E	2012E
Gold price	604	700	900	1,050	1,200	1,350	1,500

Source: Redburn Partners

Peter Hambro Mining – mining money

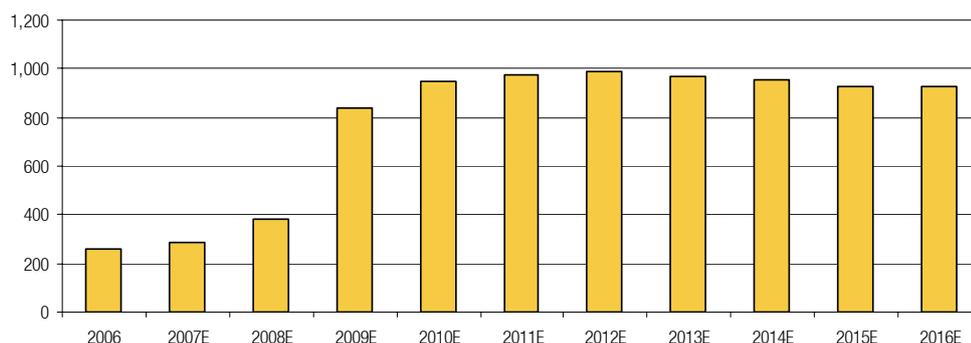
Summary and valuation

Peter Hambro Mining has the lowest costs and the strongest growth prospects of the senior UK-quoted gold mining companies. Its second major mine, Pioneer, was commissioned on time and on budget in September this year. A third, at Malomir, should come on-stream at the beginning of 2009, with one, or possibly two, more in the early part of the next decade. The company is on track to achieve more than 280k oz of attributable production in 2007 and should grow to nearly 1.0m oz. by 2010. Western standard (JORC – Joint Ore Reserves Committee) reserves and resources data will be published later this month which should reassure investors about the company’s longer term production prospects. The recent US\$180m capital raising and strong cash generation should enable PHM to develop aggressively its existing resource base and further expand it in due course. Based on our well-above consensus forecasts for the gold price, our long-term DCF-based target price for PHM shares is £34.00 compared with the current share price of £16.40. This assumes a long-term gold price of US\$1,500/oz, a WACC of 7.3% (beta 0.69) and long-term production growth of 1.0% pa beyond 2016.

Production outlook and costs

PHM produced 261k oz of gold last year and we estimate the company is on track to increase this by 8-9% in 2007 to more than 280k oz. The ramp up in production begins next year following the recent commissioning of the Pioneer mine. This should be followed by a further major project at Malomir in 2009. While the main deposit at the company’s biggest asset, Pokrovskiy, will be exhausted by around 2014, this will be offset by the development of the gold deposits from Pokrovskiy’s “Flanks”. One, or possibly two, additional mines should be brought into production by the early part of the next decade. Our current estimates for PHM’s production profile are shown in the chart below:

Fig 10: Peter Hambro Mining – estimated gold production 2006-16E (000s oz)



Source: Peter Hambro Mining, Redburn Partners estimates

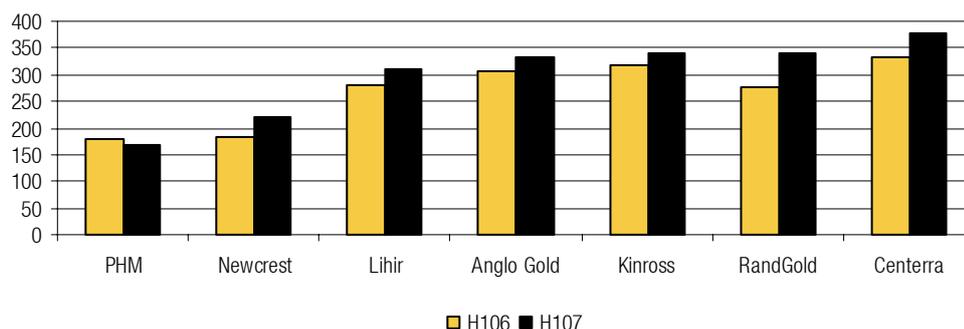
We believe that the company can achieve production of close to 1.0m oz by 2010 and broadly maintain this production level going forward. This conservatively assumes that only one of the two possible additional mines, at Yamal and Amur North-East, are commissioned by the end of our forecast period of 2016. While the company is not ruling out its previous aim of achieving 1.0m oz by 2009, we think this is too demanding and management has been correct in de-emphasising it.

Total cash costs at PHM’s main Pokrovskiy mine declined by an impressive 6% in H1 2007 vs the previous year to US\$167.8/oz (US\$178.8/oz), putting the company in the top quartile for gold producers. This was particularly impressive given the inflationary

Peter Hambro Mining – mining money

pressures faced by the mining industry worldwide. In PHM's case, the improvement followed the implementation of a detailed programme to reduce expenditure at each stage of the mining operation, as well as benefits from higher grades and better recovery rates. The table below compares PHM's cash costs with some of its peers:

Fig 11: Cash costs – PHM versus peers H107 vs H106 (US\$/oz)



Source: Redburn Partners

Looking ahead, PHM's production costs are likely to increase along with those for other gold mining companies. With inflation in Russia currently running at approximately 8% pa, we think it is sensible to factor in 10% pa growth in production costs per ounce going forward.

Reserves and resources position

The company expects to publish JORC (Joint Ore Reserves Committee) compliant reserves and resources data later this month. This is the widely accepted standard for reporting reserves/resources for western mining companies. We expect that JORC data will be provided for three deposits: the recently commissioned Pioneer mine and the development projects, Malomir and Yamal. A restatement under western regulations has been sought after by investors/analysts in order to provide a comparison with the reserves and resources reported under the Russian GKZ (State Commission on Mineral Reserves) system. This should reassure non-Russian investors with respect to PHM's longer-term production prospects.

Under the GKZ system, the categories of reserves and resources in descending order are A, B, C1, C2, P1, P2 and P3. In comparison with coal and iron ore, the greater complexity of gold deposits means that, even with extensive drilling, it is generally difficult (nor would it be worth it) to prove up gold reserves beyond the C1 categorisation. Indeed, the decision to mine gold can be taken at the C1 or C2 category. In comparison with JORC, C1 would normally correspond with proved and/or probable reserves. C2 is more difficult because it may correspond with probable reserves, although it could drop to a lower category of indicated or inferred resources. As we drop down to P1, these would qualify as the lowest category of Inferred Resources at best, and may be unclassified.

The table below shows the latest reported reserves and resources data for PHM on 1 February 2007: Under JORC reporting, the best case scenario would be that PHM reports almost 9.0m oz of gold reserves and a similar amount of resources, although the outcome is likely to be somewhat lower.

Peter Hambro Mining – mining money

Fig 12: Peter Hambro – GKZ reserves and resources (000s oz)

Deposit	C1 or better	C2	C1+C2	P1	P2+P3	Total
Pokrovskiy & Flanks	1,416	472	1,888	807	8,507	11,202
Pioneer	0	3,665	3,665	1,335	5,237	10,237
Malomir	0	1,546	1,546	2,914	10,771	15,231
Yamal	0	718	718	1,294	35,974	37,986
Amur NE	411	667	1,078	2,540	28,932	32,550
Other	0	23	23	52	12,951	13,023
Total	1,827	7,091	8,918	8,942	102,372	120,232

Source: Peter Hambro Mining

Pioneer mine commissioned in September 2007

The new Pioneer mine was commissioned on time and on budget in September 2007. Costs are likely to be even lower than the existing Pokrovskiy mine, at least initially, on account of the lower strip ratio, which is little more than 1:1 versus 1:4. The strip ratio is the amount of earth that has to be removed for each unit of ore. The initial ore grades should be high, at approximately 4.0g/t of gold, although they are likely to decline to 1.3g/t by 2013. As with Pokrovskiy, low-cost direct cyanidation will be used to recover the gold, at least until around 2014. Beyond that date, it is likely that the easily recoverable gold will have been exhausted and the process will be converted to treating concentrate by flotation. This will involve an investment of approximately US\$50m and will increase cash costs since high pressure oxidization in autoclaves is electricity intensive. The production plan is currently being reviewed, but we expect production to ramp up in 2008 to approximately 140k oz, and to peak in 2009 in the region of 400k oz.

Malomir project – ramping up in 2009

Earlier this year, PHM stated that the commissioning of a mine at Malomir would be delayed by 6-12 months from the previously guidance of early 2008. Commissioning is now expected at the end of 2008, with production ramping up through 2009. The issues that led to the delay were the complexity of the ore bodies and the discovery of a further deposit, Ozhidaemoye, in the north east of the exploration area. PHM has now delineated the area into three separate deposits: Malomir, Quartzite and Ozhidaemoye. This allows PHM to press ahead with mining of the Malomir and Quartzite deposits while further exploration work is carried out on Ozhidaemoye. The production plan here is also being reviewed. The old plan had been for annual production of approximately 250k oz, although the new plan will not be for less. This deposit is geologically different to Pokrovskiy and Pioneer, with fewer areas of high-grade ore. However, the ore bodies are more uniform, which should offset the lack of high-grade ore, keeping production costs similar to Pioneer.

Pokrovskiy – change of plan for Flanks deposit

PHM's Pokrovskiy mine produced 206.8k oz of gold in 2006, 79% of the company's total attributable production of 261.3k oz. Production at the current mine was expected to last until 2013, although successful exploration work last year extended this to 2014. Further positive results in 2007 may even extend this a little further. In addition, a rising gold price can make previously uneconomic 'off balance' ore reserves viable. Reserves that are 'off balance' are adjacent to the ore body and can be mined with the agreement with the GKZ. The original plan for the 'Pokrovskiy Flanks' was to begin mining during 2009. This would have involved building an on-site processing plant for the ore, since the plan at the time was to process ore from Pioneer at the Pokrovskiy plant. Now that a separate plant is being built at Pioneer, it no longer makes sense to build a further plant at the Flanks. Rather, it makes more sense to commission mining at the Flanks when the existing Pokrovskiy mine is exhausted in 2014-15.

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Yamal and Amur – earlier stage projects may be developed in parallel

The most likely scenario in our opinion is that PHM will develop these two projects in parallel. We have conservatively assumed that only one of them will be brought on-stream by 2016, Yamal in the second half of 2011. These exploration projects could potentially contain substantial gold reserves. However, we would emphasise that 95% of Yamal resources and 89% of Amur North-East resources were in the very low P2 and P3 Russian categories for resources at the end of 2006. Progress is being made after intensive exploration this year. At Yamal, confirmation of the feasibility study has been completed at the Novogodnee Monto gold/iron deposit and a feasibility study prepared at Petropavlovsk deposit. The company has previously stated that it is considering a plan to develop both mines simultaneously.

Capital raising and cash flow

The company announced a US\$150m Gold Equivalent Exchangeable Bonds Offering on 5 October 2007. In a previous statement, PHM had outlined a “maximum external funding requirement” of US\$100m during Q307-Q408. So what changed? It seems nothing, at least in terms of projected project costs. Instead, the novel linking of the bonds to the gold price proved very attractive to investors, leaving the offer substantially oversubscribed. Given the recent difficulties in credit markets, the PHM board decided to give themselves more financial flexibility going forward by raising US\$150m. Once again, demand was so strong that the offering was increased again to US\$180m. The bonds carry a 7% coupon and will be exchangeable at the holders’ option into the cash equivalent of 150,000 oz of gold at any time from the second anniversary of settlement until 20 days prior to maturity. At the time of the announcement, the conversion price of US\$1,000/oz was a premium of 38% to the London pm fix of a day earlier. PHM has the right to call the bonds at par plus accrued interest after four years provided that the gold price reaches US\$1,500/oz. Otherwise the bonds are redeemed at par on 19 October 2012.

Russian political risk

In November 2006, PHM acknowledged that remarks had been attributed to the environmental watchdog in Russia, Rospirodnadzor, that some or all of the company’s mining licences might be inspected. There was also a report on the Ministry of Natural Resource’s website that there were deficiencies in technical reporting at the Yamal exploration site. Two weeks later, the company met with Rospirodnadzor and the latter denied there was an intention of withdrawing any of PHM’s assets due to political pressure. Its press release noted:

“Rospirodnadzor’s inspections are in no way related to politics... I am urging foreign investors to comply with regulations of environmental protection... then there won’t be any problems with controlling bodies.”

The inspections of the mining licences subsequently determined that there were no material breaches of terms and conditions and no further issues have arisen.

While Russia may be exerting geopolitical influence through its strength in the energy sector, we are sceptical this will extend into the mining sector without a significant deterioration in relations with the west. Indeed, the licence issue from last year seemed to have more to do with competition for scarce gold mining deposits from wealthy business interests.

A summary of our financial model for PHM for 2006-12E is at Appendix 1.

The ultimate form of money

"...gold will be money when the dollar and the euro and the yuan and the ringitt are mere memories."

Richard Russell, Dow Theory Letters, Inc

Commodity – barometer – currency

The mining industry, like the oil and agricultural industries, produces internationally traded commodities. Commodities are an asset class in their own right, just like financial asset classes such as stocks, bonds and, arguably real estate (usually financed via financial assets, i.e. mortgages).

Precious metals have a slightly different character as an asset class. **Gold has both a monetary (financial) nature and a commodity nature:**

- > During **periods of fiscal and monetary responsibility in the world economy**, gold acts in a similar fashion to other commodities: for example, prices are largely determined by industry cost curves.
- > The monetary nature of gold increasingly exerts itself **when governments abuse the issue of paper currency and financial assets and during periods of financial or economic stress** – as is happening currently.

Jim Sinclair (of "Jim Sinclair's Mineset" website) further divides gold's characteristics into four arguing that:

"...gold migrates from a commodity form, to a barometer, to a currency, to an international assets balance sheet form."

He goes on to explain:

"When the gold price bottomed, that was the commodity value of gold, related to the industry's cost curve. Gold will move out of that as it has now, into a form of a barometer. A barometer measures the level of anxiety... Gold becomes a currency, when the appreciation in gold in percentage terms is greater than the appreciation in the strongest currency trading at that time. Clearly then, gold has been elected as the currency of choice... The maximum value category in gold, in which gold gets fully priced, is when it attempts to balance the balance sheet of the United States."

Notwithstanding the tsunami of paper financial assets rising out of central banks and investment banks, history shows that **gold has always been the ultimate form of money**. In a speech in February 1965, French President Charles de Gaulle remarked upon:

"...gold whose nature does not alter, which may be formed equally well into ingots, bars or coins; which has no nationality and which has, eternally and universally, been regarded as the unalterable currency par excellence."

Gold's key elements in performing this role are in acting as a:

- > **Means of payment:** this is perhaps best expressed by Alan Greenspan's quote in 1999:

"Gold still represents the ultimate form of payment in the world. Germany in 1944 could buy materials during the war only with gold. Fiat money in extremis is accepted by nobody. Gold is always accepted."

The ultimate form of money

- > **Store of value:** this is best expressed by gold's ability to maintain the value of its purchasing power over long periods of time. The Federal Reserve of Minneapolis's inflation calculator on its website provides a good illustration of gold's ability to maintain its purchasing power over the long term. It shows that the US dollar has lost 95% of its purchasing power since the Federal Reserve was created by Rothschild/Rockefeller banking interests in 1913 (and that uses the low-balled 'official' CPI statistics). During this period the price of gold has risen from US\$20.67/oz to its current level of US\$831/oz, an almost 35-fold increase.

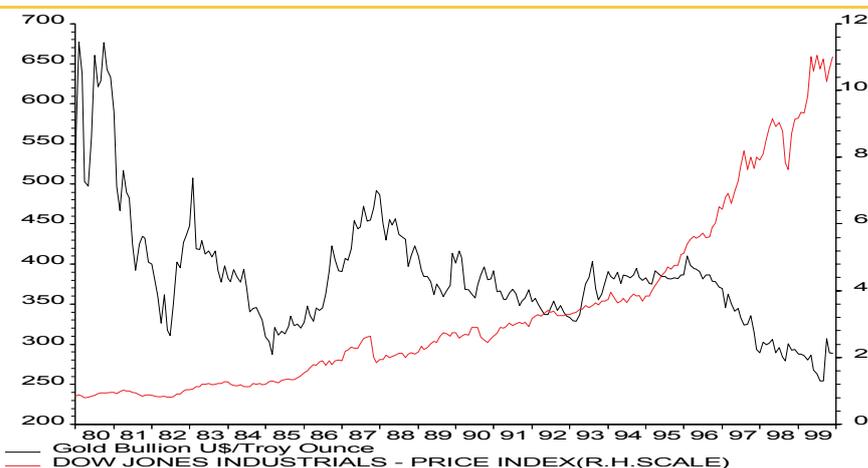
It is also worth reminding ourselves that **paper currencies were originally created as mere 'derivatives' of gold**. Gold was money and paper currencies were convertible into gold and simply provided a more convenient way of making transactions.

"If you don't trust gold, do you trust the logic of taking a beautiful pine tree, worth about US\$4,000-5,000, cutting it up, turning it into pulp then paper, putting some ink on it and then calling it one billion dollars?"

Kenneth J Gerbino, Fund Manager

There is a long-wave economic cycle for capitalist economies, the Kondratieff Cycle, which we will describe in detail later (see page 32) in the report. The gold price underwent a prolonged decline from 1980 to late-1999, but **its underperformance versus other asset classes should have been predicted during the disinflationary phase of the Kondratieff Cycle**. That said, without the combined efforts of central banks, bullion banks and panic hedging by gold miners, it would never have reached such low levels. The chart below compares the gold price from 1980 to the end of 1999 with the Dow Jones Industrial Average – it is no wonder gold fell so far out of favour.

Fig 13: Gold price and Dow Jones 1980-99



Source: Datastream

Despite more than trebling in price from the US\$252/oz low, our sense is that the **majority of professional investors, never mind the general public, are still not taking gold seriously as an investment for the following reasons:**

- > The **bull markets in stocks, bonds, real estate** (and even art/collectibles) during the last two decades.
- > **Hardly any of today's financial market participants remember the last gold bull market, which ended nearly 28 years ago**, or the last vestiges of a gold standard, which came to an end 36 years ago.

The ultimate form of money

- > **Monetary authorities have done their best to demonetize gold** by selling off their reserves, adjusting the way the CPI is measured and diverting attention away from credit expansion.

Indeed, many financial market participants had not perceived that there was a credit bubble prior to the high-profile problems with Bear Stearns' sub-prime hedge funds earlier this year. This illustrated how poorly understood the dangers of excess fiat money creation are, even within the financial community, never mind the public. As an illustration, consider this Reuters headline from 27 June 2007 referring to the fall in the gold price the previous day:

"Gold hits three-month low as investors flee risk."

Would that be the 'risky' asset that is no one else's liability – the one that has maintained its purchasing power for 4,000 years when history shows that the value of all un-backed fiat currencies tends to their intrinsic value of zero?

Drivers of the gold price

The root cause of inflation, although no longer acknowledged by most central bankers, is excessive creation of money and credit. That inflation can initially manifest itself in either asset markets or goods, but ultimately will feed into both. While gold is widely understood to be an inflation hedge, it can actually lose purchasing power in the early stages of inflation. However, over longer periods of time, its purchasing power is maintained.

This was the conclusion of RW Jastram in his study, 'The Golden Constant', published in 1977. Jastram analysed the gold price in periods of inflation and deflation (defined in terms of commodity prices) in Britain from 1560-1976 and the US from 1800-1976. A perfect example of gold's ability to match periods of strong inflation was in the 1970s versus the US CPI.

Fig 14: Gold price matches CPI during the inflationary 1970s



Source: Datastream

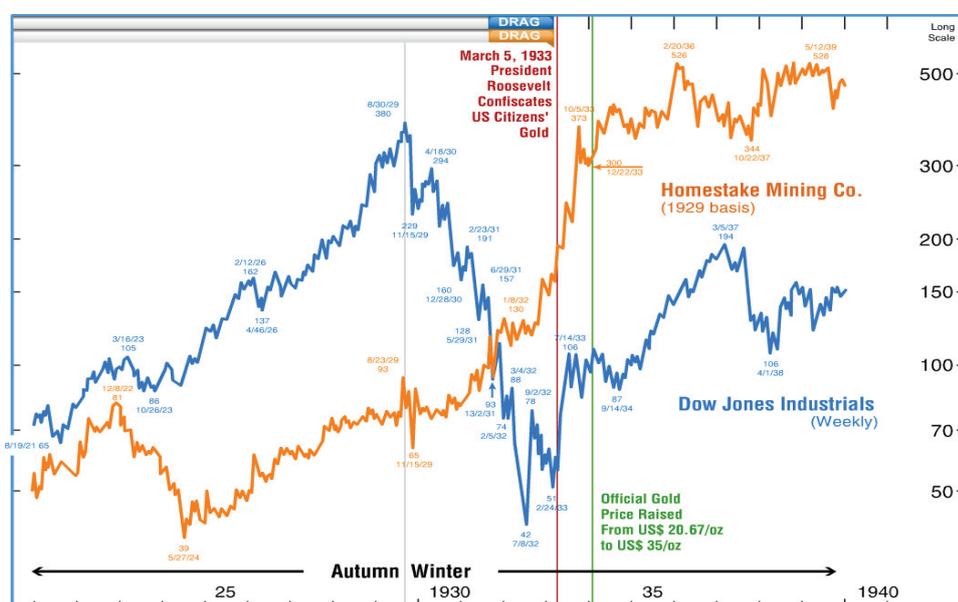
It is also clear from the chart how the **biggest move in the price came in a relatively short space of time** as investors and the general public belatedly sought to preserve capital in the face of accelerating inflation.

It may surprise some investors, but Jastram's work showed that in a free market, **gold prices rise very rapidly in periods of deflation**. This is difficult to show with a contemporary example since, with the exception of Japan, there have not been any experiences of deflation in the major industrialised economies.

The ultimate form of money

At the onset of the deflationary depression in the US from 1929-34, the gold price was fixed to the US dollar at US\$20.67/oz. By 1934, however, President Roosevelt was forced to devalue the US dollar vs gold by 69%. While the gold price surged, the Dow Jones lost 86% of its value from peak to trough and real estate lost up to 80% in areas like Florida, which had been the location of an earlier boom. Gold shares initially suffered in the “Crash of 1929”, although they outperformed the market as a whole. From 1931 onwards, however, gold stocks surged. The chart below shows how the benchmark US gold stock, Homestake Mining, performed during the (deflationary) depression of the early 1930s.

Fig 15: Homestake mining share price and the Dow Jones 1921-40



Source: Ian Gordon at www.thelongwaveanalyst.com

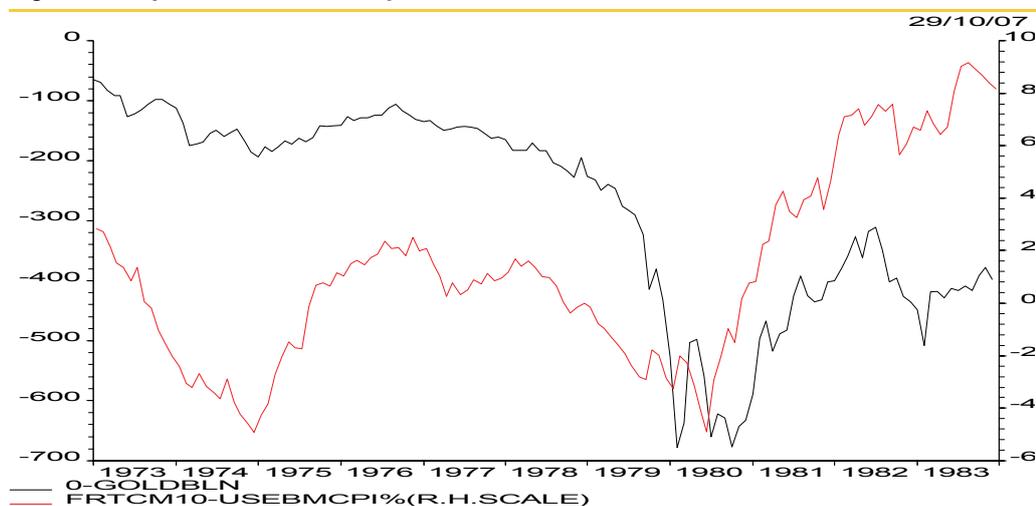
The other way of looking at what drives the gold price is to consider the **opportunity cost of holding US dollar-denominated assets, especially bonds**. The attraction of holding US dollars diminishes as the real yield on US financial assets declines. This was summarised by former Federal Reserve Governor, Wayne Angell, in a July 1993 FOMC meeting:

“The price of gold is pretty well determined by us... But the major impact on the price of gold is the opportunity cost of holding the US dollar... We can hold the price of gold very easily; all we have to do is to cause the opportunity cost in terms of interest rates and US Treasury bills to make it unprofitable to own gold.”

This is correct, but it is a ‘free market phenomenon’. Hence it can only be shown accurately in chart form when the price of gold is not subject to manipulation and the US CPI is not under-reported. The following chart shows there was a broad correlation during 1973-83, prior to the first major round of adjustments to the CPI calculation described later in the report. This chart shows the gold price (inverted) versus the ten-year Treasury yield minus the CPI.

The ultimate form of money

Fig 16: Gold price tracks US real yields



Note that the gold price on the left-hand axis is inverted and shown with negative values

Source: Datastream

The **peak in the gold price in 1980 can clearly be seen to coincide with negative real yields on ten-year US Treasuries bottoming out at about -5%**. The recovery in real yields was triggered by the efforts of Paul Volcker, then Fed Chairman, to squeeze inflation out of the US economy by raising the Fed Funds' rate ultimately to 16%. While this pushed the US economy into a severe recession, real yields almost reached double-digits by 1983 and, not surprisingly, the gold price fell sharply.

With the US ten-year Treasury yield currently trading at 4.39% and a realistic level of the CPI somewhere between 6% and 10%, the real yield on the benchmark US bond is firmly in negative territory at this point and is very positive for gold.

In Appendix 1, we explain in more detail why gold is the ultimate form of money and how gold-backed currencies led to almost a century of price stability, until 1914, under the operation of a gold standard.

Gold is sending a warning

Conflict between governments and gold

Its role as the ultimate form of money **puts gold into a situation of permanent competition with unbacked (by precious metals) fiat currencies** created by governments and, consequently, with the governments themselves.

This **conflict is still unappreciated by many**, although not those from the 'Austrian School' of economics, like Ludwig von Mises:

"The struggle against gold, which is one of the main concerns of all contemporary governments, must not be looked upon as an isolated phenomenon. It is but one item in the gigantic process of destruction which is the mark of our time."

The lesson of history is that paper currencies that are not backed by precious metals ultimately tend towards their intrinsic value, i.e. zero.

It cannot be refuted that **at times of maximum economic or financial crisis for the US economy during the last century, or when the dollar's status as the reserve currency has come under severe stress, the US Government (aided by other governments in some cases) has tried to manipulate the gold price**. The three most obvious examples are:

- > **The Great Depression of the early 1930s:** President Roosevelt confiscated gold from US citizens who were hoarding it ahead of an anticipated devaluation of the US dollar (US citizens could not legally own gold again until the beginning of 1975).
- > **The collapse of the London Gold Pool and the Bretton Woods system in the late 1960s/early 1970s.** The Federal Reserve and eight European central banks pooled their gold resources in an unsuccessful attempt to suppress the price of gold and preserve the dollar's value at US\$35/oz versus gold.
- > **The runaway inflation of the late-1970s.** The US Treasury and the IMF sold approximately 1,200 tonnes of gold during 1976-80; nevertheless the gold price reached its all-time high of US\$850/oz in January 1980. In April 1978, the IMF took further action to demonetize gold. In the Second Amendment of the Articles of Agreement of the IMF, gold was removed as a means of inter-nation settlement.

