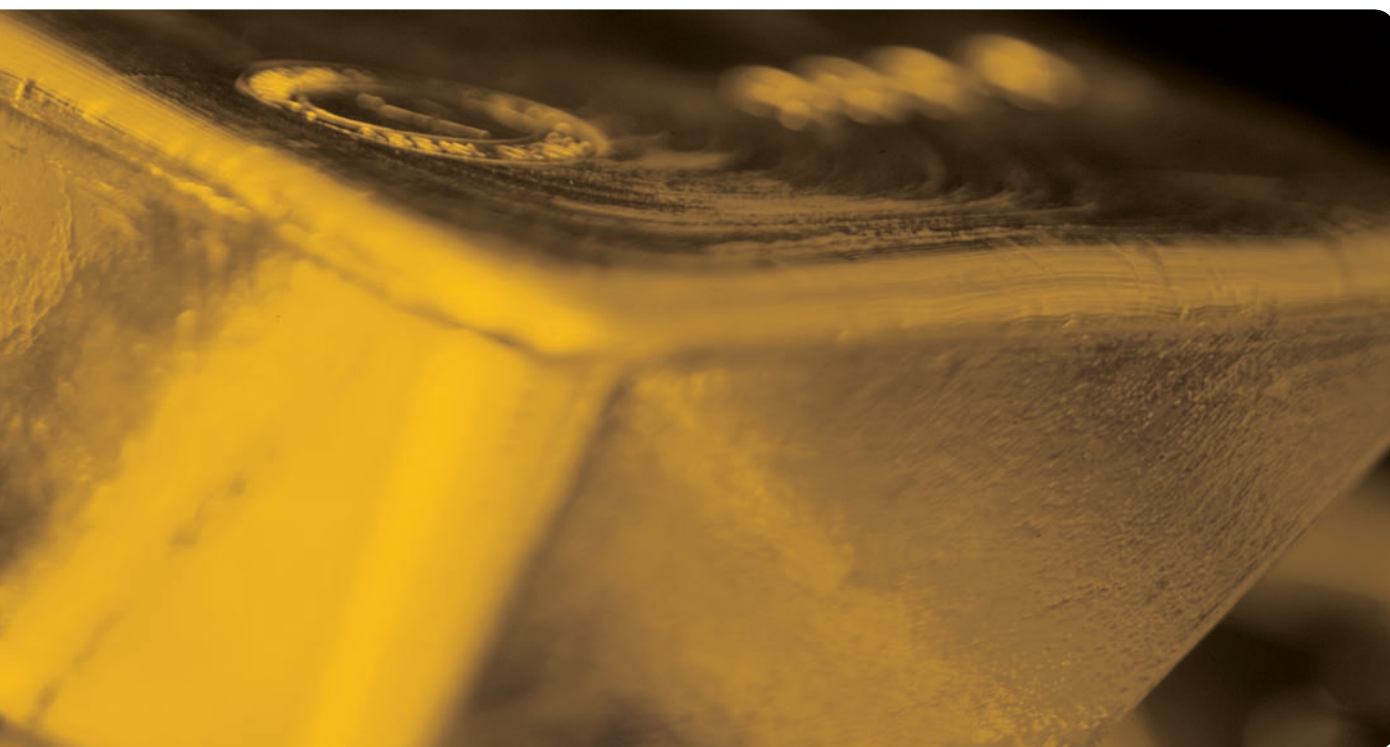


WORLD GOLD COUNCIL

**THE IMPORTANCE OF GOLD
IN RESERVE ASSET MANAGEMENT**



About The World Gold Council

The World Gold Council's mission is to stimulate and sustain the demand for gold and to create enduring value for its stakeholders. The organisation represents the world's leading gold mining companies, who produce more than 60% of the world's annual gold production in a responsible manner and whose Chairmen and CEOs form the Board of the World Gold Council (WGC).

As the gold industry's key market development body, WGC works with multiple partners to create structural shifts in demand and to promote the use of gold in all its forms; as an investment by opening new market channels and making gold's wealth preservation qualities better understood; in jewellery through the development of the premium market and the protection of the mass market; in industry through the development of the electronics market and the support of emerging technologies and in government affairs through engagement in macro-economic policy issues, lowering regulatory barriers to gold ownership and the promotion of gold as a reserve asset.

The WGC is a commercially-driven organisation and is focussed on creating a new prominence for gold. It has its headquarters in London and operations in the key gold demand centres of India, China, the Middle East and United States. The WGC is the leading source of independent research and knowledge on the international gold market and on gold's role in meeting the social and economic demands of society.

Contents

Context	2
Executive Summary	3
The Case for Gold as a Reserve Asset	4
■ Strategic asset allocation in foreign exchange reserves	4
■ Gold as a hedge against current macro-economic risks	9
■ Gold and liquidity	12
Fundamentals of the Gold Market	16
■ Demand	16
■ Supply	19
Trading and Storing Gold	23
Appendix: Case Study on Bangko Sentral ng Pilipinas (BSP, the Philippines central bank)	25

Context

This report is part of a series of occasional papers published by the World Gold Council's Government Affairs team. Previous papers have looked at the history of gold as a reserve asset and the recent evolution in central banks' attitudes towards gold. This report examines how gold can help emerging and developing economies' central banks meet their foreign reserve management objectives. It looks at gold in three contexts: as a strategic asset and in the maximisation of risk-adjusted returns, as a hedge against current macro-economic risks and as a liquidity provider in times of market distress. The analysis and findings from these reports are actively used in our discussions with central banks around the world. Future papers in this series will look in more detail at how gold performs vis-à-vis other reserve assets in helping central banks meet their reserve objectives.

For more information, please contact:

Natalie Dempster

Director, Government Affairs
natalie.dempster@gold.org

George Milling-Stanley

Managing Director, Government Affairs
george.milling-stanley@gold.org

The importance of gold in reserve asset management

Executive Summary

This report examines how gold can help a central bank meet its foreign reserve management objectives. It also explains how the gold market works, both in terms of the fundamentals of demand and supply, and the trading and vaulting of gold.

In the section on “The Case for Gold as a Reserve Asset” looks at gold in three contexts: strategic asset allocation and the maximisation of risk-adjusted returns in the investment portfolio; as a tactical overlay to hedge against current global macro-economic risks; and as a high-quality liquid asset in periods of distress, the time when central banks most need their reserves.

Portfolio optimiser models are used to show that the efficient frontier of a typical developing or emerging market central bank can be enhanced by adding gold. How much gold depends on a central bank's risk appetite: an allocation to gold of between 2.4 and 8.5% is optimal for a bank with around a 5% risk tolerance. At a risk tolerance of 8.3%, the allocation to gold increases to 29%.

The results are not intended as a strategic asset allocation recommendation for any specific central bank, not least because central banks' actual portfolios will differ from the one used in the illustration, as will their risk and return expectations, and constraints. The allocations of emerging and developing countries – that already hold gold in their portfolios – vary widely, in practice, because of these and other factors. The appropriate allocation to gold for a central bank will depend on its investment policy objectives and guidelines, its existing asset mix, its risk tolerance, its tactical view on market trends and its liquidity requirements. Reserve asset management policies also have to respond to political considerations and the cultural affinity to gold within a country.

Current global macro-economic risks, such as the European sovereign debt crisis and strong money supply growth argue for an additional tactical overlay to gold in reserves. The investment guidelines of emerging market and developing country central banks often limit reserves to being invested in a few key asset classes, such as deposits, high quality

sovereign debt and quasi-sovereign bonds and SDRs. A sovereign debt downgrade to below investment grade reduces the pool of eligible investments for these central banks, while contagion risks lowers the attractiveness of similar assets. Gold, which bears no counterparty or credit risk, and is a permissible reserve asset in practically every central bank in the world, becomes especially attractive in the current environment. Gold can also help hedge against the risks associated with strong money supply growth.

The 2007/2009 financial crisis clearly demonstrated the challenges of running a liquidity portfolio. Many markets, that reserve managers had assumed to be deep and liquid, proved to be the exact opposite and assets could only be sold at a large discount. The gold market remained liquid throughout the financial crisis, even at the height of liquidity strains in other markets. This reflects the depth and breadth of the gold market, as well as the flight-to-quality tendencies exhibited by some investors.

Because gold is virtually indestructible, almost all of the gold that has ever been mined still exists: in the fixed-income market gold would be equivalent to a bond that never matures. Perhaps the best proxy to outstanding bond issuance for gold is the combined value of gold held in private bullion stocks and in the official sector. The gold market is larger, on this basis, than each of the Eurozone bond markets, save Italy. And we estimate daily turnover volumes in the gold market to be larger than UK Gilt and German Bund markets.

Having made a clear case for gold as a reserve asset, the report then examines how the gold market works in terms of the fundamentals of demand and supply, and how these underpin gold's key investment characteristics, such as its lack of correlation with other reserve assets and its counter cyclical behavior. In the final section, we explain the various different ways that a central bank can buy, sell and store its gold.

A case study on Bangko Sentral ng Pilipinas (BSP, the Philippines central bank) provides an example of how an emerging market central bank has handled its gold reserves over the years.

The Case for Gold as a Reserve Asset

Strategic asset allocation in foreign exchange reserves

Strategic asset allocation defines the long-term proportion of individual assets that should be held in a portfolio in order to maximise risk-adjusted returns. In practice, a central bank's portfolio will diverge from this, in some cases substantially, in order to accommodate any constraint imposed on the portfolio by the bank's investment guidelines, to take into consideration the bank's tactical views and to meet the bank's liquidity objectives. However, for the purposes of this analysis we are solely concerned with the underlying strategic allocation.

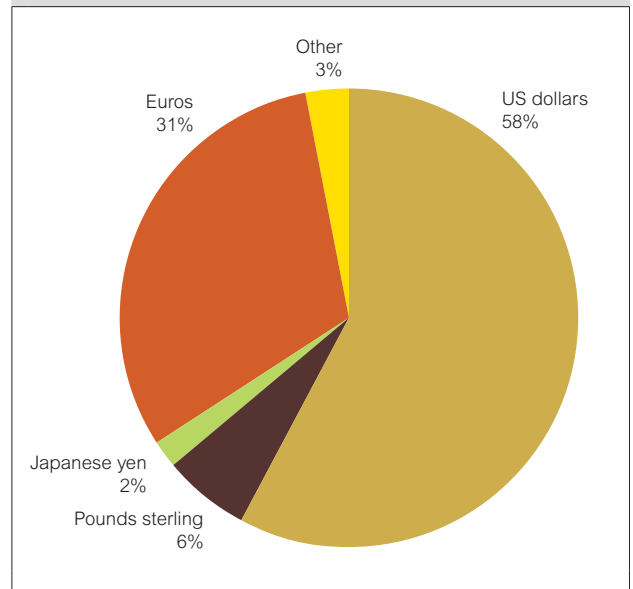
In this section we use a portfolio optimiser to examine whether adding gold to the portfolio of a "typical" emerging or developing economy's central bank can expand the efficient frontier and enhance risk-adjusted returns. We chose emerging and developing economies, as the portfolios of many advanced economy central banks are already heavily skewed towards gold as a legacy of the gold standard and Bretton Woods days when fiat currencies were backed by or underpinned by gold.

The data

The first step in any analysis is to define the "typical" portfolio. Currency composition of official foreign exchange reserves (COFER) data from the IMF serves a useful starting point, as they provide a breakdown of emerging and developing countries' foreign reserves by currency. In the final quarter of 2009, 58% of the allocated reserves of those countries which reported were held in dollar denominated assets, 31% in euro-denominated assets, 6% in sterling-based assets, 2% in yen-based assets and 3% in other currencies.

After determining which currencies are commonly used in reserve portfolios, we identified the various asset classes within each currency that best matched the actual investment practices of developing and emerging market central banks. This was based on a variety of sources, including US Treasury data on holdings of US securities by foreign official institutions, the published investment guidelines of central banks and our discussions with industry experts.

Figure 1: Currency composition of official foreign exchange reserves, allocated reserves (% of total, Q4 2009)



Source: IMF

Because we would be using historical data as inputs for the expected real returns and risk profiles, we also needed a sufficiently long time series for each asset class to avoid any period dependency effects. In other words the period should not, to the extent possible, be unduly bearish or bullish for any one asset class. This required refining the list further to take account of historical data availability. The data sets we eventually chose, along with their real returns and standard deviations for the past fifteen years, are shown in table 1. All the data are displayed in dollars on an unhedged basis and all further calculations are made on this basis.

Table 1: Selected assets*, Jan 1994-April 2010

	Real annualised monthly returns (%)	Standard deviation (%)
BarCap US Aggregate Treasury Index	3.4	5.2
BarCap US Aggregate Agencies Index	3.4	4.2
JP Morgan German Traded Index	4.7	10.7
JP Morgan Japan Traded Index	2.3	12.3
JP Morgan UK Traded Index	4.3	9.2
Gold (US\$/oz)	5.6	15.2

*Total Return Indices, except gold.

At first glance the results do not seem to make an especially compelling case for gold as a reserve asset: gold has the highest annualised monthly return, but it also has the highest risk, and as central banks are especially risk averse, the latter is likely to be given the most weight. In addition, one could argue that the period under review – 1994 to 2010 - was particularly propitious for gold (the lack of a sufficiently long time series for some of the other data prevented us from beginning the analysis earlier) as it encompassed the long gold bull market that began in 2001 (we address this point under “inputs and constraints”).

But returns and volatility are not all that matter for risk-adjusted returns. The way the assets interact with one another, or the co-variance, also matters. On this basis, gold stands out as the most effective portfolio diversifier, displaying the lowest average correlation with each of the other assets. This reflects the unique drivers of the gold price, described in detail under “*Fundamentals of the Gold Market*”.

The optimiser

The next stage was to use a portfolio optimiser to assess whether gold’s low co-variance with the other assets would offset the impact of its relatively high volatility on the portfolio’s performance. We used New Frontier Advisors’ patented portfolio optimiser, which pioneered a technique called re-sampled efficiency optimisation (RE), to conduct the analysis. The RE optimiser has been acknowledged by Harry

Markowitz, founder of Modern Portfolio Theory, to be more effective and robust than classical mean-variance optimisation. The mean-variance technique of portfolio optimisation pioneered by Markowitz, while theoretically groundbreaking, is limited in its practical use. If you are 100% certain of your risk-return estimates, then classical mean-variance optimisation will provide the best solution. However, such input certainties do not exist in practice. In RE optimisation, the optimal portfolio instead represents the average of a large number of simulated portfolios around the projected risk and return inputs. While the expected efficient frontier will tend to be slightly lower than estimated by classical mean-variance, the level of confidence that one can have in the efficient frontier is improved. The resulting process is more stable and produces more reliable optimal portfolios.

