The yellow book

November 2009

BNP PARIBAS FORTIS

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Introduction

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VM Group
London, November 2009

That the Yellow Book is made available to the market on a complimentary basis is due to Fortis Bank SA/NV. VM Group would like to thank our colleagues at BNP Paribas Fortis for their continued support and recognition of the value of this research to the industry.

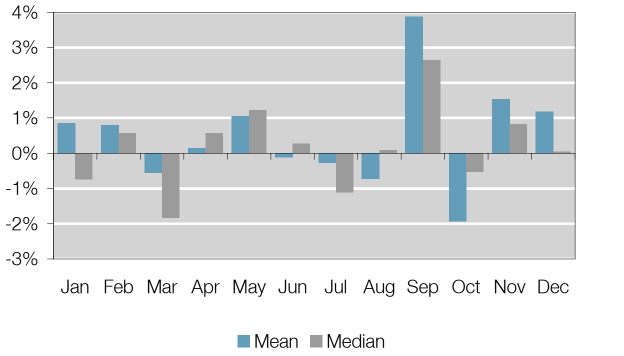
We remind readers that our data is available electronically in Microsoft Excel format – drop us an email with specific data requests at: info@virtualmetals.co.uk.

Housekeeping

- All volumes are in metric tonnes or troy ounces unless stated.
- All references to dollars are US dollars unless stated.
- For space saving in the data tables (production, scrap, and jewellery), countries registering small amounts of gold are grouped into "other". Contact us if you need a detailed breakdown.
- Numbers in the tables have been independently rounded and accordingly may not add exactly to indicated totals and subtotals.

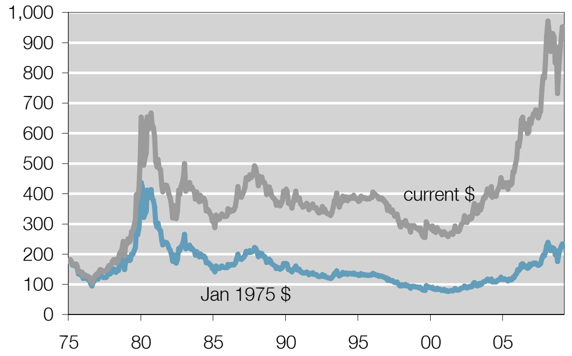
Chartbook

Gold price, average % gain per month since 1990



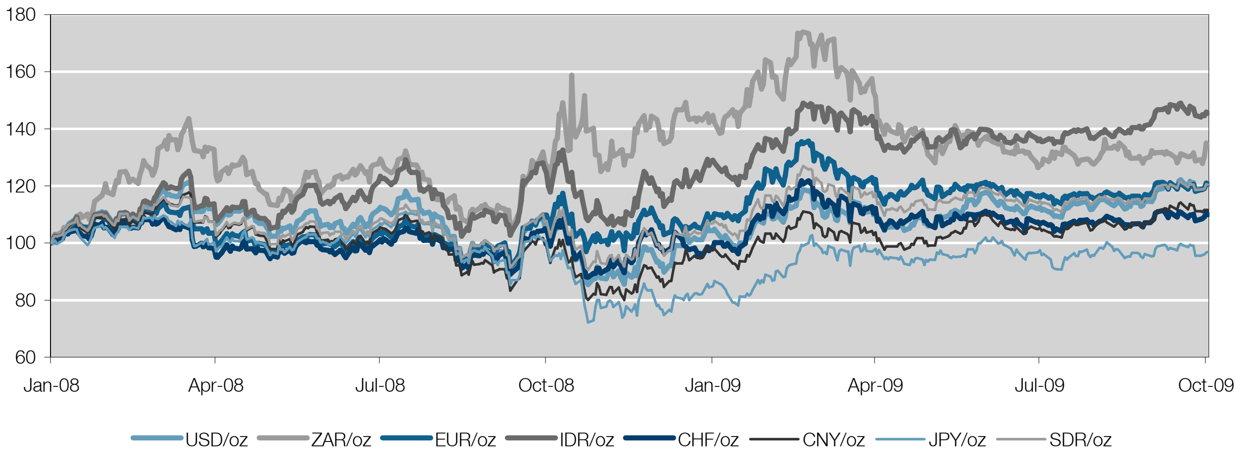
Source: VM Group *Note: Excludes September 2009, when gold rose 4.6%*