In a 1981 American Institute for Economic Research essay, the economist, Ernest P Welker stated:

"Beginning in 1975, the United States, aided by the principal members of the International Monetary Fund (IMF), began a 'bear raid' on the gold markets of the world. It was a raid of unprecedented proportions and duration. The underlying purpose of this raid was to convince the citizens of the major nations that paper currencies are better than gold. Success of the operation would ensure that inflating by excessive issues of paper currencies could continue indefinitely."

We describe the above cases in more detail at Appendix 2.

Gold is sending a warning

In his early career, former Federal Reserve Chairman, Alan Greenspan, was a **strong advocate of 'sound money' and a return to a gold standard**. He outlined his case in an essay, 'Gold and Economic Freedom', which was published in Ayn Rand's 1967 book, 'Capitalism, the Unknown Ideal'. In the essay, Greenspan argued against a system of unbacked fiat currency in favour of returning to a gold standard and makes three very interesting comments:

"As the supply of money (of claims) increases relative to the supply of tangible assets in the economy, prices must eventually rise... In the absence of a gold standard, there is no way to protect savings from confiscation through inflation...."

And:

"Deficit spending is simply a scheme for the confiscation of wealth. Gold stands in the way of this insidious process. It stands as the protector of property rights."

He then argues that a gold standard and a banking system based on gold reserves acts as:

"...the protector of an economy's stability and balanced growth."

In a subsequent speech to the Economic Club of New York, he specifically outlined the dangers of excessive monetary inflation:

"Monetary policy unleashed from the constraint of domestic gold convertibility had allowed a persistent over issuance of money. As recently as a decade ago, central bankers, having witnessed more than a half-century of chronic inflation, appeared to confirm that a fiat currency was inherently subject to excess."

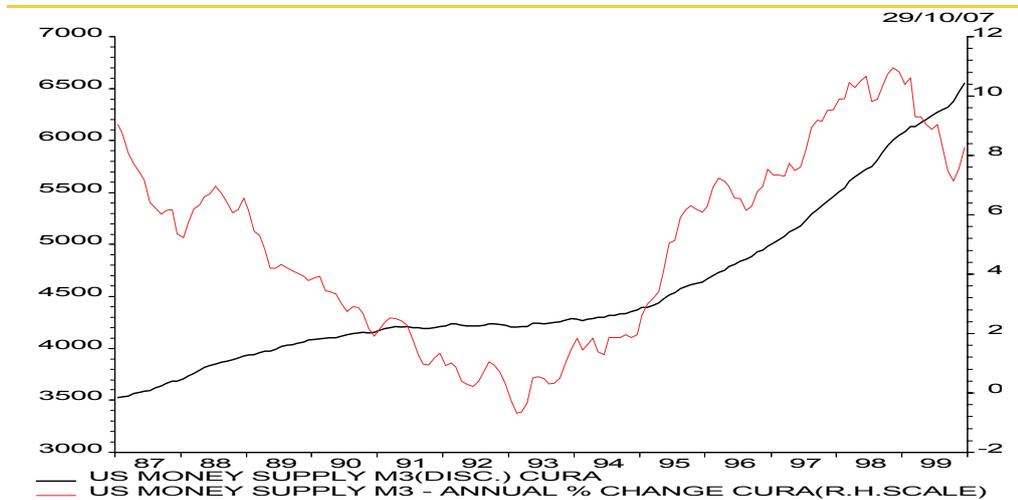
Later in his career, however, **we hear from a very different Alan Greenspan**. In 2002, he told Congress:

"Would there be any advantage, at this particular stage, in going back to the gold standard? And the answer is: I don't think so, because we are acting as though we were there... So I think central banking, I believe, has learned the dangers of fiat money, and I think, as a consequence of that, we've behaved as though there are, indeed, real reserves underneath the system."

The change in Greenspan's approach to monetary policy appeared to take place in the mid-1990s when he allowed a rapid acceleration of the US money supply, beginning in 1995.

Gold is sending a warning

Fig 17: US money supply growth accelerates in mid-1990s



Source: Datastream

In truth, the **foundations were put in place during 1990-92 when the Federal Reserve lowered reserve requirements for US banks** in an effort to extract the economy from recession. According to the Federal Reserve:

“In December 1990, the required reserve ratio on non-personal time deposits was pared from 3 percent to 0 percent, and in April 1992 the 12 percent ratio on transaction deposits was trimmed to 10 percent. These actions were partly motivated by evidence suggesting that some lenders had adopted a more cautious approach to extending credit, which was increasing the cost and restricting the availability of credit... the cuts in required reserve ratios put depository institutions in a better position to extend credit.”

It didn't stop there, however. As Richard Anderson and Robert Rasche (both of the Federal Reserve Bank of St Louis) explain in their report, “Retail Sweep Programs and Bank Reserves, 1994-99”:

“In January 1994, the Federal Reserve Board permitted a commercial bank to begin using a new type of computer software that dynamically reclassifies balances in its customer accounts from transaction deposits to a type of personal-saving deposit, the money market deposit account (MMDA). This reclassification reduces the bank's statutory required reserves while leaving unchanged its customers' perceived holdings of transaction deposits. The use of deposit-sweeping software spread slowly between January 1994 and April 1995, but rapidly thereafter.”

Anderson and Rasche concluded:

“Our analysis suggests that the willingness of bank regulators to permit use of deposit-sweeping software has made statutory reserve requirements a “voluntary constraint” for most banks. That is, with adequately intelligent software, many banks seem easily to be able to reduce their transaction deposits by a large enough amount that the level of their required reserves is less than the amount of reserves that they require for day-to-day operation of the bank. For these banks at least, the economic burden of statutory reserve requirements is zero.”

Gold is sending a warning

These changes, together with financial innovation in areas like derivatives and off-balance sheet vehicles like SIVs, **set the scene for the dramatic increase in asset prices and extreme debt/credit creation seen ever since.**

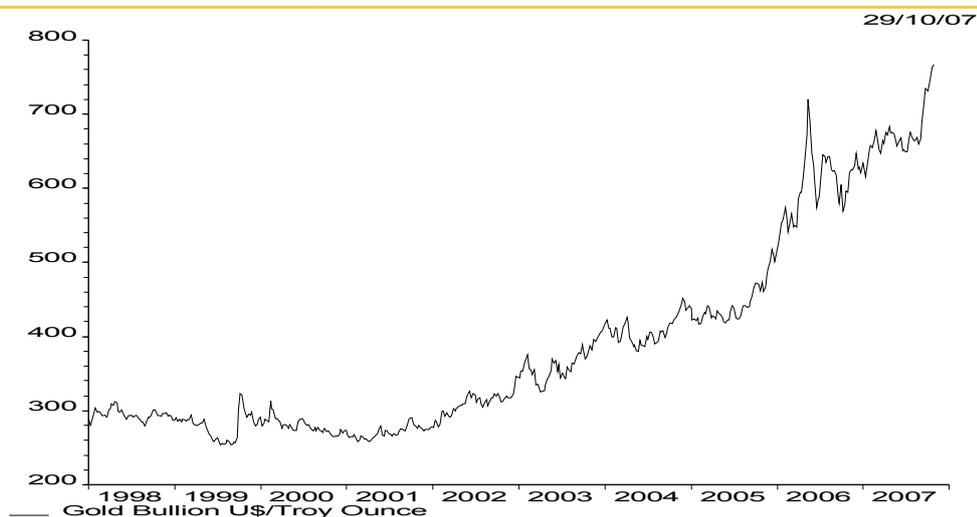
From the perspective of governments, and especially the US Government, since the US dollar is the world's reserve currency and gold is priced in dollars, a low gold price serves several important purposes:

- > It gives the impression that **inflation risk is more benign**, which leads to:
 - A **stronger US\$**, making it:
 - More attractive as the **world's reserve currency**, and:
 - Easier to **finance huge US deficits**, leading to:
 - **Lower US interest rates**, which means:
 - **Higher US bond, stock and real estate prices.**

A rising gold price is, therefore, **a challenge to the US dollar, US monetary policy and the condition of the US economy.**

In a free market, a significant rise in the gold price implies that other stores of value are being avoided. It acts as a warning that the purchasing power of fiat currencies is being debased by governments and central banks and that the risks of economic crisis are increasing. This is **exactly the message being sent by the gold price now.**

Fig 18: Gold price sends a signal

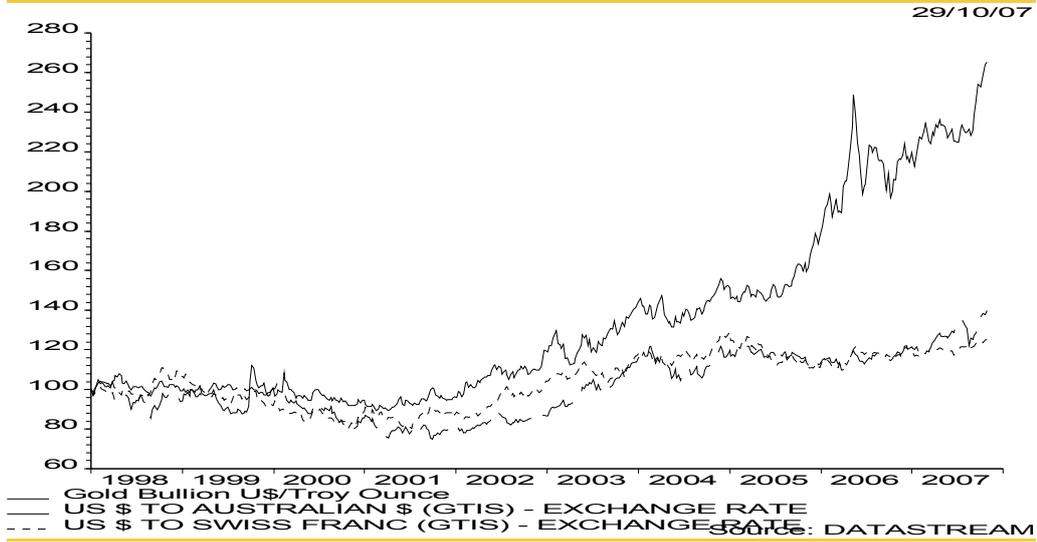


Source: Datastream

It is also important to emphasise that the rise in the gold price is not just in US dollars. Gold is rising in all currencies, even strong commodity currencies, such as the Australian dollar, and renowned safe havens, such as the Swiss Franc. Gold's role is increasingly acting as the currency of choice as predicted by Jim Sinclair (of "Jim Sinclair's Minesite" www.jsminesite.com).

Gold is sending a warning

Fig 19: Gold price outperforming Australian Dollar and Swiss Franc



Source: Datastream

The real story in the US

Key economic indicators, such as the CPI and non-farm payrolls, have become less useful in assessing the state of the US economy. Other statistics are no longer provided, such as broad money supply (M3). And a lack of in-depth media and financial market-focus on the financial outlook for the Federal Government, all contribute to a lack of understanding of the real economic situation in the US. We examine the understatement of the CPI, growth in broad money supply and the US\$50-70trn fiscal gap faced by the Federal Government. All of these factors are very positive for the gold price.

CPI understatement

"In calculating inflation, the Bureau of Labor Statistics (BLS) takes a basket of goods and services and tracks their prices throughout the years. This worked just fine when they would track the actual price of the same items year after year. The problem is they no longer use the actual price, and they no longer track the same items year to year."

Mike Maloney, Gold & Silver, Inc

I have asked US citizens whether they believe that the official CPI figure is correct and **the answer is almost always no**. When you ask why, the response is usually to highlight one or two examples of important goods or services that are going up in price far more than the CPI, e.g. food, gasoline, education or health insurance. The majority of people can't seem to "put their finger on it".

Besides being a positive catalyst for the gold price, there would be other knock-on effects that would follow from a higher CPI, including the need for higher interest rates, the higher cost of servicing the national debt, the higher cost of welfare programmes linked to the CPI and the negative impact on stock, bond and real estate markets.

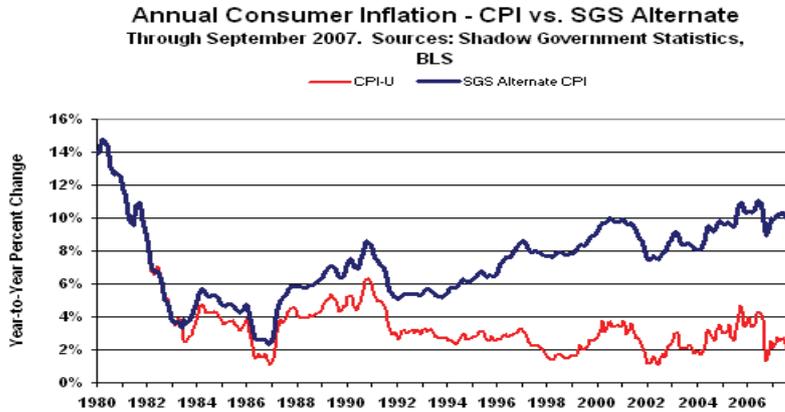
Economist John Williams (www.shadowstats.com) has been calculating the US CPI employing the same methodology used by the Bureau of Labor Statistics prior to the adjustments made in the early 1980s and 1990s. In brief, the major changes made by the Bureau of Labor Statistics that reduce reported CPI figures are:

- > **Hedonic regression:** actual prices of consumer goods are revised downwards for quality-adjusted improvements. For example, the price change associated with a more technologically advanced range of washing machines may be reduced to reflect the benefit to consumers of cleaner clothes.
- > **Substitution:** when the price of a higher quality good rises significantly, the BLS assumes that consumers switch to lower-priced alternatives (the steak to hamburgers idea).
- > **Geometric weightings:** the arithmetic weighting of CPI components was changed to geometric, resulting in a lower impact from components rising in price and a higher impact from components falling in price.
- > **Intervention:** used to moderate swings in the prices of goods subject to seasonal swings. While price rises are rarely fully reflected, as John Williams notes, "declining prices sure do".

John Williams estimates that the changes to the calculation of the CPI have contributed to a **systematic understatement of the true inflation rate by around 3% vs the BLS methodology prior to the early 1990s and around 7% vs the methodology before the adjustments in the early 1980s**. The following chart by John Williams compares his calculation of the US CPI based on the 1980 methodology with the BLS's current methodology.

The real story in the US

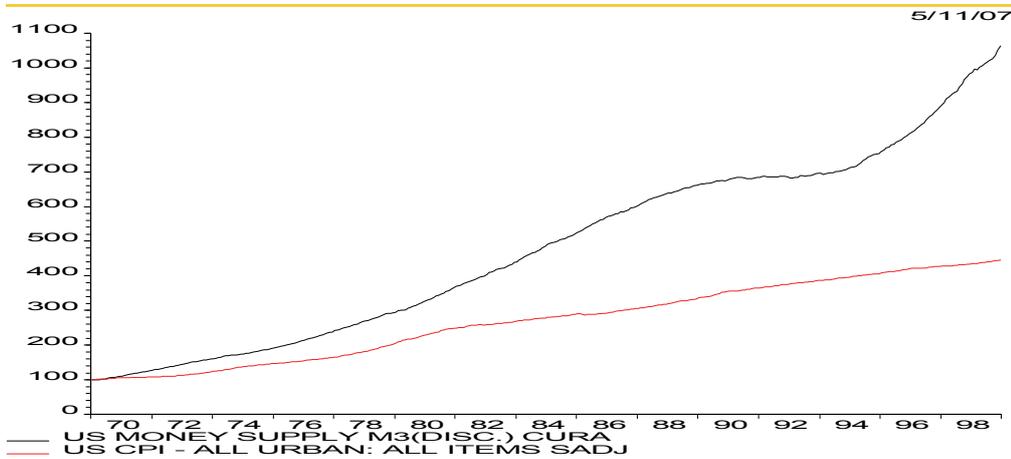
Fig 20: Under-reporting US inflation – Shadowstats estimate vs ‘official’ CPI-U



Source: John Williams' Shadow Government Statistics at www.shadowstats.com

The following chart shows the divergence of the trend in US broad money supply growth (i.e. M3) from 1970 to March 2006 (when the Fed ceased reporting it) versus the ‘official’ CPI reported by the BLS. The **increased divergence in the 1980s, briefly tapering off with the recession in the early 1990s, followed by an even greater divergence in the 1990s, backs John Williams’ analysis.**

Fig 21: Growing divergence of money supply (M3) growth from CPI



Source: Datastream

A lower CPI figure has the effect of **exaggerating the reported level of economic growth**. If the inflation rate is higher than currently assumed, then it may be that the US is already in recession. The Federal Reserve focuses on the concept of “core” inflation, **i.e. excluding food and energy**. The latter represent approximately 25% of US consumer expenditure and are obviously the most basic of human requirements. If food and energy prices always underwent a mean reversion, this concept might have some validity. However, the fact that a strong case can be made that food and oil prices are experiencing in structural bull markets nullifies the core inflation measure.

The real story in the US

Discontinuation of M3 reporting

On 26 March 2006, the Federal Reserve ceased to publish its broadest measure of money supply, M3. It was argued that:

- > It would cut costs for the Federal Reserve by US\$0.5m pa.
- > M3 did not contain any more relevant information than the narrower measure of M2.

The difference between M3 and M2 is that the former also includes large time deposits, institutional money market accounts, Eurodollars and repurchase agreements (“repos”).

Repos are very important in terms of gauging US monetary policy and the expansion of the money supply, as this is the method the Fed uses to liquefy the banking system. A repo involves the Fed purchasing securities, usually Treasury bonds but sometimes other bonds such as MBS, from the banks. This adds liquidity to the banking system, enables the banks to lend more money and expands the money supply.

Two sources continue to calculate US M3: www.nowandfutures.com and the aforementioned John Williams at www.shadowstats.com. The only measure of M3 that is not publicly available is for the Eurodollar balances (typically about 3% of M3), which have to be estimated – this accounts for the slight differences between the two estimates. Nowandfutures.com has back-tested its model with the historic M3 data and estimates a .99999 correlation. Below we show the trend in M3 estimated by nowandfutures.com. When the Fed ceased to publish M3, the year-on-year growth rate was approximately 8%. The chart below indicates that it is **now running at about 14%, its highest level in nearly 30 years**. John Williams is currently estimating M3 growth at slightly over 14%. The Federal Reserve calculates M2 growth at 6.7% for the year to September 2007.

Fig 22: US M3 and rate of growth (reconstructed since March 2006)



Source: Redburn Partners

After the Fed's announcement that M3 would be discontinued, Gold Anti-Trust Action Committee member, Chuck Augustin remarked:

"...it looks like the boys are getting ready to unleash Weimar Republic II on the world. Perhaps we should all be sure our wheelbarrows are in good working order."

The real story in the US

US Federal debt outlook

"...the American people... they are absolutely starved of two things: the truth and leadership".

David Walker, Head of the US Government Accountability Office (GAO)

"Countries can go broke... the US is going broke."

Laurence J Kotlikoof,

Federal Reserve Bank of Cleveland, July/August 2006 Review

The true financial position of the US seems to be at odds with the AAA rating given on its sovereign debt. We question **whether it is wise to invest in the bonds of an entity, the Federal Government, where:**

- > **Its own auditor could not approve the Federal Government's 2006 accounts (for the tenth year in succession) and expressed an "Adverse Opinion on Internal Control".**
- > **The NPV of the "fiscal gap" faced by the Federal Government's is estimated to be US\$50-70trn.**

David Walker is the US Government's chief accountant (his official title is Comptroller General of the US Government Accountability Office). The GAO is required to audit financial statements for the US Government in conformity with US GAAP and submit them annually to the President and Congress. In relation to the US Government's consolidated financial statements for the year ending 30 September 2006, Walker noted the following:

"Because of the federal government's inability to demonstrate the reliability of significant portions of the US government's accompanying consolidated financial statements for fiscal years 2006 and 2005, principally relating from certain material weaknesses, and other limitations on the scope of our work, we are unable to, and we do not, express an opinion on such financial statements."

He added:

"As a result of these limitations, readers are cautioned that amounts reported in the consolidated financial statements and related notes may not be reliable. These material weaknesses and other scope limitations also affect the reliability of certain information contained in the accompanying Management's Discussion and Analysis and other financial information – including information used to manage the government day to day and budget information reported by federal agencies..."

The full report can be read at www.gao.gov/financial/fy2006/fy06gaoauditorreport.pdf.

The GAO is unable to approve/sign-off the US Government's accounts as being a true and fair view in accordance with correct accounting procedures. This has happened for ten years in a row.

Within his statement, Walker expressed an "Adverse Opinion on Internal Control". He explains:

"A significant number of material weaknesses related to the financial systems, fundamental recordkeeping and financial reporting, and incomplete documentation continued to:

1. *Hamper the federal government's ability to reliably report a significant portion of its assets, liabilities, costs and other related information;*

The real story in the US

2. Affect the federal government's ability to adequately safeguard significant assets and properly record various transactions; and

3. Hinder the federal government from having reliable financial information to operate in an economical, efficient, and effective manner."

Within the audit report there is an **"Adverse opinion on internal control"** which states:

"...in our opinion the Federal Government did not maintain effective internal control as of September 30, 2006, to meet the following objectives: (1) transactions are properly recorded, processed, and summarised to permit the preparation of the financial statements and stewardship information in conformity with GAAP... (2) transactions are executed in accordance with laws governing the use of budget authority and with other significant laws and regulations that could have a direct and material effect on the financial statements..."

The agency most criticised for its reported procedures is the Department of Defense, which accounts for 20% of all Federal spending.

Fig 23: Composition of US Federal spending

Department/Programme	As % of total spending in 2006
Social Security	21%
Defense	20%
Medicare and Medicaid	19%
Debt	9%
All other spending	32%
Total	100%

Source: Office of Management & Budget, US Treasury

In a July 2005 interview with reporters, Walker noted:

"If the Department of Defense were a business, they'd be out of business... They have absolutely atrocious financial management."

Walker has given numerous presentations highlighting the risks of long-term financial crisis for the US government. **Walker continues to tour the US on his "Fiscal Wake-up Tour" with a presentation entitled – "Saving Our Future Requires Tough Choices Today"**. His presentations can be seen at www.gao.gov/cghome.htm. In March this year he appeared on the prime-time CBS TV show, 60 Minutes. Some quotes from that programme include:

"I'm going to show you some numbers... they're all big and they're all bad."

"...the American people... they are absolutely starved of two things: the truth and leadership."

"The first baby boomer will reach 62 and be eligible for early retirement on January 1, 2008. They'll be eligible for Medicare just three years later. And when those boomers start retiring in mass, then that will be a tsunami of spending that could swamp our ship of state if we don't get serious."

"...our real problem is healthcare costs... and medical costs keep rising at twice the rate of inflation."

The real story in the US

Walker believes that the numbers are so huge that the US cannot grow its way out of this problem. He estimates that the **net present value of the US Government's total fiscal exposure, i.e. its debt, mainly Social Security and Medicare benefits, has risen from US\$20.4trn in 2000 to US\$50.5trn at the end of fiscal 2006** (and is rising at the rate of US\$3-4trn pa).

Fig 24: US fiscal exposure

US\$trn	2000	2005	2006	Chg vs 2000
Explicit liabilities	6.9	9.9	10.4	+52%
(Publicly held debt, pensions, etc)				
Commitments & contingencies	0.5	0.9	1.3	+140%
Implicit exposures	13.0	35.6	38.8	+197%
- Future Social Security benefits	3.8	5.7	6.4	
- Future Medicare Part A benefits	2.7	8.8	11.3	
- Future Medicare Part B benefits	6.5	12.4	13.1	
- Future Medicare Part D benefits	-	8.7	7.9	
Total	20.4	46.4	50.5	+147%

Source: US GAO and Financial Reports of the United States Government

David Walker is not the only US Government insider to draw attention to the US Government's financial position. Indeed, **the work of three former Treasury/ Federal Reserve/National Bureau of Economic Research insiders believe that the situation is even more severe than estimated by David Walker.**

In the Federal Reserve Bank of St Louis' July/August 2006 Review, Laurence J Kotlikoff published a report, **'Is the United States Bankrupt?'** Kotlikoff, who is a professor of economics at Boston University and a research associate at the National Bureau of Economic Research, concludes that:

"...Countries can go broke, that the United States is going broke... In my view, our country has only a small window to address our problems before the financial markets will do it for us. Yes, there are ways out of our fiscal morass, including Chinese investment and somehow getting a lid on Medicare and Medicaid spending, but I think immediate and fundamental reform is needed..."

Despite this, he notes that many would "scoff at this notion" and lists some of the contrary arguments:

"...the country has never defaulted on its debt; that its debt-to-GDP ratio is substantially lower than that of Japan and other developed countries; that its long-term nominal interest rates are historically low; that the dollar is the world's reserve currency; and that China, Japan and other countries have an insatiable demand for US Treasuries."

Kotlikoff echoes David Walker's message about **the need to take action soon:**

"Unless the United States moves quickly to fundamentally change and restrain its fiscal behaviour, its bankruptcy will become a foregone conclusion."

Kotlikoff explains in the report that **focusing on the value of federal debt as a "precursor or cursor of bankruptcy" has zero value.** Rather:

*"...the proper way to consider a country's solvency is to examine the **lifetime fiscal burdens facing current and future generations.** If these burdens exceed the resources of those generations... the country's policy will be unsustainable and can constitute or lead to national bankruptcy."*

The real story in the US

To estimate the 'fiscal gap', Kotlikoff refers to Jagadeesh Gokhale and Kent Smetters' 2005 work, "Fiscal and Generational Imbalances: An Update". This followed their 2003 work published by the American Enterprise Research Institute for Public Policy Research, Washington DC. Smetters was Deputy Assistant Secretary of Economic Policy at the Treasury during 2001-02. Smetters recruited Gokhale, who was Senior Economic Adviser to the Federal Reserve Bank of Cleveland. The point is that both are US Government/Federal Reserve insiders.

Gokhale and Smetters measured:

"...the present value difference between all future government expenditures, including servicing official debt, and all future receipts."

In their 2005 work, their estimate was that the fiscal gap of the US in 2005 was US\$65.9trn (up from US\$44.2trn in 2003), i.e. more than five times US GDP. In May 2007, **Kotlikoff extrapolated Gokhale/Smetters' 2005 calculations to reach a more up-to-date estimate of US\$70trn**. To grasp the size of this problem, he estimated that the adjustments required to remedy the situation could include:

"...an immediate and permanent doubling of personal and corporate income taxes... an immediate and permanent two-thirds cut in Social Security and Medicare benefits... were it feasible... immediately and permanently cut all federal discretionary spending by 143 percent."

The Gokhale and Smetters 2003 study is itself an update of a Department of Treasury fiscal gap analysis by the then Treasury Secretary, Paul O'Neill, which was so detailed it took a year to complete.

Kotlikoff comments in "Is the United States Bankrupt?" that current US long-term fiscal policy:

"...is typified by the way it treated the Treasury's original fiscal gap study... (which) was slated to appear in the president's 2003 budget... But when Secretary O'Neill was ignominiously fired on December 6, 2002, the study was immediately censored. Indeed, Gokhale and Smetters were told within a few days of O'Neill's firing that the study would not appear in the president's budget."

He expects that given the reluctance of politicians to raise taxes or reduce benefits:

"...the most likely scenario is that the government will start printing money to pay its bills... Specifically, once the financial markets begin to understand the depth and extent of the country's financial insolvency, they will start worrying about inflation and being paid back in watered-down dollars. This concern will lead them to start dumping their holdings of US Treasuries... could lead to spiralling expectations of higher inflation, with the process eventuating in hyperinflation... the United States... appears to be running the same type of fiscal policies that engendered hyperinflations in 20 countries over the past century."

Today, the US economy and the US dollar are in a more precarious position than they have been in for nearly 80 years and, as we will show, possibly ever.

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"There is a tide in the affairs of men..."