Inputs and constraints

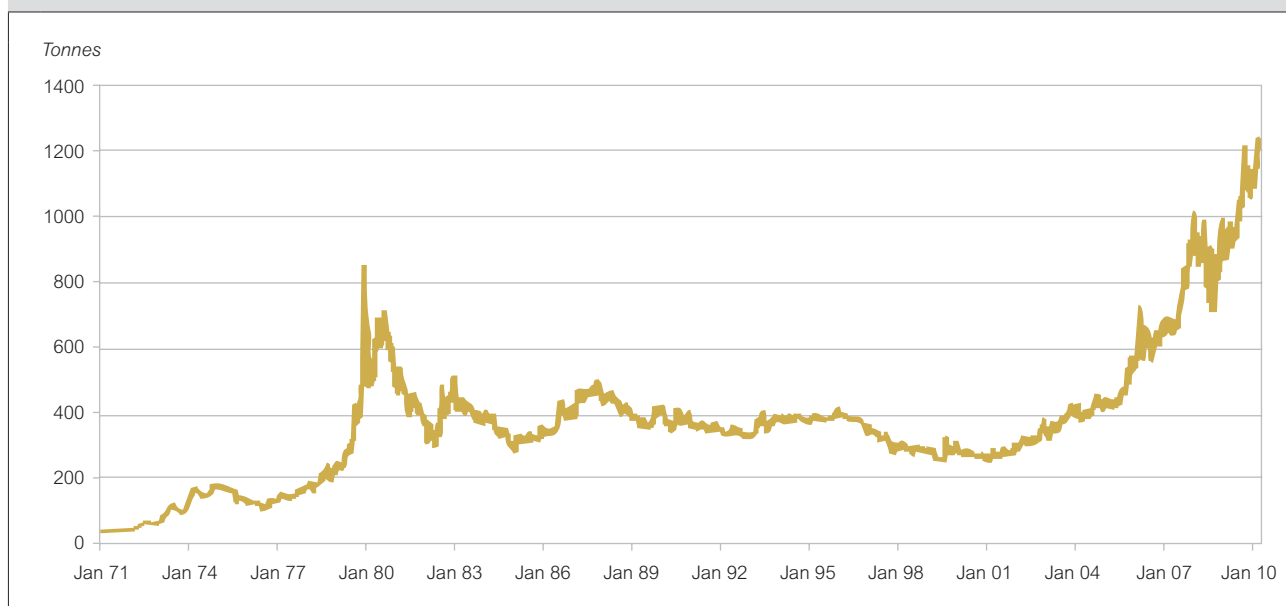
For the expected real returns and standard deviations we used the long-run historical averages shown in table 1, as is normal practice in these type of studies. But we made one exception. In order to be as conservative as possible with respect to gold and avoid any criticism of the study having been conducted over a period that encompassed a long bull market, we lowered gold’s expected real return to 4%, in keeping with its performance since 1974. We chose 1974 as the initial perturbations in the gold price following Nixon’s closure of the gold window in 1971 would have been worked through by then.

Table 2: Correlations, based on monthly returns between Jan1994 and April 2010.

	US Treasuries	US Agencies	German bunds	Japanese Govt. bonds	UK Gilts	Gold
US Treasuries	1.000	0.922	0.471	0.287	0.422	0.203
US Agencies	0.922	1.000	0.465	0.243	0.435	0.214
German bunds	0.471	0.465	1.000	0.451	0.667	0.421
Japanese Govt. bonds	0.287	0.243	0.451	1.000	0.235	0.250
UK Gilts	0.422	0.435	0.667	0.235	1.000	0.283
Gold	0.203	0.214	0.421	0.250	0.283	1.000

Source: NFA

Figure 2: The gold price (London PM fix) dollars per ounce



Source: Bloomberg

The second constraint we imposed on the optimiser was to cap the allocation to US Agency bonds to 25%. We did this because preliminary optimisation runs had resulted in exceptionally large allocations to US Agencies relative to US Treasuries, based on the fact that the two assets had the same level of return but Agencies had a lower standard deviation. However, this was inconsistent with what we knew about central bank's actual allocations to these assets and the amount of each type of bond in issuance.¹

The results

The optimiser then ran 1000 simulations around these inputs. The efficient frontier and optimal set of portfolios for each level of risk are shown in figure 3. The coloured chart depicts the allocations of each asset class required to achieve the other optimal portfolios on the efficient frontier, which vary according to risk appetite. Some selected portfolios are shown in table 3. The allocation to gold climbs steadily as risk tolerance increases. For example, at an expected annualised volatility of 8.3% the allocation to gold rises to 29%. However, as we assume central banks are typically far less risk tolerant, the actual strategic allocation to gold suggested by the optimiser for a central bank would be much lower. For a risk tolerance of around 5%, the allocation to gold ranges between 2.4-8.5%. The RE optimiser performs another function, which is to

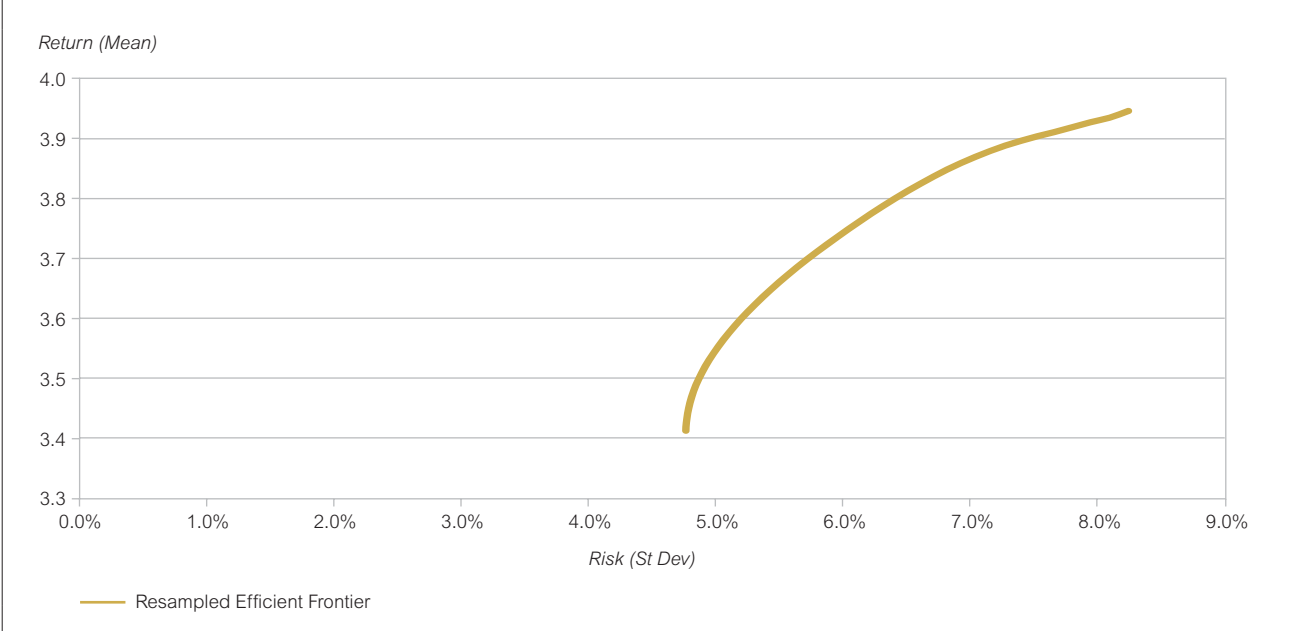
assess whether the allocation to gold is statistically significant: it calculates this to be so at each and every risk level.

The results are not intended as a strategic asset allocation recommendation for any individual central bank, not least because central banks' actual portfolios will differ from the one in the illustration, as will their risk and return expectations, and constraints. For example, a bank may wish to lower the proportion of dollar de-nominated assets due to concerns about future dollar weakness, or its allocation to Bunds due to the European sovereign debt crisis. In addition, we have used a "base currency" approach, where the currency and individual asset compositions are determined simultaneously, whereas some central banks may pre-determine the amount of each currency they want to hold first, then optimise each individual currency portfolio. This illustration is simply meant as a starting point for discussions.

The allocations of emerging and developing countries – that already hold gold in their portfolios – vary widely, in practice. The appropriate allocation to gold for a central bank will depend on a combination of factors, including its investment policy objectives and guidelines, its existing asset mix, its risk tolerance, its tactical view on market trends and its liquidity requirements.

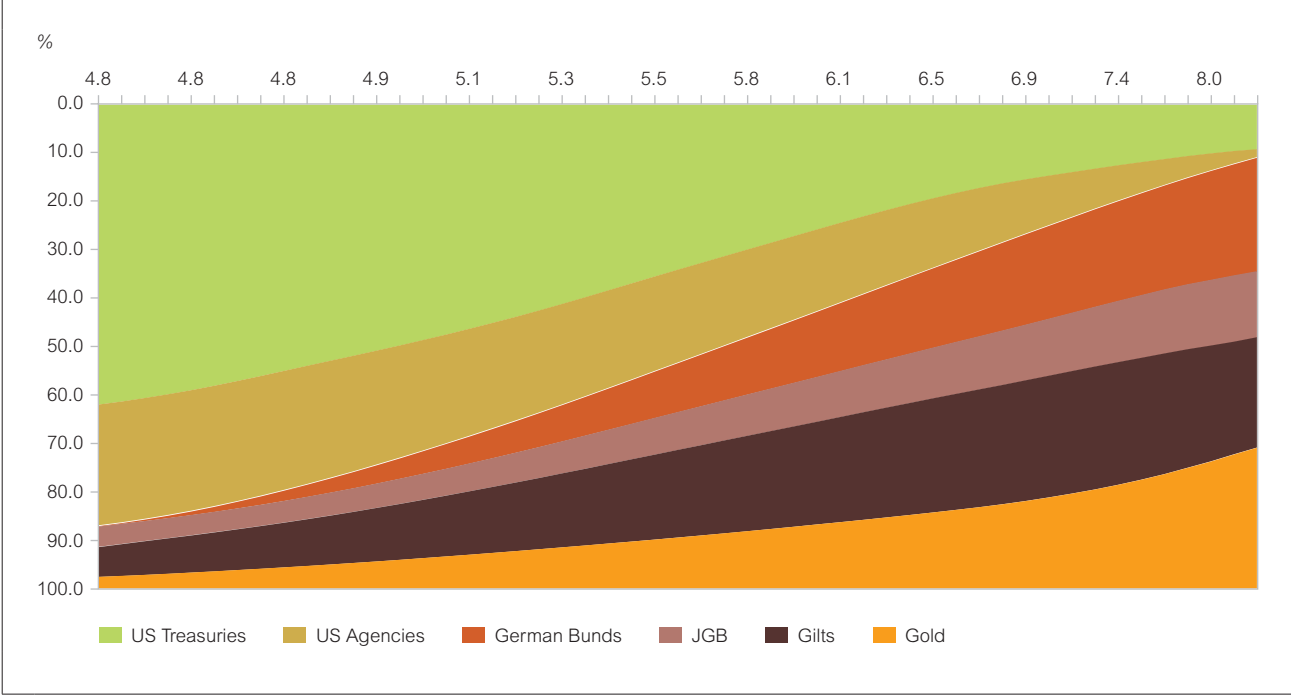
¹ US Treasury, *Treasury International Capital (TIC) System data report foreign official holdings of combined short-term and long-term US Agency debt to be US\$828 billion in 2009, around a third the level of US Treasury debt. And only 58% of emerging and developing countries allocated reserves were reported by the IMF to be held in dollars in Q4 2009.*

Figure 3: Efficient frontier



Source: NFA

Figure 4: Optimal portfolio composition map



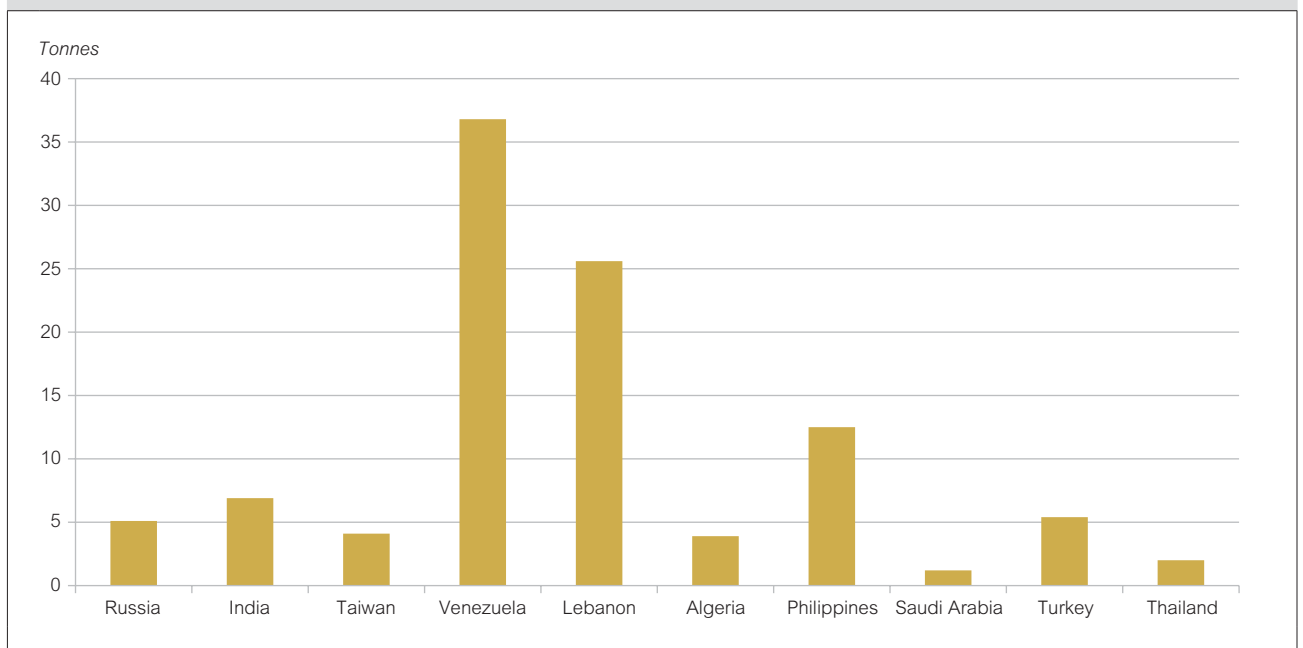
Source: NFA

Table 3: Selected result portfolios.