Monthly price of gold in current $ and 1975$



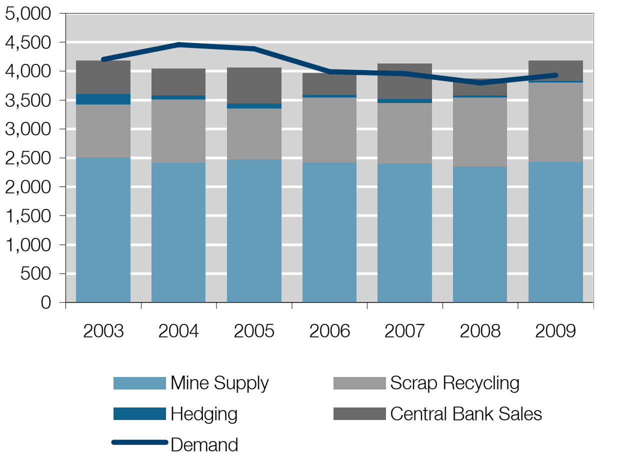
Source: VM Group

Gold in various currencies, start 2008=100



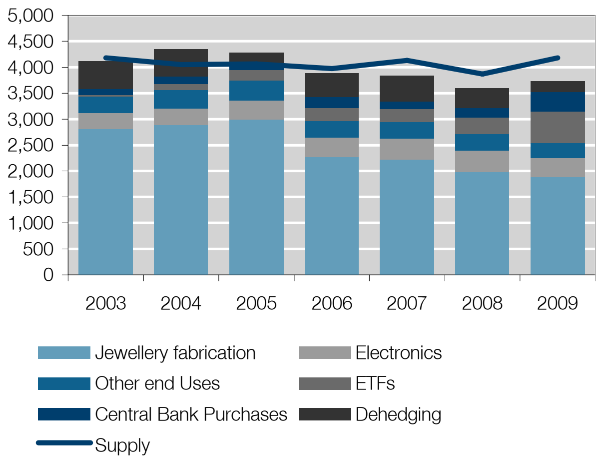
Source: VM Group

Gold supply by category v demand, tonnes



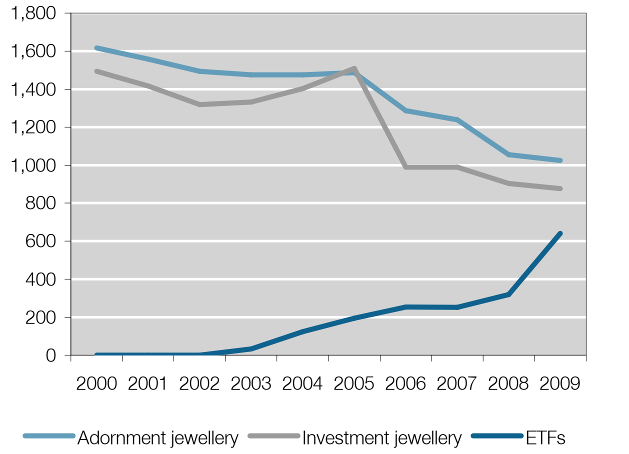
Source: VM Group

Gold demand by category v supply tonnes



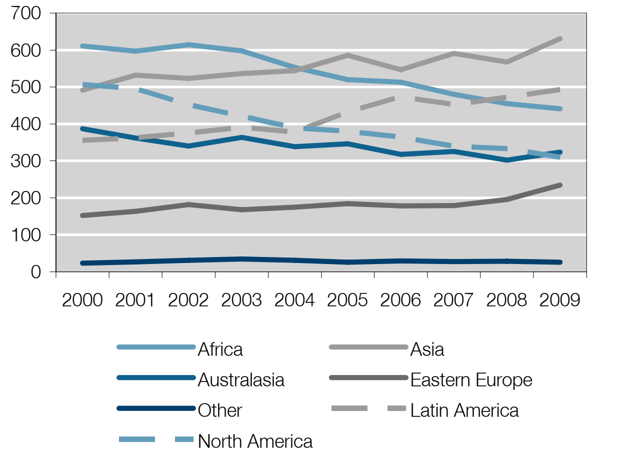
Source: VM Group

Jewellery demand (adornment and investment) v investment demand, tonnes



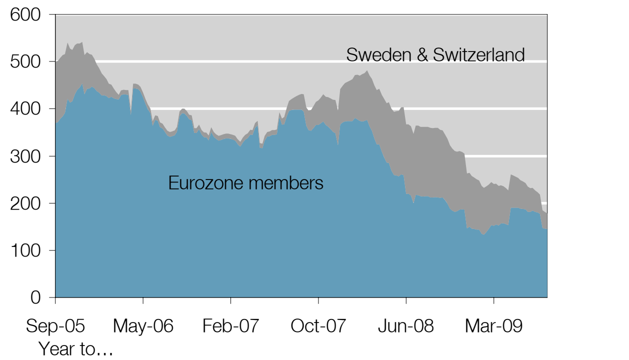
Source: VM Group

Mine production by region, tonnes



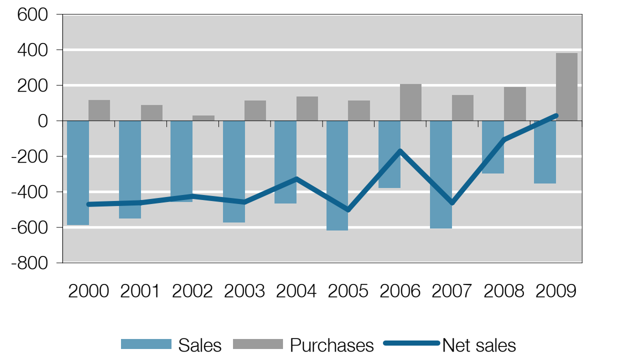
Source: VM Group

Rolling 12m sales under the CBGA, tonnes



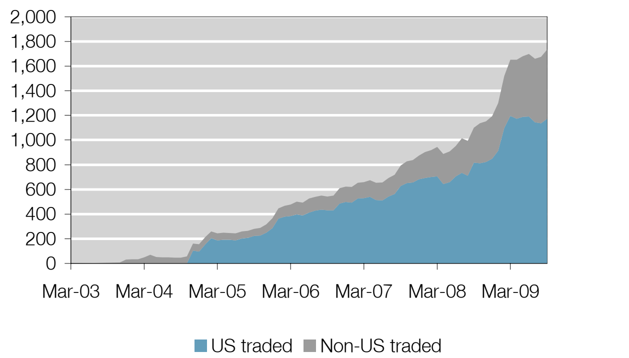
Source: VM Group

Global central bank sales and purchases, tonnes



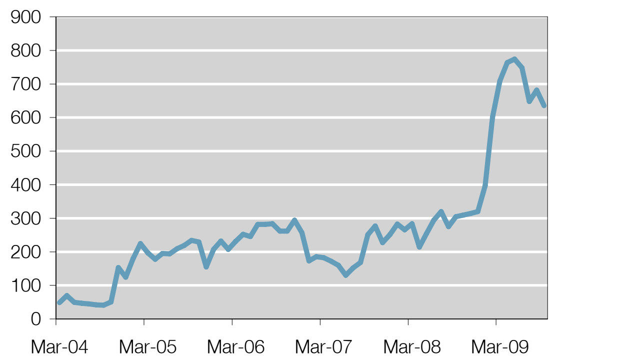
Source: VM Group

ETF holdings, tonnes



Source: VM Group

ETF, year-on-year change in holdings, tonnes



Source: VM Group

India buys half IMF's gold for sale – where does that leave CBGA III?

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The gold market was stunned by the announcement on 2nd November that the International Monetary Fund (IMF) had sold 200t, almost half the 403.3t it plans to sell in the next few years, to the Reserve Bank of India (RBI). This is the largest and most consequential central bank purchase seen since the mid-1980s or even before. It also raises questions about the relevance of the third Central Bank Gold Agreement (CBGA), which was announced on 6th August, rather later than has been the case for previous renewals. The delay is likely to have been due to the need to tidy up procedural matters surrounding the IMF sales, which were to be incorporated into the Agreement's limits if they were sold on the open market. The signatories of the renewed CBGA themselves have announced only the tiniest of gold sales plans.

The RBI's purchase is probably the most remarkable event in the gold market since the Central Bank Gold Agreement (CBGA) was announced in late September 1999. As of early November, according to the IMF[1] the sale was in the process of being settled, but it took place daily from 19th-30th October, at the price prevailing on each day. The total raised was $6.7bn, which we calculate means the RBI paid an average price of about $1,042/oz. India before the trade had 357.7t of gold, worth $10.3bn, a volume unchanged since the late 1990s, and probably before that, too, as movements at that time were probably swap-related. It also had $268.3bn of foreign exchange, $5.3bn of SDRs, and a $1.6bn reserve position with the IMF.

It raises four important questions.