William Shakespeare

Introduction

To understand fully the outlook for the gold price vis-à-vis other asset classes and the global macro outlook, we believe that **the starting point should be the Kondratieff Cycle** (K-Cycle).

Our thesis is that an understanding of the K-Cycle shows that:

- > The dominant economic power of today, the US, is on a knife-edge between uncontrollable inflation and a deflationary recession. A deflationary recession is the natural tendency for an economy that has experienced an extreme credit bubble.
- > The only way to sustain the credit bubble is through increasingly large doses of inflationary stimulus, i.e. liquidity (a polite term for monetary inflation/debt), and loose monetary policy until the bubble can no longer be sustained.
- > Gold and other precious metals are the only assets that outperform in both runaway inflation and deflation.

The K-Cycle is a **long-wave cycle in the economic activity of the capitalist system** focusing in particular on the price level (inflation) and debt. It is named after the Russian, Nikolai Kondratieff, who was appointed by Lenin to establish a Conjunction Institute to analyse cycles in capitalist economies (in an attempt to establish when the system would fail). Kondratieff published his findings in a 1922 paper, although versions of his cycle had been observed by earlier economists.

Kondratieff analysed 21 economic statistics for the major economies (US, Britain, France, Germany, etc) including the price level, interest rates, wages, production, employment, imports and exports, etc. **In 15 of the 21 statistics he claimed to identify a long-wave cycle with an average length of 54 years.** Kondratieff began his analysis in the late eighteenth century which he believed was the beginning of the "broad development of industrial capitalism" (although a long-wave cycle was also evident during the earlier agrarian economy).

When Kondratieff completed his work in 1922, he had identified two full cycles and part of a third cycle which subsequently ended in 1948 when a fourth cycle began. Analysts disagree slightly on the exact timings but the following list reflects the consensus:

- > First cycle: 1789 to 1844 (55 years)
- > Second cycle: 1845 to 1896 (51 years)
- > Third cycle: 1897 to 1948 (51 years)
- > Fourth cycle: 1948 to today (59 years so far)

Subsequent authors, such as Modelski and Thompson, have identified K-Cycles that go back to the Sung Dynasty in China during 930-1250 AD.

The obvious conclusion from Kondratieff's work is that the **capitalist system is inherently self-regenerating** and this earned him a place in a Siberian labour camp. Solzhenitzyn mentions Kondratieff in "The Gulag Archipelago". He was sentenced to solitary confinement where he became mentally ill and died in 1938.

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One reason why Kondratieff's hypothesis was so interesting was because he **brought together the inter-relationships between the behaviour of economies and financial markets with social and political issues**, including wars, revolutions and innovation, which are all part of the rhythm of world affairs. In addition, the K-Cycle can be broken down into four periods, or seasons, in which certain asset classes have historically outperformed. This is extremely useful for investors.

Many high profile economic theories, such as Keynesianism and monetarism) have been shown to have their flaws as useful predictive tools. Not so the K-Cycle, **where events during the current cycle, which began in the late-1940s, have broadly occurred as would have been expected, at least until the intervention of Alan Greenspan.** The end game of a deflationary bust seems obvious, however. The only questions are whether the US experiences a period of uncontrollable inflation first (most likely in our view) and how long the authorities can delay the day of reckoning (and this ability should not be underestimated)?

According to the eminent economist, Dr Joseph Schumpeter:

"The Kondratieff Wave is the single most important tool in economic forecasting."

From our perspective, the **K-Cycle provides a roadmap for the likely outcome of economic events as we move into the latter stages of the current K-Cycle** and governments/central bankers do all they can to delay the painful 'pay-back' period which has been the feature of previous cycles. Indeed the fact that the current cycle is already 59 years long is a testament to the flexibility of monetary policy following the abandonment of the gold standard. As we shall show, however, this is unlikely to be positive, as the longer the pay-back is delayed, the worse the likely consequences.

Representation of the K-Cycle

The Kondratieff long-wave cycle is essentially a price level (inflation/deflation) and debt cycle. In K-Cycles, the price level follows a rising, inflationary phase followed by a falling (initially disinflationary), deflationary phase. Debt levels rise steadily during the upswing in the K-Cycle, accelerate dramatically in the first half of the downswing, before being purged in the severe economic contraction which occurs during the latter part of the downswing. The conditions are then in place for the next upswing and the cycle repeats itself.

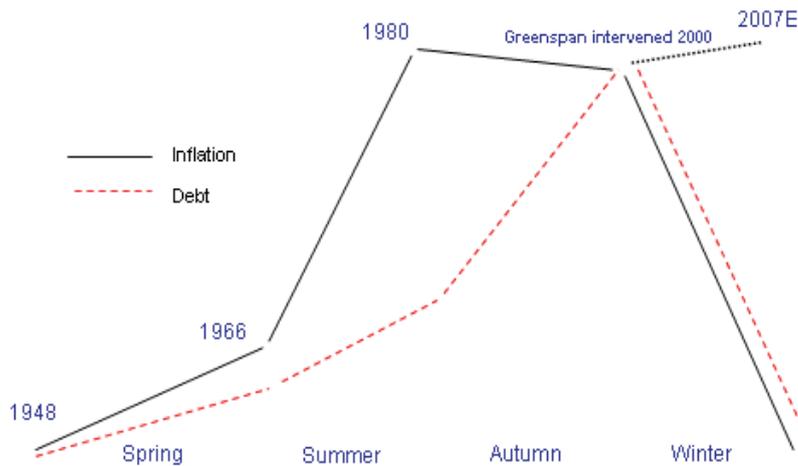
A **simplified representation of the current Kondratieff Cycle** since 1948, as it relates to the US economy, is shown below:

- > The general trend in inflation is shown by the heavy line.
- > The dashed line represents the aggregate level of debt in the economy, i.e. household, federal, state, etc.
- > The four distinct periods, or seasons, are shown along the bottom of the chart. The year in which a new season begins are shown for Spring (1948), Summer (1966) and Autumn (1980).
- > We have yet to move into the Winter period of the current K-Cycle, although we came very close to it in the wake of the TMT-led stock market decline in 2000. This was averted due to intervention on the part of Federal Reserve Chairman Alan Greenspan, as we shall discuss in this report.

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- > We have represented the current position, '2007E', at a point that is to the right and slightly above the normal representation of the curve. This is an attempt to illustrate the extreme situation in terms of credit/asset bubbles that the US now finds itself in – as explained below.

Fig 25: Redburn – representation of the Kondratieff Cycle

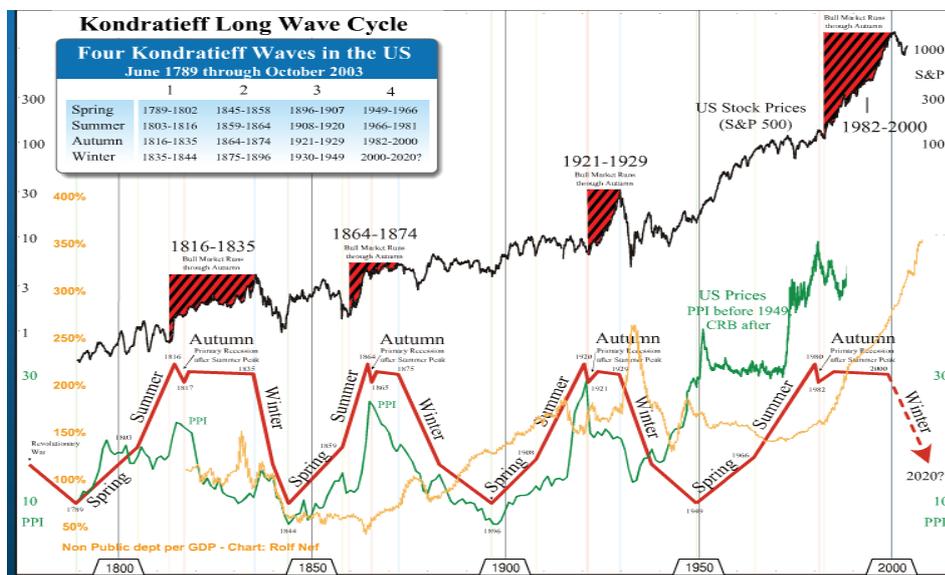


Source: Redburn Partners

While the chart above is only a representation of the K-Cycle, we believe that it illustrates that **the US is attempting to defy economic gravity and resist the natural cycle that has been a feature of capitalist economies since the Industrial Revolution.** The current fragility of the financial system has been highlighted by the sub-prime crisis, the temporary seizing up of the commercial paper markets, the run on the Northern Rock bank in the UK, etc.

“The Long Wave Analyst”, Ian Gordon of www.thelongwaveanalyst.com, has created a more detailed representation of the K-Cycle:

Fig 26: Ian Gordon’s representation of the Kondratieff Cycle



Source: Ian Gordon at www.thelongwaveanalyst.com

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The K-Cycle in more detail

The upswing

The rising phase of a K-Cycle begins with low consumer confidence, low interest rates and relatively benign inflation, although this accelerates to a peak as the rising phase draws to a close. Economically prosperous years are far more common than recessionary years. Recessions tend to be short-lived and followed by strong recovery.

At the beginning of the upswing, **savings have been rebuilt and capital is abundantly available at low rates of interest.** In these circumstances, investment surges, especially for the production of basic capital goods. Unemployment falls and wages and consumer spending increase. This is the “Spring” season. The outperforming asset classes are stocks and real estate.

The rising phase is often driven by **major innovations that were conceived during the downswing of the previous cycle** but really begin to impact economic growth during the upswing. For example:

- > First cycle: 1789-1844 Industrial Revolution
- > Second cycle: 1845-1896 Railway Boom
- > Third cycle: 1897-1948 Electricity/Autos/Industrial Chemistry
- > Fourth cycle: 1948- today Electronics/Plastics

As the supply of savings is depleted by investment and the production of goods becomes constrained, **inflation and interest rates begin to move higher.** This is usually exaggerated by a major war (see below), which typically marks the shift from the early recovery Spring season into the “inflationary Summer”. The outperforming asset classes during this phase are gold, commodities and real estate.

At the same time, some of the new innovations may reach maturity, attitudes to work deteriorate (e.g. the strikes in the UK during the 1970s) and inefficiencies creep into the system. The increase in costs as inflation accelerates leads to faltering growth, restraining investment and consumption. The **need to raise interest rates to a level to squeeze inflation out of the economy brings the upswing to an end** with a severe recession and a collapse in commodity prices, and the gold price and a sharp correction in the stock market.

Kondratieff himself noted that the greatest social upheaval, i.e. revolution and wars, tended to happen during the rising wave of each cycle. There are two distinct types of war. The early part of the upswing often experiences a “positive” war which aids the recovery, e.g. the Korean War in the 1950s. However, **each upswing is also characterised by a ‘peak’ or ‘absolute’ war which ultimately has a negative impact:**

- > First cycle: War of 1812 1812-14
- > Second cycle: American Civil War 1861-65
- > Third cycle: World War I 1914-18
- > Fourth cycle: Vietnam War 1966-75

The importance of wars also suggests that geo-political factors, including transitions of power between nations, are also linked to the K-Cycle. In addition, upswings are often

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associated with emerging economies integrating into the world system. For example, Japan during the 1950-60s in the current (fourth) cycle and the US in the second K-Cycle.

The downswing

The first part of the downswing, i.e. the 'Autumn' period, is best viewed as a 'plateau' where prices experience a disinflationary phase and where decline is gradual and almost unnoticed. Following the severe recession at the end of the upswing, there is a **strong economic recovery against this background of disinflation.**

For the financial markets, the Autumn phase of the downswing is associated with **speculative bubbles in stocks, bonds and real estate, where economic growth (backed by high consumer spending) and asset markets are sustained by growth in debt.**

While relations between management and workers improve, moral constraints tend to loosen. According to some commentators, prosperity leads to a "numbing of the senses" and the vast majority of the populace suffers from the euphoric view that the "good times will continue" and fail to take necessary precautions. Such periods have included:

- > First cycle: "The Era of Good Feeling" (1815-23)
- > Second cycle: "The Gilded Age" (1867-72)
- > Third cycle: "The Roaring 20s" (1922-29)
- > Fourth cycle: "Greenspan Era?" (1990s/2000s)

As we shall see, this is very relevant to the current situation.

In the final deflationary leg of the downswing, the Kondratieff Winter, the **excesses that have built up, i.e. debt and inflated asset prices, are purged from the economic system** when it finally becomes overwhelmed. This initially takes the form of a deflationary recession (or more accurately a depression). It should be emphasised that falling debt is just as much a characteristic as falling prices.

During a K-Winter, investment in productive capacity declines steadily and poor financial management that remained undetected during the boom in asset prices is often uncovered. The outperforming asset classes are gold, Treasury bonds and cash.

As Robert Beckman said in his 1988 book, "Into the Upwave":

*"...the excesses that develop in the system are never fully purged and form a cumulative residue... **Each time fiat monetary policy is introduced as a means to blunt the forces of recession, the residue gets larger.** Eventually a point is reached where the excesses in the system become insatiable.*

*"A long period of decline and retrenchment, lasting in the region of 15 years, allows debt to be purged and savings to be rebuilt. Some of the capital investments made during the upswing are reaching the end of their useful lives and need replacing. **These factors set the scene for a renewed upswing.**"*

Ian Gordon has summarised the K-Cycle very succinctly as follows:

- > **Spring:** rebirth of the economy
- > **Summer:** economy reaches its fullness with inflationary abundance

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- > **Autumn:** **the ‘feel good’ season of financial bull markets**
- > **Winter:** **the pay-back**

We present a bullet point summary of the Kondratieff Cycle in Appendix 3 and reflect on the criticism of his long-wave cycle theory in Appendix 4.

Distorting the current K-Cycle

Where are we?

As we highlighted earlier, the current K-Cycle, the fourth since industrialisation, is generally believed to have begun after the Second World War, around 1948, and has taken the following form:

- > Spring: 1948-66 – brought to an end by the Vietnam War.
- > Summer: 1966-80 – gold and interest rates peaked in 1980.
- > Autumn: 1980-2000?

The end of the Autumn season of the current K-Cycle and the **onset of the K-Winter was believed by some observers to have occurred with the US stock market collapse in 2000**. The host of bankruptcies which quickly followed, such as Enron, Worldcom, Global Crossing, et al, also suggested that we had moved into the K-Winter.

However, the **subsequent recovery of the US stock market to new all-time highs (see the Dow Jones Industrial Average in the chart below) and the fact that the debt/excess has clearly not been purged from the system contradicts this**.

Fig 27: Dow Jones – new highs following 2000-03 fall



Sources: Datastream

A “distorted K-Autumn”

The current financial/economic situation is showing some very mixed signals as to which part of the K-Cycle we are currently in. Indeed, **prior to the eruption of the sub-prime crisis earlier this year, there was a case for believing we were experiencing all phases of the K-Cycle simultaneously**, at least from the perspectives of which asset classes were in bull markets and the Iraq/Afghanistan war.

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How has it been distorted?

As we will show, we believe that as Chairmen of the Federal Reserve, Alan Greenspan and, more recently, Ben Bernanke, have been at the forefront of an effort to prolong a **“distorted K-Autumn”** and stave off the K-Winter. While Greenspan was Fed Chairman he managed that. However, his legacy looks like a poisoned chalice for his successor.

We would argue that **the sources of the distorted K-Autumn are twofold**. One element is explicitly attributable to the Fed’s (and other central banks’) monetary policy, the other is the result of the globalisation of the world economy/capital markets which recycled US deficits back through the US bond markets.

Monetary policy

As previously mentioned, we think that **in previous K-Cycles, the TMT-driven stock market fall in 2000 would ordinarily have brought on a deflationary recession, i.e. the K-Winter**. This obviously didn’t happen.

The chart below shows **how aggressively Greenspan cut rates** – masterminding a 550bp reduction of the Fed Funds rate down to a mere 1% between May 2000 and June 2003 (and leaving them there for 12 months) with accompanying significant injections of liquidity.

Fig 28: Greenspan – aggressive rate cutting



Source: Datastream

Recycling of US deficits

Besides aggressively loose monetary policy, the second element has been the **recycling of vast US deficits by creditor nations back through US bond markets**. This has maintained US rates at artificially low levels. The reality is that the US is exporting monetary inflation to the rest of the world. If the US was a relatively closed economy and forced to finance deficits from within, the existing money/debt expansion would obviously be inconsistent with:

- > Historically low yields on US Treasuries
- > A low CPI
- > A very low (sometimes negative) savings rate

This reflected the **globalisation of capital markets, together with the introduction of a rapidly-growing China into the world economy** and the investment of Chinese

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and OPEC trade surpluses into US Treasuries and other credit instruments. Other contributing factors have been the dramatic expansion of risk taking on the part of banks and hedge funds, excessive leverage, derivatives and the Yen-carry trade.

According to William Poole, President of the Federal Reserve Bank of St Louis in his speech, "The GSEs: Where Do We Stand?":

"The recycling of dollar liquidity back through the US markets has distorted the credit system and led to a huge artificial demand for US Treasuries."

We agree that the demand for US Treasuries can be deemed "artificial" in the sense that it reflects the current global liquidity wave and a symbiotic relationship (at least for now) between the US and its trading partners, especially China and some OPEC nations. While China recycles dollars into US Treasuries, the US is the customer of first resort for goods produced by its burgeoning manufacturing base, and both sides benefit.

We explain in Appendix 2 how the French were instrumental in the collapse of the London Gold Pool in 1968 which broke the convertibility of the US dollar into gold at US\$35/oz. In his policy of selling dollars and buying gold, President de Gaulle was advised by the economist, Jacques Rueff. Rueff compared the huge deficits of the US at the time as being like buying a suit from a tailor who, whenever you pay him, immediately lends you the money back. He described it as an "absurdity". Earlier this year, the Director of International Economics at the (globalist "think-tank") Council on Foreign Relations, Benn Steil, recycled the metaphor:

"...the United States is in the fortunate position of the suit buyer with a Chinese tailor who instantaneously returns his payments in the form of loans – generally, in the US case, as purchases of US Treasury bonds. The current account deficit is partially fuelled by the budget deficit..., which will soar in the next decade in the absence of reforms to curtail federal "entitlement" spending on medical care and retirement benefits for a longer-living population. The United States – and, indeed, its Chinese tailor – must therefore be concerned with the sustainability of what Rueff called an "absurdity." In the absence of long-term fiscal prudence, the United States risks undermining the faith foreigners have placed in its management of the dollar – that is, their belief that the US government can continue to sustain low inflation without having to resort to growth-crushing interest-rate hikes as a means of ensuring continued high capital inflows."

Besides the exporting/recycling of deficits, the inflationary effects of US monetary policy are also being disguised by:

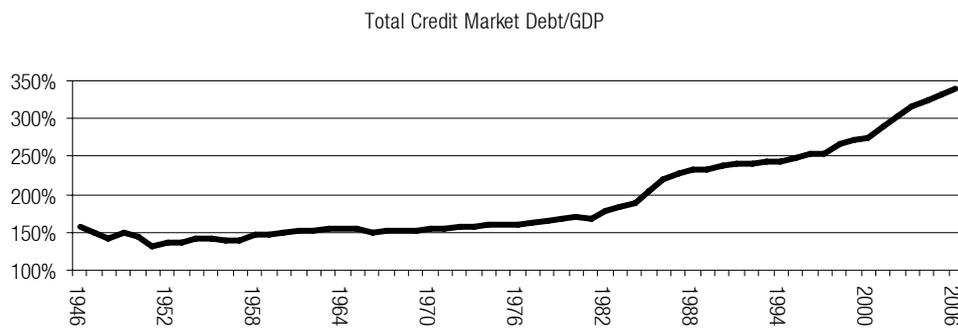
- > The **understatement inherent in the published US CPI statistics**, as explained earlier.
- > The import of **low-priced goods manufactured in China** and other emerging nations (although rising Chinese inflation and a weak US dollar are beginning to offset this).
- > Much of the **money/debt creation is being channelled into asset markets**, such as stocks, bonds and other financial instruments, giving rise to inflation in all these markets rather than in consumer goods.

All these factors have reinforced each other and together have **created what has been variously termed as the (extreme) "credit bubble", the "debt supercycle" and the "global liquidity wave"**.

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The following chart shows how just how swamped and driven by debt the US economy has become. The ratio of **total debt in the US economy to GDP has increased from 133% in 1950 to a current level of almost 350% and is still rising.**

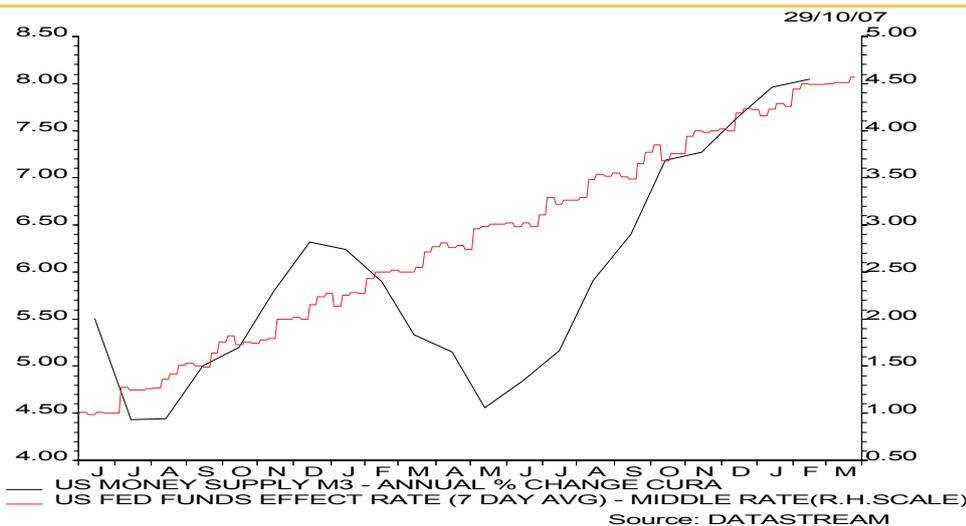
Fig 29: Total debt/GDP in the US economy 1946-2007



Source: Federal Reserve

From 25 June 2003 until 29 June 2006, the Federal Reserve steadily increased interest rates from the low of 1.0% to a peak of 5.25%, where they remained until 18 September this year. This would suggest a tightening of US monetary policy in order to constrain liquidity growth and lending activity and reduce the risk of accelerating inflation. However, the chart below showing the annual growth rate in M3 (until its publication was discontinued in March 2006) and the Fed Funds rate shows that **this “monetary tightening” was nothing more than an illusion.** By March 2006, M3 growth was running at 8% compared with just 4.5% when the tightening process began.

Fig 30: The ‘illusion’ of tighter US monetary policy



Source: Datastream

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We would argue that the **distortions have become so extreme that increases in US short rates by the Federal Reserve were nothing more than an attempt to choke off the most excessive speculation (and we still ended up with the sub-prime crisis) and to feign inflation-fighting credibility.**

How will the US try to stave off a K-Winter?

The **US Government/Treasury and the Federal Reserve will do everything in their power to prolong the “distorted K-Autumn”**. This is because:

- > A deflationary recession (depression) for the US now could be of unparalleled dimensions.
- > It would likely threaten the country's geo-political interests and dominance.

We look at these in more detail in the next section “Why the US must avoid a K-Winter”.

The nature of credit and debt is that they essentially bring forward consumption. The corollary, as illustrated by previous Kondratieff Cycles, is that at some point, debt has to be repaid. This **reverses the process and delays future consumption with the consequent negative impact on GDP growth**, leading to the Winter phase of the K-Cycle. The experience of the US during the 1930s and Japan since the early-1990s is that deflations can be prolonged affairs, lasting more than a decade.

Consumer expenditure accounts for 70% of US GDP and is the driving force of US economic growth. As the following chart shows, the US consumer is now sitting on record debt levels.

Fig 31: US consumer debt surges versus incomes



Source: Federal Reserve

It always surprises us how many economists ignore the issue of debt in assessing the prospects for future economic growth. Having brought forward so much consumption in recent decades, there is little prospect of the US returning to historic rates of economic growth without a painful adjustment process first.

We think there are two possible scenarios. Either:

- > There will **be a deflationary depression** when debt levels are reduced and savings rebuilt; or, more likely
- > There will be **an attempt at sustaining the credit bubble by inflating away the debt** so that the pay-back process is less painful.

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Our guess is that the US will try to defer the inevitable bust by **adopting the latter tactic** with a calamitous effect on the US dollar and likely inflation. Either scenario is very positive for the gold price.

The only way to sustain the credit bubble is for increasingly large doses of inflationary stimulus, i.e. money/credit creation, and loose monetary policy. This is akin to the “perfect storm” for the gold price.

It could also lead to a “Crack-up Boom” as outlined by Austrian economist, Ludwig von Mises. In this scenario, all “real” assets, but especially gold, soar in price as individuals refuse to hold cash anticipating its declining purchasing power. Von Mises explains:

“This first stage of the inflationary process may last for many years. While it lasts, the prices of many goods and services are not yet adjusted to the altered money relation. There are still people in the country who have not yet become aware of the fact that they are confronted with a price revolution which will finally result in a considerable rise of all prices, although the extent of this rise will not be the same in the various commodities and services. These people still believe that prices one day will drop. Waiting for this day, they restrict their purchases and concomitantly increase their cash holdings. As long as such ideas are still held by public opinion, it is not yet too late for the government to abandon its inflationary policy.

But then finally the masses wake up. They become suddenly aware of the fact that inflation is a deliberate policy and will go on endlessly. A breakdown occurs. The crack-up boom appears. Everybody is anxious to swap his money against “real” goods, no matter whether he needs them or not, no matter how much money he has to pay for them. Within a very short time, within a few weeks or even days, the things which were used as money are no longer used as media of exchange. They become scrap paper. Nobody wants to give away anything against them.

It was this that happened with the Continental currency in America in 1781, with the French mandats territoriaux in 1796, and with the German mark in 1923. It will happen again whenever the same conditions appear. If a thing has to be used as a medium of exchange, public opinion must not believe that the quantity of this thing will increase beyond all bounds. Inflation is a policy that cannot last.”

For a more detailed discussion of a “Crack-up Boom” see Ty Andros’s series of articles beginning with www.financialsense.com/fsu/editorials/andros/2007/0608.html.

The author of “Empire of Debt”, Bill Bonner, observed:

“No one, anywhere, has ever seen a worldwide Crack Up Boom. We’re the first, ever. Pretty exciting, huh?”

Yes and no, Bill.

The following chart shows the **amount of incremental nominal GDP generated by an incremental US\$1.0 of debt in the US economy since 1950**. The data is calculated as a four-year moving average.

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Fig 32: Addition to nominal GDP for each US\$1.00 of incremental debt in the US



Source: Federal Reserve, BEA, Redburn Partners and thanks to Marc Faber

In 1950, roughly US\$1.0 of incremental debt increased US nominal GDP by a similar amount. Over more than five decades, the benefit to GDP from additional debt has steadily declined. Today, each US\$1.0 of additional debt only adds about US\$0.20 to GDP, i.e. it takes US\$5.0 of debt to add US\$1.0 of incremental GDP.

In order to sustain the current bubble economy in the US, more and more inflationary debt creation and, consequently, loose monetary policy will be required. In the wake of the sub-prime crisis and credit squeeze, the bigger-than-expected 50bp cut in Fed Funds by Fed Chairman Bernanke on 18 September 2007 and subsequent 25bp reduction last week on 30 October 2007, is consistent with this thesis.

From our study of current Fed Chairman, Ben Bernanke's, speeches and essays from the last few years, it has been our long-held belief that he would use inflationary monetary policy in order to stave off the final deflationary phase of a K-Cycle.