Asset name	1	11	21	31	41	51
US Treasuries	62.2%	53.1%	41.3%	27.3%	15.5%	9.3%
US Agencies	25.0%	24.2%	20.8%	17.3%	11.2%	1.6%
German bunds	0.1%	2.9%	7.5%	12.9%	18.8%	23.62%
JGB	4.2%	4.7%	6.6%	9.1%	11.6%	13.8%
Gilts	6.1%	10.1%	15.2%	20.6%	24.8%	22.7%
Gold	2.4%	5.0%	8.5%	12.7%	18.0%	29.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Mean	3.4%	3.5%	3.6%	3.7%	3.9%	3.9%
Std Dev	4.8%	4.9%	5.3%	6.0%	6.9%	8.3%

Source: NFA

Figure 5: Selected countries gold holdings as a % of total reserves



Source: WGC

Gold as a hedge against current macro-economic risks

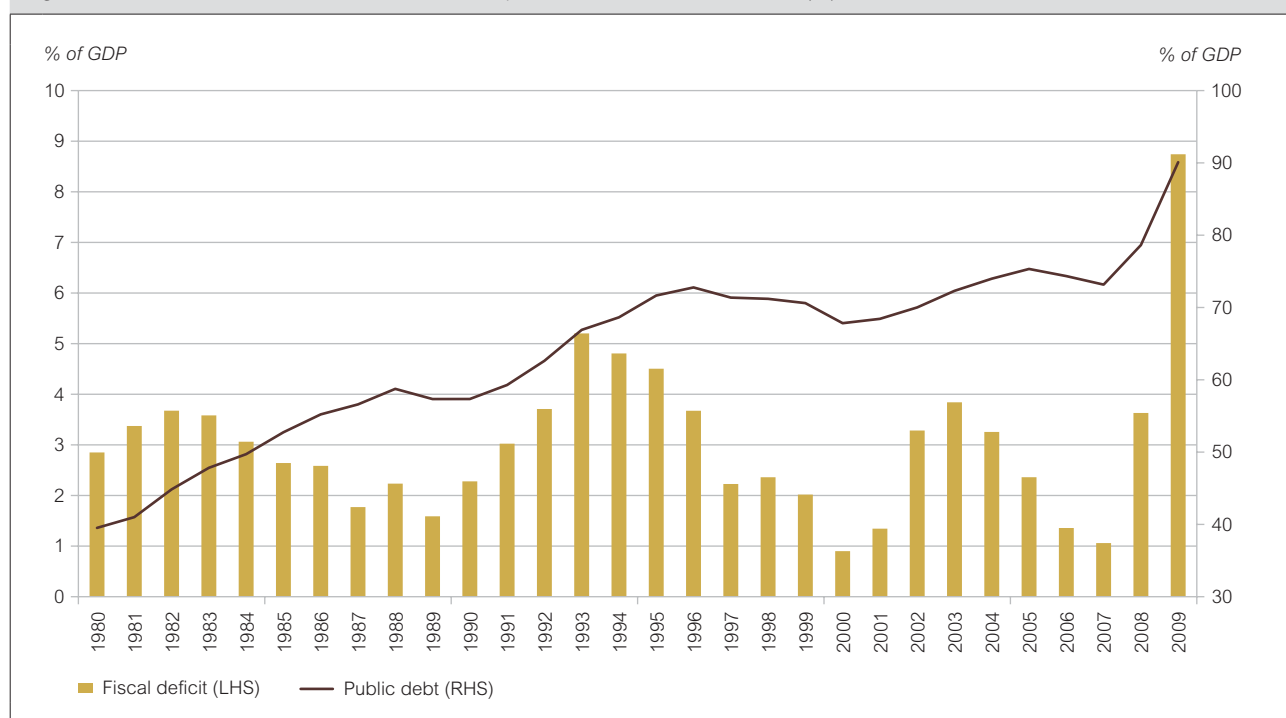
A central bank may wish to add a tactical overlay to its strategic allocation in order to protect it from a particular set of downside risks it deems likely. These will be determined by the prevailing macro-economic environment and will change over time.

The European sovereign debt crisis is arguably the biggest risk facing reserve managers at the time of writing (mid-2010). The combination of financial sector bailouts, stimulus packages and lower tax revenues arising from the financial crisis and the slump in economic activity have had a devastating effect on western public finances. Advanced economies' fiscal deficits reached 9% of GDP in 2009 and public sector debt grew to 90% of GDP, according to the IMF's April 2010 World Economic Outlook. A number of advanced economies have suffered multiple credit downgrades, the most noteworthy being Greece which had its credit rating by S&P cut from "A-" in December 2009 to "BB+" in April 2010. The Greek crisis culminated in a €750bn EU-IMF bailout plan.

The outlook for public finances remains grim. The global recovery remains heavily reliant on monetary and fiscal stimulus for what little growth it has, making a quick reversal in the fiscal situation unlikely. The IMF estimates that advanced economies' debt/GDP ratios will exceed 100% of GDP in 2014 based on current policies, some 35 percentage points higher than when the crisis began. As a result, sovereign bond issuance is likely to remain at historically high levels in the coming years and further sovereign downgrades seem likely.

It is not difficult to understand why gold should continue to outperform in this type of environment. The investment guidelines of emerging market and developing country central banks often limit reserves to being invested in a few key asset classes, such as deposits, high quality sovereign debt and quasi-sovereign bond and SDRs. A sovereign debt downgrade to below investment grade reduces the pool of eligible investment for these central banks, while contagion risks lower the attractiveness of similar assets. Most central banks could not, for example, simply diversify into equities. Gold, which bears no counterparty or credit risk, and is a

Figure 6: Advanced economies' fiscal deficits and public debt as a share of GDP (%)



Source: IMF

permissible reserve asset in practically every central bank in the world, becomes especially attractive in this type of environment.

There is also the issue of paying for the bailouts. Some of the money has simply been “printed”. Money supply growth is exceptionally high in many countries and, if “exit strategies” are not implemented in an effective and timely manner, risks fuelling future inflation. Gold is the only universally-accepted currency whose supply cannot be increased by policy makers: the equivalent of money issuance for gold is new mine production, which has been on a more or less flat trend for the past ten years.

The WGC examined the quantitative relationship between money supply and gold in a recent report² and found that a 1% change in US money supply growth six months prior, has an impact of 0.9% on the price of gold, on average, while a 1% change in money supply in India and Europe six months prior, affects the price of gold by 0.7% and 0.5% respectively.

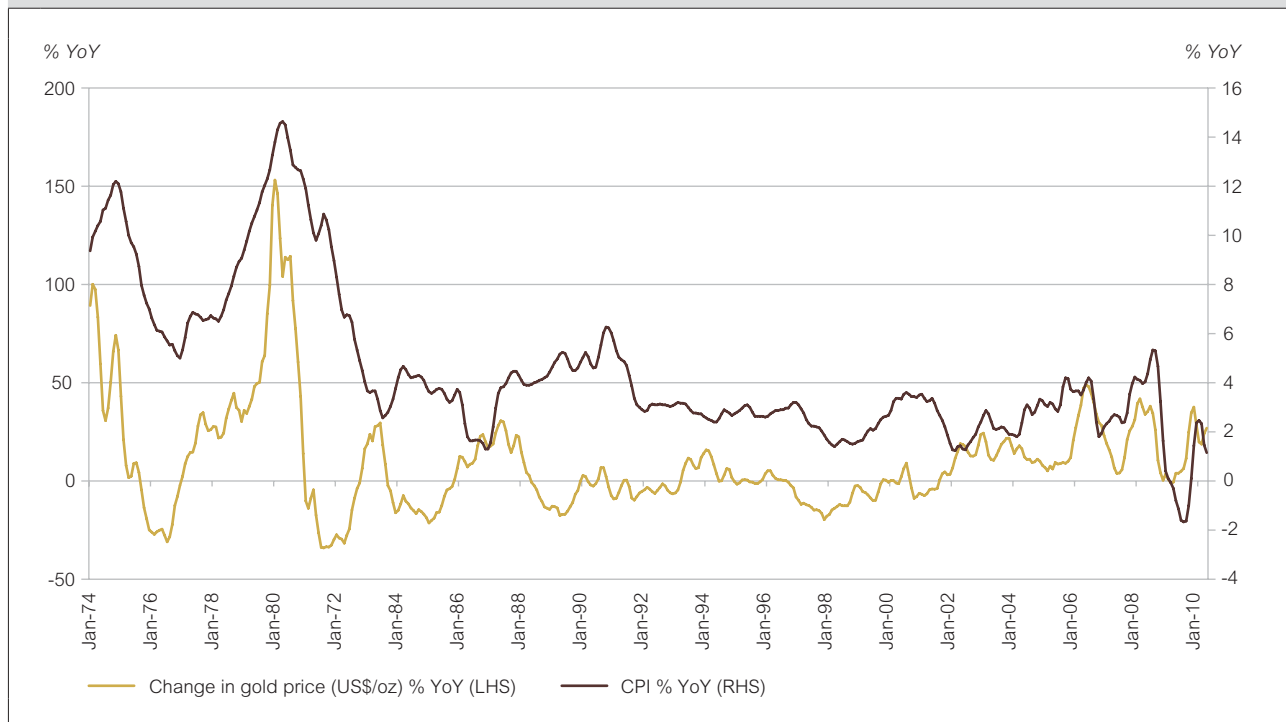
Gold also has a reputation as a long-term inflation hedge, first statistically examined by Professor Roy Jastram in the 1970s, and confirmed in a recent

update to his book.³ Finally, as figure 7 shows, there is a broad relationship between changes in the gold price and US consumer price inflation.

More generally, “bad news” surprises looks set to dominate financial markets in the short to medium term. Gold’s role as a safe-haven asset in the event of major economic shocks has been well documented and its performance in the most recent financial crisis (see “*Gold and Liquidity*”) provides an excellent example.

What is less well known is that gold also performs relatively well in the event of milder bad news events. A recent IMF study⁴ finds that: “*gold prices react to specific scheduled announcements in the United States and the Euro Area (such as indicators of activity or interest rate decisions) in a manner consistent with its traditional role as a safe-haven and store-of-value...*”. The study measures the standard deviation from publicly-available consensus estimates for 13 macro-economic indicators. It finds that gold prices tend to be counter-cyclical, with the price rising when there is a downside surprise in the data, suggesting gold is seen as a safe-haven during “bad times”.

Figure 7: Change in gold price and change in US consumer price Index, % year-on-year, three-month moving average



Source: Bloomberg

² *Linking Global Money Supply to Gold and Future Inflation*, Juan Carlos Artigas, World Gold Council, February 2010.

³ *The Golden Constant – The English and American Experience, 1560 to 2007*, Roy W Jastram with updated material by Jill Leyland, Edward Elgar, ISBN 978 84720 261 1 Library of Congress Number: 2009922754.

⁴ *The Effects of Economic News on Commodity Prices: Is Gold Just Another Commodity?* Shaun K. Roache and Marco Rossi, IMF Working Paper, July 2009.

The study concludes that: *“Gold’s high sensitivity to real interest rates and its unique role as a safe-haven and store of value typically leads to a counter-cyclical reaction to negative surprises that might lead financial investors to become more risk averse.....For longer-term market participants, these results provide confirmation of the pro-cyclical bias of many commodities and gold’s role as a safe-haven during periods of economic uncertainty”*. This finding would seem to be particularly relevant to reserve managers in today’s highly uncertain macro-economic environment.

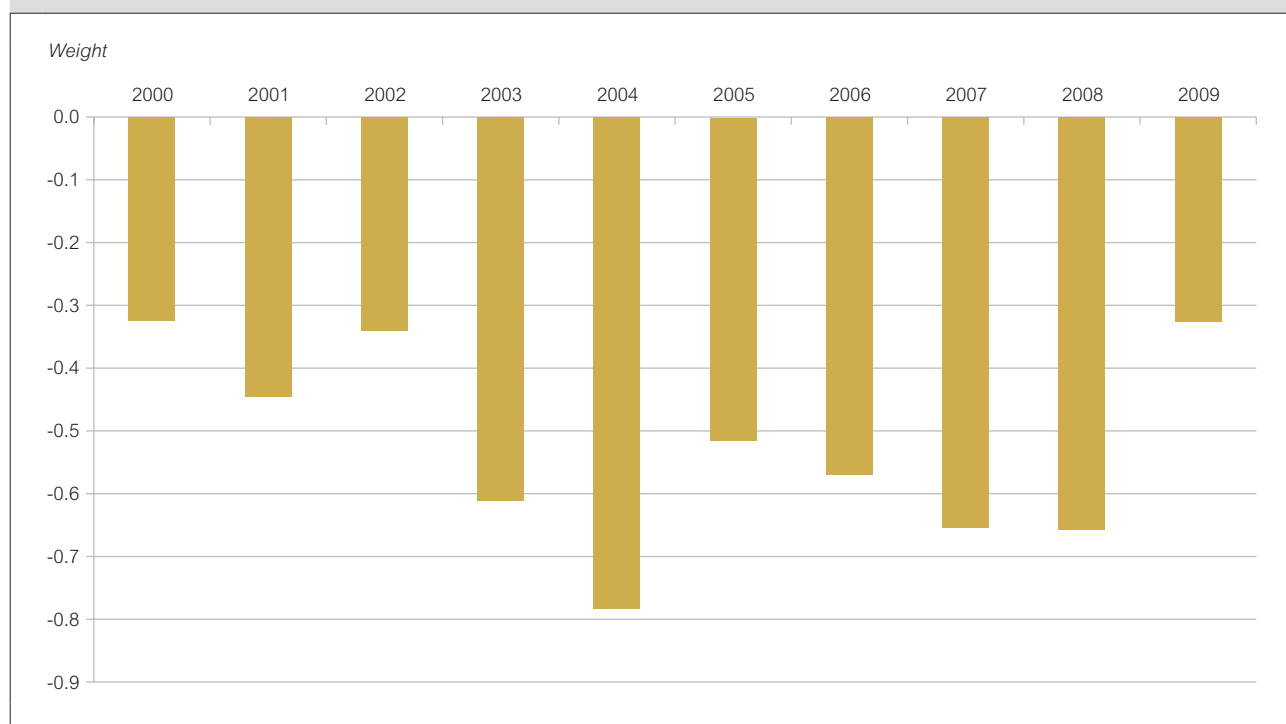
Reducing exposure to dollar-denominated assets

Central banks may also wish to impose constraints on the allocation to dollar-denominated assets. The dollar remains the mainstay of the reserve portfolio of both advanced and emerging and developing economies. Of the proportion of foreign currency reserves whose currency composition has been identified, 66% of reserves of advanced economies and 58% of reserves of emerging and developing economies were in dollars. There is concern that the US economy’s exceptionally loose monetary and fiscal policy will lead to renewed dollar depreciation. The dollar has only held up recently (first half of 2010)

because economic conditions are so bad elsewhere, especially in Europe. Some policy makers – most notably from China and Russia – have even called into question the dollar’s role as a reserve currency and have instead called for greater use of the IMF’s Special Drawing Rights (SDRs).

Gold has a long-standing negative relationship with the dollar, making it an effective hedge against any further dollar weakness.⁵ There are good reasons why gold tends to move in the opposite direction to the US dollar. First, gold is priced in dollars and, everything else being equal, weakness in the currency in which a real asset is denominated tends to lead to an increase in its price, as investors demand compensation for the currency loss. Second, gold’s history as a monetary asset makes it an attractive store of value in periods of high inflation or rising inflation expectations, driven by excessive money supply growth. Third, the depreciation in the dollar (appreciation in other currencies) reduces gold’s price to buyers outside of the dollar bloc, stimulating demand for it. Finally, a depreciation in the dollar increases the cost of extracting gold overseas and often the price of other commodities used in the extraction process, putting a higher floor underneath the gold price.