#1: Why has India bought gold? The RBI's statement is opaquely unhelpful, simply saying the purchase was 'part of the Reserve Bank's foreign exchange reserves management operations'. India's finance minister added only that they purchased gold from time to time (which is stretching a point) and that the 'IMF is selling gold so we wanted to buy it'.

This really does not take us very far. India is one of the poorest countries in the world. It has spent nearly $7bn on buying gold, and, moreover, at an all-time record price (in nominal US dollars) from the IMF, which is selling the gold in order to help fund its operations and lend to low-income countries. Central banks don't have a very admirable record when it comes to handling their gold reserves – the UK and Swiss central banks sold gold at the very bottom of the market in 1999, when the price was less than $300/oz; now the RBI is buying at what might be the top, or close to the top, of the market. And the RBI might have bought gold at any time in the last ten years but hasn't – why do so now?

It's true that as a percentage of its foreign reserves the RBI's gold holdings were low by the standard of other countries, at 3.6%, and this purchase from the IMF will raise it to 6.0%. That's still far below those of many European central banks – but much higher than countries such as China and Korea. Although relatively poor, despite its rapid growth in recent years, India does have a large amount of international reserves, $285bn. Scratching around for other reasons it might be argued that the decline in the dollar has made many central banks question the wisdom of holding such a large percentage in the US currency, and gold is perhaps a good alternative.

But for solid justification we need something more than the IMF is selling some and we fancy having some. It might be that the Indian central bank and government are keen to make a good impression at the IMF, and see this purchase as a useful way to stake a claim as a significant player in international

[1] http://www.imf.org/external/np/sec/pr/2009/pr09381.htm

financial institutions. Another possibility is that India is using its allocation of SDRs received in the IMF's historic general allocation of $250bn of SDRs made in August/September (India received $5.2bn, or 3.3bn SDR) to fund the purchase.

#2: Might other central banks follow its lead? They could buy on the open market or from the IMF – which still has 203.3 t to sell and said in its press release that it continues to look for other central bank buyers. The most obvious buyer remains China, but few saw India coming, and so any country with large foreign exchange reserves could be seen as a potential buyer. India's public decision might encourage any central banks that were previously nervous about being seen to buy gold to take the opportunity to pick some up. Obviously, the RBI purchase has raised the chance of a similar move by another central bank. Although we remain sceptical that central banks have changed their minds about the suitability of gold as a significant part of their overall reserves, there's no denying some are sounding keener than they were. Just two days after India's announcement the Sri Lankan central bank Governor said his bank was accumulating gold and had been for some months (in fact he had said this in September as well, but at the time the market was focusing elsewhere). The amounts here cannot be large but it is a straw in the wind.?

#3: What does this mean for the gold price? Interestingly the price didn't move when the gold purchase was first made, but then almost 24 hours later it shot up to $1,080/oz and higher. That's not surprising – after all, in simple supply and demand terms over the next two years (the time-frame the IMF was expected to sell in) gold supply has suddenly fallen by 200t, a bullish sign if there ever was one. Beyond this, although it's possible we might look back and consider that the RBI bought at the top of the market, it is nevertheless a well-respected central bank buying gold, and will surely encourage others that might be contemplating buying gold to do so – and, even more, discourage those who were thinking of selling. The only negative from the official sector at the moment is simply that things can't get much better – although we don't expect many large sales, it seems likely that at least one central bank will announce sales in the next few months. The RBI move however may possibly signal a watershed in the way central banks think of gold – at least until we have a much stronger explanation as to why it has made this purchase.

#4: Where does this leave the next five years of the CBGA? The renewal terms, for five years from 27th September 2009, are not particularly exceptional. There are only two main changes – the annual sales limit has been reduced to 400t/year from 500t/year, and the ceiling on central bank gold lending has been dropped. There is only one new signatory, Slovakia, the only Eurozone member not to have participated in the previous CBGA. The IMF is not a signatory as such; but point three of the new Agreement says that the "signatories recognise the intention of the IMF to sell 403t of gold and noted that such sales can be accommodated within the above ceilings."

That's a huge understatement. At present the IMF with its remaining 203.3t of gold is the only confirmed seller apart from Germany, which (once again) says it will only be selling a token amount (6.5t) for the manufacture of gold coins. And even the IMF might find another buyer. But even if they don't, as matters stand today, the new CBGA promises to put into the market only 209.5t of gold – sufficient to cover just half a year and ten days of the annual limit.

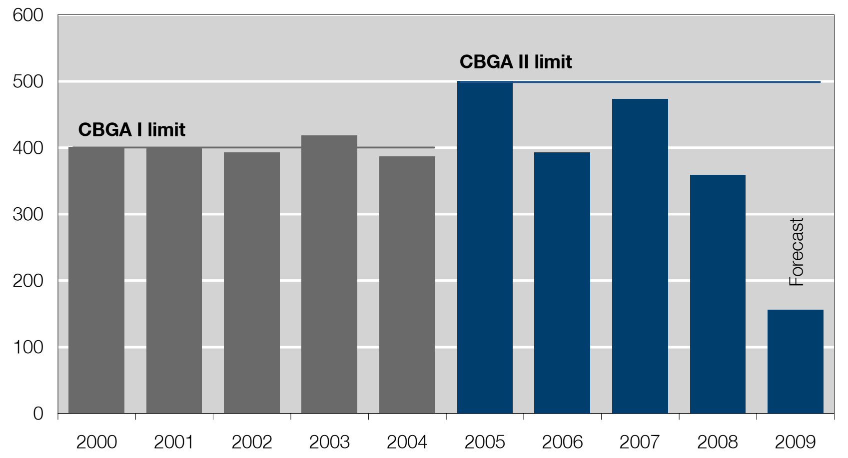
The final year of the second CBGA has shown us that the upper limit can in any case be rather notional. In that final year we estimate total sales were just 157t, far short of the 500t maximum and by far the smallest annual total sold since the Central Bank Gold Agreement was first launched in late September 1999. What's more, and this is especially relevant as we look ahead to what this third CBGA might have in store, is that sales were exceptionally slow in the last six months – just 28.4t, or fewer than five tonnes a month. Over the five years of the last CBGA we estimate that a total of 1,882t was sold, 118t less than under the previous Agreement, despite a *higher* annual limit. There's only one solid deduction to be made from this – the central bank members of this agreement have lost their appetite to cut their gold reserves. The question is – why?