Critical to this conclusion was **Bernanke's views on the two main deflationary episodes of the last century**, the US Great Depression and the more recent deflation in Japan:

- > Bernanke believes (along with Milton Friedman) that the main reason for the 1930s Depression was the ill-timed tightening of monetary policy by the Fed in an attempt to cool the surging stock market in the late-1920s. The level of debt in the economy at the time is not mentioned.
- > Bernanke also believes that Japan's inability to extract itself from its deflation was due to the country's monetary policy remaining too tight, even after short-term nominal rates had been reduced to zero. He argues that in deflation even zero short-term interest rates are too high in real terms and rates down the long end of the curve tend to remain well above zero.

Indeed, Bernanke famously said to Milton Friedman on his 90th birthday:

"I would like to say to Milton and Anna: Regarding the Great Depression. You're right, we did it. We're very sorry. But thanks to you, we won't do it again."

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During a search of Bernanke's speeches and articles on the Federal Reserve website www.federalreserve.com prior to his succession of Greenspan, we found eight (more than on any other subject) dealing with the subject of deflation, listed below.

- > Speech on the occasion of Milton Friedman's 90th birthday (November 2002)
- > Deflation: Making Sure "It" Doesn't Happen Here (November 2002)
- > Some Thoughts on Monetary Policy in Japan (March 2003)
- > An Unwelcome Fall in Inflation (July 2003)
- > Conducting Monetary Policy at Very Low Short-Term Interest Rates (January 2004)
- > Money, Gold and the Great Depression (March 2004)
- > Monetary Policy Alternatives at the Zero Bound (2004)
- > The Logic of Monetary Policy (December 2004)

Like Greenspan, Bernanke believes deflation can be defeated through aggressive monetary inflation as expounded in his famous "printing press" speech (Deflation: Making Sure "It" Doesn't Happen Here) in 2002:

"The conclusion that deflation is always reversible under a fiat money system follows from basic economic reasoning... Like gold, US dollars have a value only to the extent that they are strictly limited in supply. But the US government has a technology called a printing press (or, today, its electronic equivalent) that allows it to produce as many US dollars as it wishes at essentially no cost. By increasing the number of dollars in circulation... the US government can reduce the value of a dollar in terms of goods and services, which is the equivalent to raising the prices in dollars of those goods and services."

Less well covered in the media have been his suggestions for "non-traditional" means in some of his other speeches and articles, such as this from "Conducting Monetary Policy at Very Low Short-Term Interest Rates":

"...an announced ceiling on some longer-term yield below the prevailing rate. This policy entails (in principle) an unlimited commitment to purchase the targeted security at the announced price."

Why the US must avoid a "K-Winter"

There are two main reasons why we believe the US authorities will do everything they can to stave off the deflationary phase of the K-Cycle:

- > Given the extreme indebtedness of both the US Government and the US consumer, a deflationary slump could be unparalleled in its severity.
- > Such a crisis would threaten, if not completely negate, the thrust of US geo-political strategy and even US hegemony itself (already coming under pressure from Russia and China).

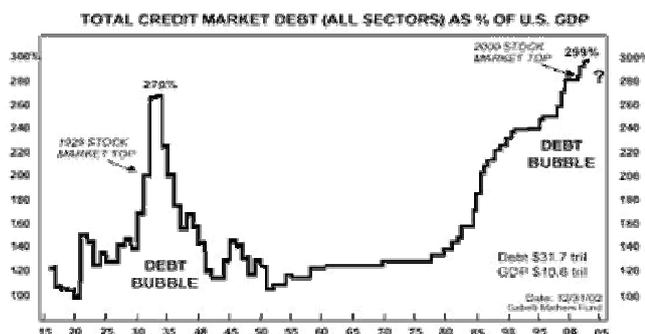
Kondratieff: inflation or deflation?

Risk of severe depression

The extreme **indebtedness of the US economy is not confined to the federal government**. It spreads from the government to states and municipalities, the financial sector and to the household/consumer. In recent years, it has even been piled on to parts of an otherwise healthy corporate sector with the bubble in the private equity/LBO market. We have concerns about how these privatised companies (and their financiers) fare when the US economy finally moves into recession.

It is important to put the current level of debt/GDP into a historical context. The following chart from Gabelli Funds in 2002 perfectly illustrates the trend in debt associated with the current and previous K-Cycles. As the chart shows, the **debt/GDP ratio peaked at 270% during the Great Depression of the 1930s**. With the current level of debt/GDP now at approximately 350%, we are, therefore, already in uncharted waters as far as the debt burden is concerned.

Fig 33: Total debt/GDP in the US economy 1915-2005



Source: Gabelli Funds

At the time of the last K-Winter in the 1930s, the US was the largest creditor nation in the world. Not surprisingly, US Treasury bonds represented an attractive safe haven as prices of other assets, with the exception of gold, fell sharply. In fact, although the federal government tried to stimulate the economy, most of the money created was immediately invested in the bond market and US Treasury yields declined to just over 1.0%. **Few people realise there was a huge bull market in US Treasury bonds during the 1930s Depression.**

If the US enters a deflationary recession now the situation could be different:

- > The US is the world's largest debtor and reliant on foreign savings to finance its federal deficit.
- > A recession would dramatically reduce the US Government's tax revenues without a corresponding decline in expenditure, leading to a spiralling Federal Deficit.
- > There would be a dollar crisis.

Threat to US geo-political strategy

The geopolitical strategy being played out by the US is **broadly in line with the geopolitical "Great Game" first posited by Sir Halford Mackinder of the London School of Economics in his "Heartland Theory"**. Mackinder argued that the Eurasia region (or the "World Island" as he called it) is the "geographic pivot of history". The World Island, according to Mackinder, was the European, Middle East and Asian land mass, excluding the UK and Japan, which he considered as separate sea powers.

Kondratieff: inflation or deflation?

Fig 34: Eurasia – the “geo-political prize”



Source: graphicmaps.com

Mackinder was a big supporter of the British Empire (and British hegemony) and gave a famous speech, “The Geographical Pivot of History”, to the Royal Geographic Society in 1904. His opinion was that there are two types of powers – sea powers, like the UK, US and Japan (at the time), and the large land powers of Eurasia, such as Russia and Germany. Mackinder asserted that with the development of the railway, land powers were able to unite large land masses free from dependency on the seas. World history, according to Mackinder, was an eternal struggle between the “seaman” and the “landman”.

When he first presented his theory, Russia was close to completing the Trans-Siberian railway. Having successfully contained Russia during the nineteenth century, he feared that railways would make the military strength of a land power, like Russia, almost as mobile as the naval powers. The balance of power was, therefore, in danger of moving in favour of Russia, or Germany, if Germany invaded Russia, or a Sino-Japanese empire, if it invaded Russia.

In the wake of World War One and the Versailles Treaty, Mackinder argued for the need to prevent a convergence of interests between the “pivot states” of Eastern Europe (e.g. Poland, Czechoslovakia and Austria-Hungary), with Russia at the core of the “Heartland”. Mackinder summarised his thinking in the famous dictum:

“Who rules East Europe commands the Heartland;

Who rules the Heartland commands the World Island;

Who rules the World Island commands the World.”

In some ways little has changed since Mackinder proposed his theory, apart from the following:

- > The US has succeeded the UK as the global hegemon.
- > The **‘pivot’ states that are the targets for control have shifted from Eastern Europe to the nations of Central Asia and the Middle East** due to their energy resources and in order to contain a resurgent Russia.

A highly influential proponent has been Zbigniew Brzezinski, former National Security Advisor to President Carter (1977-91) and a member of several globalist organisations.

Kondratieff: inflation or deflation?

As he stated in his 1997 book, "The Grand Chessboard: American Primacy and its Geostrategic Imperatives":

"Ever since the continents started interacting politically, some 500 years ago, Eurasia has been the centre of world power... For America, the chief geopolitical prize is Eurasia – and America's global primacy is directly dependent on how long and how effectively its preponderance on the Eurasian continent is sustained."

Furthermore:

"A power that dominates Eurasia would control two of the world's three most advanced and economically productive regions. A mere glance at the map also suggests that control over Eurasia would almost automatically entail Africa's subordination, rendering the Western Hemisphere and Oceania geopolitically peripheral to the world's central continent... About 75% of the world's people live in Eurasia, and most of the world's physical wealth is there as well, both in its enterprises and underneath its soil. Eurasia accounts for about 60% of the world's GNP and about three-fourths of the world's known energy resources... The world's two most populous aspirants to regional hegemony and global influence are Eurasian. All of the potential political and/or economic challengers to American primacy are Eurasian."

In his book, Brzezinski emphasises the importance of what he calls the "Eurasian Balkans", i.e. the Central Asian Republics, as being critical for world dominance:

"Moreover, they are of importance from the standpoint of security and historical ambitions to at least three of their most important and more powerful neighbours, namely Russia, Turkey and Iran, with China also signalling an increasing political interest in the region. But the Eurasian Balkans are infinitely more important as a potential economic prize; an enormous concentration of natural gas and oil reserves is located in the region, in addition to important minerals including gold."

Moving into the current era, some of Brzezinski's views were picked up by the neo-conservative group, the "Project for the New American Century". This "think tank" was created in June 1997 and included eight future members of the Bush Administration, Cheney, Rumsfeld, Wolfowitz and "Scooter" Libby amongst others, as well as Jeb Bush.

PNAC's grand geo-political strategy was contained in the document "Rebuilding America's Defenses: Strategy, Forces and Resources for a New Century" and published two months before the November 2000 Presidential election. The document contrasts the challenges for US strategy in the 21st Century with those during the Cold War and sees a "unipolar world" dominated by the US. As the introduction says:

"...At present, the United States faces no global rival. America's grand strategy should aim to preserve and extend this advantageous position as far into the future as possible."

And:

"...we saw the project as building upon the defense strategy outlined by the Cheney Defense Department... drafted in the early months of 1992 (which) provided a blueprint for maintaining US pre-eminence, precluding the rise of a great power rival, and shaping the international security order in line with American principles and interests."

Kondratieff: inflation or deflation?

The strategic differences of Brzezinski and PNAC are minor. Both target the preservation of US hegemony and the prevention of any rivals to US power. PNAC's cause celebre was the ousting of Saddam Hussein which came to pass, although its standing has been severely tainted by the ongoing security problems in both Iraq and Afghanistan.

With more aggressive rhetoric from Cheney about Iran recently, it would seem **the current administration's apparent desire to control the strategic oil assets in the Middle East seems undaunted**. Furthermore the US-sponsored "color revolutions" in Georgia and the Ukraine, both key Central Asian Republics, suggest that elements of Mackinder's theory remain valid:

- > In November 2003, the "Rose Revolution" in Georgia saw Edouard Shevardnadze replaced by US-educated and pro-NATO President, Mikheil Saakashvili. Saakashvili backed the Baku-Tbilisi-Ceyhan pipeline that would move Azerbaijan's Caspian oil to Western markets.
- > In November 2004, the "Orange Revolution" in Ukraine installed a pro-NATO regime under Viktor Yushchenko.

If the US were to suffer from a severe deflationary recession now, it **might be politically untenable to continue fighting two expensive wars on the Eurasian continent, especially if US workers were losing their jobs in large numbers**. This could lead to a pull-back from Eurasia, with the vacuum left by the US filled by a combination of China, Russia and Iran. As Brzezinski argued:

"The most immediate task is to make certain that no state or states gain the capacity to expel the United States from Eurasia or even diminish significantly its decisive arbitration role."

In Appendix 5, we outline how we believe monetary inflation and waning world supremacy are inexorably linked.

Gold supply and demand

You can't model it!

The **'official' statistics for gold supply and demand** are provided by the World Gold Council (WGC), using data from industry consultant Gold Fields Mineral Services (GFMS) Ltd. The supply and demand numbers, together with our estimates for 2007-10 are shown in the following format:

Fig 35: World Gold Council – supply and demand model

	2002	2003	2004	2005	2006	2007E	2008E	2009E	2010E
Supply:	2,591	2,593	2,492	2,550	2,475	2,525	2,575	2,652	2,758
Mine Production	835	939	849	886	1,106	940	940	987	1,086
Scrap	545	617	469	674	329	395	415	435	457
Government Sales	545	617	469	674	329	395	415	435	457
Sub-total	3,971	4,149	3,810	4,110	3,910	3,859	3,930	4,075	4,301
Producer Hedging	0	0	0	0	0	0	0	0	0
Total	3,971	4,149	3,810	4,110	3,910	3,860	3,930	4,075	4,301
Demand:									
Jewellery	2,680	2,478	2,614	2,707	2,279	2,507	2,607	2,711	2,820
Industrial/Dental	360	380	411	427	452	466	480	494	509
Bar & Coin Retail Investment	332	310	398	411	411	575	690	829	994
Other Retail Investment	0	-18	-60	-26	-28	-40	-25	-25	-25
ETFs	0	39	133	208	260	50	100	150	200
Sub-total	3,372	3,189	3,496	3,727	3,374	3,558	3,852	4,159	4,498
Producer De-hedging	412	270	422	86	369	320	100	100	100
Total	3,784	3,459	3,918	3,813	3,743	3,878	3,952	4,259	4,598
"Inferred Investment"	187	690	-108	297	167	-18	-23	-184	-29

Source: World Gold Council, Redburn Partners estimates

The WGC describes the balancing figure of "Inferred Investment" as the residual including "institutional investment other than ETFs and similar, stock movements and other elements as well as any residual error".

The **WGC table is of limited value, as we will explain**. This table, widely used by convention, has been criticised (justifiably we believe) in an article by an independent analyst, Robert Blumen. The problem is that it is impossible to model the markets for monetary metals such as gold and silver.

"...supply and demand in the case of a monetary metal are indeterminate because of the huge speculative following as it switches its loyalty back and forth between the long and short side of the market..."

Antal Fekete, Professor Emeritus, Memorial University of Newfoundland

The WGC's methodology is flawed because, unlike other commodities which are "consumed", almost all the gold ever mined remains on the surface of the planet. This gold in the form of bars, coins and jewellery, etc, is relatively easy to re-sell back into the market. Therefore, gold supply is **theoretically almost all the gold ever mined, estimated to be approximately 158,000 tonnes, or approximately five billion ounces**, by the WGC (but much higher in reality). Certainly, all the gold in bar and coin form should be considered as potential supply and a significant proportion of gold jewellery in Asian nations (especially India), where it is deliberately used as a store of wealth.

Gold supply and demand

The only thing that the WGC's format captures is part of the incremental supply and demand each year. The reality is that:

- > The rises and falls in the price of gold take place against a continuing rise in overall gold 'inventory'.
- > Every year there is a small addition to overall 'theoretical' supply from mined production – currently approximately 2,500 tonnes pa (+1.6%).
- > There can never be a "supply shortage" as occurs in other "consumed" goods, rather it is a question of the price at which that gold is mobilised by its owners.

In the WGC format, however, supply is considered to be annual levels of mine production, central bank ("official") sales, the recycling of old gold scrap (largely jewellery) and hedging by gold mining companies. We believe this is incorrect, as it **fails to account for the movement of existing gold stock between buyers and sellers in the bullion market** (except for recycled jewellery in "Scrap").

On the demand side, the main problems with the WGC's methodology are:

- > The assumption that there is no central bank ("official") buying.
- > The gold lending/swaps market is assumed not to exist apart from gold which is either borrowed (supply) or repaid (demand) from gold miners increasing or decreasing their hedging activities. Gold miners have been closing out hedges for several years (which is gold demand as long as they deliver gold back to the original lender, rather than settling for cash) following the huge increase in hedging during 1995-2000.
- > All increases in Exchange Traded Funds' (ETFs) holdings are assumed to be matched by actual increases in physical bullion when there is some doubt as to whether this is always the case.
- > "Inferred Investment" becomes just a balancing figure between flawed and incomplete estimates for gold supply and demand.
- > As Blumen points out, there is something called "reservation demand", i.e. that gold holders effectively demand gold by holding existing stocks back from the market.

It is very easy to identify situations which are not sensibly accommodated using this methodology. For example, **a fall in the WGC's estimate of annual supply would have to be met with a corresponding decline in its estimate for demand** (including "Inferred Investment"), otherwise the model would not balance. This would occur irrespective of the economic/financial backdrop during the year and movements of the world gold stock between market participants would not be captured.

In this case, the **model cannot accommodate the overall investment by central banks, institutions and private investors where gold bars/coins are moved from the existing holders ("weak hands") to new holders, or to existing holders increasing their holdings ("strong hands")**. It is precisely this situation which we believe has been occurring in recent years as gold has been in a bull market.

The impossibility of modelling supply and demand for gold is a strong incentive for focusing on the macro picture, as we have done in the first part of this report. These influences are likely to drive the gold market flows of "big players" such as central banks and investment/hedge funds. Having said that, there are several issues that we can look at which will contribute positively to the supply and demand balance.

Gold supply and demand

Inevitability of increased central bank buying

"I've lived in Latin America for the better part of twenty-five years and for the first time, people don't want dollars. They actually prefer their own currency. Here's my last news flash for you. If a fellow with no education, a poor diet, and inadequate medical treatment living at 3,500 meters above sea level can figure out that the US dollar is undesirable as a store of wealth, how much longer do you think it can last as the world's reserve currency?"

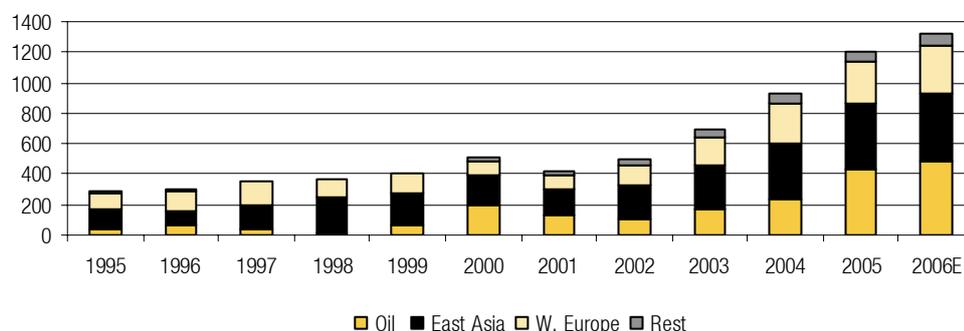
Enrico Orlandini of Dow Theory Analysis

We expect two major sources of increasing central bank demand:

- > The **BRIC nations** and some of their smaller Asian brethren, such as Vietnam, Taiwan, Thailand, Philippines, etc.
- > **OPEC nations.**

In an October 2007 report, the McKinsey Global Institute estimated that oil exporting nations (this includes Russia) became the largest source of net global capital flows last year. Oil nations' capital outflows of US\$484bn slightly exceeded those of East Asia's US\$446bn with in a worldwide total of US\$1.32trn.

Fig 36: Oil exporters – net global capital flow



Source: McKinsey Global Institute

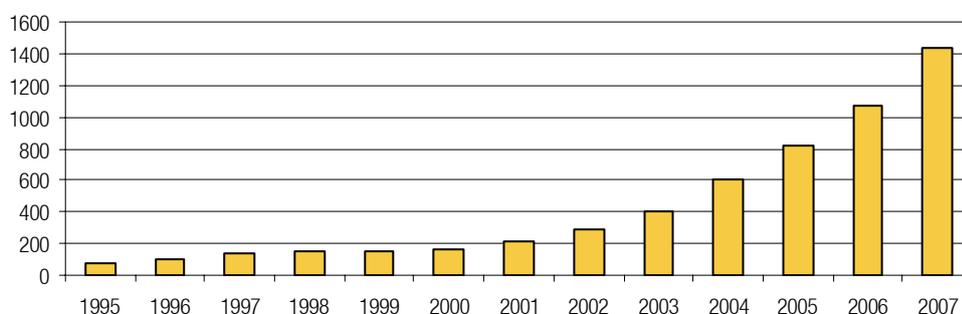
In terms of asset allocation, McKinsey makes the point that:

*"...oil portfolios today are generally diversified across debt and equity securities as well as alternative asset classes, such as hedge funds, private equity, real estate and **commodities.**"*

The chart below shows the rise in China's foreign exchange reserves since 1995. From US\$75.4bn at the end of 1995, they reached US\$1.0trn in October 2006 and stood at US\$1.4trn at the end of July 2007 – an annual run rate of about US\$0.5trn pa.

Gold supply and demand

Fig 37: Growth in China's foreign exchange reserves 1995-2007 (US\$bn)



Source: Redburn Partners

Not only do countries such as China, India, Russia and the Middle Eastern nations have **rapidly growing foreign exchange reserves, but they are almost all underweight gold as a proportion of their foreign exchange reserves**. The average gold holding as a percentage of forex reserves is 9% on a worldwide basis. The table below shows how the three most powerful of these nations, China, India and Russia, stand out in particular, with low single-digit percentages of their reserves in gold.

Fig 38: Gold reserves – BRIC, OPEC and other emerging nations

Country	Tonnes	% of reserves
China	600	0.9%
Taiwan	423	3.3%
Russia	408	2.1%
India	358	3.4%
Venezuela	357	31.0%
Algeria	174	3.8%
Libya	144	4.3%
Saudi Arabia	143	10.9%
Singapore	127	1.8%
Thailand	84	2.4%
Kuwait	79	7.4%
Indonesia	73	3.0%
Malaysia	36	0.8%
Nigeria	21	1.0%
Qatar	12	4.6%

Source: World Gold Council

We estimate that for China, Russia and India to increase their gold reserves to the 9% average of total foreign exchange reserves, they would need to buy almost 7,500 tonnes of gold, equal to three years of annual mine production.

While the WGC demand and supply model does not incorporate any central bank buying, its statistics on official gold reserves show exactly this. Its latest report shows that the **central banks of Russia, Greece, Kazakhstan, Qatar, Serbia and the Ukraine were buyers of gold during the first nine months of 2007**. However, only Russia (5.6 tonnes) and Qatar (11.3 tonnes) reportedly bought in significant quantities. Russia also bought 14.9 tonnes during the second half of 2006.

Gold supply and demand

If the 20.5 tonnes of gold bought by Russia is the correct figure, Russian buying is very likely to accelerate going forward. In November 2005, the **Russian central bank announced that it would double its level of gold reserves**, which were then approximately 387 tonnes. President Vladimir Putin backed the plan and was quoted by Interfax as saying:

"I support the proposal that the central bank pay greater attention to precious metals in forming our gold and foreign exchange reserves."

This was followed by a statement by the first deputy chairman of the Russian central bank in which he said the bank would be:

"...buying gold on all markets on which it is available."

In our opinion, it is highly unlikely that powerful nations such as Russia and China are being completely open about their actions in the gold market, for two reasons:

- > If publicly available statistics showed substantial ongoing buying by these nations, it would likely encourage copycat buying by funds and individuals who perceived gold to be a one-way bet. This would work against the interests of these nations.
- > Gold is a highly political and strategic metal and overtly to build up gold reserves could anger the US and disrupt international markets.

The table below shows the reported gold reserves of Russia and China at the end of each of the last ten years.

Fig 39: Russia and China – gold reserves 1997-2006 (tonnes)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Russia	507	458	415	384	423	388	390	387	387	402
China	395	395	395	395	501	600	600	600	600	600

Source: World Gold Council

According to the WGC, China has not purchased any gold since 2002 – during which time its foreign exchange reserves have increased by more than US\$1.0trn. We find it inconceivable that some of this has not gone into gold. China has publicly declared that it has been building a strategic oil stockpile since October 2006 and has created a Sovereign Wealth Fund. It would be naïve, in our view, to believe they are not building a strategic reserve of gold at the same time.

From the Chairman of the Gold Anti-Trust Action Committee on Chinese gold buying:

"They have been discreetly buying up natural resources for at least the last five years... (we) have known for years how they have been accumulating gold via our STALKER source."

The Gulf Research Center, the most influential Middle East 'think tank', published a 2005 paper titled "The Role of Gold in the unified GCC Currency" in which it described the **dollar's status as the world's reserve currency as a "dead man walking"**:

"The paper dollar standard is a dead man walking. Its debt, accumulated over the recent decades, is too high to be effectively repaid. It will either default or be inflated to such an extent that it will not hurt (the US) to pay it back."

Gold supply and demand

It then went on to emphasise the **importance of gold to protect capital against the monetary policy of the US:**

"Gold will be a suitable means of asset protection and ultimate payment in such a scenario. It will preserve the wealth of individuals and central banks alike and will ensure important manoeuvrability for the latter."

During the last three years at least 11 nations have signalled an intention to reduce the proportion of US dollars in their forex reserves:

- > **Russia:** increased the proportion of Euros (November 2004).
- > **Thailand:** considering cutting US dollars from 80% to 50% (January 2005).
- > **South Korea:** will diversify its US dollar reserves but no details given (February 2005).
- > **Venezuela:** diversifying reserves out of US dollar into Euro (October 2005).
- > **Sweden:** cut the proportion of US dollars in its reserves from 37% to 20%.
- > **Qatar:** may increase the percentage of its foreign exchange reserves held in Euros to 40%.
- > **Italy:** cut the proportion of US dollar reserves from 84% to 63%.
- > **Iran:** will shift reserves from US dollars to Euros (December 2006 – although believed to have been doing so since 2003).
- > **Indonesia:** cut US dollar reserves from 95% to 80% (December 2006).
- > **Malaysia:** diversifying US dollar reserves but no details given (January 2007).
- > **UAE:** considering cut in US dollar reserves from 98% to 50-90%.

The lesson of history is that as the US dollar comes under more pressure as the world's reserve currency, **self-interest takes over and the governments of some nations begin to break ranks.** France, and to a lesser extent, Germany, contributed to the collapse of the London Gold Pool in 1968. This time around, we think China, Russia and possibly some Middle Eastern nations are the most likely candidates.

Nations holding reserves in US dollars are effectively being taxed by the global superpower's inflationary monetary policy. Governments have always taxed their subjects, but the history of empires is that they tax other nations. Traditionally, this took the form of gold, natural resources, slaves or soldiers. However, as the economist, Krassimir Petrov, argues, the taxation of other nations by today's superpower, the US, is more subtle:

"It did not enforce the direct payment of taxes like all of its predecessor empires did, but distributed instead its own fiat currency, the US Dollar, to other nations in exchange for goods with the intended consequence of inflating and devaluing those dollars and paying back later each dollar with less economic goods – the difference capturing the US imperial tax".

Gold supply and demand

Private gold buying in Asia and the Middle East

Besides central bank buying, another major source of growing demand is private buying from **emerging nations, such as India. The populations in these nations have a strong affinity for gold.** India is particularly important as it is by far the world's largest market for gold. According to WGC estimates – Indian “consumer demand” – consisting of jewellery and net retail investment, amounted to 691.1 tonnes in 2006. This figure accounted for 26% of the worldwide total last year. The US was in third place, and behind it came the Middle East, China, Turkey and Vietnam.

In the first half of 2007, consumer **demand for gold surged 72% in India** and the country accounted for 36% of the worldwide total. Behind it come the Middle East and a rapidly growing China. The US fell back to fifth place, also being overtaken by Turkey.

Fig 40: Gold – consumer demand in top ten countries

Country	H106	H107	Change	% of world total
India	307.1	528.2	+72%	36%
Middle East	157.1	181.7	+16%	12%
China	125.8	165.4	+31%	11%
Turkey	114.9	122.4	+10%	8%
US	128.8	109.3	-15%	7%
Vietnam	31.6	48.8	+55%	3%
Russia	31.3	39.1	+25%	3%
Indonesia	25.7	29.6	+15%	2%
Italy	24.1	21.8	-10%	1%
UK	16.1	16.0	-1%	1%
Other	220.8	218.1	-1%	16%
Total worldwide	1,183.3	1,480.4	+25%	100%

Source: World Gold Council

The World Gold Council reported that India's demand for gold had grown on average by 10% pa since the repeal of the Gold Control Act in 1990, which had made it illegal to hold gold in bar form. The **possession of gold is firmly rooted in Indian culture:**

- > In the Hindu religion, gold is viewed as symbolic of wealth and prosperity.
- > Gold is bought or given as a gift during important Hindu festivals, especially Diwali in October/November and Akshaya in April/May.
- > Indian brides are given gold as a gift from both the wedding guests and, more importantly, from their parents as a form of inheritance. There are an estimated ten million marriages in India each year.
- > Buying gold is an important method of saving for the large rural community.