Figure 8: Gold (US\$/oz) and the trade weighted dollar weekly return correlation



Source: Bloomberg, WGC

⁵ See, for example, *Gold as a Hedge Against the US Dollar*, Forest Capie (CASS Business School), Terence C Mills (Loughborough University) and Geoffrey Wood (CASS Business school) published by the World Gold Council, September 2004.

Gold and liquidity

Reserve managers' investment decisions are complicated still further by the need to maintain an additional liquidity portfolio. This needs to be invested in high-quality assets that can be readily sold in times of market stress. These portfolios need to be designed to perform in particularly challenging financial and economic circumstances, when many domestic and international markets may be facing acute liquidity strains.

The 2007/2009 financial crisis clearly demonstrated the challenges of running a liquidity portfolio. Many markets that reserve managers had assumed to be deep and liquid proved to be the exact opposite and assets could only be sold at a large discount. This was even true of some AAA-rated assets: credit ratings proved no guide to liquidity. Many central banks had to rely on bi-lateral currency agreements with other central banks, principally - the US Federal Reserve, instead.

The gold market remained liquid throughout the financial crisis, even at the height of liquidity strains in other markets. This reflects the depth and breadth

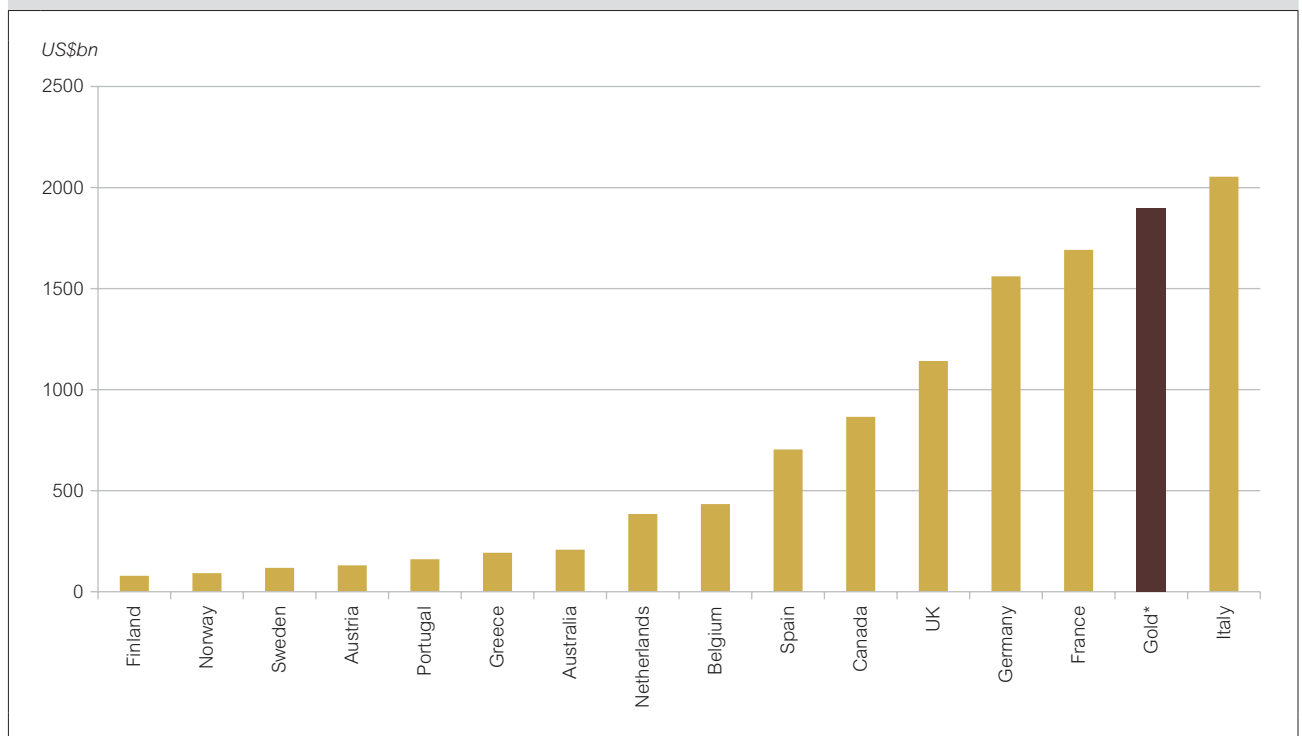
of the gold market, as well as the flight-to-quality tendencies exhibited by some investors.

Size

Because gold is virtually indestructible, almost all of the gold that has ever been mined still exists: in the fixed-income market gold would be equivalent to a bond that never matures. There are obvious difficulties in comparing the gold market to bond markets. Perhaps the best proxy to "outstanding bond issuance" for gold is the combined value of gold held in private bullion stocks and in the official sector. GFMS estimated this to be 58,500 tonnes in 2009, or US\$2,063 billion at the year-end close price. The gold market is larger, on this basis, than each of the Eurozone bond markets, save Italy; considerably larger than the UK Gilt market; and dwarfs the smaller sovereign debt markets such as Australia and Norway that have become popular with reserve managers in recent years.

The same difficulties apply when comparing trading volumes. Indeed, the comparison is further complicated by the numerous channels through which gold trading takes place. Nonetheless, some general comments can be made.

Figure 9: Gold and selected domestic government debt issues (US\$bn), as at September 2009



Source: BIS, WGC, GFMS

Most gold trading takes place in the global OTC market centered around gold stored in London. The London Bullion Market Association, which represents the bullion dealers active in the global OTC market, estimates that the daily net amount of gold that was transferred between one loco London account and another averaged US\$19.9 billion in 2009 (based on the average 2009 gold price). However, as many trades are simply netted out, in practice trading volumes among the bullion banks are much higher.

Traders estimate that actual daily turnover is a minimum of three times that amount and could be up to eight times higher. This would put global OTC trading volumes cleared using gold stored in London vaults alone at between US\$59-159 billion. Comparing this to the same assets we used in the optimiser, this would make the gold market more liquid, on this basis, than the UK Gilt and German Bund market, but less liquid than JGBs and US Treasuries.

Table 3: Average Daily Trading Volumes (US\$ Billions) in 2009

UK Gilts	28.8
German Govt. Securities	25.9
US Federal Agency Securities 1)	77.7
Gold traded OTC and settled in London	59-159
Japanese Govt Bonds	288
US Treasuries 1)	407.9

1) Primary dealer activity

Sources: Securities Industry and Financial Markets Association, UK Debt Management Office, Bundesrepublik Deutschland Finanzagentur GMB, London Bullion Market Association, Japan Securities Dealers Association.

In reality, however, global gold trading volumes would be higher still given that considerable volumes of OTC trades are settled outside of London and as gold derivatives are traded on several exchanges around the world (though this point can also be made of government bond futures).

Diverse range of buyers and sellers

Gold's liquidity is also underpinned by its diverse range of buyers and sellers. Unlike financial assets, the gold market is not solely dependent on investment as a source of demand. Gold has a wide range of buyers and sellers who have differing trading motivations and who react differently to price moves (see *Fundamentals of the Gold Market*).

In the five years to 2009, 61% of demand⁶ came from the jewellery sector, 27% from investment and 12% from industrial uses. Gold has a diverse range of buyers, stretching from Indian jewellery manufacturers, to electronics producers in Asia, to worldwide dentistry and medicine, to retail investment demand, to pensions and endowments and central banks (the latter were net buyers of gold in the second, third and fourth quarters of 2009, ending two decades in which central banks were net sellers of substantial quantities of gold to the private sector).

The motivations for gold investment demand are also disparate. Some investors buy gold as a long-term strategic asset, some as an inflation or dollar hedge, some as a safe-haven and others because of their tactical view on the gold market.

Likewise, the sources of supply are disparate. The annual supply of gold comes from a combination of newly-mined gold, the net mobilisation of central bank reserves and the recycling of above ground stocks.

In the five years to 2009, 59% of supply came from newly mined production (net of producer de-hedging), 10% from net official sector sales and 31% from the recycling of fabricated products, principally jewellery from emerging markets.

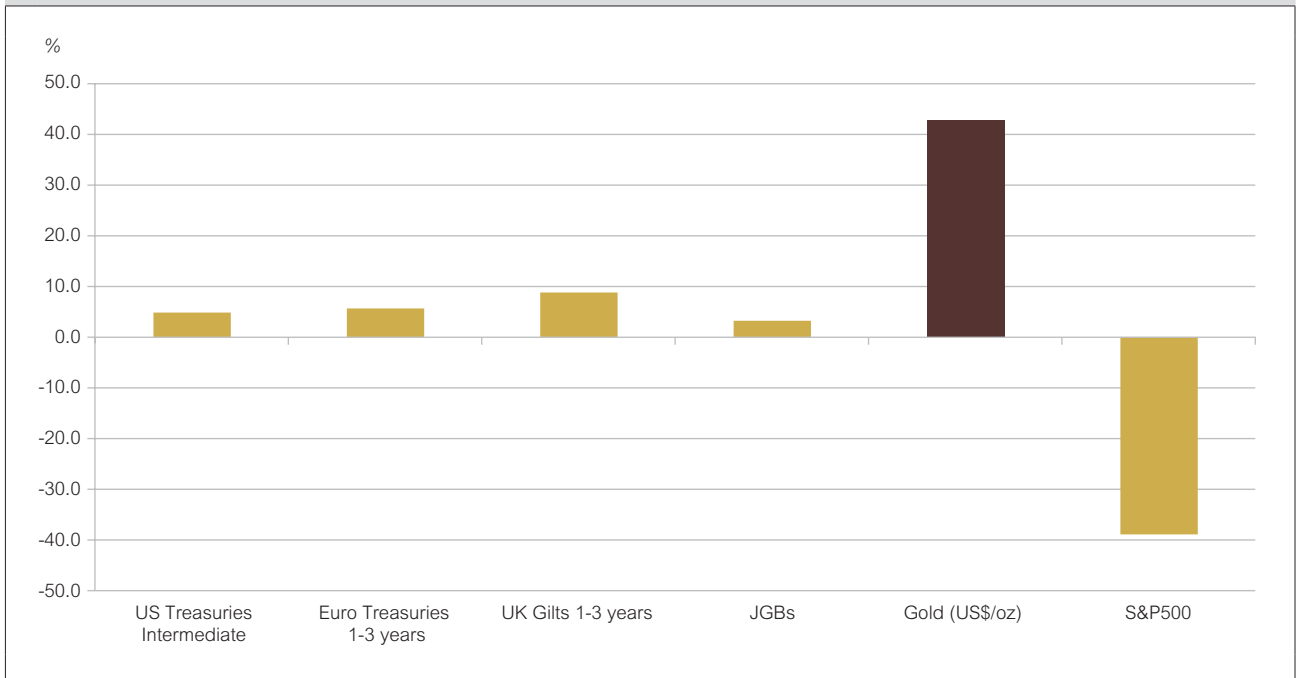
Many factors affect gold supply. The long lags in mine production mean that it is only influenced by changes in the gold price after a number of years. It is also influenced by the extent and success of past exploration spending, the cost of extracting gold, and geological factors. Recycled gold is affected by price, price volatility and general economic conditions in the host country, while net official transactions depend on central banks' reserve decisions.

Flight-to-quality tendencies

Gold has a history of safe-haven inflows during times of financial market duress. This stems from its lack of credit risk and because its value cannot be de-based by the policies that are often put in place to remedy financial crises, for example – quantitative easing, which can lead to inflation and erode the value of fiat currencies.

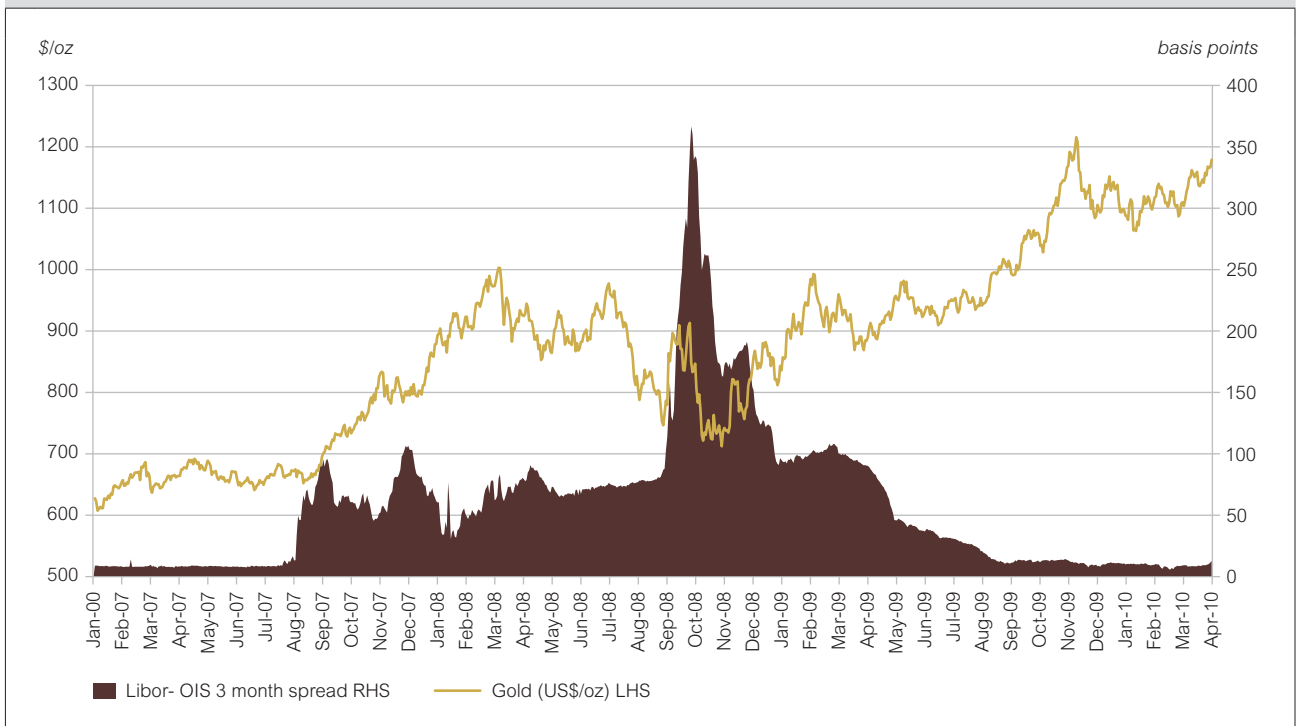
⁶ All demand and supply data are sourced from GMFS Gold Survey, 2010.

Figure 10: Price performance (June 2007-June 2009) % change



Source: Barclays, Bloomberg

Figure 11: The gold price and libor-overnight swap index 3-month spread



Source: Bloomberg

The 2007/2009 banking crisis is a good case in point. Between June 2007, when the credit crisis first began, and June 2009, when the world economy was showing signs of bottoming out, the gold price increased by 43% in dollar terms. This compares with increases of between 3% and 9% (local currency terms) in the main sovereign bonds held by central banks.