Estimated sales in CBGA II final year, tonnes

2008/2009 final CBGA sales	Tonnes
France	(92.1)
ECB	(35.5)
Sweden	15.0)
Netherlands	(9.0)
Germany	(4.9)
Greece	(0.6)
CBGA total	**(157.1)**

Source: VM Group
Note: VM Group estimates based on ECB, IMF data

Sales in each year of CBGA, tonnes



Source: VM Group

The recession has changed the game

The slowdown in official sector gold sales has coincided with the onset of the recession. Pity the poor central banker who is responsible for overseeing his or her country's official gold reserves. Political pressure to sell gold – as was the case in the UK's decision to sell gold, in 1999 – can result in all kinds of unintended consequences, not the least of which is helping to create a fretful bear market into which the gold will be flung, without too much (apparent) concern as to the effect on prices (or the national coffers). Yet when it might be considered more opportune to sell gold – such as in November 2009, when the price (in dollar terms, at least), has been almost daily setting new records – politicians begin to remember why their predecessors acquired gold reserves in the first place, to fend off currency collapses – and official sector gold sales go into reverse gear.

Except, that is, for gold held by the IMF. The plan by the IMF to sell about an eighth of its gold reserves is being justified by the Fund as a matter of necessity, not ideology, nor even the faintly spurious phrase, "portfolio management". The idea was to create an endowment fund to ensure the IMF's continued ability to fund its running costs. Its traditional source of income, interest on its loans, dried up in the boom years. Now of course the boom years have gone and the IMF is seeing a resurgence of lending so the case for an endowment is less strong. Nevertheless it still argues for sales, noting that having an endowment will mean a more stable income form over the years.

If the IMF cannot find another official sector buyer (and after India's purchase it cannot be ruled out that it does find another buyer) we expect on-market sales to begin shortly and, for the first year of the CBGA, to be in fact the only major seller. The Fund has said it will inform the market before sales begin, and that it will regularly provide updates on their progress. Sales will be conducted indirectly, via an agent, and an IMF official said that "two or three years or something" (before it knew it could sell half to India) was a likely time frame, with gold sold on a daily or weekly basis, which perhaps rules out the kind of auctions staged by the Bank of England during 1999-2002, and the IMF itself in the 1970s, when it last sold gold.

So in our view the most likely outcome is that the IMF will begin on-market gold sales in Q1 2010 and will sell regularly each week at an annual rate of 200t/year, meaning its sales will take about a year.

The rest of the pack

Then what? In order of the size of their gold holding, **Germany**, as noted above, plans to sell 6.5t of gold in 2009-2010 for coin manufacture, a similar amount to previous years. This is bullish for the gold price, as although no one expected the Bundesbank to announce a large-scale sales programme, it is the largest holder of gold and thus always remains a potential source of sales. The following extract from the Bundesbank statement however raises the possibility of future sales:

"The Bundesbank will not make further use of its option to sell to which it is entitled in the first year of the new Gold Agreement. The remaining selling rights will be offered to the other central banks participating in the Gold Agreement in exchange for future selling rights, or to the IMF (International Monetary Fund)."

Obviously the Bundesbank is keeping its options open – to the point of arranging another 'option' to sell in the new CBGA. Why the Bundesbank had an option in the second CBGA is unknown; broadly speaking it appears to have retained it because the German government was pro-sales but the deeply conservative Bundesbank resisted them, unless the proceeds were used for debt reduction rather than expenditure.

The next largest holder of gold bullion within the CBGA is **Italy,** with 2,452t. Italy has not sold any gold for decades, and although around the time of the CBGA II renewal there were comments from Italian politicians about their desire to sell some gold, it came to nothing. The sheer size of the reserves, and their obvious value for a country which is cash-strapped, must mean sales are potentially possible. But an attempt by the government to tax profits on the Bank of Italy's gold holdings was rebuffed by the central bank and criticised by the ECB, and so politically we think a sale is a non-starter for now.

CBGA signatories, holdings and policies

	Current holdings	Likelihood of major sales
Germany	3,408	Debate about sales and keeping options only but so far again only small sale for coins
Italy	2,452	Haven't sold for decades and given no hints they plan to do so soon
France	2,435	Major seller in CBGA II at 572t but sales slowed in final year. Must be strongest candidates for more sales
Switzerland	1,040	Have sold an enormous 1,550 tonnes in CBGA I and CBGA II. Said they had no plans to sell and might even mean it
Netherlands	612	Planned to sell 300t in CBGA I and managed 235t, sold remaining 65t plus another 100t in CBGA II; .Might sell more
ECB	502	Sold 272t on 7 occasions in CBGA II; thought explanation gold's share of reserves was too high. Likely to sell again but smaller amount in CBGA III
Portugal	383	Last sold in September 2006
Spain	282	Last sold in July 2007
Austria	280	Said planned to sell fewer than 90t in CBGA II; has sold just 37.5t but last sold in September 2007
Belgium	228	Sold 30t in July/August 2005 but nothing since
Sweden	131	Sold 60t as promised in CBGA II and likely candidates to sell more
Finland	49	Hasn't sold in CBGA.
Slovak Republic	32	Only joined CBGA III. Hasn't sold gold since 2001.
Cyprus	14	Hasn't sold in CBGA
Ireland	5	Hasn't sold in CBGA
Slovenia	3	Hasn't sold in CBGA
Luxembourg	2	Hasn't sold in CBGA
Malta	0	Hasn't sold in CBGA - in fact increased reserves for coin programme.
Total	**11,858**	

Source: VM Group

France has 2,435t of gold, and sold an estimated 572t in CBGA II. Until then, France had been seen as one of the most pro-gold countries, as indeed has historically been the case. They seem the most likely candidate for further sales in our view, as there seems little reason to believe the sales programme in CBGA II has reduced the reserves as a share of overall international reserves to the desired amount (given the strength in the gold price). However, as we believe France had a 600t allocation in the CBGA II and didn't take it up, slowing its sales in the final year to just 82.5t (the lowest of any of the five years), it is by no means certain that France will be a seller this time round – particularly given the utterly changed global macroeconomic financial circumstances.

Switzerland has sold an astonishing 1,550t over the past nine and a half years, about 4% of global supply during that period. This was done in two stages: 1,300t between 2000-2005, and then another 250t during 2007-2008. In August 2009 the Swiss National Bank said that it had "no plans for any further gold sales in the foreseeable future" and there is no reason to doubt that – although the phrase "foreseeable future" is sufficiently elastic in time related terms to permit almost anything to happen. We expect Switzerland will continue to sell gold at a much-reduced level and over a much wider time span, until it is left with an amount that more closely matches its GDP/population size relative to other countries – which could means another 500t or so. But such a sale might not take place in the current CBGA.

The Netherlands is another of the long-standing European sellers of central bank gold. As recently as 1991 it had 1,704t, including gold lent to the European Monetary Institute. Sales in the 1990s and during both the previous CBGAs have reduced that to 612t. Again, we think the country might have more sales planned, but probably only 100t or so.