These cultural factors are being reinforced by growing incomes on the back of India's rapid economic expansion. In its September 2006 report, “The Role of Gold in India”, the WGC highlighted a report by economic forecaster, Global Insight, highlighting the expected rapid growth in household incomes in the country.

Gold supply and demand

Fig 41: India: growth in household income levels 2005-15

Household income	Growth	No. of households in 2015
US\$13-30,000	+52%	167m
US\$30-80,000	+87%	30m
US\$80,000+	+200%	3m

Source: Global Insight

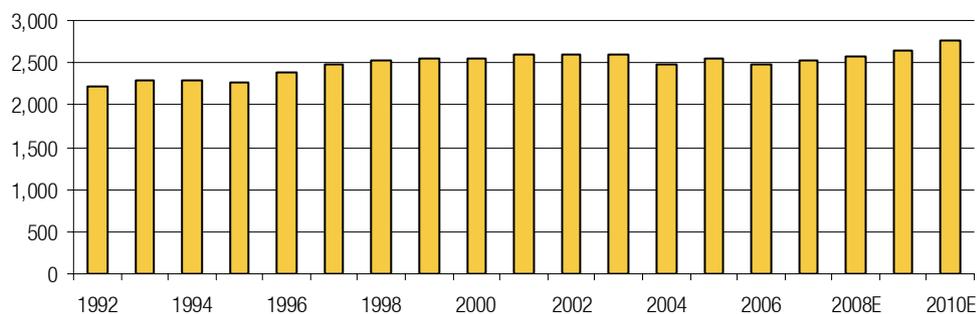
GATA's "Stalker" source reported the feedback from a conversation with a former member of the World Gold Council:

"...the most important factor for gold was the growing population of India and China... and their population has a propensity for gold. In his opinion, this dwarfs all the other factors regarding the gold price, i.e. don't stand in the way of the inevitable."

Flat gold mine output

The figures from the World Gold Council show that **worldwide gold production has been broadly flat since the late-1990s**. This situation is unlikely to change, at least for the next several years, if not longer. Indeed, mined production could actually decline over the medium/long term.

Fig 42: World gold mining production 1992-2010E (tonnes)



Source: World Gold Council, Redburn Partners estimates

The **three largest gold companies, Barrick Gold, Newmont and AngloGold Ashanti, are all likely to post flat or lower production in 2007**. In aggregate, these companies accounted for 20.1m ounces of mined gold last year – 25% of the worldwide total. All three are expected to show flat/down production through to 2009.

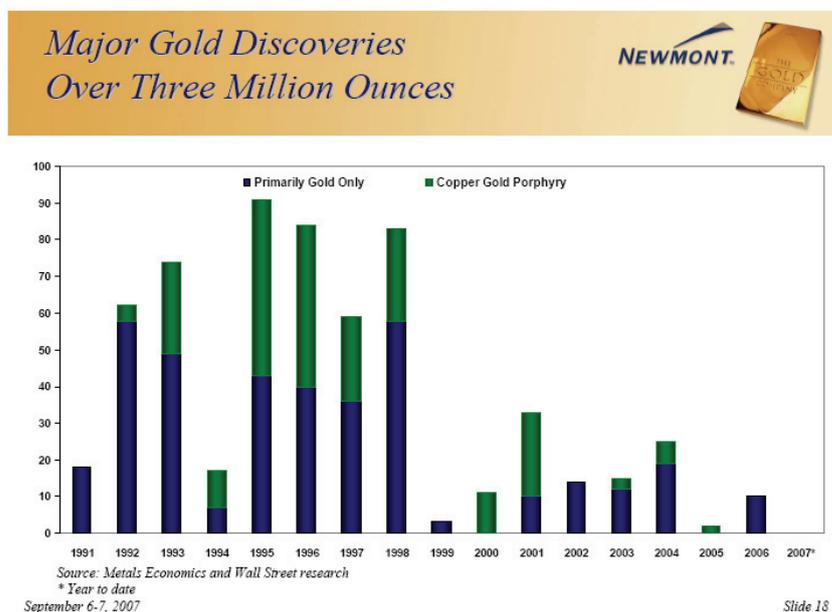
Reserve replacement is becoming more of a challenge as was summed up in a recent comment from Newmont, the world's second-largest gold miner:

"While the entire industry faces exploration challenges, the aging nature and size of our deposits results in lower grades and may limit our ability to replace reserves in 2007."

This slide shows the dearth of major gold discoveries, defined as deposits with more than 3.0m oz, during the last nine years.

Gold supply and demand

Fig 43: Gold exploration – harder to find large deposits



Source: Newmont Mining

Washington agreement sales waning

The World Gold Council estimates that **total holdings of gold bullion by the world's central banks is 30,120 tonnes**. The largest reported holders are major industrialised nations, like the US, Germany, France and Italy, together with financial institutions such as the IMF and ECB. The table below shows the reported quantity of gold and the percentage of total forex reserves accounted for by gold for the top 20 holders.

Fig 44: Central banks: official gold holdings at September 2007

Rank	Country	Tonnes	% of reserves
1	United States	8,134	76
2	Germany	3,418	63
3	IMF	3,217	-
4	France	2,658	55
5	Italy	2,452	64
6	Switzerland	1,242	40
7	Japan	765	2
8	Netherlands	641	56
9	ECB	605	24
10	China	600	1
11	Taiwan	423	3
12	Russia	408	2
13	Portugal	383	87
14	India	358	3
15	Venezuela	357	31
16	United Kingdom	310	13
17	Lebanon	287	32
18	Austria	282	43
19	Spain	282	35
20	Belgium	228	34

Source: World Gold Council

Gold supply and demand

The ECB and 14 European Central Banks signed the **Central Bank Gold Agreement (CBGA) – the “Washington Agreement”**, on gold sales in September 1999. The agreement was to last for five years and limited gold sales to a maximum of 400 tonnes pa. The Bank of England was one of the parties to this agreement, which included provision for the UK to sell the remaining 365 tonnes from its 415-tonne sale announced in May of that year.

After the expiry of the first agreement in September 2004, a second five-year agreement was made. Under this agreement, the **maximum permitted sales level was increased from 400 tonnes to 500 tonnes pa**. In addition, the Bank of England was absent as a signatory.

If the point of the first CBGA was not to enter the market as sellers with exception of “already decided sales”, **why was a second agreement negotiated for further sales and at an even higher level?** Secondly, why was the Bank of England not a signatory to the second agreement? The likely answer to the latter is that the Bank of England has increased its activity in gold lending in opposition to the CBGA guidelines.

As the following table shows, the central banks almost reached this sales ceiling in 2004/05 but fell well short of it in the second year with only 395.8 tonnes. During the year just ended, a substantial acceleration in sales from Switzerland and Spain led to aggregate sales increasing to 466 tonnes, although they still fell short of the ceiling.

Fig 45: Gold sales – CBGA 2

Country	2004–05	2005–06	2006–07	2007–08E	2008–09E	Total
ECB	47	57	60	60	60	284
Austria	15	14	8	12	12	61
Belgium	30	0	0	10	10	50
France	115	135	107	120	120	597
Germany	5	5	5	0	0	15
Italy	0	0	0	0	0	0
Netherlands	55	68	14	15	15	167
Portugal	55	45	0	25	25	150
Spain	30	63	149	50	50	342
Sweden	15	10	10	13	13	61
Switzerland	130	0	113	69	69	381
Total	497	396	466	374	374	2,108

Source: World Gold Council, Redburn Partners

The details of the **Swiss** sale are worth highlighting. On 14 June 2007, the Swiss National Bank (SNB) announced that it would sell 250 tonnes of gold by the end of September 2009. Selling at an even monthly rate would mean approximately nine tonnes of sales each month. By 26 September 2007, the SNB had already sold 113 tonnes, equivalent to a monthly rate of approximately 32 tonnes. This leaves only another 137 tonnes during the latter two years of the agreement, i.e. about 69 tonnes on average per year. Once again, it **seems strange that the SNB is in such a rush to sell when the gold price is acting so well.**

The biggest seller in 2006-07 was **Spain** with 149 tonnes, which amounted to nearly one-third of its gold reserves in just one year. More sales are likely in 2008 although there is no clarification from the Bank of Spain, except that there will be no further sales in the calendar year 2007.

Gold supply and demand

When it signed the second CBGA, **France** said that it intended to sell 500-600 tonnes over the next five years. In the first three years, average annual sales of almost 120 tonnes leave the company exactly on track to meet 600 tonnes. We expect French sales to continue at approximately 120 tonnes for the remaining two years.

Portugal was a medium-sized seller during the first two years of the current agreement, but sales dried up in 2006-07. No guidance on further sales has been given by the Portuguese authorities, but with 383 tonnes of reserves, we would expect some modest selling by the central bank.

The **Netherlands** has targeted 165 tonnes of sales during the second agreement. Sales of 136.5 tonnes leave an additional 28.5 tonnes during the final two years.

Sweden sold 10 tonnes last year and will sell a further 10 tonnes in 2008. Beyond that, its planned sales include only a further 25 tonnes in the last two years of the current agreement.

The **ECB** seems to be selling at a fairly consistent level in the region of 50-60 tonnes per annum and we assume this will continue.

Belgium and **Austria** have averaged 10-12 tonnes of sales per annum and we also expect this to continue.

The **wild cards are Germany and Italy**, with both being holders of large gold reserves. The German Bundesbank has already stated that it will not sell gold in the current year to September 2008. While there is no clarification beyond next September, its President, Axel Weber, has previously stated:

"Gold is a useful counter to the swings of the dollar."

For now we assume that the Bundesbank will continue its no sales policy. For the German government to overrule the Bundesbank would require a majority vote by the German Parliament, the Reichstag.

Italy's central bank has also declined to sell any gold in the current year. However, the Italian Parliament gave the go-ahead for the Government to look into **whether Italy could use its gold reserves to help reduce the national debt**. The aim was to reduce Italy's debt from 105.1% of GDP to 103.2%, which could have been achieved through the sale of 1,740 tonnes of gold (71% of its holdings). However, there were two problems. Firstly, only a fraction of this could be sold under the current Washington Agreement and secondly, gold sales for this purpose are not permitted under the terms of the European Union. As gold commentator, Julian Phillips, pointed out in August 2007:

"Sales of gold by European Central Banks are primarily for the adjustment of national reserves in terms of structure or size. They are not intended, under the rules of the European Union, to pay the bills of the governments of Europe..."

It also infringed on the **authority of the European Central Bank** and the Italian Government received a rebuke from the European Commission:

"It is up to the ECB to decide about the foreign reserves (including gold reserves) of the Euro area member states, in full independence."

So **Italian sales appear to be off the agenda for the foreseeable future**, although it is possible that they could feature prominently in a third CBGA from 2009-10 onwards.

Gold supply and demand

As the table above shows, our estimates for central bank gold sales during the remaining two years of the current agreement suggest that the signatories will fall well short of the 500-tonnes sales ceiling unless Germany has a change of heart. This should be a positive development for the gold price.

Aside from Washington Agreement sales, a further potential source of “official” supply is the IMF. In total, **the IMF has 3,217 tonnes (103m oz) of gold reserves**. Earlier this year a “panel”, including Alan Greenspan and Jean-Claude Trichet, recommended that the IMF sell 400 tonnes (12%) of its gold to put the bank’s finances on a “sounder footing”. In a recent interview with *Le Monde*, the new head of the IMF, Dominique Strauss-Kahn, said that central bankers did not seem to oppose gold sales.

However, selling the IMF’s gold is not that simple. Before any sales can take place, an 85% voting majority of IMF members is needed. The US has a 17.5% vote, so its approval is essential. The problem for the US administration and the Federal Reserve is that Congressional approval is required. The difficulty of gaining Congressional approval in 1999 was one factor that led to the Bank of England being pressured into the UK’s gold sale. When IMF’s gold sale was proposed in 1999 to provide debt relief for poor countries, it was actually opposed by some of these countries, such as sub-Saharan African nations of Ghana and Mali, who are important gold producers. These nations were concerned about the potential adverse impact on the gold price, and gold producers could vote against any new proposal.

The likelihood of IMF sales is uncertain, but we would not expect anything other than a short-term correction in the gold price should they take place. To reiterate, the sale of 1,200 tonnes by the IMF and US Treasury during 1976-80 failed to stop the gold price reaching its all-time high. Indeed, we would expect emerging nations with rapidly growing foreign exchange reserves, like China, to be willing buyers.

Transparency and intervention in the Gold market

Introduction

Gold is the most “honest” of financial assets, being nobody else’s liability. However, the gold market is possibly the most opaque and subject to intervention by governments and central banks. If the gold market is not transparent and free, it acts against the interests of businesses, institutional investors, small investors and the general population in deciding how to allocate capital.

The gold price is an important gauge of the state of the world economic and financial situation. A sharply rising price acts like a “canary in the mine”. It warns of economic instability and the debasement of paper currencies as investors and the general public are forced to hoard gold in order to protect capital/purchasing power.

In the following sections we will examine the lack of transparency and evidence of intervention in the gold market. We will try to assess how much gold is leased/swapped out of the vaults of the central banks and bullion banks and, overall, how much physical gold falls short of the amount claimed by owners.

The LBMA (London Bullion Market Association) – a “professional’s” market

The vast majority of **gold trading takes place on an OTC (over-the-counter) basis, rather than on a recognised exchange**. By far the biggest centres for OTC gold trading are London and Zurich. Most gold is traded through London, which acts as the clearing centre for the majority of OTC gold trades. Zurich is, however, larger in terms of the wholesale movement of physical gold.

Most gold is traded “loco London”. As the Bank of England explains:

“Bullion traders from all over the world have traditionally maintained precious metal accounts with members of the LBMA. This has meant that dealers around the world are able to settle bullion transactions between themselves by transfers between London dealers such that most global “over the counter” (OTC) gold and silver trading is cleared through the London Bullion Market Clearing. This fact means that trading against a quotation for loco London delivery bullion, by and between dealers globally, makes the loco London price the common denominator in global bullion pricing, and the loco London bullion account the bullion equivalent of the currency nostro account.”

The “London Good Delivery” gold bar is defined by the LBMA as:

“...minimum fineness of 995.0 and a gold content of between 350 and 430 fine ounces with the bar weight expressed in multiples of 0.025 of an ounce – the smallest weight used in the market. Bars are generally close to 400 ounces or 12.5 kilograms.”

Zurich overtook London in terms of the physical movement of bullion during the late 1960s with the collapse of the London Gold Pool. When Sterling was devalued, holders of sterling reserve balances in London experienced substantial losses. At the time, South Africa was by far the world’s largest gold producer, accounting for nearly 60% of production (now only 11%, although it remains the largest – just). **South Africa switched from supplying newly mined gold from London to Zurich, which is still the destination for the majority of gold mined today.** The large Swiss banks were

Transparency and intervention in the Gold market

already very experienced in gold trading, had their own gold refineries and were important depositories for the gold holdings of governments and wealthy individuals.

Gold is not just bought and sold spot. There is a very large derivatives market with a liquid forward market. **Gold can be bought and sold forward, swapped and lent (leased)**. The catalyst for the development of the gold derivatives market was threefold and occurred during the 1980s:

- > Innovation by the major bullion banks operating in the gold market (e.g. HSBC, Goldman Sachs, JPMorgan Chase, Deutsche Bank, UBS, et al) who developed the gold loans (leasing) and forwards markets.
- > The desire by central banks to earn a return on their gold reserves which led them to start mobilising (lending, swapping) their gold reserves in the bullion markets back in the 1980s.
- > Some gold miners could fund new projects more cheaply by borrowing gold, selling it into the spot market and utilising the proceeds. The gold could be returned from future production. The only problem was that the forward prices for gold production were negotiated at the time of the deal, so any benefit from a rising gold price was negated until the loan was repaid (although it did provide downside protection).

Gold mobilised (lent or swapped) into the market earns income:

- > Lent gold earns an interest rate, albeit a relatively low one, the **gold lease rate**. This is currently 0.25%, but was considerably higher in the 1990s, at c1-2%.
- > Gold swapped earns a “premium”, the **Gold Forward Offered rate, or GOFO** (from the mnemonic for its Reuters page).

The **gold lending and swaps markets depend on forward (future) gold prices**. The gold price almost always trades in contango, i.e. the forward price exceeds the spot price. This reflects the foregone interest (let’s assume it approximates to LIBOR from having cash tied up in gold), less the income which could be earned from leasing out the gold to a third party – the lease rate.

The contango also reflects the fact that almost all the gold ever mined is theoretically still available to the market, hence the **existence of short-term supply bottlenecks causing even a temporary backwardation is highly unlikely**. Antal Fekete, Professor Emeritus at the Memorial University of Newfoundland, has proposed that a shift into backwardation for the gold price would signify the collapse of the current fiat money system. It would mean that investors would not be prepared to accept lower priced “paper promises” for future gold delivery in comparison to holding the physical metal. This would be in spite of the seemingly “free profit” from selling the physical, putting the cash on deposit and buying a gold future with the intention of taking delivery of the physical.

The forward price “**GOFO**” is related to **LIBOR** and the **gold lease rate** such that:

$$\text{GOFO} = \text{LIBOR} - \text{Gold lease rate}$$

Or, rearranging this gives:

$$\text{LIBOR} = \text{GOFO} + \text{Gold lease rate}$$

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From the London Bullion Market Association's website, the current values are:

GOFO	=	LIBOR	-	Gold lease rate
4.58857%		4.79250%		0.20393%

This simple relationship connects all the spot and forward rates used in swaps and lending (leasing) transactions in the gold market:

- > **Gold swap** is an exchange of gold for foreign exchange that includes a commitment to repurchase the gold at a fixed price at a future date.
- > **Gold loan/lease** is where gold is loaned to another party subject to a promise to return it at a future date for the payment of a fee – the lease rate.

Surprisingly, it is **not possible to ascertain the true level of OTC gold trading around the world** – not in London, Zurich or elsewhere. In fact, it wasn't until January 1997 that the LBMA published any data on gold trading. Since then, it has published the average daily volume of gold cleared through London. An FT article on 30 January 1997 commented:

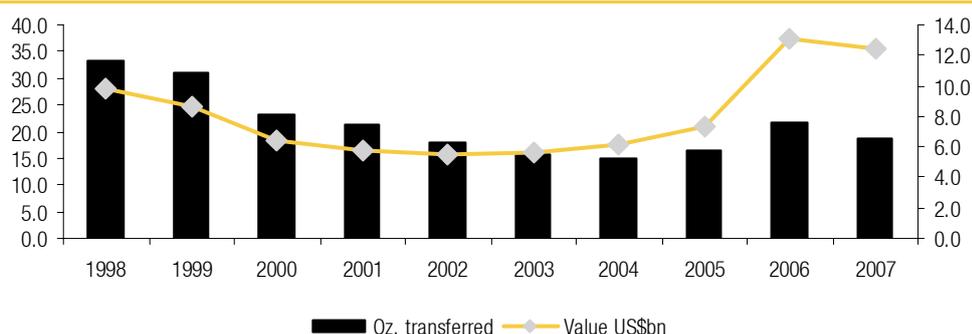
"Deals involving about 30 million troy ounces, or 930 tonnes, of gold valued at more than \$10 billion are cleared every working day in London, the international settlement centre for gold bullion. This is the first authoritative indication of the size of the global gold market, and was revealed yesterday by the London Bullion Market Association."

However, it is important to note that the volume of gold cleared is much lower than the volume of gold traded since **LBMA clearing members net out their own and third-party trades so that only the level of account transfers between clearing members is reported**. The same FT article highlighted the deficiencies in the data:

"...traders insisted the association's statistics were only part of the picture because matched orders are cleared without appearing in the statistics. Mr. Jeffrey Rhodes, of Standard Bank, London, said the 30m ounces should be "multiplied by three, and possibly five, to give the full scope of the global market ... Another said the exercise was "futile" because it did not give a complete picture of bullion market activity."

In 2006, an average of 21.5m oz (nearly 670 tonnes) of gold was cleared through London each day. The following chart shows the trend since 1998:

Fig 46: LBMA – average gold ounces transferred (m oz/day) and value (US\$bn)



Source: LBMA

Transparency and intervention in the Gold market

It is very important to put this volume of gold trading in perspective:

- > The equivalent of all the gold mined worldwide in a year (about 2,500 tonnes or 80m oz) is cleared through London in an average of less than four days.
- > If the true volume of trading is 3-5x the level of trades reported as cleared by the LBMA, say 4x, the volume of gold mined worldwide each year is traded every day.

The **vast majority of OTC trading (probably over 95%) takes place in the form of “unallocated gold” accounts, which are effectively claims on “pools of gold” rather than relating to individual gold bars with specific serial numbers.** This is very significant and we outline the significance of unallocated gold below.

Besides the lack of transparency on actual trading volumes, **regulation on the OTC gold markets is also extremely ‘light’** and seems more reminiscent of the self-regulatory/gentleman’s club style of the London Stock Exchange prior to “Big Bang” in 1986.

In a speech in January 2003, Andy Murfin, Head of Market Infrastructure for the FSA, observed:

“...the FSA has to look at customer protection, and it has an obligation to adjust the amount of customer protection that it provides to the amount that’s needed. For instance, bullion markets are typically inter-professional in the UK, and the FSA applies a lighter professional touch to professional markets.”

The London bullion market is a **wholesale market** where the “minimum traded amounts for clients are generally 1,000 ounces of gold”. At the current gold price, that represents transactions worth more than US\$838,000 – hardly the stuff of small investors.

We agree that it’s a professional’s market, and it might work perfectly well for professional gold traders. In an environment of unlimited credit and debt creation, a **transparent and market is a critical barometer of the economic outlook:**

“...the significance of a rapidly rising price of gold is a signal of trouble ahead.”

Rob Kirby, Rob Kirby Analytics

Now, in its 1996 Gold Survey, GFMS implies that it’s the very lack of transparency that attracts trading volume to the OTC markets in London and Zurich:

“The other advantage of the OTC market is confidentiality and lack of transparency: business can be conducted privately, sheltered from the attention of other market participants, competitors, regulators and, of course, analysts.”

That’s an interesting comment – that gold trading on the OTC market can be **sheltered not just from analysts and competitors, but “regulators” as well!**

Turning to the regulators, this is from the FSA’s Andy Murchin again on the differences between regulating “on exchange” and OTC markets:

“Markets run by exchanges tend to get tighter regulation. The FSA imposes obligations on these exchanges to monitor the market to prevent the market being used for abusive purposes.”

The FSA imposes tighter regulations on exchanges to prevent them being used for abusive purposes.

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The LBMA has this to say about transparency on its website:

"Unlike a futures exchange, where trading is based around standard contract units, settlement dates and delivery specifications, the OTC market allows flexibility. It also provides confidentiality, as transactions are conducted solely between the two principals involved."

Given the significance of gold, we would prefer a greater degree of transparency.

Transparency promotes trust.

Unallocated versus allocated gold

Gold held in the vaults of bullion banks by central banks, other banks, investment funds and private clients is held in one of two forms:

> **Allocated**

> **Unallocated**

In their 2006 "Code", the Foreign Exchange Joint Standing Committee, the Sterling Money Markets Liaison Group and the Management Committee of the London Bullion Market Association **defined allocated gold as follows:**

"Allocated accounts are accounts maintained by dealers in client's names on which are maintained balances of identifiable bars of metal "Allocated" to the customer's name and segregated from other metal held in the vault. The client has full title to this metal with the dealer holding it on the client's behalf as custodian."

So the bank is paid a fee by a customer and, under custody law, it is **not permitted to use the gold in the account for its own purposes.**

Storing gold in vaults is a low-margin business and, therefore, of little interest to banks. Furthermore, moving large volumes of gold from bank vault to bank vault is an expensive inconvenience for the big traders in the gold market, unless they specifically wish to take delivery of the physical bullion.

As the chairman of the LBMA Physical Committee explained in a speech "The Physical Side of Liquidity" in 2002, very few transactions end up being settled with the actual movement in physical bullion. Instead, they are settled via debits and credits in metal (unallocated) accounts:

"Many of these transactions end up being settled by metal accounts through the six clearing members that interchange in the same way as any bank clearing mechanism. Whilst it is very difficult to get hard, statistical evidence, it is clear that approximately 5% of these paper transfers actually relate to a physical delivery. Just because someone holds their gold in London, gold may be taken from an account in Zurich and moved to somewhere in Asia. Everyone trading for loco London is using loco London as the international medium for transactions."

He goes on to explain:

"Metal accounts enable us to reduce the flows of these physical bars around the world, but they will move nevertheless."

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This led to the **development of unallocated gold accounts** which satisfied the need for convenience for the “professional” gold traders and served the banks’ needs in terms of private client holders of gold. The “Code” describes unallocated gold accounts as follows:

“The balance of an unallocated account represents the indebtedness between the parties and credit balances on client accounts are backed by the general stock of the bullion dealer with whom the account is held; the client in this scenario is an unsecured creditor. Should the client wish to receive actual metal, this is done by “allocating” specific bars, the fine metal content of which is then debited to the unallocated account.”

Will Deighton, Head of London Treasury Operations for UBS AG explained:

“...an unallocated account is an account where specific bars are not set aside, and the customer has a general entitlement to the metal. This is the most convenient, cheapest, and most commonly used method of holding metal. The allocated account, on the other hand, is an account opened when a customer requires metal to be physically segregated, and this needs a detailed list of weights and assays.”

There are several important points to understand here:

- > Customers holding unallocated gold are nothing **more than unsecured creditors** from the banks’ perspective.
- > As a depositor of gold rather than cash, holders of unallocated gold might have **even less depositor protection than current/deposit account holders**.
- > The gold becomes nothing more than a “liability” for the bank and an “asset” for the customer. It is **no longer the property of the customer, but is now part of the working capital of the bank**.
- > The bank can use this gold as it wishes – keep it in the vault, lend/swap it or even sell it, should it choose – while retaining a liability to the account holder.
- > If the bank became insolvent, the **holder of unallocated gold would lose some or all their money**. Since a major reason for investing in gold is protection from financial/economic instability and crises, this seems perverse.

As Paul Tustain of BullionVault has explained:

“This means that the ‘owner’ of unallocated gold in a gold account is more dependent on the financial system’s robustness than even the straightforward depositor of cash, a situation which for many gold buyers would be considered upside down.”

According to a World Gold Council study:

“For short-term exposures, some bullion dealers and bullion banks holding balances for private-sector customers were willing, from the late 1970s onwards, to lend a proportion – normally up to a maximum of 25 per cent – of gold held in unallocated accounts.”

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Aside from this estimate, we **cannot find any information regarding how much physical gold is actually held in reserve for unallocated gold accounts**. It is reasonable to assume that professional traders are fully cognizant of the risks, although in the current environment the risks are rising. However, we are much less certain about private clients.

For nearly 30 years, banks have encouraged their private clients to hold gold in unallocated form by waiving custody fees. For many customers, this seemed like an attractive offer, but we suspect that many have failed to understand:

- > The **difference between allocated and unallocated gold** and their position as unsecured creditors of the bank, rather than bona fide owners of gold bullion.
- > They are **effectively providing (almost) interest-free loans to banks since the banks can lend the gold into the market**, or possibly not even purchase gold in the first place – just hedge the gold price risk using options – and deploy the depositor's funds in other parts of the business;
- > **If there was ever a time for private investors to ensure that they have allocated gold it is now**, following the run on the Northern Rock bank in the UK, massive write-offs at Citibank and Merrill Lynch, dislocation in credit markets and more than US\$400trn of outstanding notional value in derivatives.