That said, the gold price was not unaffected by the financial crisis, as there was some liquidation to raise much-needed cash as liquidity constraints in other markets became acute. Between the end of Q2 2008 and 12 November that year, the gold price fell from US\$925.40/oz to US\$712.30/oz. This was the worst of the financial crisis, covering the period when Lehman Brothers collapsed and the time when liquidity constraints in the wholesale market for dollars and the FX swap market were most pronounced – 3-month LIBOR rates soared as high as 366 basis points above the Overnight Swap Index. Fund managers facing large redemptions and/or margin calls turned to gold as an “asset of last resort” to stay solvent. The Swedish Riksbank also relied on its gold reserves for liquidity at the height of the crisis, using gold to finance temporary liquidity assistance.

Fundamentals of the Gold Market

Demand

Gold demand comes from three sources: jewellery, industry (including electronics and medical applications), and investment. In the five years to 2009, the annual demand for gold was, on average, 3,692 tonnes. The primary source of demand came from jewellery, which has accounted for 61% of the total over the past five years, followed by investment demand which has accounted for a further 27%. Industry accounts for the remaining 12%.⁷ While jewellery was typically the largest single component of demand, its share has decreased over the past two years in favour of investment demand, as investors have refocused on the wealth preservation properties of gold.

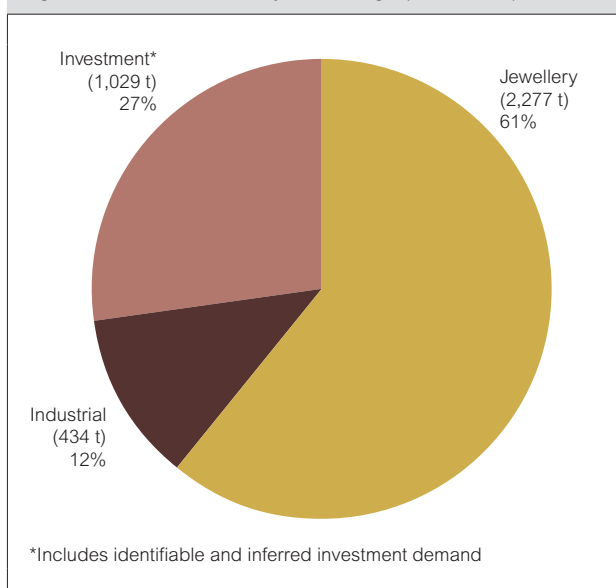
Jewellery demand

Jewellery demand is affected by desirability, income levels, price and price volatility, as well as a variety of socio-economic and cultural influences. Over the past five years 57% of jewellery demand has come from four countries/regions – China, India, Turkey and the Middle East. Each market is affected by a different set of socio-economic and cultural factors. India, which typically buys up to a quarter of the world's gold each year, is a good case in point. Here,

demand for gold is firmly embedded in cultural and religious traditions. Gold is seen as a gift from the Gods, providing financial security, and as a symbol of wealth and prosperity in the Hindu religion. Hindus consider gold an auspicious metal, which they like personally to acquire or offer as a gift to family members during religious festivals. The most important of these is Diwali, which coincides with the harvest of the crops and marks the beginning of the Hindu New Year; it usually takes place in October or November. Weddings are also important gold-buying occasions with substantial quantities of gold bought as gifts.

These Indian events are one reason why global demand for jewellery is seasonal, but there are other important reasons. Christmas, for instance, and other end-of-year festivals are also significant gold-buying occasions around the globe. The long holidays around 1st May (Labor Day), National Day and Chinese New Year in China are also occasions associated with the purchase of gold jewellery. Q4 is generally the strongest quarter thanks to Diwali, the most important Hindu festival, the main India wedding season and Christmas. Significant events in Q1 are the Chinese New Year, the end of the Indian wedding season and, to a lesser extent, Valentine's Day. The start of the second quarter sees additional wedding seasons in parts of India, while April and May brings the Akshaya Trithya festival in India. The wedding season in China usually falls into the winter months in Q4 and it typically accounts for 20% of the local gold jewellery annual consumption.

Figure 12: Demand flow 5-year average (2005-2009)



Source: GFMS, WGC

Many of gold's key jewellery-buying markets have experienced rapid GDP growth over the past decade, India and China being the best examples. This has led to a sharp increase in households' disposable income levels and has pushed a growing number of households from low-income to middle and high-incomes. The retail sectors in these countries have been revolutionized as a result and gold has been one of the many luxury consumer goods to benefit. In effect, rising income levels have put a higher floor underneath the gold price than in the past.

In 2008 and 2009, jewellery demand slowed sharply as the world economy experienced its worst recession since the Great Depression. Consumers, facing rising unemployment and falling house and stock prices, concentrated spending on essential goods, at the expense of non-essentials

⁷ The conventional presentation of gold demand and supply statistics, as published by GFMS Ltd, and used in this section, measures investment on a net basis. Jewellery is net of gold purchased by consumers trading in equivalent quantities of jewellery or other gold items but gross of jewellery sold back independent of purchases. Industrial demand is measured gross. This affects the relative size of the different categories. If all categories were measured on a net basis jewellery would still remain the largest category in most years, although the difference would be smaller, but jewellery and investment would have been broadly similar in 2008 and investment would have been substantially greater in 2009.

such as jewellery. At the same time, the gold price reached record levels in key jewellery buying markets, largely due to weakness in their respective currencies. While a rising gold price is not always negative for jewellery demand, as jewellery is often bought with the dual purpose of adornment and investment, in this instance, when combined with a sharp slowdown in growth (and outright contraction in some countries) and unusually high price volatility, it contributed to a notable downturn in the jewellery market.

Consumers and the jewellery trade do not like price volatility. It makes them reluctant to buy gold, for fear that they might find they can purchase it cheaper at a later date. They are therefore inclined to at least wait for prices to stabilize. This is especially true of markets like India and the Middle East, where jewellery is priced according to the prevailing market rate with only a small mark up. This makes changes in the market price of gold visible very quickly at the retail level, thereby having a direct impact in the jewellery market.

However, consumers in China behaved differently due to the country's history of regulation, price and import controls in the local gold market. Retail price controls in the jewellery sector were only abolished

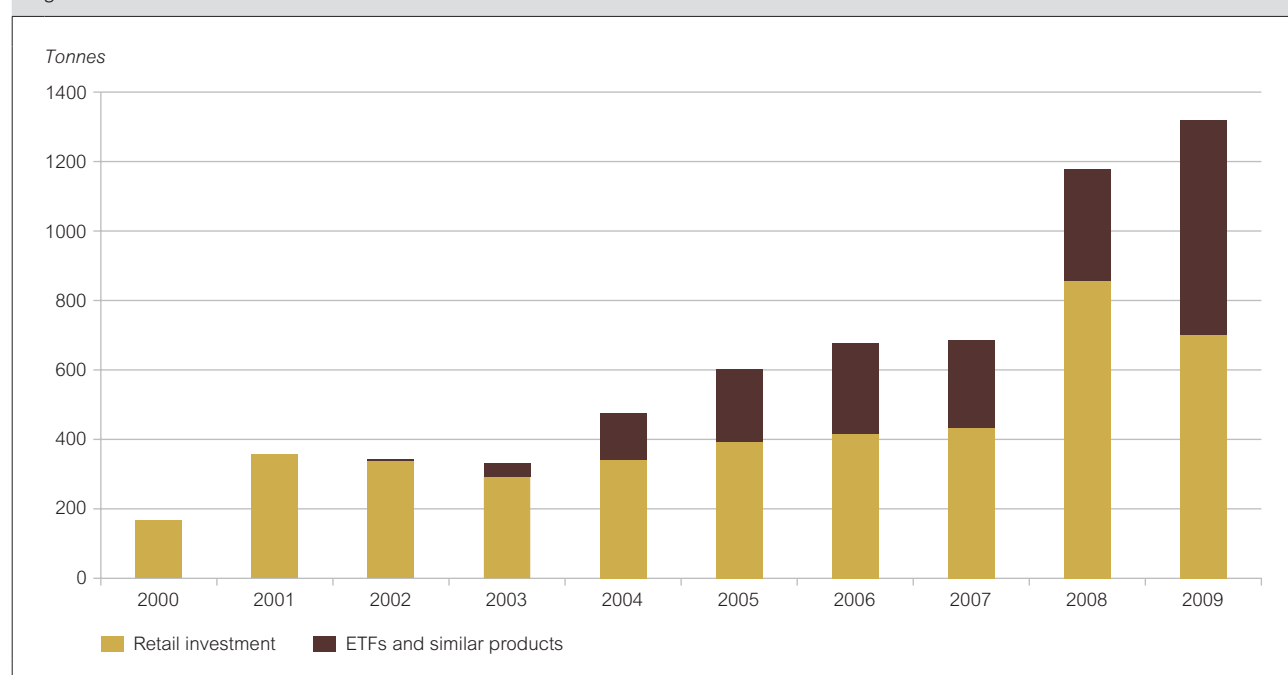
in 2001 and, while the Shanghai Gold Exchange was established in 2002, the investment market did not really open up until 2005. As a result, Chinese consumers do not own large stocks of gold and are currently still in the accumulation process. Consequently, Chinese consumers were less willing to sell back their holdings while the global recession was affecting other parts of the market. Typically, high-karat jewellery is sold at a low margin, by weight, but the price at the retail level does not react as fast to changes in the spot gold price, as it does in India. This implies that consumers are not as inclined to think tactically or on a day-to-day basis, but rather from a more strategic point of view.

The triple whammy of the global recession, record local currency gold prices and abnormally high price volatility saw worldwide jewellery demand contract by 9% in 2008 and 20% in 2009. There are, however, positive signs that jewellery demand has started to recover from the end of 2009 as the global economy continues to recover.

Investment demand

Investment accounted for 27% of total demand over the past five years, or 993 tonnes per annum on average, making it the second largest element of demand. In the World Gold Council's Gold

Figure 15: Identifiable investment demand in tonnes



Source: GFMS

Demand Trends, where readers can monitor demand and supply flows on a quarterly basis, investment is divided into identifiable and inferred investment. Identifiable investment is made up of retail investment in coins, bars, medals and imitation coins, and ETFs (exchange traded funds) and related products. Inferred investment is the balancing item between the supply and demand figures. While this category is partly an error term, its more important role is to capture the less visible part of investment demand.

Since the beginning of the decade, total investment demand has climbed steadily to reach a record 1,901 tonnes in 2009. From 2003 to 2007, the increase in investment was driven mainly by an increase in demand for ETFs and related products, as the launch of these new gold-backed products around the world released pent-up demand. In 2008 and 2009, when demand for safe-haven investments soared as the world's financial markets went into meltdown, both retail demand for coins and bars and ETF demand increased sharply.

Although some of the safe haven inflows may diminish as the global economy recovers and investors' risk appetite improves, there are good reasons to expect investment demand to remain strong. First, if investors have learnt anything from the 2007/08 financial crisis, it is an understanding of risk and diversification, which is likely to support the case for gold as a safe haven against future "event" risks. More broadly, they have come to recognize the importance of gold as a diversifying asset regardless of the state of the financial sector or wider economy. Gold has been one of the few assets to deliver on its "diversification" promise during the crisis, in contrast to so many other assets where the correlations with equities tended to "1". Second, gold has a long history as a store of value against inflation and dollar depreciation; many investors are of the view that both are on the cards. Finally, the demand and supply dynamics in the gold industry remain positive, supporting tactical allocations: the strength of investment demand should continue to offset much of the weakness in the jewellery and industrial sectors, where demand should improve as the world economy recovers. On the supply side, mine production remains relatively flat and central banks have turned from being large net sellers of gold to small net buyers beginning in Q2 2009.

Industrial demand

Industrial and medical uses accounted for around 12% of gold demand or an annual average of 431 tonnes from 2005 to 2009 -inclusive. Over half of the gold used in technical applications goes into electronic components, thanks to gold's high thermal and electrical conductivity and its outstanding resistance to corrosion. The share of electronics in total gold demand has grown over the past decade but it also fluctuates according to global GDP and the fortunes of the electronics industry. Most manufacturing of electronic components containing gold occurs in North America, Western Europe or East Asia.

Gold's medical use has a long history; its biocompatibility, resistance to bacterial colonization and to corrosion, as well as its malleability, mean that it can be used successfully inside the human body. Today's various biomedical applications include the use of gold wires in pacemakers, implants for the eye and inner ear, as well as gold seeds in the treatment of prostate cancer. Its best-known and most widespread medical use, however, is in dentistry. Dental use currently accounts for about 1.6% of gold demand on average for the past 5 years, a share which is gradually declining.

Gold is also used in a number of other industrial and decorative applications such as gold plating and coating and in gold thread (used particularly in saris in India). Various techniques are employed to enable gold to be used in decorative finishes. Other applications take advantage of gold's reflectivity of heat and other useful optical properties. Overall these uses of gold account for 2-3% of total demand.

New uses of gold

Research over the last decade has uncovered a number of possible new practical uses for gold, some of which appear to have substantial potential in increasing the industrial use of the metal. This includes the use of gold as a catalyst in fuel cells, chemical processing and controlling pollution. A number of companies are known to be developing industrial catalysts based on gold and this could lead to important new demand for the metal, not least in the automotive industry, which currently consumes large quantities of other precious metals such as platinum (but not gold). In the rapidly developing field of nanotechnology there are many possible applications, including the use of gold in solar cells, improved LCD displays using gold nanorods, for

example, in mobile phones and laptops, as well as the development of new technologies to store terabytes of data on a single disc or flash memory device.

Supply

The annual supply of gold comes from a combination of newly-mined gold, the mobilisation of central bank reserves and the recycling of above ground stocks. In the five years to 2009, the annual supply of gold averaged 3,692 tonnes, 59% of which came from newly mined production (net of producer de-hedging), 10% from net official sector sales and 31% from the recycling of fabricated products, principally jewellery.

Mine production and operating costs

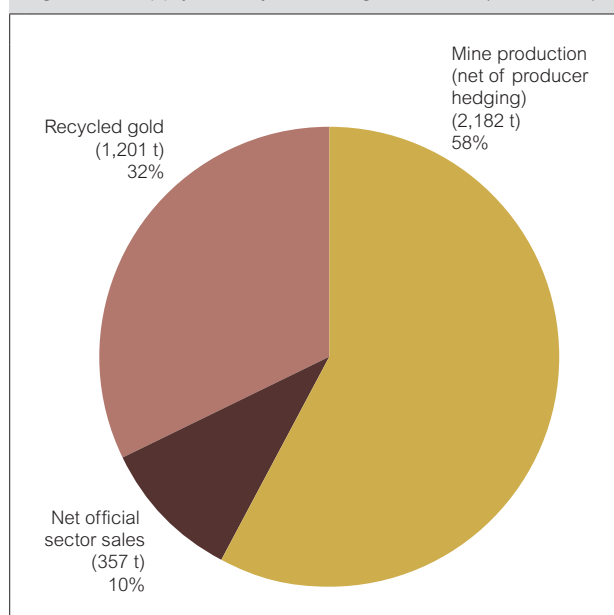
Gold is mined on every continent with the exception of Antarctica (where mining is forbidden), in operations ranging from the tiny to the enormous. The dominant producing country for much of the 20th century was South Africa, which in the early 1970s was producing 1,000 tonnes per annum, or over 70% of the world total at that time. This position has been eroded in the past two decades and today mine production is much more geographically diverse. This helps to underpin gold's lower price volatility compared with other commodities, such as oil, as it has reduced the metal's vulnerability to any economic, political or physical shock in a specific country or region.