The ECB is a curious case. It has been one of the major sellers in the last few years; in total during the CBGA II it sold off 272t of gold bullion. Because the ECB originally had a target of 15% for its gold reserves, and it has made new members transfer that proportion when joining the Eurozone, it might be thought that they have been selling to reduce the percentage of gold in its total forex holdings, as the rise in the gold price has increased that percentage. Crucially, however, the reverse is not true – when the gold price has gone down the ECB has not bought gold to raise the percentage of gold back to previous levels.

After the ECB there are five central banks with smaller but still substantial reserves that could be important – **Spain** (282t), **Portugal** (383t), **Austria** (280t) and **Belgium** (228t). All sold gold during CBGA II and yet none seem likely to be major sellers in CBGA III, partly because they haven't sold for a while – Spain last sold in July 2007, Portugal in September 2006, Austria in September 2007 and Belgium in August 2005. Austria's is the only central bank among this group to adopt the practice of announcing its sales in advance, but has a record too of inaccuracy when it comes to its own forecasts – for example it said it would sell less than 90t during CBGA II and in the end sold just 37t.

Next is **Sweden** (131t), which announced it would sell 60t in CBGA II and did so. It might sell another 30t or so during CBGA III, and the Swedish central bank is one from which we expect an announcement. Bringing up the rear are the smaller gold holders, from **Finland** (49t) to **Malta** (0.5t). Collectively these seven signatories hold just over 100t; even if they sold all of their gold reserves it would not make a huge difference. None of them have sold gold for years and it is in any case unlikely that they will do so now or during the period of the current CBGA.

The implications

Ultimately this evolving pattern of orchestrated official sector gold sales can only be interpreted as bullish for the gold price – so long as the much lower volume of sales than in recent years is sustained. There is a huge irony to all this of course, which is that central bank sellers usually manage to time their sales very poorly, at least in terms of maximising revenues. That the sales levels we anticipate under CBGA III are likely to be their lowest since the Agreement was first established will probably coincide with one of the strongest bull markets for gold in many years speaks volumes about the rationale for such sales – it's always about government fiscal policy, not portfolio management. And we are currently entering into a new, much more conservative, era of fiscal policy, in which governments (and therefore their central banks) are determined not only to be cautious, but to *be seen* to be cautious. The 'withholding' of gold by the official sector, apart from the IMF, will be one factor that helps firmly underpin prices in the coming months and, quite possibly, in the years ahead.

India's private gold ambivalence

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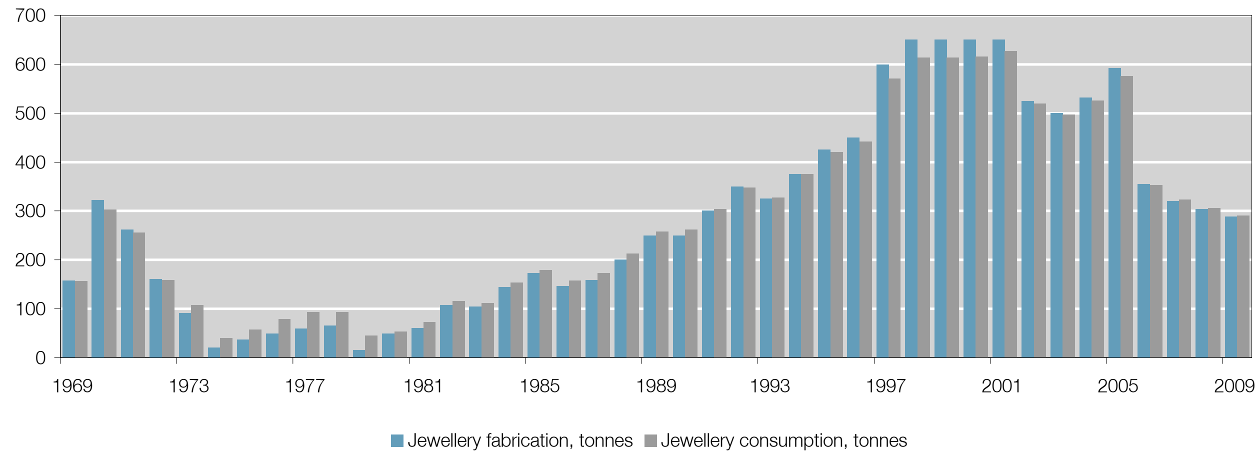
For many the Reserve Bank of India's purchase of 200t of IMF gold, announced in early November, symbolised the country's love affair with the yellow metal. Traditionally this has been seen in countless private transactions across the country, most obviously how hours after the birth of a daughter, parents across many states in India can be seen browsing the gold markets, their mission being to start stocking up the dowry that their future son-in-law may expect on his wedding day. This ritual has underpinned marital customs in India for centuries. Despite efforts to outlaw it – India banned dowries in 1961 – the dowry system retains its hold on many of India's 1.2bn citizens. And although gold's role in dowries has diminished, it has far from disappeared.

The dowry tradition dates back to ancient times, when marriages served in part as contracts between families. Marriage was *de rigueur*, divorce was illegal, and to admit that a marriage had failed was to accept an irrevocable loss of honour. Defenders of the dowry assert that its origins derive from entirely honourable intentions, providing the bride with her own source of defensive financial reserves at a time when she was unlikely to work outside of the home. Opponents of the dowry system regard it as a hallmark of female subjugation, and argue that few brides have ever been able to exert much control over what is supposedly their own contribution to their new married home.

There is no doubt that both the dowry system and what is given to brides by their family, as part of the dowry, are rapidly changing. India's economic development and industrialisation is deeply at odds with traditional values and customs, including the dowry system. Female emancipation in India, largely a middle-class phenomenon, is coinciding with a growing sense that the dowry system of today retains little of the honour of the past. India's mass media are daily replete with brutal reports of husbands and in-laws using dowries to acquire wealth, by abusing brides and occasionally murdering or forcing them to commit suicide. The newspaper *India Today* this year reported a rise of 38% in dowry deaths from 1990 to 2000, and a 225% increase in cases of dowry harassment.

Indian jewellery fabrication and consumption, 1969-2009 (estimate), tonnes



Source: VM group

India's upper and middle classes have already adjusted their attitudes and behaviour towards dowries. For this social bracket, comprising highly educated families with a more cosmopolitan outlook, a subtle gradation of bridal present-giving is increasingly superseding the conventional, gold-biased dowry. There is indeed less outright talk of dowries, more emphasis on handing down wealth to the next generation, and there is, concomitantly, less gold being bought for dowries. On the other hand much of India's rural population are stern upholders of traditions; indeed, some even prefer to amass dowry for their daughter rather than pay for her education.