We asked the investor relations departments of two leading UK bullion/commercial banks the following questions:

- 1 What proportion of gold that you hold for private customers (i.e. not central banks or institutions) is held in "Unallocated" rather than "Allocated" accounts?
- 2 In ballpark terms, what level of gold backing do you have for these "unallocated" accounts?

One did not reply, while the other responded:

"I am not sure that there is anything helpful that I can add: there is nothing in our public disclosure that is going to get us close to a meaningful discussion, so I am afraid that I am not going to be able to help."

We weren't surprised by the response because we suspect that this is highly confidential information, especially with regard to private client holders of unallocated gold. We understand that, to a greater or lesser extent, the **banks are operating in the gold market on a fractional reserve basis**.

IMF – accounting regulations for gold reserves

Gold that has been lent or swapped by central banks and bullion is almost always sold into the spot market in a subsequent transaction. A problem arises because **both the central bank and the new owner of the gold from the spot sale (an Indian bride perhaps?) both now claim ownership of the gold under IMF accounting regulations**.

With very few exceptions, **central bank annual reports do not differentiate between gold that remains within their vaults or is available to them on demand, and gold that has been lent or swapped** out and may either be owned by a third party or not immediately available. Instead, the balance sheets of the vast majority of central banks show a one-line item:

"Gold and gold deposits"

Transparency and intervention in the Gold market

The bullion/commercial banks do not provide any information on their gold holdings or those of their customers.

There are **only three central banks which differentiate between gold still in their vaults and leased/swapped gold**. These are the Bank for International Settlements (the “central bank for central banks”), the Bank of Portugal and the Swiss National Bank.

- > The **BIS** had 23.2% of its gold out of the vaults on “deposit” (i.e. leased or swapped) on 31 March 2007, down from 37% the previous year.
- > The **Bank of Portugal** also reduced the proportion of leased/swapped gold in the year to December 2006 from 20.2% to 4.1% – a significant reduction.
- > The **Swiss National Bank** reduced its leased/swapped gold slightly from 10.4% at the end of 2005 to 9.3% at the end of 2006.

Now these reductions **could** reflect a change in policy towards mobilising gold, or delivery of gold back from gold mining companies that cancelled hedges during the year.

Alternatively, there has been increasing focus on these three central banks because they are the only ones that segregate leased/swapped gold. Hence the reductions could be largely confined to these three banks due to their greater disclosure levels. It is interesting to note that the volume of gold transferred on the LBMA jumped dramatically – by a huge 30% in 2006 versus 2005 – to a daily average of 21.5m oz per day versus 16.5m oz. This would suggest that the **volume of loaned/swapped gold needed to provide liquidity to the market would have increased significantly**, not fallen.

It should also be remembered that **balance sheets are only snapshots at one moment in time**, i.e. at the financial year end. We cannot be sure whether they reflect the day-to-day reality during the rest of the year.

In April 2006 the IMF published a position paper on the accounting of gold swaps/loans, “Treatment of Gold Swaps and Gold Deposits (Loans)” by Hidetoshi Takeda. Takeda outlined how IMF accounting guidelines **allowed gold reserves to be double-counted in central bank balance sheets**:

*“The current statistical treatment of gold swaps... **results in overstating reserve assets because both the funds received from the gold swap and the gold are included in reserve assets**. While the gold is swapped, it cannot be the case that both the claims and the gold are simultaneously liquid and readily available to the monetary authority.”*

And on the subject of gold deposits/loans:

*“...the monetary authority (may) make gold deposits **‘to have their bullion physically deposited with a bullion bank, which may use the gold for trading purposes in world gold markets’** and **‘The ownership of the gold effectively remains with the monetary authorities...’**”*

Takeda concluded that IMF regulations should include a **clearer description of the treatments of gold swaps and loans to avoid double counting “except when the gold is available on demand”**:

*“**Swapped gold** should be excluded from both reserve assets and IIP (international investment position). This is a logical consequence, and overstating of reserve assets can be avoided.”*

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And:

*"Regarding the statistical treatment of **gold deposits/loans**... if the deposited/loaned gold is available upon demand to the monetary authority, it can be included in reserve assets as monetary gold... if the gold is not available upon demand, it should be removed from reserve assets..."*

The IMF Reserve Assets Technical Experts Group reviewed the paper and agreed that further investigation into the statistical treatment of gold swaps and gold loans was needed, **especially with regard to allocated and unallocated gold**. It agreed with Takeda's conclusions that gold not available on demand should be excluded from reserve assets and that "gold swaps primarily involve unallocated gold".

Takeda prepared a follow-up paper in August 2006, "**Treatment of Allocated/Unallocated Gold held as Reserve Assets and Gold Swaps and Gold Deposits**". He noted that:

"There are no explanations on the treatment of gold swaps/deposits that involve unallocated gold."

However, he also highlighted the agreements of the IMF Committee on Balance of Payments Statistics (BOPCOM) and the Advisory Expert Group on National Accounts (AEG) that **unallocated gold accounts are to be treated as:**

"...financial assets, namely, deposits in foreign currency..."

Given these agreements, he argued that while a central bank's holding of allocated gold would be monetary gold, the holding of unallocated gold:

"...would be classified as deposits, rather than monetary gold, even when other criteria for being classified as a reserve asset are met."

And he warned that this approach may result in:

"...a significant decrease in reported monetary gold, although this would be a one-off effect..."

His **use of the word "significant" in relation to the amount of gold central banks hold in unallocated form with bullion banks should be noted**. He then offered a more palatable alternative, which goes against the BOPCOM/AEG agreements:

"...to treat unallocated gold the same way as allocated (physical) gold only for reserve assets. The advantages of this approach could be (i) it keeps the status quo, (ii) frequent changes in recorded gold holdings are avoided if central banks switch between allocated and unallocated accounts, and (iii) the complication by residence (how to treat unallocated gold if the account provider is a resident bank) can be avoided."

But as he points out, this creates an asymmetry with both the central bank and the bullion bank showing possession of the gold. To reconcile this, and the inconsistency of gold with and without corresponding claims, he suggests changing the heading of "Monetary gold" in the accounts to "Gold holdings" and separating "Monetary gold", defined as allocated gold, from "Other gold" including "Claims on resident banks" and "Claims on non-resident banks".

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Takeda then goes on to consider **gold swaps in unallocated gold**. He makes the point that the decision on their treatment depends on the discussion above, i.e. whether unallocated gold is treated as:

- > **Monetary gold:** in which case unallocated gold out on swap could either be excluded from reserve assets or included as monetary gold; or
- > **Deposits:** in which case unallocated gold out on swap could either be excluded from reserve assets or included in reserve assets as deposits.

In March 2007, the IMF published its first draft of the **new manual that specifies the regulations for central banks' reporting mechanism**, the sixth edition of the "Balance of Payments and International Investment Position Manual" (the "Manual"). This includes the rules for reporting gold holdings. It is likely that these regulations will be finalised in time for central banks' report and accounts from 2008. In Appendix 4, we outline in detail the regulations in the Manual regarding gold reserves. In summary, the draft regulations propose:

- > **Ignoring the BOPCOM/AEG recommendation to treat unallocated as deposits.** Unallocated gold, if it is available on demand, will be included in monetary gold, when it is technically a deposit.
- > Maintaining the asymmetry in bank reporting with **both the central bank and the bullion bank (unallocated account provider) reporting possession of the unallocated gold.**
- > In gold swaps, although legal ownership changes for the period of the swap (and the "gold taker" can lend/sell the gold), **central banks will still include the gold on their balance sheets.**

While the proposals are still at the draft stage, it is clear that the IMF is taking the least conservative option in each case. This keeps the status quo and avoids a significant reduction in reported levels of monetary gold in central bank balance sheets and avoids highlighting the embarrassing fact that central bank vaults contain much less gold than the central banks claim.

Despite official denials, there has been **much controversy in recent years surrounding the question of whether the US has mobilised its gold reserves**. The "Status Report on US Treasury-Owned Gold" in August 2000 designated the 1,700 tonnes of gold stored at the West Point depository as "Gold Bullion Reserve". In the September 2000 report, the gold was designated as "Custodial Gold". There was no explanation for the change and, furthermore, there was no change in the designation of the gold reserves at Fort Knox or at the Mint in Denver. Something clearly happened to the West Point gold to warrant the change in description, while the gold in the other depositories remained unchanged. A search on Google defines a custodian as:

"A financial institution, such as a brokerage firm, or a bank that holds stock certificates and other assets on the behalf of a mutual fund, corporation or individual."

As it implies, custody is normally about looking after something for somebody else. James Turk (founder of GoldMoney) **proposes that the West Point gold may have been swapped by the Exchange Stabilisation Fund (ESF) with another central bank**, possibly the Bundesbank.

Transparency and intervention in the Gold market

We know from the following comment from the general counsel of the Federal Reserve and the FOMC that the ESF statute permits gold swaps:

"The (ESF) statute is very broadly worded in terms of words like "credit" – it has covered things like gold swaps."

We also know that the ESF is active in the gold market from the discrepancies between the Federal Reserve's "Gold Stock" on its balance sheet and the "Gold Stock including the Exchange Stabilisation Fund" in its statement on US Reserve Assets. This is highlighted in the next table (NB: gold is accounted for at a historic price of US\$42.22 per oz by the Federal Reserve):

Fig 47: Discrepancies in US gold reserves and the ESF

US\$m	1995	1996	1997	1998	1999
Federal Reserve Audit	11,050	11,048	11,047	11,046	11,048
US Reserve Assets incl. ESF	11,050	11,049	11,050	11,041	11,089
Difference	0	-1	-3	5	-41
Difference in oz of Gold		-24,000	-71,000	118,000	-971,000

Source: Federal Reserve

At 31 December 1995, US gold reserves were identical in both sources, but began to diverge from 1996 onwards – at broadly the same time when the Gold Anti-Trust Action Committee (see below) alleges the suppression of the gold price began. The differences are likely to represent either long or short positions in gold taken by the ESF.

From an FOMC transcript, Turk was able to find a reference to ESF swap arrangements with the Bundesbank, although it did not specify whether these involved gold. By swapping gold with another central bank, the US could have mobilised gold in the major bullion markets in Europe. After Turk had pointed out the reference to the ESF, the reference to it was removed from subsequent reports from February 2000 onwards (with no explanation).

In June 2001, there was another reclassification of US gold reserves. This time, the terms "Gold Bullion Reserve" and "Custodial Gold" in respect to the gold held at West Point, Fort Knox and Denver were all replaced with the description "Deep Storage Gold". Once again, there was no explanation for the change. The notes to the Treasury's monthly report on US gold reserves describes "Deep Storage" as being that gold which is held in "sealed vaults", although some commentators speculate just how "deep" some of this storage might be.

In light of the above debate, a significant piece of information was unearthed by James Turk earlier this month relating to a **change of wording regarding the US gold reserve back in May this year.**

The US is the world's largest reported holder of gold reserves with 8,134 tonnes. Hitherto, **it has always stated that its policy has been not to lend or swap any of its gold.** Whether this is true or not has been the subject of debate. In 1998 Alan Greenspan made his famous comment:

"...central banks stand ready to lease gold in increasing quantities should the price rise."

Transparency and intervention in the Gold market

He was later asked to clarify this comment by Senator Joseph Lieberman. In a letter he noted:

"...the observed willingness of some foreign reserves – not the Federal Reserve – to lease gold in response to price increases."

Our view has been that with the largest reported gold reserves and the world's reserve currency, the US had the most to gain from mobilising its gold and was unlikely, therefore, to have stood by while other nations were active in the market.

On 8 May 2007, **the US Treasury published its international reserve position** for 4 May 2007. In "Official US Reserve Assets (in US millions)", gold was listed as:

"4. Gold Stock"

The following week, the line item for gold in the same report for the **US International Reserve Position on 11 May 2007 had changed**. The line for gold now read as follows:

"(4) Gold (including gold deposits and, if appropriate, gold swapped)"

The website addresses of these tables are:

www.treas.gov/press/releases/2007581342179779.htm

www.treas.gov/press/releases/20075141738291821.htm

Since then a further piece of evidence has been unearthed by GATA which suggests that the reason for the US Treasury's change in disclosure was a change in the IMF's accounting rules requiring greater disclosure. This followed the approval of the IMF's revised Fiscal Transparency Code. The following announcement can be found on the IMF's website:

"The Executive Board of the International Monetary Fund (IMF) approved on May 8, 2007 the revised Code of Good Practices on Fiscal Transparency. The Code, a central element in IMF actions to promote transparency and good governance, was initially launched in 1998. It has since underpinned assessments of fiscal transparency in 86 countries under the Standards and Codes initiative."

The new code can be found at:

www.imf.org/external/np/pp/2007/eng/101907m.pdf

In it, the IMF's key recommendations relating to gold are:

- > Financial assets to be reported include cash and cash equivalents; other monetary assets, such as gold and investments; and loans and advances.
- > **Additional break-downs** should be provided within each category of financial asset (our emphasis).
- > **Any special characteristics of financial assets, such as being secured against a debt, or any other restrictions on the use of an asset or the income deriving from it**, should be noted as memorandum items (our emphasis again).

Transparency and intervention in the Gold market

The change in wording for the gold line item in the US Treasury's Reserve International Position was for 11 May 2007 – just three days after the IMF approval. The timing seems too close to be unrelated.

In his Freemarket Gold & Money Report, James Turk's view was:

"This description provides clear evidence that the US Gold Reserve is in play. Gold has been removed from US Treasury vaults and placed on deposit, presumably in the couple of bullion banks the Treasury has selected to assist with its gold price capping efforts.

Gold placed on deposit gets loaned out by these bullion banks, and then sold into the spot market to try capping the gold price. The same thing happens with swaps, but the vague language in the note to the Treasury reports makes it uncertain whether they are in fact being used at the moment.

It is noteworthy that this change of accounting occurred in May. Could it be that the gold cartel had to dip into the US Gold Reserve to accommodate the big gold buybacks of hedge books that Lihir and others completed at that time?"

This new evidence provided in the US Treasury report as well as the rising gold price itself suggest to me that we are now witnessing the last scramble by the gold cartel to cap the gold price. It is a vain attempt by them, acting under the instructions of the US Treasury, to make the world think the dollar is worthy of being the world's reserve currency when in fact everyone knows that it is not.

"Now all we need to know is how much of the US Gold Reserve has the gold cartel already put at risk? And how much more of the US Gold Reserve will be put at risk before the US Treasury finally acknowledges reality?"

While we are hopeful that this will signal a new level of transparency from the US Treasury we still have some reservations:

- > Page 2 of the IMF's code emphasises that it is "voluntary in nature".
- > While the wording of the line item for gold has been changed, at this stage there is no further detail in the US Treasury's data between gold in the vault and gold that has been mobilised.

At the end of his piece, James Turk asks an important question – how much of the of the US Gold reserve has been put at risk, i.e. leased/swapped. This question is equally valid for all other central banks.

Intervention in the gold market

"Years of study have convinced me that there is a strong and criminal agenda to illegally suppress the price of gold."

Late Ferdinand Lips (Managing Director of Rothschild Bank, Zurich), 2001

From the horse's mouth

It is worth recounting some quotes from senior officials and government institutions regarding the gold market.

Transparency and intervention in the Gold market

Federal Reserve Chairman, Alan Greenspan, made this (now famous) comment in his testimony to the House Banking Committee in July 1998:

"...central banks stand ready to lease gold in increasing quantities should the price rise."

Besides the Fed, the US authorities also operate in the markets through the Exchange Stabilization Fund (ESF). The ESF has assets of approximately US\$38.0bn and is under the exclusive control of the Treasury Secretary and the President, thus largely escaping Congressional oversight. While Treasury officials have denied that the ESF operates in the gold market, the following comment was made in a **1995 FOMC transcript attributed to Virgil Mattingly, the general counsel of the Fed and FOMC**:

"The (ESF) statute is very broadly worded in terms of words like "credit" – it has covered things like gold swaps."

The **Reserve Bank of Australia** made the following statement in its 2003 annual report:

"Foreign currency reserve assets and gold are held primarily to support intervention in the foreign exchange market."

In June 2005, the **head of the Bank for International Settlements' Economics Department**, William R. White, made the following comment in his speech, "Past and Future of Central Bank Cooperation":

"...the provision of international credits and joint efforts to influence asset prices (especially gold and foreign exchange) in circumstances where this might be thought useful."

In 2006, **Axel Weber, President of the Bundesbank**, made the following comment:

"We have been asked to negotiate with other central banks about potential swaps deals involving gold."

One reason for swapping physical gold from a bullion holder is to sell it deliberately into the spot market.

Jay Taylor (editor of Gold & Technology Stocks) reported the following quote from **Paul Volcker, who was Chairman of the Federal Reserve** when gold reached its all-time high of US\$850/oz in January 1980.

"It was probably a mistake to allow gold to go so high."

As Taylor (who helped set up the first gold loan in the US) pointed out:

"Not only does that statement presuppose that the US could have controlled the gold price, but it also suggests the establishment's arrogance in assuming they have a right and obligation to do so."

In January 2001, **James Moffett, Chairman of Freeport-McMoRan Copper and Gold**, the owner of the largest gold mine in the world (Grasberg in Indonesia), said:

"The central banks are the OPEC of gold. They will control the price of gold by selling until they change their minds..."

Transparency and intervention in the Gold market

Statistical evidence

Besides the statements of central bankers and others, the **intra-day movement in the gold price over long periods is highly suggestive of intervention**. Dimitri Speck, the creator of the website www.seasonal-charts.com, argues that the evidence of systematic interventions during 1993-2006 is shown in the unusual movements in the gold price, which tend to be confined to particular times of the day rather than being evenly distributed.

Speck created a chart for the **average minute-to-minute movement in the gold price for approximately 2,000 days and consolidated them into a single day**. His findings were as follows:

“Clearly visible is the price decrease at the time of the London afternoon fixing. The minor lows near the morning fixing as well as the open and close in New York are worth noting. Also conspicuous is that during the American market hours, the price generally trends sideways, in contrast to the rest of the time when it is moving upwards.”

Fig 48: Average intra-day move in the gold price 1993-2006



Source: Dimitri Speck

In his work, Speck also noted that the “intraday anomaly” had been **weakening in recent years**, although the bull market in gold did not mean the interventions were no longer taking place:

“They are however not as frequent (and are thus more difficult to prove statistically). Moreover, they retard the rising trend or lead to temporary pullbacks, but in all they no longer prevent the price from rising.”

Counter-intuitive moves in the gold price

For seasoned gold market observers who apply both critical thinking and a degree of scepticism to the idea that gold trades in a free market, **movements in the gold price often seem difficult to explain**.

Transparency and intervention in the Gold market

Oleg Mozhaikov, the Deputy Chairman of the Bank of Russia, expressed his own doubts in June 2004 when addressing the LBMA Bullion Market Forum in 2004:

"Many have heard of the group of economists who came together in the society known as the Gold Anti-Trust Action Committee... the specific facts included in the lawsuits might have given ground to suspicion that the real forces acting on the gold market are far from those of classic textbooks that explain to students how prices are born in a free market."

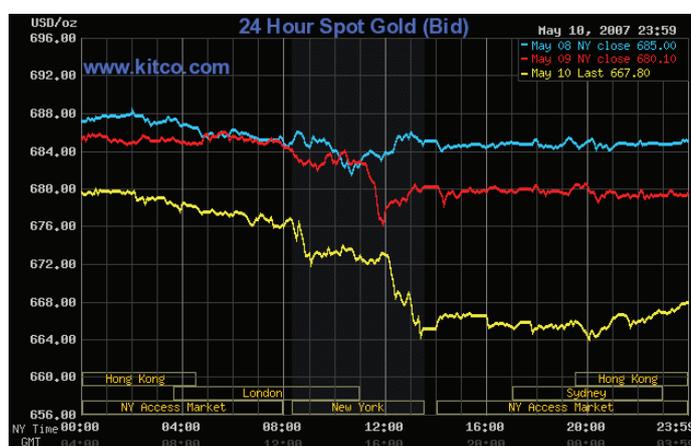
Below we highlight three occasions in recent years where **falls in the gold price seemed at odds with economic announcements and world events**. This is notwithstanding the intra-day trading patterns highlighted by Dimitri Speck's work and frequent "take-downs" in gold for no apparent reason.

We are also grateful to Bill Murphy, Chairman of GATA, who has documented the intervention in the gold market (and other financial markets) since 1999. Please note the gold price moves reflect the change in the COMEX price in New York from the previous close.

10 May 2007 – gold price fell US\$15.50/oz to US\$667.00/oz

The Fed had left interest rates unchanged on 9 May and the following day, data were released on **import prices and the trade deficit. The world's largest retailer, Wal-Mart, also published its sales figures for April**. All were much worse than expected and should have been positive for gold, but the price fell sharply.

Fig 49: Intra-day gold price – 10 May 2007



Source: Kitco

In brief:

- > Import prices for March 2007 rose 1.3% versus consensus of 1.0% – signalling higher inflation.
- > The trade deficit for March was US\$63.9bn versus consensus of US\$63.0bn – negative news for the US dollar.
- > Wal-Mart's same store sales fell 3.5% versus consensus of 1.1%, its biggest fall since the company began reporting these figures in 1980.

Transparency and intervention in the Gold market

From Reuters that day:

"WASHINGTON, May 10 – The US trade deficit widened more than expected in March to \$63.9 billion, as higher oil prices helped push total imports to the second highest on record, a US government report showed on Thursday. The trade gap swelled 10.4 percent from February, the Commerce Department said, surprising Wall Street economists who had expected a more modest expansion."

This prompted Rob Kirby of Kirby Analytics (see www.kibyanalytics.com) to comment:

"Isn't it absolutely amazing how we can have a four billion negative miss on the Trade report, import prices higher than expected [inflationary], zero reaction in the bond market, gold getting pummelled and the US dollar going higher? I better not drop my coffee cup in amazement – it might fall up!!!"

And from Adrian Douglas, former oil industry executive and gold market observer on the GATA website:

"Here is a game to play. Put a blindfold on and listen to the following information. 1) The Bank of England raised interest rates 0.25% the FED stood pat. Bearish for the dollar, bullish for gold. 2) The Trade deficit LEAPT a massive 10% in a single month to almost 64 B\$. Bearish for the dollar, bullish for gold. 3) Import prices rose 1.3% in a single month, which is 15% annualized. Bearish for the dollar, bullish for gold 4) The retail sales decline for April was worse than expected. Bearish for the dollar, bullish for gold, bearish for the Retail (sector) Index.

"So keep your blindfold on and tell me: 1) Did gold go up? 2) Did the dollar go down? 3) Did the Retail Index go down? You would be excused if you answered "yes" to all of the above questions. But take off your blindfold and look at your screen, the answer is "NO" to all the questions. All three asset classes did the EXACT OPPOSITE of what logical economic sense would predict!! Could this just be a one-off aberration? NO! is the right answer again. It happens day after day after day."

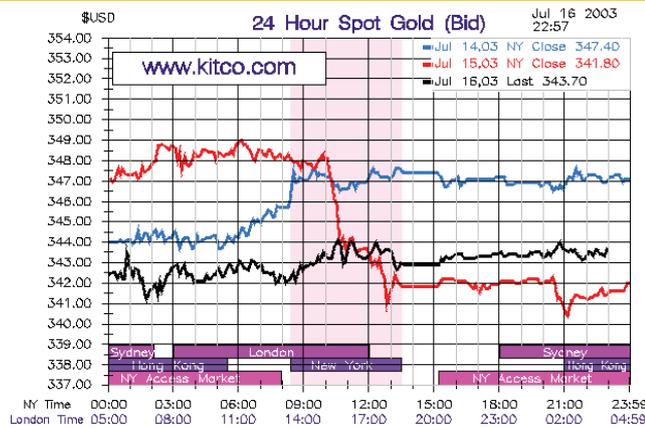
15 July 2003 – gold \$341.80, down \$5.60

The key event was a speech by Fed Reserve Chairman, Alan Greenspan. The COMEX gold price had risen US\$1.50 before Greenspan started to speak. In the speech, he announced that **he would keep interest rates low for as long as it took to boost economic growth**. At the time, Fed Funds was already at its historic low of 1.0% and Greenspan said he was **prepared to cut further if needed**.

Not surprisingly, the dollar weakened on this news, there was a big fall in ten-year bonds as the yield spiked 20bp to 3.94% and the oil price rose US\$35c/bbl. The gold price should have risen sharply but instead fell nearly US\$6.00.

Transparency and intervention in the Gold market

Fig 50: Intra-day gold price – 15 July 2003



Source: Kitco

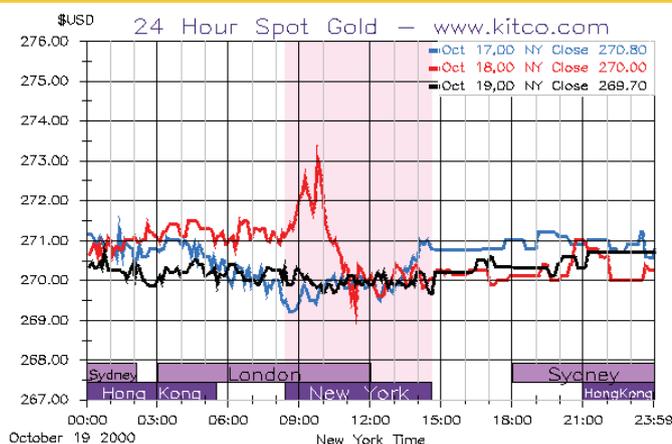
From Bloomberg that day:

“July 15 – The US economy is poised to accelerate and the Federal Reserve will leave interest rates low ‘for as long as necessary’ to ensure that happens, Fed Chairman Alan Greenspan said. The Fed’s policy making Open Market Committee last month cut the benchmark overnight bank lending rate to a 45-year low of 1 percent and will cut again if growth doesn’t pick up, Greenspan said in the text of testimony to the House Banking and Financial Services Committee.”

18 October 2000 – gold price fell US\$1.00 (US\$3.00 from its peak)

The main event of the day was the release of the US CPI for September 2000. The 0.5% increase was above the consensus of 0.4%. The core rate excluding food and energy was reported at 0.3% versus consensus of 0.2% (and after five consecutive months of 0.2%). The data on housing starts showed a 0.3% increase in September to 1.53m, which was in line with the 1.54m consensus. Chase Bank and IBM also released disappointing earnings. The Dow Jones fell 115 points, the US\$ soared 1.45% versus the Euro and the oil price rose US\$0.5/bbl – all as would be expected. The chart shows how the gold price initially spiked but the move was quickly capped and the price ended lower on the day.

Fig 51: Intra-day gold price – 18 October 2000



Source: Kitco

Transparency and intervention in the Gold market

From the AP wire service that day:

"The Dow Jones industrial average dropped more than 400 points in a half hour this morning, falling below 10,000 for the first time in six months as investors, spooked by earnings, oil prices and inflation numbers, unloaded stocks. The drop followed disappointing earnings reports from IBM and Intel, and a Labor Department report showing a pick-up in inflation also sent prices falling. In the first half hour of trading, the Dow was down 421.38 at 9,668.33."

The Gold Anti-Trust Action Committee

"How anyone believes that gold is not manipulated from time to time is a mystery to me, given all the evidence provided by the Gold Anti-Trust Action Committee... and given the importance of keeping the public believing in paper as money rather than gold. I guess people simply believe what they want to believe." – Jay Taylor (editor of Gold & Technology Stocks)

Gold is supposed to be a free market. The **manipulation of a free market, like gold, is illegal under US law and contravenes the Sherman Anti-Trust Act**. The leading organisation in the fight to expose the suppression of the gold market is the Gold Anti-Trust Action Committee (see www.gata.org). GATA was set up by a group of gold market participants in 1999 as a non profit-making Delaware-based corporation.