China is currently the world's largest producer of gold, mining 330 tonnes of the yellow metal in 2009 (13% of world production), followed by Australia and South Africa, which produced 223 and 222 tonnes respectively.

The supply of gold from the mining sector started to decline after 2001, due partly to the considerable cutbacks in exploration spending that accompanied the low gold price in the late 1990s and the consequent dearth of major new discoveries that followed, and partly to declining ore grades and other factors. The effective supply of gold coming from the mining sector has been reduced further since 2001 by the widespread practice of de-hedging, with producers closing out hedge positions (forward fixed price arrangements and other derivative transactions) taken out in earlier years.

Although exploration spending started to pick up in earnest from 2003, thanks to the higher gold price, the industry has had only limited success in finding

Figure 16: Supply flow 5-year average in tonnes (2005-2009)



Source: GFMS, WGC

major new deposits of gold. Metals Economics Group cites no major discoveries of gold in their 2008 report, Strategies for Gold Reserve Replacement, and only one in 2007. On a three-year average basis, gold contained in major new discoveries declined to 426 tonnes in 2008 compared with 3,948 tonnes ten years ago. In addition, lead times in the industry are typically very long, which means that it can take years for a new discovery to translate into higher gold supply.

Despite these challenges, the major gold producers have been able to replace their reserves through a combination of acquisitions, finding additional resources at existing mines and upgrading resources to reserves thanks to the higher gold price.

Mining gold is an expensive business. Before mining can even begin, the gold must be found using costly exploration techniques, or gold deposits must be acquired from a third party. A mine must then be built, as well as possibly an entire infrastructure, depending on the location of the mine. Gold-bearing ore is then dug from the surface or extracted from the rock face underground. It is then brought to the surface, where necessary, and crushed or milled, then concentrated in order to separate out the coarser gold and heavy mineral particles from the remaining parts of the ore. Gold is removed from the concentrate by a number of processes

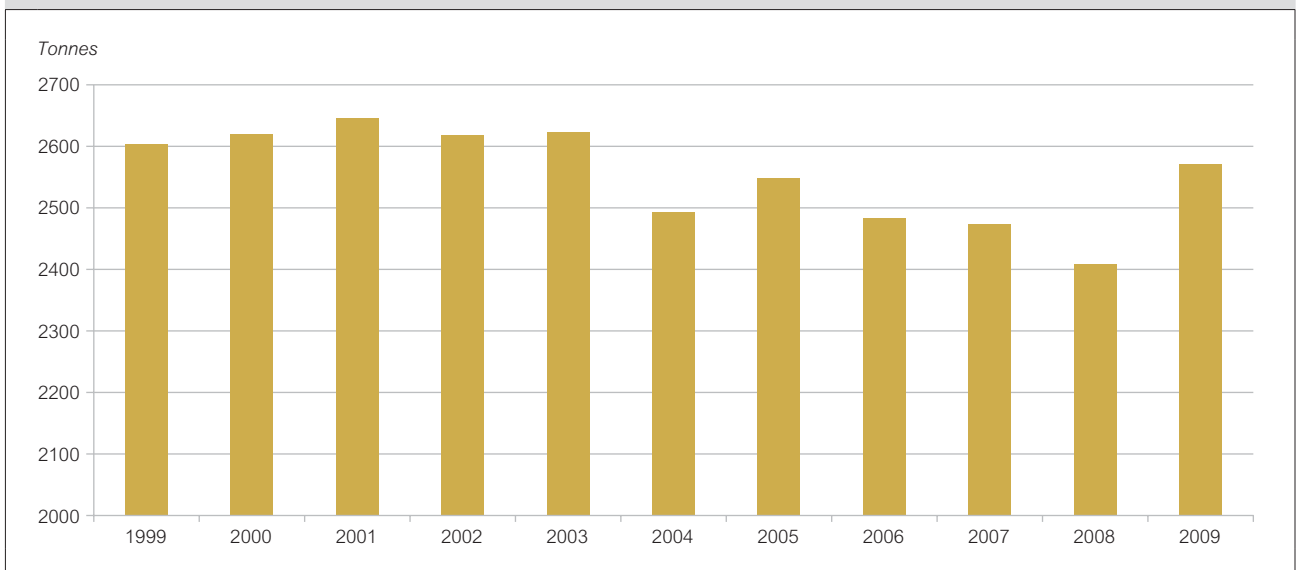
and then smelted into gold-rich doré (a mix of gold and silver) and cast into bars. Doré bars are then sent to an external refinery to be refined to bars of internationally acceptable (London Good Delivery) standard of at least 995 parts per thousand gold.

On top of all this, the mine facility needs to be maintained and overhead, administrative and marketing costs must be met. The cost of all this

varies greatly from mine to mine and depends on a whole host of factors, including: the country of origin, the cost of labor, the nature and distribution of the ore body, the ore grades, and such issues as the need to build infrastructure, and local political instability, which can lead to costly delays.

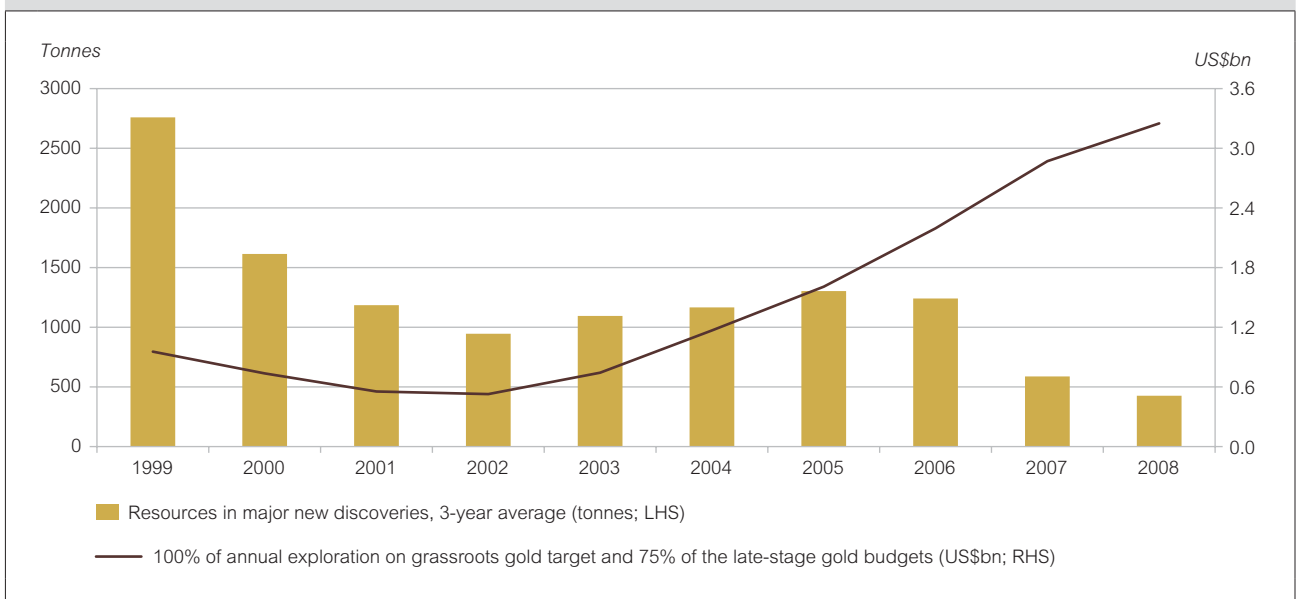
Costs are generally quoted “cash” or “total”. Cash costs include all the regular working costs of the

Figure 17: Annual world mine production in tonnes



Source: GFMS

Figure 18: Gold in major discoveries and gold exploration budgets by year



Source: Metals Economic Group

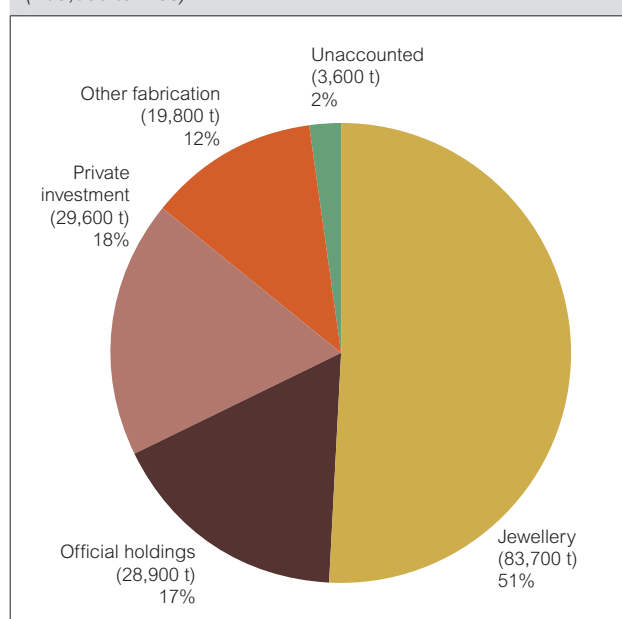
mine, while total costs include additional charges such as depreciation. Cash and total costs have escalated sharply in recent years, fuelled by inflationary pressures from rising labor costs, the higher price of energy and other raw materials used in the production process, such as rubber and steel, and the depreciation in the dollar which has increased local currency costs in mines located outside of the dollar bloc. Average cash costs rose to US\$478/oz in 2009 from US\$176/oz in 2001, while total costs rose to US\$617/oz from US\$228/oz over the same period.

But even total costs do not fully encompass the cost of finding and mining gold. They do not, for instance, include exploration spending that ultimately proves unsuccessful. GFMS estimates in its 2010 Gold Survey that the *“true, fully-loaded sustainable long term cost of gold mine production stood between US\$925/oz and US\$950/oz in 2009”*.

Supply from above ground stocks

Because gold is virtually indestructible, practically all of the gold that has ever been mined still exists. Of the 165,600 tonnes of above ground stocks currently estimated to be in existence, GFMS calculates that 51% is held in the form of jewellery, 18% is in the hands of the official sector, 17% is with investors, 12% is contained within industrial products and 2% is unaccounted for.

Figure 19: Above ground stocks as at end-2009
(165,600 tonnes)



Source: GFMS

is unaccounted for. Some of this gold periodically comes back onto the market, from the jewellery and official sectors as well as from investors selling.

The official sector

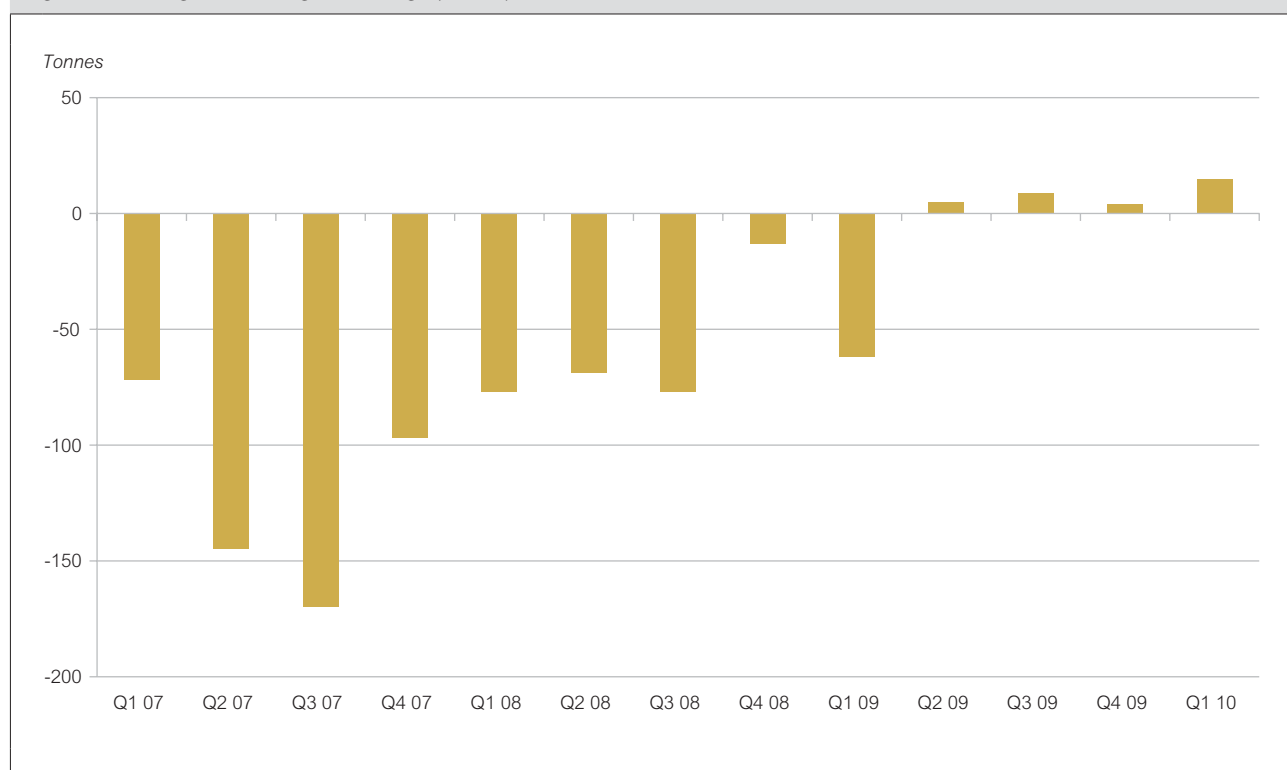
Central banks and certain supranational organizations are significant holders of gold. Central banks started building up their stocks of gold significantly after 1870, during the period of the classic gold standard, when the amount of money in circulation was linked to the country's gold stock, and paper money was convertible to gold at a fixed price. At their peak in the 1960s, official gold reserves were around 38,000 tonnes and probably accounted for about half of above ground stocks at that time.

After the breakdown of Bretton Woods system, and adjustments to official gold holdings in the 1970s resulting from this, most central banks kept their gold holdings stable during the 1980s. However, in the 1990s, especially the second half of that decade, the balance of advantage shifted in the eyes of some and led to net official selling. Several reasons accounted for this: the generally good macro-economic circumstances which appeared to make gold's safe-haven qualities less necessary, the downward trend in the gold price and increased pressure on reserve managers to make their assets generate a return. It is worth noting that each of these has reversed today: macro-economic conditions have deteriorated sharply, the gold price has been on a firm upward trend, and reserve managers are increasingly focusing on risk management and liquidity needs.