Shrugging off the past

The diminished function of gold in the passing on of wealth to the next generation is an inevitable reflection of the modernisation of India. Personal savings in the form of gold were once vital to meet long-term needs of families – many of whom grew up in multigenerational households with strict cultural and matrilineal codes. The benefits of gold were clear: not only was it durable, it also transferred from generation to generation with little loss in value and beyond the scrutiny of governments keen on raising taxes. For a fiscally conservative country with an unpredictable currency, this made the metal both symbolically rich and financially rewarding.

Today, gold's strongest adherents as a component of dowries are largely those in rural occupations, but low income-levels inhibit the capacity to buy very much. Where the richer classes still insist on gold in dowries, the buying can be quite substantial. In Tamil Nadu, for example, well-educated affluent grooms can ask for as much as 810 grams of gold, and even as much as 1 kg in Kerala. Marwari's, from Rajasthan, often give four silver or gold coins to every person in the groom's family.

Yet social patterns in India are rapidly evolving. The country's urbanised female population have benefited from greater independence through education and significant roles in a workforce that is increasingly becoming more export-driven, while more liberal divorce laws have eroded the stigma of marriage failure, thus weakening another prop of the dowry system. This is evident particularly in hubs such as Mumbai and Bangalore, where relationship breakdown is no longer subject to the same levels of scornful judgement endured by previous generations. Indeed the entire family structure in urbanised areas has changed. No longer confined to such strict religious and traditional codes, many couples live in 'nuclear' families liberated from the watchful eye of older generations, while a new cultural obsession with romance and personal fulfilment has fostered greater expectations of a happy marriage.

Two key structural changes are therefore happening, which combined will have an important impact on likely future gold demand trends in India. First, women within higher social classes and urban cultures are refusing to play a subservient role in marriage and are experiencing greater self-sufficiency, by earning their own incomes; and this segment of India's female population is certain to expand over the coming years as the country's economy evolves away from its dependency on agriculture. Second, and much less tangible (although no less real) is that the new generation of younger Indians are placing much greater emphasis than their forebears on mutual love and respect, eroding old male-dominated power structures, thereby leading to a more evenly-balanced marriage relationship that in turn is less interested in the gold component of a dowry.

In turn, the way gold is seen in India is subtly shifting. Once valued by its weight and cost, it is now passed from one generation to another as a symbol of tradition and investment towards the relationship, rather than the contractual nature of obligatory duty that it once symbolised. In a world in which relationships and marriages are moving along the liberalised lines of the West, the concept of dowries, as mentioned are increasingly coming under fire. While the dowry is becoming very much frowned upon in some sections of the population in today's India there's still no doubt that the value of gold remains, as a family heirloom that is passed on from mother-in-law to sons, or from mother to bride and daughter.

So within the rising middle class of India gold has to a significant degree lost its function as a social/contractual obligatory custom, as it was once thought of in a dowry, and has acquired a symbolic one, in which it is used by families to symbolise love and respect. Moreover, among the different social stratas of India vast population gold's role in the traditional dowry is now being replaced by items which range from an ever increasing choice of electronic gadgets as well as mutual investments, overseas education and training and mortgages.

A typical wedding-gift portfolio for a middle class Indian female today thus ranges quite widely and includes (an example from our circle of contacts in the country) a laptop PC, a plasma television and mutual-fund investments, as well as seven gold coins, chains, pendants and bracelets. This is in stark contrast to her mother's wedding more than 30 years earlier when she would then have received 500 grams of gold in the form of necklaces, earrings, bangles and hair braids, but little else.

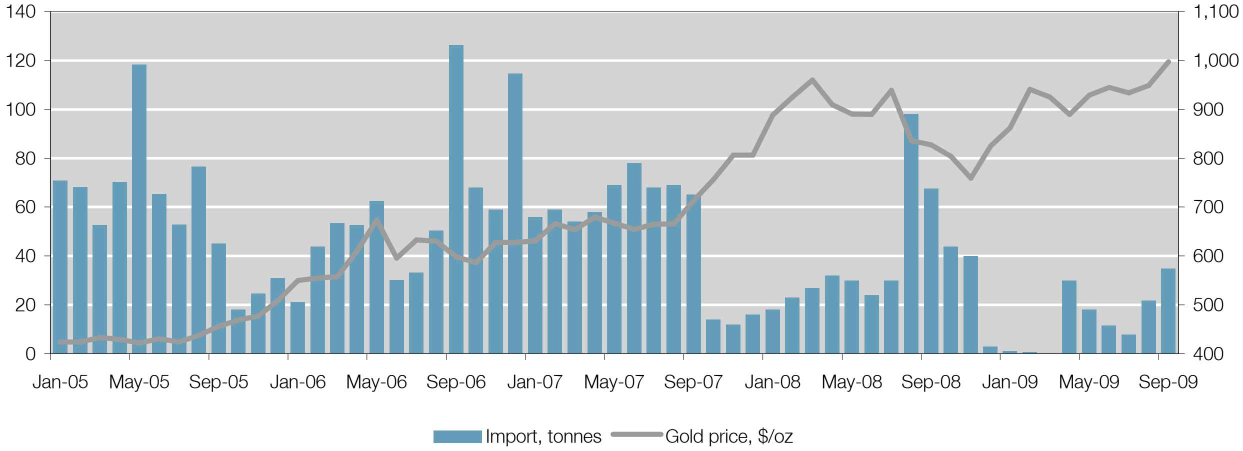
And this change is not just about gold. The demand for diamonds as part of a wedding gift list is on the rise, helped in part by the likes of De Beers and Swarovski, that are heavily marketed in urban areas of India where parts of the population are well-heeled and in search of the latest trends. Mumbai's high society, which is constantly attuned to the latest fashion trends, has seen an increasing number of heavy marketing campaigns and fashion events sponsored by both De Beers and Swarovski, among others.

For India's rural population, the realities remain very different. As vehement upholders of tradition, much of India's rural population is yet to see the benefits of a growing national economy that the affluent and upwardly mobile sections of society are becoming accustomed to. Many villagers in rural areas today complain about how greater wealth and prosperity has only led to greater dowry demands, making it increasingly difficult for parents to marry off their daughters, furthering the risks of dowry crimes or even abortion and infanticide. In the Usilampatti belt of Madurai in Tamil Nadu, even the most emancipated women have begun self-help groups to try and combat the problem of an increasing rate of female infanticide.

Over time, and with sustained economic growth, the social demographics of India will push all incomes higher, while the spread of more liberal social mores will erode yet further the stigma attached to a failed marriage. Divorce rates are on the rise in India and many middle-class families are beginning to publicly shun the use of the word “dowry” – for them it has too many connotations of violence and oppression. Education and a trend towards more informed awareness is spreading throughout the country and while to some extent the traditional rituals of marriage remain, gold has for a large part assumed a new identity in which it is prized as much for its symbolism as its value. As mentioned, India's increasingly sophisticated middle classes are apparently changing with the times and are happy to supplement gold deposits and wealth with education, retail investments and aspirational brands.