The catalyst for the creation of this group of gold market professionals was threefold:

- > **The regularity of suspicious movements in the gold price.** These included counter-intuitive price movements in response to the release of "gold-friendly" economic data and the frequency with which the gold price fell in the run-up to, and following, the New York market open and ahead of the pm fix in London.
- > **The bailout of Long-Term Capital Management (LTCM) following its collapse in 1998.** The collapse threatened the whole financial system and the rise in gold prices was quickly capped with the same investment bank selling gold day after day. There were also strong rumours at the time that LTCM's hedge book was short of at least 300 tonnes of gold, leased from a European central bank, which may have been assumed by the banks or the authorities involved in the rescue.
- > **The infamous sale of more than half of the UK gold reserves (415 tonnes) by the Bank of England.** This was announced in May 1999 and followed the failure of the UK-supported campaign by US Treasury Secretary, Robert Rubin, to persuade member nations to sell IMF gold. In GATA's view, this action was a deliberate and politically motivated attempt to keep the gold price below US\$300/oz to protect a number of banks with potentially damaging positions in the gold derivatives market at the time. The public announcement that the Bank of England would auction off its gold caused the gold price to drop sharply to a low of US\$252/oz before it started to recover.

In a letter to the UK Treasury, Peter Hambro, Executive Chairman of Peter Hambro Mining, commented:

"It would be helpful if you were to give us a greater insight into the Treasury involvement, or otherwise, with the apparent scheme to alleviate the difficulties bullion bankers and brokers caused by injudicious speculation in the precious metals markets by hedge funds and some of our badly advised mining colleagues."

Transparency and intervention in the Gold market

It is worth noting that in April 2007, the **Bank of England unexpectedly distanced itself from the decision to sell gold almost eight years earlier**. This followed a Sunday Times report (www.timesonline.co.uk/tol/news/politics/article1654931.ece) that:

- > The Bank of England was never asked for its advice on whether Britain should sell the gold. A senior bank executive said the timing of the huge bullion sale was “not debated”.
- > At a meeting with senior gold traders, Bank of England officials were warned that the proposed auctions would achieve the worst price for taxpayers. The officials are understood to have agreed with the analysis, but said they were powerless to influence the Treasury.
- > Several Asian countries, including China, were named by an insider as having bought the gold “on the cheap” from the British.
- > Warnings over the risks of losing money from the gold sell-off are understood to be set out in internal correspondence sent by Bank of England officials to the Treasury in 1999.

This report was validated by a statement issued by the Bank of England in which it said the bank had:

“...acted solely as agent, and the decisions were taken by HM Treasury.”

In 2000, GATA presented a document, “Gold Derivative Banking Crisis”, to the Speaker of the House and each member of the House and Senate Banking Committees in the US. Alan Greenspan and Treasury Officials denied any wrongdoing in reply to questions and the matter was soon dropped by politicians. However, two legal suits were subsequently filed in the US:

- > Reginald H Howe vs Bank for International Settlements, Alan Greenspan, William J McDonough, JP Morgan & Co Inc, Chase Manhattan Corp, Citigroup Inc, and Goldman Sachs Group Inc, Deutsche Bank AG, Lawrence H Summers and in his individual capacity, Paul O’Neill, Secretary of the Treasury.

And:

- > Blanchard & Co Inc, vs Barrick Gold Corp & JP Morgan Chase & Co (Barrick counter-sued Blanchard for libel).

Reg Howe is the founder of “The Golden Sextant” website (www.goldensexant.com) and Blanchard is the leading bullion and coin dealer in the US. Neither suit reached a final judgement by the court on the merits of the allegations alone. One suit was dismissed on a technicality and the other was ordered to be settled out of court by the judge. The “Howe suit” was dismissed because the court deemed that Reginald Howe did not have “standing”. This is a legal term that essentially meant that there were more appropriate plaintiffs. The judge stated:

“...there are many participants in the gold and gold derivatives markets who could allege a more direct injury than does the plaintiff. For example, there are many gold mining companies and private investors in gold (not to mention those central banks with gold reserves) that the plaintiff does not allege to be involved in the conspiracy. All of these persons or entities would be more directly injured than the plaintiff by the scheme of a kind he alleges.”

Transparency and intervention in the Gold market

In the “Blanchard suit” the defendants’ motion to dismiss was rejected by the judge and the case went to discovery, before a confidential settlement of differences was reached. Barrick’s counter suit for libel was settled with a payment made by Blanchard to Barrick.

Blanchard’s responded to the settlement:

“We are pleased that our disputes with Barrick have been fully and finally resolved. The terms of the settlements are confidential. We believe that Barrick’s previously announced ‘no hedge’ policy will assist gold investors and that the environment for gold investors is far more favorable now than it was when we filed the lawsuit.”

Barrick commented:

“Barrick Gold Corporation announced today that it is pleased to have reached a settlement of differences with Blanchard & Company, Inc, and Herbert Davies. All claims in all litigation between the parties have been dismissed with prejudice. Barrick will not make any payment of damages in connection with the resolution of the Blanchard antitrust case or the Brady and McKenzie class actions.”

GATA believes that the amount of gold that central banks claim to have compared with what is actually left in their vaults is between 10,000 and 15,000 tonnes, i.e. between one third and one half of the reported total. Three pieces of work were instrumental in establishing this figure and we summarise the finding briefly below:

Frank Veneroso (2001) – “Facts, Evidence and Logical Inference – presentation of gold supply/demand, gold derivatives and gold loans”

Veneroso’s starting point was two speeches made by the head of the BoE’s gold operations, Terry Smeeton, during 1994 and 1995. Smeeton mentioned that gold lending had recently doubled to approximately 3,700 tonnes. This was based on a survey of the 14 principal market makers in London although several of the 14 had not included large gold loans made outside the UK. Veneroso added 900 tonnes. He then learnt that there were another 23 banks taking gold deposits from central banks, including some major Swiss banks. A majority of gold market participants told Veneroso that they believed that, in aggregate, the 23 banks were more important in gold lending than the 14. This meant that gold lending was at least 9,200 tonnes and from talking to contacts in the bullion banks, Veneroso concluded the true figure was between 10,000 and 15,000 tonnes.

See www.gata.org/node/5275.

Reginald H Howe and Mike Bolser (2002) – “Gold derivatives: moving towards checkmate”

The key assumption behind Howe and Bolser’s analysis was that the short position in physical gold at the central banks, i.e. gold leased/lent out, is broadly equivalent to the aggregate of the notional value of forwards and swaps in the BIS’s data on OTC gold derivatives. Notional values are converted into tonnes of gold at the prevailing gold price. Forwards and swaps generally involve a sale of borrowed gold, while swaps also involve the simultaneous purchase in the forward market. Howe and Bolser excluded any gold lending that might have been the basis for position in OTC gold options. While the majority of gold options may not require leased gold, or reflect gold included in the forwards/swaps data, there are occasions when gold options could lead to the loss of physical gold, e.g. when call options written by a central bank are exercised. Howe and Bolser concluded that gold leased from central banks based on the forwards/swaps data amounted to 13,000 tonnes in late-2002.

Transparency and intervention in the Gold market

See www.goldsextant.com/commentary23.html#anchor19855.

James Turk (2003) – “More Proof”

James Turk, the founder of the GoldMoney website, used data on quantities of gold dishoarded by the Federal Reserve Bank of New York (FRBNY) and import/export data relating to gold entering and leaving the UK. He calculated that between 1991-2002, more than 7,000 tonnes of gold were dishoarded in aggregate from the FRBNY and the UK. The next part of Turk’s argument is the fact that London and New York are the major centres for price formation in the gold market. Zurich is the biggest centre for physical gold. Frankfurt, Hong Kong and Perth are also minor hubs in the physical market. Therefore, if 7,000 tonnes of gold were mobilized in the US and UK, Turk argues that it is reasonable to assume that at least a similar amount could have been mobilised from Zurich and other locations.

See www.gata.org/node/4247.

The current gold war

In the early 1930s, FDR simply confiscated gold from US citizens – it doesn’t get more overt than that. In the late-1960s and late-1970s, central banks sold gold in high profile outright selling programmes. While outright sales by European central banks under the Washington Agreement continue to be one weapon, **more “covert” methods of intervening in the gold market have also been used for more than a decade in the current war.** These include gold lending/swaps and options on the OTC markets.

The gold leasing and swaps market remained fairly small until the early/mid-1990s when it started to grow dramatically. While equity and bond markets rose strongly, investment interest in gold was almost non-existent and the gold price remained weak. Gold sitting in vaults was earning no income. A number of central banks of industrialised nations decided to sell large quantities of gold during the 1990s. The next table shows the sales by five nations from 1990-99, prior to the 1999 sale by the Bank of England.

Fig 52: Central Bank gold sellers – 1990-98 (tonnes of gold reserves at year end)

Country	1990	1991	1992	1993	1994	1995	1996	1997	1998
Canada	459.2	403.2	309.3	188.3	120.8	106.2	96.0	77.4	56.1
Australia	246.7	246.8	245.7	245.7	245.7	245.7	79.6	79.7	79.7
Austria	634.3	623.0	620.0	578.6	570.5	373.1	334.3	244.9	299.9
Belgium	940.3	940.3	778.8	778.8	778.9	638.8	476.5	296.2	258.1
Netherlands	1366.7	1,366.7	1,366.7	1,090.1	1,081.5	841.9	1,052.3	982.0	911.8

Source: World Gold Council

While some western nations were making outright sales, others were starting to loan and swap out their gold into the market.

It is important to understand, as Reg Howe argued, that gold loans and swaps generally lead to a spot gold sale. In the short term, therefore, gold lending and swaps accelerate supply and put downward pressure on the gold price.

The GFMS Gold Survey of 1998 stated that:

“...the lending of gold to the market, in most cases by a central bank in order to generate a return on its gold holdings results in a physical sale, either directly by the borrower, or after a series of interconnected transactions.”

Transparency and intervention in the Gold market

As Ted Butler explained in May 1999 in respect to leasing:

"...leasing is the ultimate short sale. While some might have trouble accepting this, selling what you have borrowed and promised to return is a short sale, pure and simple. Every loan, every forward sale, every carry trade sale is a short sale. No exceptions. Somebody is selling something that he doesn't own. If there are 400 million ounces of gold loans, then there are 400 million ounces of gold sold short."

In his report, "Gold Market Lending", published in January 2006, Neal Ryan of Blanchard (a US coin and precious metal dealer) explained that:

"By lending and swapping gold into the market, central banks and private interests (major bullion banks) can have a significant impact on the gold price but, with the specific exception of hedging by gold mining companies, the WGC does not account for this."

Some commentators argue that the impact of gold swaps/leases is neutral since the gold that goes into the market either has to be repurchased at some point in the future, or delivered back in the form of newly mined gold from gold mining companies. The reality is, however, that in the **short/medium term the impact is clearly negative**, accelerating short-term supply, and will only unwind over time, if at all.

Ryan's are summarised as follows:

- > Gold loans are usually for 3, 6 and 12 months, with some as long as five years, so the **initial effect is all on the supply side and the "net zero effect" of the trade is delayed.**
- > Bullion banks and central banks **roll some loans forward on a continual basis**, in essence extending the time that the gold supply stays on the market.
- > Some **gold loans are settled out via cash transactions**, and due to the vague accounting allowed on loans and swaps by the IMF for gold reserves, the cash settlement becomes the call on the loan instead of the return of the gold to reserves... while at the same time staying on the books as gold in reserve.

So central banks started selling gold during the early/mid-1990s in what was a generally benign economic environment. This helped to **upset the supply/demand balance and the gold price was generally weak or trading water**. With the development of carry trades, gold became an obvious short. Commercial and investment banks swapped or borrowed more and more gold from the (willing lenders) central banks. The gold was sold spot and the funds invested in higher-yielding financial assets.

The end result was that the **spot price of gold came under pressure at the same time that demand for gold in the forward market increased**, as the banks hedged their short gold positions.

Transparency and intervention in the Gold market

Fig 53: Gold price under pressure during the 1990s



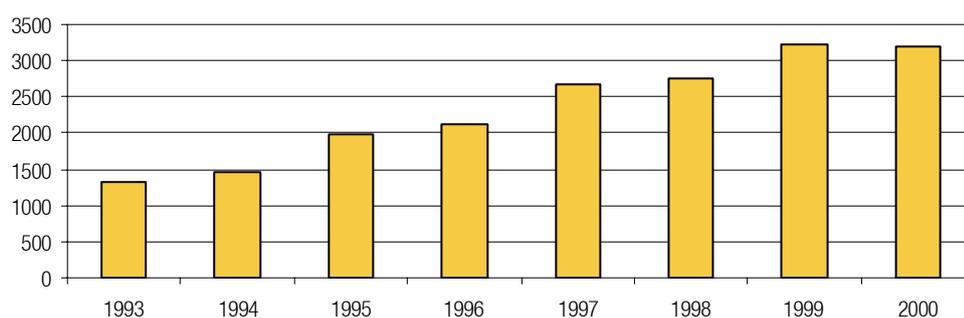
Source: Datastream

Tom Szabo, founder of the website www.silveraxis.com explains:

"...an excessive amount of gold selling under gold swaps, all things being equal, would eventually result in the Gold Forward Offered rate exceeding LIBOR."

The GOFO did not exceed LIBOR, however, because a new source of forward gold on the short side appeared. As the gold price was driven down towards the cost of production for gold miners, **the incentive for the miners to hedge the price of their future production, i.e. to sell it forward, increased**. In aggregate, the gold miners' hedge book increased to more than 3,000 tonnes by the end of 1999.

Fig 54: Accelerated gold supply from producer hedging (tonnes)



Source: GFMS Ltd

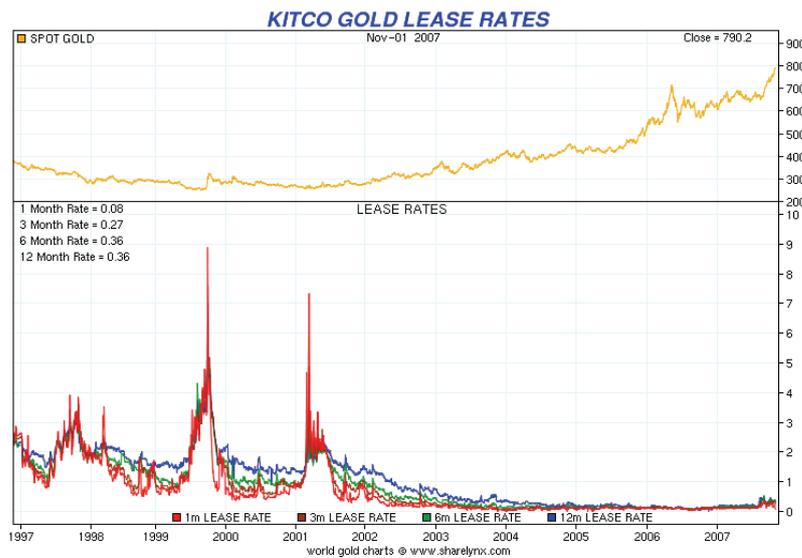
However, while supply and demand became more balanced in the forward market, **an increasing volume of hedging by the gold miners put even more downward pressure on the spot price** as they borrowed and sold gold. As Szabo goes on to explain:

"The outcome was predictable: spot selling of gold drove the gold price down... Not so predictable was the fact that the spread between the Gold Forward Offered rate and LIBOR started to increase... In effect, the Gold Forward Offered rate could not maintain its near parity in the face of so much gold selling in the spot market."

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Given the relationship between LIBOR, GOFO and the gold lease rate, the widening gap between LIBOR and GOFO automatically led to an increase in the lease rate. Szabo believes that this increased the attractiveness of gold leasing, hitherto only a marginally profitable operation. Central banks then increased the amount of leasing. The chart below shows how the lease rate was in the 1-2% range during the late-1990s.

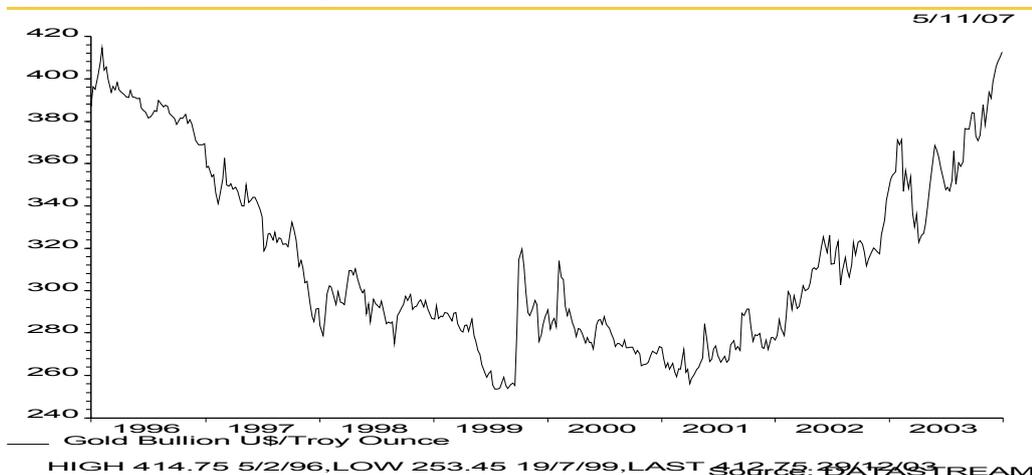
Fig 55: Gold lease rates since 1997 (1 month, 3 months, 6 months, 12 months in % pa)



Source: Kitco

The conclusion of the long-term bear market in gold in 1980 was marked by an **extended double-bottom in the gold price from late-1999 to early 2001**, before the bull market of the last six years began. Indeed, the clamour to borrow gold to offset short positions in both late-1999 and early 2001 is clearly visible from the spikes in gold lease rates in the chart above. The first low in gold price occurred with the announcement of the Washington Agreement in September 1999. As we described above, however, the spike in the price was quickly capped by central banks lending/swapping more gold into the market.

Fig 56: Gold price bottoming out 1999-01



Source: Datastream

Transparency and intervention in the Gold market

The second bottom in the gold price was related to:

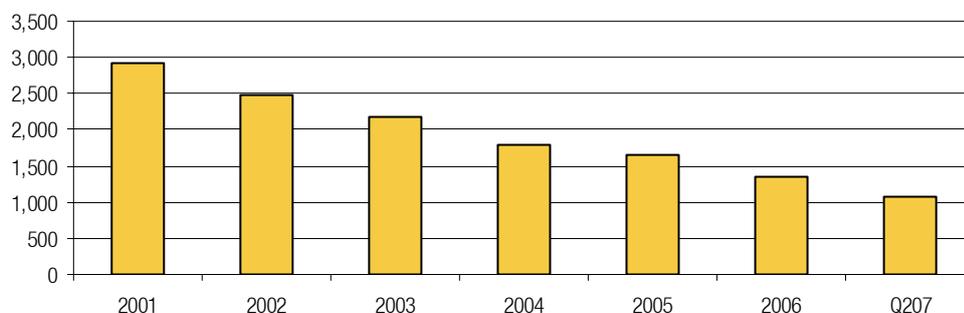
- > The build up of pressure from shareholders and organisations like GATA on the major gold companies to stop excessive hedging.
- > The attraction of gold vis-à-vis other assets, which started to increase as the Dow Jones began to decline in early 2000 and continued falling through to March 2003. At the same time, the aggressive rate cuts by Alan Greenspan led to a sharp decline in real US yields, which dramatically reduced real bond yields and, therefore, the opportunity cost of holding gold.

In February 2000, Placer Dome, which was the world's fifth-largest gold producer at the time, announced that it would no longer hedge any further gold production. In the same month, Barrick Gold, the highest profile hedger, said that it would reduce the proportion of gold hedged in future and also bought some gold call options. However, the company's President and CEO, Roland Oliphant, defended the company's ongoing hedging strategy, with the New York Times reporting him saying:

"As a company, waiting passively for increasing gold prices is not a strategy."

The next chart shows how the total volume (in tonnes) of gold hedged by mining companies has steadily declined since 2001 and now stands at approximately 1,000 tonnes. Successful shareholder opposition to hedging and the mistakes made by gold miners hedging in the 1990s should ensure that any renewed acceleration in hedging is unlikely unless the gold price is far higher than it currently is, if at all.

Fig 57: Decline in gold producers' hedge book 2001-Q207 (tonnes)



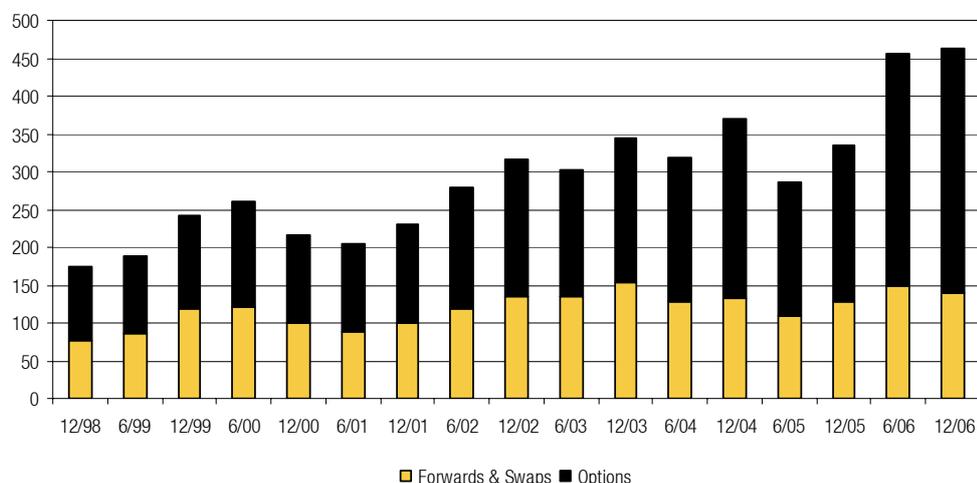
Source: GFMS Ltd

The closing out/delivery into hedge programmes has been one of the supporting factors in driving the gold bull market. That said, the amount of gold that is still lent or swapped out of bank vaults to provide liquidity for the gold derivatives market is still substantial, in our view. We have outlined earlier how, in most cases, lending/swapping of gold leads to a spot sale of borrowed gold at the same time as creating gold derivatives. This was the basis of Reg Howe's report, *"Gold derivatives: moving towards checkmate"*, cited above.

The Bank for International Settlements reports semi-annual data on the notional value of outstanding OTC derivatives, including gold, for commercial banks in the G10. It also reports triennial data for banks in almost 50 countries. The most recent semi-annual report was for December 2006. The chart below shows the trend in outstanding gold derivatives broken down between forwards/swaps and options since the end of 1998.

Transparency and intervention in the Gold market

Fig 58: Gold derivatives – outstanding notional value (US\$bn)



Source: BIS

The value of outstanding derivatives has increased substantially from US\$175bn to US\$463bn at the end of 2006. However, given the rise in the gold price, the volume of gold relating to these derivatives has increased more modestly and, in the case of forwards and swaps, has declined.

In his report, Reg Howe argues:

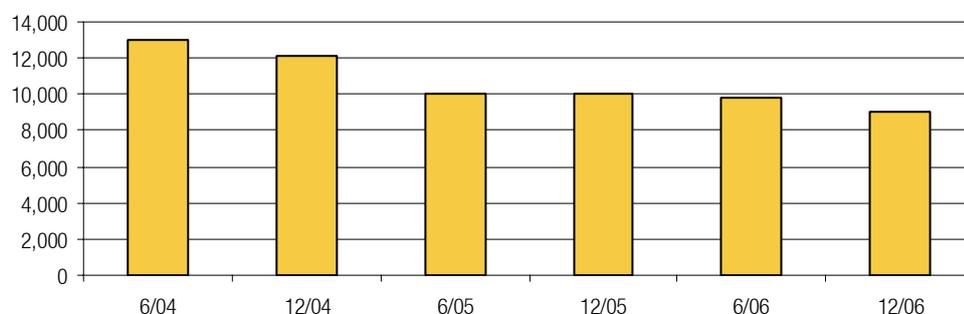
"...the best approximation of the total net short physical position in gold arising largely as the result of gold lending in one form or another by central banks is the total notional value of gold forwards and swaps as reported by the Bank for International Settlements and converted into tonnes."

Basically, Howe divides the value of outstanding forwards and swaps by the gold price at the reporting data and converts the ounces into tonnes. At the time of the last BIS triennial survey in June 2004, the outstanding value of swaps and forwards was 21% higher than the narrower semi-annual survey on the same reporting data (we note that it had been 50-60% higher in previous surveys).

In estimating the volume of gold lent/borrowed from bank vaults and sold to provide liquidity for the gold derivatives market, we have added 21% to the semi-annual data for forwards and swaps since June 2004. While some central banks write call options against a portion of their gold and some gold sales may have been covered by option contracts, we have also added 5% of the outstanding options value in the semi-annual data. On this basis, the next chart shows an estimate, using Reg Howe's methodology, for the amount of gold that has left bank vaults and been sold to provide the derivatives market with liquidity.

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Fig 59: Estimate of gold lent/swapped from bank vaults (tonnes)



Source: BIS, Redburn Partners estimates

On this basis, the quantity of gold that has been lent or swapped out of central bank vaults may have declined from **13,000 tonnes in mid-2004 to 9,000 tonnes by the end of last year**, using the Howe methodology.

We asked our London gold market source what proportion of gold lending and swaps transaction results in a spot sale of gold. Rather than the 100% used in the estimate above, he believes the correct figure is about 80%. This would **cut the above estimate of 9,000 tonnes to more like 7000-7,500 tonnes – still about one quarter of total reported central bank gold holdings of 30,000 tonnes.**

However, as we highlighted earlier, this is not the full story. Outside of “professional” gold traders and gold bankers, most people don’t realise that gold trading is largely done “loco London” in unallocated gold, i.e. the gold market operates on a fractional reserve basis. Furthermore, many private clients have been encouraged to hold gold in unallocated form also, which is nothing more than an unsecured claim on a general pool of gold in a bullion bank. Therefore, if every central bank, bank, gold trader and private individual demanded physical delivery of the gold bullion they have a claim to, the shortfall could indeed be 10,000-15,000 tonnes, in line with the Gold Anti-Trust Action Committee’s claims. The only difference being that this gold is not just gold from central bank vaults, but also relates to unallocated gold accounts at bullion banks. If there was ever a time for investors to ensure they have allocated gold, where physical gold is deliberately set aside in their name, it is now.