The most significant sales were by Western European banks. Since 1999 these have been conducted via a series of agreements. In the first Central Bank Gold Agreement (CBGA1) signed in September 1999, a group of European central banks agreed to limit disposals to 400 tonnes a year for five years, and also set a ceiling on the volume of gold lent to the market. They also reaffirmed their confidence in the future of gold as a reserve asset.

CBGA1 proved very successful and was renewed (CBGA2) for a further five-year term in September 2004, this time setting the annual ceiling at 500 tonnes. Signatories sold almost the full quota the first year of the agreement. However, they only sold 396 tonnes the second year, 476 tonnes the third,

Figure 20: Change in official gold holdings (tonnes)



Source: GFMS

and significantly undersold the ceiling in the final two years: 358 tonnes in the penultimate year of the agreement and 157 tonnes in the final year.

A third five-year CBGA agreement was announced on August 7, 2009, reducing the annual ceiling to 400 tonnes, in a clear acknowledgement that central banks' appetite for gold sales had diminished. At the same time, the signatories reiterated the importance of gold as an element of global monetary reserves and said that the planned 403.3 tonnes of IMF sales could also be accommodated within the agreement. At the time of writing (June 2010), European central banks had sold less than 2 tonnes since the latest agreement began on September 2009.

While European central bank sales have slowed, emerging market bank purchases have increased, so much so that in the second quarter of 2009 the official sector became a net buyer of gold for the first time in two decades. Most noteworthy in 2009 was the announcement by China's State Administration of Foreign Exchange (SAFE) that the country's official reserves had grown to 1,054 tonnes from 600 tonnes over a six-year period from 2003, making China the world's sixth largest official holder of gold

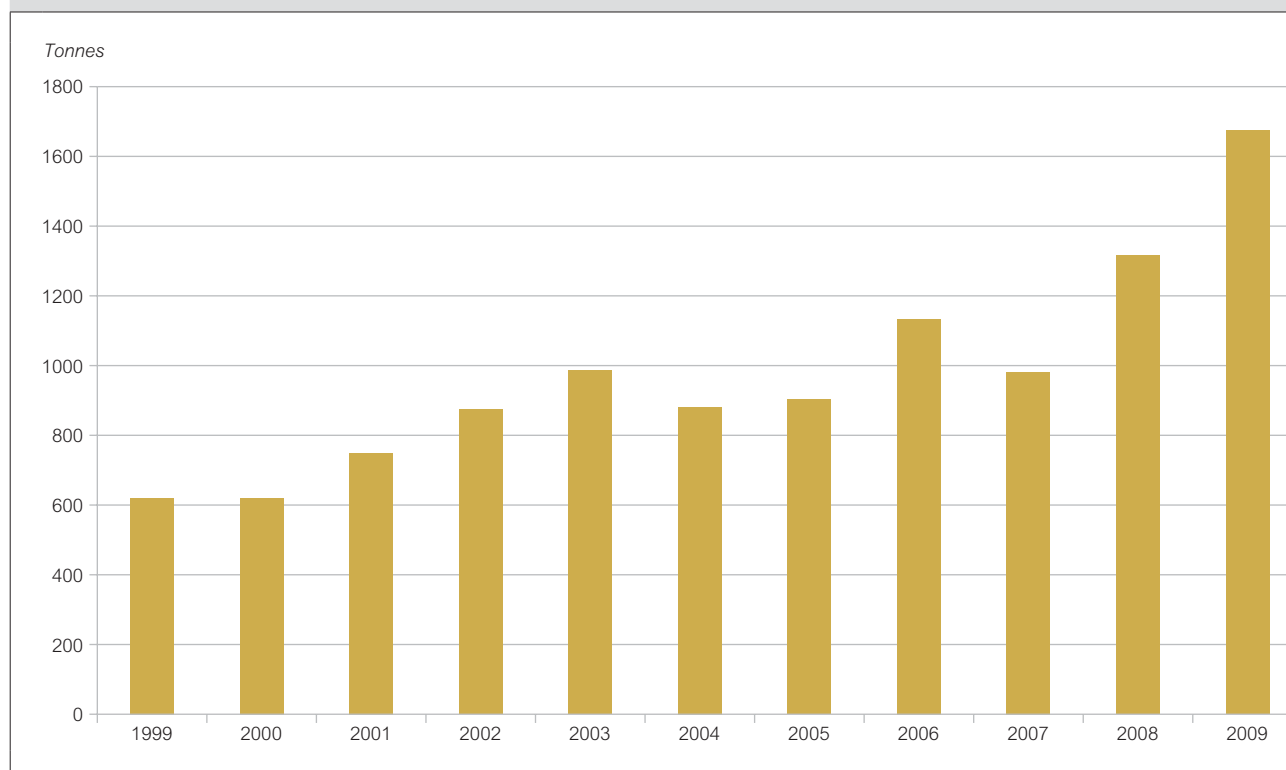
after the United States, Germany, the IMF, Italy and France. The IMF's International Financial Statistics also reported a notable increase in Russia's gold reserves in recent years, taking the country's gold reserves to 668.6 tonnes in April 2010, or 5.5% of total reserves.

The central banks of India, Sri Lanka and Mauritius have also increased their gold holdings, although because the combined 212 tonnes of gold was bought from the IMF in an off-market transaction, the purchases did not add to the total gold holdings of the official sector. The IMF began phased on-market sales via CBGA3 in mid-February 2010, and had sold a total 38.7 tonnes by the end of April 2010. This does not, however, preclude another off-market deal being reached at a later date.

Recycled gold

The remaining supply of gold comes from recycled fabricated products, mainly from the jewellery sector. Smaller amounts come from gold recovered from the electronics sector. The supply of recycled gold depends largely on economic circumstances and the behavior of the gold price. In the five years to 2009, recycled gold fluctuated between 902 tonnes

Figure 21: Recycled gold in tonnes



Source: GFMS

and 1674 tonnes per annum. It is common practice in the Middle East and Asia for gold items to be sold if the owner needs ready cash. Gold owners often also trade in one piece of jewellery for another and the original piece is then melted down (if it is simply resold, or melted down by the jeweler without being returned to a refinery, it is not included as “recycled gold” in the statistics).

The 2007-2009 financial crisis was an example where the supply of gold from recycled fabricated products reached a record quarterly high of 604 tonnes in Q1 2009, driven by a combination of distress selling and consumers taking advantage of high prices, as the world economy entered its worst recession since the Great Depression but it has subsided since then despite the higher dollar gold prices.

Trading and storing gold

Most central banks purchase gold directly from bullion banks, or buy domestic mine production or locally recycled gold. Recently some central banks have bought gold directly from the International Monetary Fund, which offered a limited amount (403 tonnes) of their gold holdings for sale in off-market transactions.

Most gold trading takes place in the global OTC market, the majority of which is settled via gold bars stored in London (“loco London”). London Good Delivery bars form the basis of this market. These bars can be bought from bullion banks and, inter alia, must be at least 995 parts gold out of 1000 and weigh between 350 and 430 fine ounces. The bars must also meet other stringent conditions set by the London Bullion Market Association, which represents dealers in the global OTC market.

The OTC market trades on a 24-hour continuous basis (spot gold settled on day T+2). Twice daily during London hours there is a fix which provides reference gold prices for that day’s trading. Many long-term contracts will be priced on the basis of either the morning (AM) or afternoon (PM) London fix, and market participants will usually refer to one or other of these prices when looking for a basis for valuation. For example, the Reserve Bank of India’s purchase of 200 tonnes of gold from the IMF was executed over a two-week period based on the London PM fix.

Central banks that buy their own local mine production will typically have the gold refined up to internationally

acceptable standards (“London Good Delivery”), if it is not already in that state, and will often ship the gold overseas to be stored. The Central Bank of the Philippines, for example, buys gold from small-scale miners and from other sources through regional buying stations. The gold is then refined into forms acceptable in the international bullion market, before being shipped to Hong Kong, where it is either sold in the local market or exchanged for gold stored at the Bank of England.

Vaulting gold overseas with another central bank or bullion bank is common practice. This can be done on an “allocated” or “unallocated” basis. In an allocated account, the gold is physically segregated, the client has full title to the metal in the account and the clients’ bar holdings are identified by bar number, size, fineness and weight. In an unallocated account the client has a general entitlement to a pool of gold. In this instance the gold can be leased out by the bullion bank for a small yield.

The Federal Reserve Bank of New York and the Bank of England are the two largest custodians of central bank gold. The NY Fed held around 7000 tonnes of gold in mid-2010, of which approximately 95% was held on behalf of foreign governments. Some estimates suggest the Bank of England’s vault at Threadneedle Street might contain upwards of 5,000 tonnes of gold, held on behalf of the UK government and a variety of other customers, including other central banks and commercial customers.

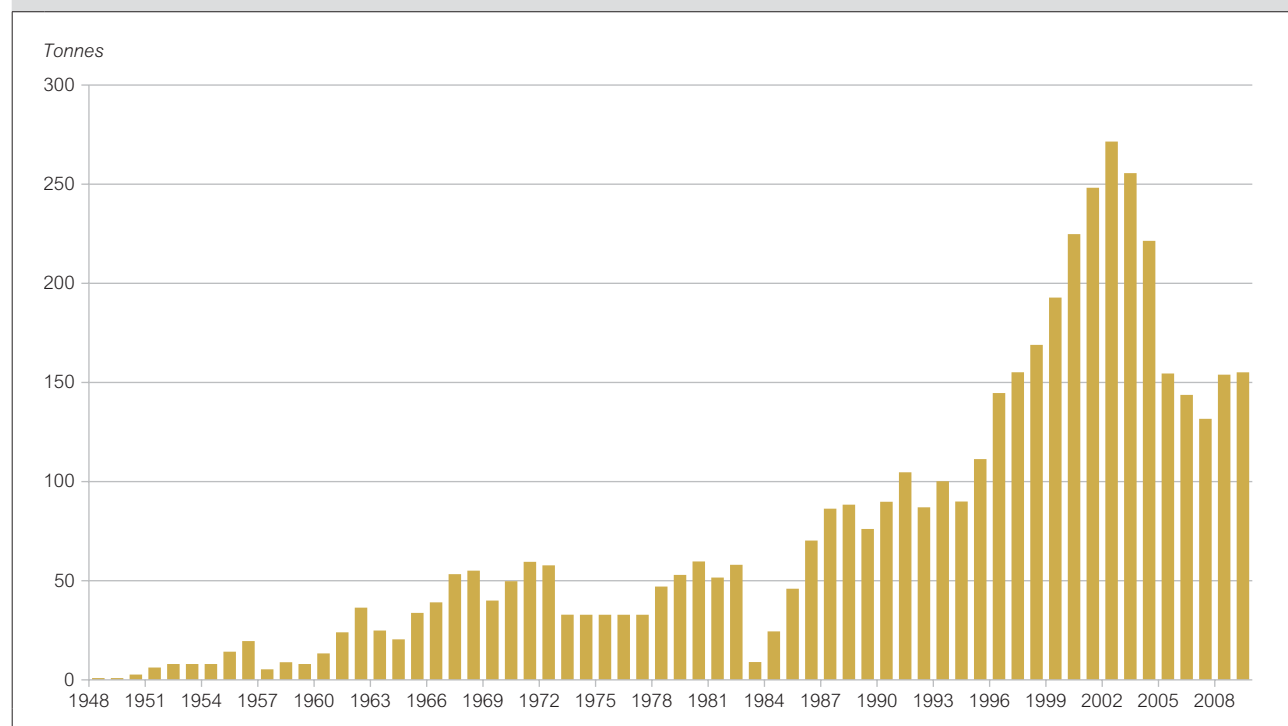
Appendix: Case Study on Bangko Sentral Ng Pilipinas (BSP, the Philippines central bank)

Bangko Sentral ng Pilipinas was established in 1993 as a result of The New Central Bank Act of that year, and its predecessor, Central Bank of Philippines, has long experience of managing gold reserves and has spoken publicly about its policies on several occasions. Four reasons have been cited for holding gold: the fact that the Philippines is a gold-producing nation; diversification; security; and as gold is an inflation hedge.⁸ These are all common reasons for holding gold although the first clearly only applies to nations with a gold mining sector. This rationale is set against the background of the Bank's overriding aims of reserves management: as a buffer for international trade flows; to control currency volatility; and for the prevention or mitigation of economic and currency crises.

Figure 22 shows the Philippines' gold reserves in tonnes from 1948. It is immediately obvious that holdings have fluctuated more than is the case for most countries and this is due to its buying and selling of gold from local mining (see below). The upward trend until the peak of 277 tonnes in 2003, the fall in following years and more recent stabilisation is also clear.

Figure 23 compares gold reserves with other reserve assets valued in dollars, notably foreign exchange, and shows the percentage of total reserves accounted for by gold. This too has fluctuated. As with other countries the gold proportion was considerably higher in earlier times with the reduction in it resulting primarily from the growth in foreign exchange reserves after 1990.

Figure 22: Philippines gold reserves, 1948-2009, tonnes



Source: IMF, *International Financial Statistics*, May 2009

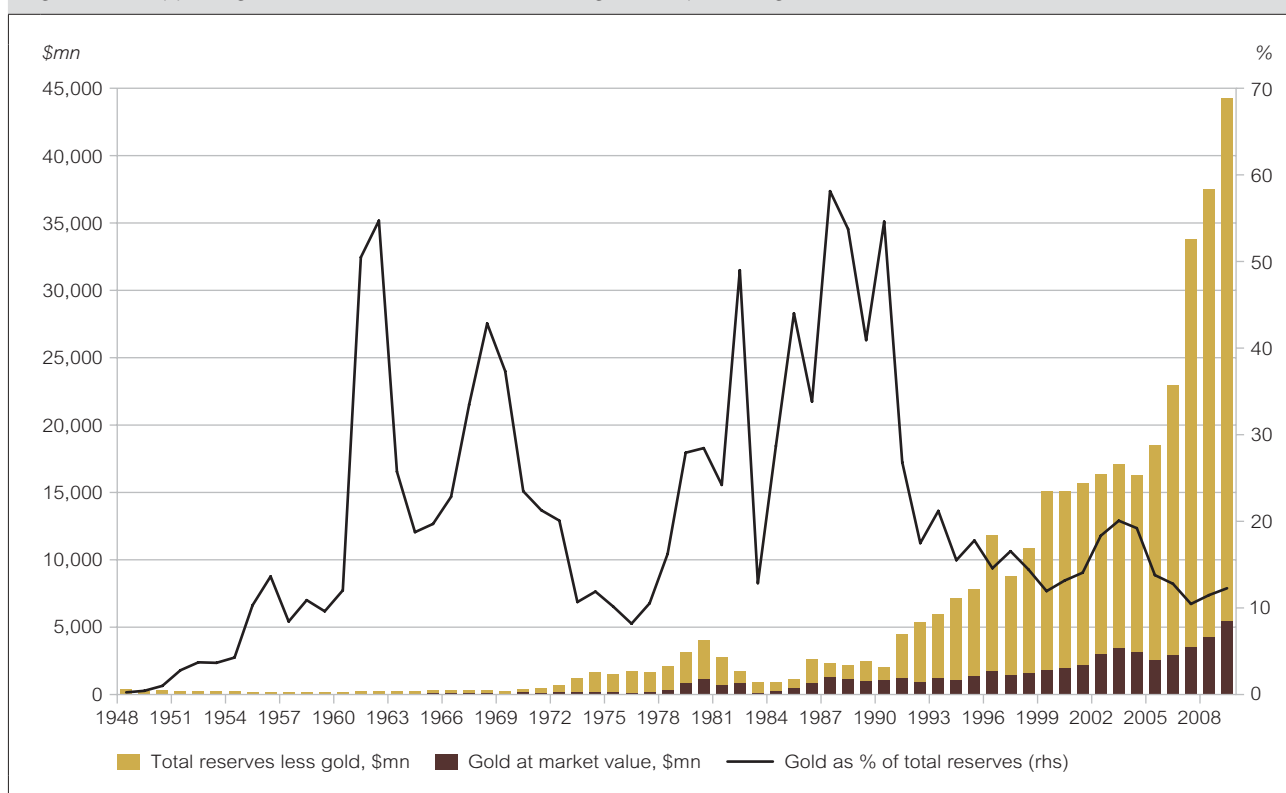
⁸ Source: Various public statements including a presentation given by Ma. Ramona GDT Santiago, Managing Director of the Treasury Department, to the Sovereign Wealth Management Conference, London, March 2009.