Where does this leave the role of gold among the people of India? As a country that has placed gold in high-regard, there is no doubt that India will continue to be an important market, with demand regularly peaking through the traditional marriage season. This year the strong rise in the gold price has severely dented India's gold imports, which by end-September 2009 were down by roughly 50% from 2008. The high Dollar price has set speculative investment hopes alight, but the strengthening price in Rupees, largely because the rupee has since steadily risen against the dollar since its low in March this year of Rupees 52.18/$1, has severely impacted Indian gold imports. With gold now more than expensive than ever before, Indian bridal couples will be receiving lower quantities of gold than they might have expected.

Indian gold imports, 2005-Sept 2009, tonnes



Source: Reuters Ecowin, VM Group

Gold's auspicious significance within Indian culture will continue to ensure it plays an important role in weddings there, even as India modernises. But the threat is that the gold price has become much more driven by speculative investment in the past couple of years than by physical demand. If this new model for the gold price sustains into the coming years then it will, paradoxically, accelerate the waning financial importance gold has hitherto occupied in India's marriage culture. India's future gold demand is thus currently caught between two opposing trends.

On one hand, as the dowry becomes increasingly contentious, and the upward social mobility of increasing numbers of people in the country proceeds, India is set to require less imported gold than it has in previous generations. That might mean its relevance would progressively shift from a necessary, binding financial settlement, to being more of a symbolic gesture of heritage and appreciation. On the other hand, as India's middle classes grow wealthier, and should some financial assets continue to look precarious, then the demand for gold in the Indian sub-continent could conceivably improve, as a new generation of investors look to defend what wealth they have accumulated. Above all, Indian buyers of gold – whether for marriage gifts or long-term investment – will need a period of diminished price volatility, so that they can be more certain of what they will be able to pass on to generations yet to come.

Data

Methodology

In an industry characterised by large and permanent above-ground stocks, a sensible gold supply/demand balance only attempts to record the additions made to those stocks in a calendar year, the destination of that new supply, the mobilisation of the existing stocks through recycling and official sector sales and lending. There are large swathes of the gold market that are clandestine and unofficial; movements of metal within these sectors are largely beyond measurement and unverifiable. VM Group shuns spurious accuracy; our estimates do not purport to measure to the last ounce of gold. Moreover, in the context of large volumes of gold shifting unrecorded – either smuggled across borders, or having been accumulated in private hands as a defensive measure against catastrophe or government intervention – it would be misleading to suggest that such fine measurements are even feasible. These supply/demand balances are designed therefore to give overall general flows of metal between regions and sectors.

Derivation of the data series

- Mine supply: data collated from Raw Materials Group, company reports, the Chamber of Mines of South Africa, ABARE, USBM, China Gold Association, the World Bureau of Metal Statistics and newswires.

- Scrap recycling: data from refineries and industry participants. VM Group estimates based on gold price movements, political developments.

- Producer hedging: data from the BNP ParibasFortis Hedging and Financial Gold Report produced by VM Group and Haliburton Mineral Services.

- Central Bank transactions: data from IFS statistics, ECB statistics and newswires. Interpretation from discussions with central banking sector.

- Jewellery fabrication: data derived from data series published by Consolidated Gold Fields, London, until 1988. Individual country data series estimated by VM Group from our analysis of individual markets, discussions with the bullion banks, jewellery wholesalers, hallmarking figures, and trade data, which is subject to interpretation but gives direction of physical flows.

- Jewellery consumption: data series generated by VM Group based on our analysis of exports and imports of gold jewellery and gross retail sales as reported by a number of countries. The fabrication data was re-allocated on a country-by-country and percentage basis to derive consumption. The calculation of gold jewellery as a percentage of total jewellery retail sales is formula-based and has been verified in the countries concerned. All jewellery figures include old jewellery scrap but exclude process scrap generated during jewellery manufacturing. The generation of process scrap has been assessed depending on the manufacturing process, e.g. machine-made, stamping, casting or hand made. In mature markets, close scrutiny of jewellery fabrication and consumption is not necessary. We know that these have not been growth industries and that jewellery's share of disposable income expenditure has been falling. Thus, in these markets, demographic trends and rising disposable incomes have been offset by life-style preferences, which favour other goods over jewellery.

  The countries of most interest are those consuming large tonnages of gold jewellery, specifically the US, India, Turkey, China and countries in the Middle East. For these countries, trade data, retail sales, commodity exchange-related figures or data contributed by industry generates the needed data series.

- Legal tender coins: data made available by the Mints and refineries concerned, for example, the US Mint, the SA Mint and Rand Refinery. There are some smaller mintings for which VM Group does not have data, and therefore this data series probably understates the sector. VM Group makes allowance for this in the “other industrial” data series.

- Electronics: data series derived by VM Group based on work relating to the electronics industry when studying the pgm industry and the recycling of electronic scrap.

- Exchange traded funds: data series from published data.

- The “other category” of gold end-uses is an estimate of all other applications of gold including medallions (not legal tender coinage), industrial and decorative uses (excluding electronics), as well as medical and dental demand.

The residual

The overall supply/demand balance does not balance. The difference between supply and demand (negative is demand exceeding supply), we term the residual. The residual is an acknowledgement that a) omniscience about this market is impossible, and to pretend otherwise is misleading b) there are gold flows of considerable magnitude associated with the unofficial market, such as smuggled or stolen gold which cannot be verified and c) there are sectors which cannot be measured and therefore we do not pretend otherwise; these include “bar hoarding”, which is the purchase of gold in bar form, the vast majority of which is in any case rapidly turned into jewellery.

The residual also does not reflect the net long or short positions held by the hedge funds or the speculators over year-end. While CFTC data gives an indication of outstanding positions on Comex, it is not possible to put a number on the net longs or shorts in the OTC market.