Appendices

Appendix 1 – Peter Hambro Mining: financial summary

Fig 60: Peter Hambro Mining – summary of financial model

Profit & Loss Account - Summary (US\$m)								Balance Sheet - Summary (US\$m)							
	2006	2007E	2008E	2009E	2010E	2011E	2012E		2006	2007E	2008E	2009E	2010E	2011E	2012E
Sales (incl. JVs & Assoc)	177,034	220,286	356,125	852,325	1,085,967	1,247,603	1,398,989	Net Goodwill	5,439	14,000	12,000	10,000	10,000	10,000	10,000
Share of JV & Assoc.	-19,227	-21,426	-27,565	-34,303	-39,204	-44,104	-49,004	Other Intangible Assets	115,845	135,000	137,500	120,000	122,000	114,163	105,000
Consolidated Sales	157,807	198,860	328,560	818,022	1,046,763	1,203,499	1,349,984	Tangible Fixed Assets	137,197	185,493	285,890	346,589	407,611	446,784	442,612
Chg %	501%	26%	65%	149%	28%	15%	29%	Capitalised Expln. & Devel.	67,375	107,438	143,940	176,504	204,922	231,238	250,421
Net Op. Costs (Subsids)	-108,558	-122,379	-166,787	-361,247	-435,209	-421,490	-443,917	Joint Ventures	9,878	9,000	8,500	7,500	7,875	7,088	6,379
Impairment Charges	0	0	0	0	0	0	0	Other Non-CA	1,022	10,000	9,000	7,800	7,956	7,160	6,444
Operating Profit (Subsids)	49,249	76,481	161,773	456,775	611,555	782,009	906,067	Total Fixed Assets	336,756	460,931	596,830	668,392	760,365	816,433	820,857
Adj. Operating Profit (Subsids)	49,249	76,481	161,773	456,775	611,555	782,009	906,067	Inventories	34,122	41,761	68,998	155,424	198,885	216,630	229,497
Chg %	1253%	55%	112%	182%	34%	28%	48%	Trade Receivables	35,518	59,658	91,997	212,686	261,691	288,840	310,496
Share of Profit of JVs	480	1,070	4,135	6,518	9,409	11,908	14,701	Other Receivables	11,805	0	0	0	0	0	0
Profit on Disposals	0	0	0	0	0	0	0	Cash & Securities	76,403	213,656	154,657	264,470	391,836	684,523	971,993
Other Income	0	0	0	0	0	0	0	Current Assets	157,848	315,074	315,651	632,580	852,412	1,189,992	1,511,987
Operating Profit (Group)	49,729	77,551	165,908	463,293	620,964	793,917	920,769	Total Assets	494,604	776,005	912,481	1,300,972	1,612,777	2,006,425	2,332,844
Net Interest Result	-4,637	-5,675	-16,000	-16,800	-13,000	-4,500	8,000	Debt less than One Year	3,316	1,000	5,000	1,000	5,000	5,000	5,000
Income before Taxes	45,092	71,876	149,908	446,493	607,964	789,417	928,769	Trade Payables	3,855	55,681	90,354	220,866	282,626	300,875	337,496
Adj. Income before Taxes	45,092	71,876	149,908	446,493	607,964	789,417	928,769	Other Payables	31,658	0	8,994	13,395	27,358	18,946	27,863
Taxation	-13,735	-21,971	-44,972	-133,948	-182,389	-236,825	-278,631	Current Liabilities	38,829	56,681	104,348	235,261	314,984	324,821	370,359
Tax Rate	30.5%	30.6%	30.0%	30.0%	30.0%	30.0%	30.0%	Debt More than One Year	134,740	327,053	323,053	327,053	243,053	223,053	43,053
Minority interests	-801	-922	-1,585	-4,476	-5,993	-7,664	-8,879	Other Liabilities	0	3,344	9,822	14,177	26,523	37,741	44,565
Net Income	30,556	48,984	103,350	308,069	419,581	544,928	641,259	Provision for Closure Costs	290	3,500	2,502	15,696	23,544	28,253	40,000
Adj. Net Income	30,556	48,984	103,350	308,069	419,581	544,928	641,259	Deferred Tax Provision	4,456	25,000	25,750	39,398	54,763	71,191	85,430
Chg %	1038%	60%	111%	198%	36%	30%	53%	Other	0	0	0	0	0	0	0
No. of Shares	79.5	81.2	81.2	81.2	81.2	81.2	81.2	Minority Interests	13,840	9,000	11,700	23,400	30,420	39,546	45,478
No. of Shares Diluted	80.3	81.2	81.2	81.2	81.2	81.2	81.2	Shareholders' Funds	302,449	351,433	435,305	645,988	919,490	1,281,820	1,703,960
Rep EPS	0.38	0.60	1.27	3.80	5.17	6.71	7.90	Liabilities more than One Yr	455,775	719,330	808,132	1,065,712	1,297,793	1,681,604	1,962,485
Rep EPS (diluted)	0.38	0.60	1.27	3.80	5.17	6.71	7.90	Total Liabilities	494,604	776,010	912,481	1,300,972	1,612,777	2,006,425	2,332,844
Adj EPS	0.38	0.60	1.27	3.80	5.17	6.71	7.90	Net Debt Summary:							
Adj EPS (diluted)	0.38	0.60	1.27	3.80	5.17	6.71	7.90	Total Debt	138,056	328,053	328,053	328,053	248,053	228,053	48,053
Dividend	0.00	0.00	0.24	1.20	1.80	2.25	2.70	Cash & Securities	-76,403	-213,656	-154,657	-264,470	-391,836	-684,523	-971,993
								Net Debt/(Cash)	61,653	114,397	173,396	63,583	-143,783	-456,470	-923,940

Cash Flow Statement - Summary (US\$m)								Other							
	2006	2007E	2008E	2009E	2010E	2011E	2012E		2006	2007E	2008E	2009E	2010E	2011E	2012E
Operating Profit (Subsids & JVs)	44,938	71,876	161,773	456,775	611,555	782,009	906,067	Gold Production:							
Non-Cash Adj.	15,715	11,641	20,601	31,737	40,559	46,511	49,989	Pokrovskiy	206.8	217.2	193.9	189.4	179.3	164.2	154.1
- Depreciation	10,102	11,704	17,604	24,301	28,978	32,827	34,172	Amur NE Assets	10.5	4.8	4.8	4.8	4.8	4.8	4.8
- Amort. of Mineral Properties, etc	2,014	938	3,498	7,436	11,581	13,684	15,817	Rudnoye JV	8.1	6.8	6.8	6.8	6.8	6.8	6.8
- Loss (Gain) on Disposals	9	0	0	0	0	0	0	Omchak JV	35.9	35.3	35.3	35.3	35.3	35.3	35.3
- Exchange Differences	-2,782	-1,000	-500	0	0	0	0	Pioneer	0.0	19.5	139.6	383.0	422.3	332.4	304.8
- Other Items	6,372	0	0	0	0	0	0	Malomir	0.0	0.0	0.0	218.7	296.7	280.2	280.2
Tax Paid	-9,416	-16,478	-35,978	-107,158	-145,911	-189,460	-222,904	Pokrovskiy Flanks	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Interest Received	7,209	8,750	8,000	7,200	9,000	14,000	19,000	Yamal	0.0	0.0	0.0	0.0	0.0	151.2	201.5
Interest Paid	-10,922	-14,425	-24,000	-24,000	-22,000	-18,500	-11,000	Total Gold Production	261.3	283.6	380.4	837.9	945.3	975.0	987.6
Other Items	-13	0	0	0	0	0	0	Average Gold Price (US\$/oz.)	604	700	900	1,050	1,200	1,350	1,500
Change in Working Capital	-13,046	194	-24,903	-85,598	-44,101	-54,003	-16,849	Realised Gold Price (US\$/oz.)	586	685	873	1,019	1,164	1,310	1,455
- Dec (Inc) in Inventories	-8,204	-7,639	-27,237	-86,427	-43,461	-17,745	-12,868	Divisional:							
- Change in Receivables	-5,386	-12,335	-32,339	-120,689	-49,005	-27,149	-21,657	Gold Mining	125,239	150,289	280,560	770,022	998,763	1,160,499	1,306,984
- Change in Payables	544	20,168	34,673	121,518	48,365	-9,110	17,675	Construction/Services	27,990	45,000	45,000	45,000	45,000	40,000	40,000
Operating Cash Flow	34,465	61,559	105,494	278,956	449,102	580,557	724,303	Exploration	4,578	3,000	3,000	3,000	3,000	3,000	3,000
Inv. in Fixed Assets	-67,902	-101,000	-158,000	-125,000	-130,000	-112,000	-65,000	Corporate	0	571	0	0	0	0	0
- Purchase of PPE	-31,155	-60,000	-118,000	-85,000	-90,000	-72,000	-30,000	Total excl. JVs	157,807	198,860	328,560	818,022	1,046,763	1,203,499	1,349,984
- Spend on R&D/Mineral Properties	-36,747	-41,000	-40,000	-40,000	-40,000	-40,000	-35,000	Joint Ventures	19,227	21,426	27,565	34,303	39,204	44,104	49,004
- Other	0	0	0	0	0	0	0	Group Turnover	177,034	220,286	356,125	852,325	1,085,967	1,247,603	1,398,989
Sale of Fixed Assets	4,224	0	0	0	0	0	0	Valuation:							
- Sale of PPE	761	0	0	0	0	0	0	Price	16.40						
- Other	3,463	0	0	0	0	0	0	Share Price (£)	2.08						
Loans Granted	-3,774	0	0	0	0	0	0	US\$/£	34.11	2,768,359	114,397	2,882,757			
Loans Repaid	697	0	0	0	0	0	0	Share Price/Valuation (\$)							
Acquisition of Subsidiaries	-38,583	0	0	0	0	0	0	PER	89.6	56.4	26.8	9.0	6.6	5.1	4.3
Disposal of Subsidiaries	0	0	0	0	0	0	0	Gross Yield	0.0%	0.0%	0.7%	3.5%	5.3%	6.6%	7.9%
Other Items	-30	0	0	0	0	0	0	EV/Sales	16.3	13.1	8.1	3.4	2.7	2.3	2.1
Cash Flows from Inv.	-105,368	-101,000	-158,000	-125,000	-130,000	-112,000	-65,000	EV/EBITDA	46.6	32.0	15.4	5.8	4.4	3.4	3.0
Net Change in Financing	-2,791	180,000	0	0	-80,000	-20,000	-180,000								
- Change in Interest-Bearing Liabs	-2,548	180,000	0	0	-80,000	-20,000	-180,000								
- Other	-243	0	0	0	0	0	0								
Issue of Ord. Shares	17,822	0	0	0	0	0	0								
Dividends Paid to PHM SHs	0	0	-6,492	-45,447	-113,617	-158,252	-194,772								
Net Change in Secs for Trading	-13,845	0	0												

Appendices

Appendix 2 – Gold and a sound monetary system

Gold is able to perform the role of the ultimate form of money due to the following attributes:

- > It has a high intrinsic value per unit of volume.
- > It is homogeneous, divisible and durable.
- > It is traded in a continuous market on a global basis.
- > It cannot be debased; production averages approximately 2% pa at most, in contrast to the unchecked creation of fiat currency by central banks.
- > It is the only financial medium of exchange that is not a third-party's liability.
- > It is accumulated rather than consumed.

Since the era of the Classical Gold Standard was brought to an end with the onset of World War One (and, even more so since the last vestiges of a quasi gold standard were abolished with the collapse of the Bretton Woods system in 1971), we have lived in an environment of vast credit/debt expansion of unbacked currencies. This did not have to be the case had governments adhered to the financial discipline that comes with adoption of the gold standard. The opponents of a gold standard, mainly governments and economists (except for the Austrian School), argue that it provides insufficient flexibility for increasing the money supply.

In brief, under a "classical" gold standard, governments agree to redeem their currency in gold. This means that exchange rates between different currencies are fixed and the system provides an automatic adjustment that prevents nations from inflating their currencies and maintains equilibrium in the balance of payments. For example, if the US prints too many dollars:

- > Incomes and domestic prices rise which discourages exports and draws in imports.
- > The balance of payments deficit created is then paid for by other nations cashing in their US dollars for gold.
- > The US must contract its money supply or it will eventually lose all of its gold.
- > This puts downward pressure on prices and incomes, reverses the trade deficit and the gold flow and equalises prices.

The period of the Classical Gold Standard is generally held as being from 1815 to 1914, when governments came off the gold standard due to the need to print money to finance the First World War.

Under the Bretton Woods agreement of 1944, the US dollar was made the world's reserve currency, which was redeemable in gold at US\$35/oz. Other currencies were fixed to the value of the US dollar. To begin with, this made sense as the US was relatively untouched in contrast to the economic destruction suffered by the other leading nations during World War II. Indeed, the US economy accounted for 45% of world industrial production at the end of the war and the US owned approximately one-third of the combined gold reserves of the world's central banks.

Appendices

The flaw in Bretton Woods was that its stability depended on the US exercising sufficient discipline to maintain the value of the US dollar at US\$35/oz. This failed with the collapse of the London Gold Pool in 1968 (see below).

The three gold wars from 1933-80

1933 – The Great Depression

In November 1932, F.D. Roosevelt was elected US President on the back of his plan for a “New Deal”. Concerned that the high cost of Roosevelt’s New Deal programmes would lead to big deficits and undermine the value of the US dollar, US citizens began moving their assets into gold and even move some of that gold out of the country. In April 1933, during the Great Depression, Roosevelt declared a Bank Holiday and confiscated gold from US citizens under the Emergency Banking Relief Act by issuing Presidential Executive Order 6102. This was his first “official” act on becoming President. The President stated:

“I as President, do declare that the national emergency still exists; That the continued private hoarding of gold and silver by subjects of the United States poses a grave threat to the peace, equal justice, and well-being of the United States; and that appropriate measures must be taken immediately to protect the interests of our people.

Therefore, pursuant to the above authority, I hereby proclaim that such gold and silver holdings are prohibited, and that all such coin, bullion or other possessions of gold and silver be tendered within fourteen days to agents of the Government of the United States for compensation at the official price, in the legal tender of the Government”.

When the legislation was introduced, the House Majority Leader Joseph W Burns requested that debate be limited to 40 minutes. Although most Representatives had no prior knowledge of it, the Emergency Banking Act was passed in less than one day. One Congressman stated for the record that the House had approved a bill “that Members never read and never saw, a bill whose author is unknown.”

Speech by Congressman, Louis T McFadden, of Pennsylvania on the floor of the House of Representatives in 1934:

“By his action in closing the banks of the United States, Roosevelt seized the gold value of 40 billions or more of bank deposits in the United States banks. Those deposits were deposits of gold values. By his action he has rendered them payable to the depositors in paper only... It is the money of slaves, not of free men. Mr. Chairman, the gold in the banks of this country belongs to the American people who have paper money contracts for it in the form of national currency. If the Fed cannot keep their contracts with United States citizens to redeem their paper money in gold, or lawful money, then the Fed must be taken over by the United States Government and their officers must be put on trial... Now comes Roosevelt who seeks to render the money of the United States worthless by unlawfully declaring that it may no longer be converted into gold at the will of the holder.”

After Roosevelt had confiscated the gold, he proceeded to devalue the US dollar from US\$20.67/oz to US\$35.00/oz, realizing the fears that had led to American citizens hoarding gold in the first place. Unfortunately, they had been prevented from profiting from their foresight.

Appendices

1961-71 – the London Gold Pool and the collapse of Bretton Woods

In the late 1950s, the US began to run deficits which ballooned during the middle of the decade with the Vietnam War. This threatened the ability of the US to keep gold pegged at US\$35.00/oz. Indeed, in October 1960, the gold price in London surged to US\$40/oz until the UK Treasury issued a statement supporting gold sales by the Bank of England to maintain the peg.

In January 1961, President Eisenhower extended a ban on US citizens owning gold not just in the US but anywhere in the world. Early in the same year, the Federal Reserve, the Bank of England and seven other European central banks created the London Gold Pool. Pooling their gold reserves, these central banks sold gold in a doomed effort to maintain the US\$/gold peg at US\$35 per oz of gold and save the Bretton Woods (quasi-gold standard) system.

The devaluation of Sterling in 1967, the withdrawal from the Pool by France in the same year and the escalation of the Vietnam War in 1968 combined to overwhelm the London Gold Pool. The role of France in its breakdown is particularly interesting. The French leader, General de Gaulle, had opposed Bretton Woods since it established the dollar as the world's reserve currency. In 1965 he outlined his views on gold and reserve currencies in a celebrated speech:

"We hold as necessary that international exchange be established... on an indisputable monetary base that does not carry the mark of any particular country. What base? In truth, one does not see how in this respect it can have any criterion, any standard, other than gold. Yes, gold, which does not change in nature, which is made indifferently into bars, ingots and coins, which does not have any nationality, which is held eternally and universally..."

On Friday, 8 March 1968, the London Gold Pool lost 100 tonnes of gold, compared with 5 tonnes on a normal day. Two days later, Federal Reserve Chairman, William McChesney Martin, declared his intention to defend the dollar's value "down to the last ingot". The US authorities airlifted several cargoes of gold to London, but on Wednesday and Thursday of the following week, the Pool lost more than 400 tonnes of gold. On the Thursday night, the Queen declared a Bank Holiday for the following day and Chancellor of the Exchequer, Roy Jenkins, closed the London gold market "on the request of the United States".

The London gold market remained shut for two weeks and the London Gold Pool was abandoned. During that period, gold continued to trade in Zurich and Paris, rising to US\$44/oz. The London Gold Pool proved to be a doomed effort at market manipulation. The US lost 5,381 tonnes of gold (36% of its total gold reserves) and the UK 869 tonnes (43% of reserves) in this venture. Some nations broke ranks, notably France. De Gaulle, famously advised by the economist, Jacques Rueff) increased their gold reserves by 2,770 tonnes (not a bad trade) and Germany by almost 800 tonnes. These countries were two of the largest US creditors at the time.

1976-80 – the IMF, US Treasury and the runaway inflation of the 1970s

In 1973-74, inflation rates in the US rose from 4.8% in Q173 to a peak of 12.4% in Q374. Other Western nations suffered similar spikes in inflation. The price of gold surged by 200% from US\$64.75 in January 1973 to US\$193.00 at the end of 1974.

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In December 1974, the US Treasury announced the first gold sale of 2.0m oz (62 tonnes) which took place via auction in January 1975. This was followed up by a further 0.5m oz sale in June 1975. The announcement of the first US Treasury sale was particularly interesting as it immediately preceded President Ford returning the right of US citizens (like those elsewhere in the world) to own gold from 1 January 1975 – for the first time since FDR abolished this right in 1934.

During 1975 and 1978-79, the US Treasury conducted a series of gold auctions which amounted in total to 17.0m oz (530 tonnes). Shortly after the US Treasury began to sell gold, the IMF adopted a similar strategy. In August 1975, it announced the sale of 50m oz (1,550 tonnes) of gold, of which 25m oz (778 tonnes) were sold in a series of auctions between June 1976 and May 1980. The other 25m oz. was sold in the form of restitution to its members at the (then) “official” price of SDR (Special Drawing Rights) 35/oz.

In aggregate, the US Treasury and IMF auctions totalled 42m oz (1,308 tonnes) of gold, but failed to stop the gold price reaching its all-time high of US\$850/oz in January 1980. Indeed, one of the US Treasury auctions actually positively contributed to the gold price breaking through US\$400/oz. This was the auction in August 1979 when Germany’s Dresdner Bank bid for the entire allocation.

Appendix 3 – Kondratieff Cycle summarised

In summary, the characteristics of each season and the key event signalling the onset of the next season are:

Spring – inflation and debt rise slowly

- > Economic growth gradually recovers.
- > Inflation and interest rates begin to pick up from low levels, but remain benign.
- > Outperforming asset classes: stocks and real estate.

Key event – **war** which leads to:

Summer – inflation out of control while debt continues to increase

- > There is usually a war.
- > Commodity prices and inflation surge while stocks enter a bear market.
- > Outperforming asset classes: commodities, gold and real estate.

Key event – **peaks in interest rates and commodity prices (including gold), bottom in stock market and recession** which leads to:

Autumn (“the plateau”) – disinflation and massive debt increase

- > Good economic growth and surging asset markets driven by debt.
- > Inflation and commodity prices begin a prolonged decline.
- > Outperforming asset classes: all financial assets such as stocks, bonds and real estate (mortgages) experience debt-driven bubbles.

Key event – **collapse in stock market and real estate** which leads to:

Winter – deflation and debt purged from the system

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- > Economic/financial collapse with banking, currency crises and bankruptcies.
- > Deflation and extremely low interest rates.
- > Buy: gold, Treasury bonds and hold cash.

Appendix 4 – Criticism of Kondratieff

Kondratieff's work **attracted a lot of criticism** and not just from his socialist colleagues in Russia. It was easy to point out that some of the series tracked by Kondratieff did not conform to the long-wave cycle. For example, 10 of the 21 production and consumption series he selected failed to conform to the cycle at all.

He was also criticised for his under-use of mathematics and his sometimes approximate choice of turning points. The **biggest criticism, however, was not that long cycles didn't exist, but their ability to repeat within fairly narrowly defined time intervals**. The opinion of most economists was that capitalist cycles had exogenous, rather than endogenous, causes.

Kondratieff's biggest supporter, in a roundabout fashion, was the economist, Joseph Schumpeter, of Harvard University. In 1939 he published his major work, "Business Cycles", which provided detailed empirical evidence backing up the existence of **three long waves since the late 18th century just as Kondratieff had suggested**. However, he disagreed with the conclusion that these long waves existed could be reached using Kondratieff's data.

More recently, the economists, James Schuman and David Rosenau writing in 1972 commented:

*"It may seem that the long wave cycle in prices has gone undetected. Actually, this is not the case. **Proponents of the theory, however, have been ignored. But the facts pointing to the existence of the long wave are too consistent, the results too vivid to ignore**". (Our emphasis)*

Further support for Kondratieff's theory was his clash with Keynes' theories in the 1920s. When he published his work, Kondratieff identified the rising phase in the third cycle from 1890-96 to 1914-21 and cautioned that this would eventually lead towards a depression. This was a very controversial view at the time since share prices continued to rise until 1929: a proponent of government intervention, John Maynard Keynes, had predicted that stock market crashes were confined to history. The market crash of 1929 and the subsequent Great Depression vindicated Kondratieff.

Appendix 5 – IMF: proposed new regulations for gold reserves

Below we highlight the sections of the IMF's new "Balance of Payments and International Investment Position Manual" that relate to the reporting of gold reserves by central banks.

Chapter 5: Classification of financial assets and liabilities

Paragraph 5.10:

- > "Financial assets consist of claims and the gold bullion component of monetary gold"
- > "Gold bullion included in monetary gold is the only financial asset that is not a claim... (The unallocated gold part of monetary gold does have a counterpart claim)".

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Redburn conclusion: monetary gold includes both gold bullion (which is not a claim) and unallocated gold (which is a claim). This seems to contradict the BOPCOM/AEG agreement to treat unallocated gold as deposits.

Paragraph 5.38:

- > “Unallocated accounts for precious metals are also deposits. However unallocated gold accounts held by the monetary authorities for reserves purposes are included in monetary gold (see paragraph 6.68).”

Redburn conclusion: despite being technically “deposits”, unallocated gold is included in the monetary gold line of the accounts.

Chapter 6: Functional categories

Paragraph 6.68: Classification of reserve assets

- > “Monetary gold is gold to which the monetary authorities (or by others who are subject to the effective control of the monetary authorities) have title and is held as reserve assets. It comprises gold bullion (including gold bullion held in allocated gold accounts) and unallocated gold accounts with non-residents that give title to claim the delivery of gold. To qualify as reserve assets, gold accounts must be available upon demand to the monetary authorities.”

Paragraph 6.69:

- > “Allocated and unallocated gold accounts 5...”

5 Such deposits (i.e. unallocated gold) are sometimes known as “gold on loan” or “gold deposits”.

Redburn conclusion: Allocated and unallocated gold, providing they are available on demand, qualify as reserve assets. The impression from Paragraph 6.69 is that gold loans/deposits generally involve unallocated gold.

Back to Chapter 5:

Paragraph 5.80:

- > “A forward contract (forward) is an unconditional contract by which two counterparties agree to exchange a specified quantity of an underlying item... Forwards include futures and swaps (other than gold swaps, which have the same nature as securities repurchase agreements, as discussed in paragraph 7.56).”

Chapter 7: International investment position

Paragraph 7.56:

- > “Reverse transactions are arrangements that involve a change of legal ownership of securities or gold with a commitment to repurchase the same or similar securities or gold on a specified date or with open maturity. They include securities repurchase agreements (repos), sell- and buy-backs, gold swaps, and securities lending. The commitment to reverse the change in legal ownership in the future at a fixed price means that the original owner retains the risks and benefits of changes in the price of the asset. Accordingly, there is considered to be no change of economic ownership of the security or gold. “

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Paragraph 7.57:

“Analogously to repos, a gold swap for cash is treated as being a loan with the gold as collateral and there is no change in economic ownership of the gold.”

Our conclusion: Even though ownership of the gold is transferred for the period of the swap, the central banks can account for it as though they still have ownership.

Appendix 6 – how monetary inflation and world supremacy are inexorably linked

Many authors have analysed the rise and fall of empires. Perhaps the best known is Paul Kennedy in his book, “The Rise and Fall of Great Powers” (1987). In their work, Modelski and Thompson (1996) also tie in global leadership with K-Cycles, as does Robert Beckman in his book “Into the Upwave”.

Beckman, commenting on the rise to world supremacy and subsequent decline to a second rate power, notes that:

“...the world supremacy cycle for an individual country lasts from 150-200 years.”

Thus the “hegemonic cycle” (or “long cycle of global politics”) can generally be placed within the framework of three K-Cycles. Below we have summarised some of the key elements of the rise and fall of global powers over a period of three K-Cycles according to the views of Beckman, Kennedy and Modelski and Thompson:

First long wave – ascendancy

- > Transfer of world supremacy from declining world power to rising world power is completed (US overtakes UK after WWI).
- > The new power slowly acquires overseas interests/commitments that need protecting. Military spending increases to meet these needs, but is initially affordable given economic supremacy.
- > It becomes increasingly profligate in its monetary policy, eventually leading to a severe depression. This is usually the most devastating the nation will experience (Great Depression in the 1930s).

Second long wave – “golden period of hegemony”

- > World power consolidates its position with a widening of its sphere of political influence and power (US post WWII).
- > In its heyday, the world power promotes trade liberalisation and gains from increased economic activity, at least initially (benign hegemony, e.g. US after WWII).
- > This is the “golden era” of world supremacy as most of the population experiences greater affluence” (US in the 1950-90s).
- > Hardship experienced during the first depression and greater social conscience leads to provision of social welfare safety nets, company bailouts, rising deficits, etc (e.g. Medicare, LTCM, etc). This government intervention increases longer-term inflationary pressures and hampers economic advance.
- > The prospects of a recession are seen as a nightmare as the memory of the first depression lingers (the US today).

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- > The nation becomes complacent and political leaders assume that global supremacy can be maintained.
- > The depression at the end of the second wave is usually less devastating than at the end of the first (given the extreme distortions in the US economy, we wonder whether the next depression for the US will be even more devastating than the Great Depression).

Third long wave – decline

- > Growth rate declines.
- > Deficits built up during the second wave are never fully reduced as society avoids outright liquidation.
- > Financial capital which supported the second phase of the cycle is not forthcoming.
- > Eventually the policy of trade liberalisation means that other economies also begin to prosper, thereby eroding its relative economic strength.
- > The high costs of social welfare and military operations lead to huge government deficits and an increasingly stretched financial position. Fear of deflation prevents offsetting tax increases.
- > Government has to print money on a massive scale to finance deficits resulting in a surge in inflation and debasement of the currency.
- > World supremacy is lost to a rival during the third long wave. Relative decline continues although depressions for the former world power become less severe.

The US effectively rose to the position of global hegemon in the period following the First World War when the European powers had exhausted themselves. Unusually, the US political leadership then turned inward and the European powers rebuilt their economies and military capabilities in the run-up to the Second World War. After that conflict, US hegemony was unequivocal. Consequently, we can characterise US “ascendancy” as occurring in the K-Cycle from 1890-1948 and its “golden period” in the current (albeit distorted) K-Cycle.

In our view, the US would have ordinarily gone into a K-Winter following the TMT stock market crash in 2000. However, the dramatic monetary stimulus provided by Fed Chairman Greenspan averted a deflationary recession and acted as the catalyst for more credit/debt-driven asset bubbles, e.g. real estate and bonds at first, followed later by a rejuvenated stock market.

Paul Kennedy coined the phrase “imperial overstretch” to represent the stage when a great power’s financial situation becomes stretched from the high costs of “regulating” the world and fighting wars. A further characteristic of a great power whose strength is waning, identified by Kennedy, is that it becomes more aggressive and less rational in its geo-political strategy.

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