A buyer of domestic production

BSP is not alone among gold-producing countries in buying gold from national producers. It is more unusual in the relative scale of its buying operations which account for the majority of gold produced in the country. In 2009 the Bank bought 28 tonnes⁹ of gold compared to total mine output, according to GFMS, of 37.0 tonnes.¹⁰ The gold mining industry in the Philippines, partly as a result of geography and geology, is unusually fragmented and dominated by small companies or informal mining. Most companies are domestically owned. Until 2004 foreign ownership was restricted. Foreign ownership, and hence formal mining, has grown since restrictions were lifted but at the time of writing it still accounts for a minority of output. It is thought likely that a majority of gold mining in the country will continue to be produced from small scale domestically owned operations, at least for the immediate future, as a result of the country's geology and geography; in addition some gold-producing areas are in ancestral lands.

Under the People's Small-Scale Mining Act of 1991 all gold produced by small-scale operations has to be sold to the central bank who must buy it at prices competitive with those on the international market. The BSP is obliged to operate gold buying stations (currently it has five) in gold mining areas to implement this policy. As a result of the good price offered and a "no questions asked" policy, practically all gold produced by small-scale operations, with the exception of some small quantities principally from Mindanao, are sold to the central bank. This practice ensures that gold does not enter smuggling chains and also enables the central bank to acquire a "hard" asset in exchange for pesos. The BSP operates a gold refinery, with LBMA (London Bullion Market Association) accreditation, in Quezon City where the gold it buys is refined into good-delivery bars. Occasionally small quantities may be sold to the local jewellery manufacturing industry.

Figure 23: Philippines gold and other reserves, US\$m and gold as a percentage of the total, 1948 to 2009



Source: IMF, International Financial Statistics and WGC calculations

⁹ 903.51 thousand troy ounces – source: BSP Annual Report, 2009.

¹⁰ Source: GFMS, Gold Survey 2010.

The management of gold reserves

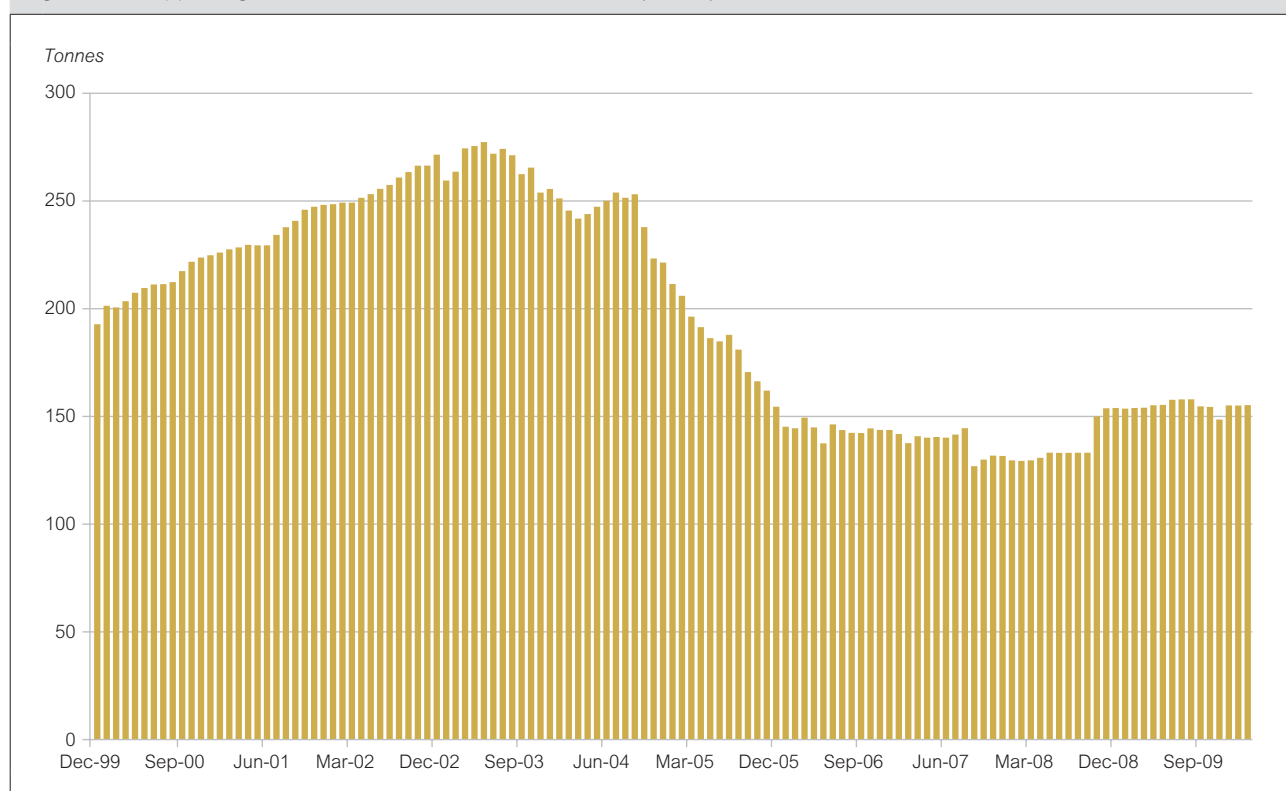
The BSP has also adopted the practice, which not all central banks follow, of adding some of the gold bought to its declared foreign reserves. The BSP ships London Good Delivery bars produced at its Quezon City refinery to Hong Kong, and either sells the gold into the local market there, or arranges a location swap to enable it to take ownership of gold at the bank of England. Thereafter the gold is managed in line with its reserve asset policy. It is managed as a separate element of reserves distinct from foreign exchange. Section 69 of The New Central Bank Act of 1993 enables the BSP to buy and sell gold in any form subject to such regulations as its governing Monetary Board¹¹ shall determine. Transactions must be at the international price and made in the national currency. In practice the Bank is permitted to carry out swaps and other derivative transactions and does these when market conditions make them attractive.

Periodically gold is also sold to offset the regular purchases from the domestic mining sector. This buying and selling is what causes the actual gold holdings of the central bank to fluctuate. Figures 24 and 25 show the results of this on gold holdings and on the proportion of gold month by month from the end of 1999.

As has already been noted, until the end of 2002 gold purchases tended to outweigh sales so that gold holdings increased. At that time gold accounted for 18% of total reserves. Net selling in 2003 and 2004 did not reduce the gold proportion of total reserves – indeed this increased slightly exceeding 20% at times – due to the combination of a rising gold price and broadly stagnant foreign exchange reserves.

In contrast, net selling was particularly high in 2005 (67 tonnes). The BSP's annual report for 2005 refers to changes in reserves management policy placing

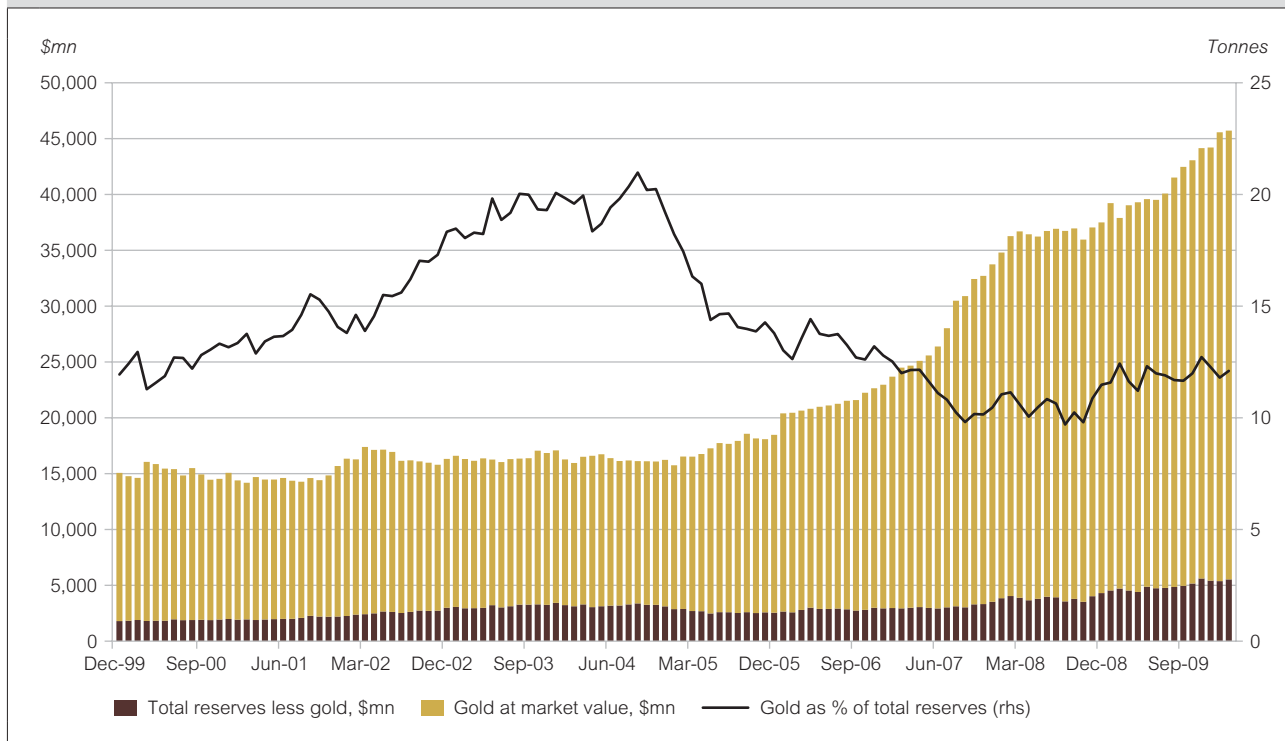
Figure 24: Philippines gold reserves, end Dec 1999 to Feb 2010 (tonnes)



Source: IMF, International Financial Statistics

¹¹ The Monetary Board is chaired by the Governor of the BSP and has six other members, one from the Cabinet and the remaining five from the private sector.

Figure 25: Philippines gold and other reserves, US\$m and gold as a percentage of the total, December 1999 to February 2010



Source: IMF, International Financial Statistics and WGC calculations

increased emphasis on enhancing yield and to the Bank having taken advantage of the higher gold price to do this, presumably selling gold profitably in order to invest the proceeds in higher-yielding assets. Following continued small net sales in 2006

and 2007 and a sharp rise in foreign exchange holdings, gold's share in total reserves fell to a little over 10% by the end of 2007. Net buying in 2008 enabled gold's share to recover slightly and it is currently (early 2010) around 12% of the total.

General references

Bangko Sentral Pilipinas website
[www.bsp.gov.ph/BSP Annual Reports](http://www.bsp.gov.ph/BSP%20Annual%20Reports)

World Gold Council Central Banks Case Study –
 The Philippines. Available from www.research.gold.org/research/.

Disclaimers

This report is published by the World Gold Council ("WGC"), 55 Old Broad Street, London EC2M 1RX, United Kingdom. Copyright © 2010. All rights reserved. This report is the property of WGC and is protected by U.S. and international laws of copyright, trademark and other intellectual property laws. This report is provided solely for general information and educational purposes. The information in this report is based upon information generally available to the public from sources believed to be reliable. WGC does not undertake to update or advise of changes to the information in this report. Expression of opinion are those of the author and are subject to change without notice. The information in this report is provided as an "as is" basis. WGC makes no express or implied representation or warranty of any kind concerning the information in this report, including, without limitation, (i) any representation or warranty of merchantability or fitness for a particular purpose or use, or (ii) any representation or warranty as to accuracy, completeness, reliability or timeliness. Without limiting any of the foregoing, in no event will WGC or its affiliates be liable for any decision made or action taken in reliance on the information in this report and, in any event, WGC and its affiliates shall not be liable for any consequential, special, punitive, incidental, indirect or similar damages arising from, related or connected with this report, even if notified of the possibility of such damages.

No part of this report may be copied, reproduced, republished, sold, distributed, transmitted, circulated, modified, displayed or otherwise used for any purpose whatsoever, including, without limitation, as a basis for preparing derivative works, without the prior written authorisation of WGC. To request such authorisation, contact research@gold.org. In no event may WGC trademarks, artwork or other proprietary elements in this report be reproduced separately from the textual content associated with them; use of these may be requested from info@gold.org. This report is not, and should not be construed as, an offer to buy or sell, or as a solicitation of an offer to buy or sell, gold, any gold related products or any other products, securities or investments. This report does not, and should not be construed as acting to, sponsor, advocate, endorse or promote gold, any gold related products or any other products, securities or investments.

This report does not purport to make any recommendations or provide any investment or other advice with respect to the purchase, sale or other disposition of gold, any gold related products or any other products, securities or investments, including, without limitation, any advice to the effect that any gold related transaction is appropriate for any investment objective or financial situation of a prospective investor. A decision to invest in gold, any gold related products or any other products, securities or investments should not be made in reliance on any of the statements in this report. Before making any investment decision, prospective investors should seek advice from their financial advisers, take into account their individual financial needs and circumstances and carefully consider the risks associated with such investment decision.





World Gold Council
55 Old Broad Street
London
EC2M 1RX
United Kingdom

Tel +44 (0)20 7826 4700

Fax +44 (0)20 7826 4799

Email info@gold.org

www.gold.org