Physical supply and demand: world total and by region, 2004-2009f

World total and regional supply/demand imbalances (tonnes)

	World total						North America					
	2004	**2005**	**2006**	**2007**	**2008**	**2009f**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009f**
Supply												
Mine supply	2,409	2,477	2,425	2,398	2,356	2,432	389	380	364	339	333	309
Scrap recycling	1,108	882	1,123	1,056	1,185	1,409	81	70	88	83	92	107
Hedging	68	84	45	71	33	23	19	30	29	48	0	10
Central Bank sales	464	616	379	605	298	351	0	0	2	0	0	200
Total supply	**4,049**	**4,058**	**3,971**	**4,130**	**3,871**	**4,214**	**489**	**480**	**482**	**470**	**425**	**626**
Demand												
Jewellery fabrication	2,878	2,996	2,276	2,227	1,976	1,885	212	207	177	164	128	122
Jewellery consumption	2,878	2,996	2,276	2,227	1,976	1,885	396	390	351	334	276	244
Legal tender coins	108	106	113	129	201	199	26	23	25	29	59	45
Electronics	332	357	372	403	422	366	73	75	78	84	87	74
Other end uses	350	393	315	311	313	284	31	31	29	29	28	24
ETFs	125	195	254	253	320	610	95	178	212	185	164	380
Central Bank purchases	137	115	208	144	191	380	0	0	0	0	0	0
Dehedging	524	223	455	493	374	209	195	146	336	245	132	125
Total demand	**4,455**	**4,385**	**3,992**	**3,959**	**3,796**	**3,933**	**816**	**843**	**1,032**	**907**	**746**	**892**
Residual (supply less demand)	**(406)**	**(327)**	**(20)**	**171**	**75**	**282**	**(327)**	**(364)**	**(549)**	**(436)**	**(321)**	**(266)**

	Europe						Indian sub-continent					
	2004	**2005**	**2006**	**2007**	**2008**	**2009f**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009f**
Supply												
Mine supply	18	17	22	20	27	30	5	3	3	3	2	2
Scrap recycling	163	102	126	117	125	154	186	142	198	180	215	276
Hedging	0	9	15	7	2	2	0	0	0	0	0	0
Central Bank sales	410	529	338	534	283	136	0	0	0	0	0	0
Total supply	**590**	**657**	**501**	**679**	**437**	**322**	**191**	**145**	**200**	**182**	**217**	**278**
Demand												
Jewellery fabrication	790	791	671	688	542	467	607	661	397	357	337	321
Jewellery consumption	547	546	476	473	382	349	661	714	437	401	377	357
Legal tender coins	57	67	70	73	94	87	0	0	0	0	0	0
Electronics	41	43	44	48	49	43	0	0	0	0	0	0
Other end uses	128	143	114	112	113	103	86	105	79	78	80	74
ETFs	28	12	37	44	157	204	0	0	0	4	1	1
Central Bank purchases	0	0	0	0	0	0	0	0	0	0	0	225
Dehedging	22	9	5	32	4	8	0	0	0	0	0	0
Total demand	**824**	**820**	**747**	**781**	**799**	**794**	**747**	**819**	**516**	**483**	**458**	**657**
Residual (supply less demand)	**(233)**	**(163)**	**(246)**	**(103)**	**(362)**	**(472)**	**(556)**	**(674)**	**(316)**	**(301)**	**(241)**	**(379)**

	Asia						Middle East					
	2004	**2005**	**2006**	**2007**	**2008**	**2009f**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009f**
Supply												
Mine supply	545	586	547	591	560	611	9	8	8	8	8	7
Scrap recycling	269	262	327	320	350	408	270	209	261	238	277	324
Hedging	0	0	0	0	0	0	0	0	0	0	0	0
Central Bank sales	34	67	11	12	12	15	20	20	20	0	2	0
Total supply	**848**	**915**	**885**	**923**	**922**	**1,034**	**299**	**237**	**289**	**246**	**286**	**331**
Demand												
Jewellery fabrication	696	716	584	566	520	526	426	466	321	336	341	340
Jewellery consumption	614	633	499	485	446	450	528	572	399	429	398	388
Legal tender coins	18	9	10	13	22	23	0	0	0	0	0	0
Electronics	200	221	230	249	264	231	0	0	0	0	0	0
Other end uses	70	74	64	64	63	55	24	28	19	17	19	19
ETFs	0	0	0	0	0	0	0	0	0	0	0	0
Central Bank purchases	79	82	90	80	103	60	0	30	100	12	10	5
Dehedging	0	0	0	0	0	0	0	0	0	0	0	0
Total demand	**981**	**1,019**	**893**	**891**	**896**	**818**	**552**	**631**	**518**	**459**	**427**	**412**
Residual (supply less demand)	**(133)**	**(104)**	**(8)**	**32**	**26**	**216**	**(254)**	**(394)**	**(229)**	**(213)**	**(141)**	**(81)**

Source: VM Group

Note: Regional totals include jewellery consumption but not jewellery fabrication. Totals might not add due to rounding.

World total and regional supply/demand imbalances (tonnes)

	Latin America						Africa					
	2004	**2005**	**2006**	**2007**	**2008**	**2009f**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009f**
Supply												
Mine supply	378	432	473	453	472	491	553	520	513	480	456	437
Scrap recycling	69	40	50	48	51	56	22	15	18	16	17	20
Hedging	0	0	0	0	0	0	16	12	0	4	1	0
Central Bank sales	0	0	6	0	0	0	0	0	0	0	0	0
Total supply	**447**	**472**	**529**	**501**	**524**	**547**	**591**	**546**	**531**	**501**	**473**	**457**
Demand												
Jewellery fabrication	78	80	68	63	57	58	31	31	21	20	20	20
Jewellery consumption	65	66	56	52	47	48	28	29	19	18	18	18
Legal tender coins	0	0	0	0	12	16	3	2	2	9	9	15
Electronics	2	2	2	2	2	2	0	0	0	0	0	0
Other end uses	10	11	10	11	10	9	0	0	0	0	0	0
ETFs	0	0	0	0	0	0	3	4	3	14	3	22
Central Bank purchases	55	0	0	2	3	10	0	0	0	0	0	0
Dehedging	0	0	0	0	0	0	170	0	40	30	163	50
Total demand	**131**	**79**	**68**	**66**	**75**	**84**	**204**	**35**	**63**	**71**	**194**	**105**
Residual (supply less demand)	**316**	**394**	**461**	**435**	**449**	**463**	**386**	**511**	**467**	**430**	**280**	**352**

	Australasia						Eastern Europe					
	2004	**2005**	**2006**	**2007**	**2008**	**2009f**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009f**
Supply												
Mine supply	338	346	318	326	302	317	175	184	178	179	196	227
Scrap recycling	4	3	4	3	4	4	45	40	53	50	55	61
Hedging	33	33	1	12	30	11	0	0	0	0	0	0
Central Bank sales	0	0	0	0	0	0	0	0	1	58	0	0
Total supply	**375**	**382**	**322**	**341**	**336**	**332**	**220**	**224**	**232**	**287**	**251**	**288**
Demand												
Jewellery fabrication	5	6	5	4	4	4	34	39	33	30	27	27
Jewellery consumption	5	6	5	4	4	4	34	39	33	30	27	27
Legal tender coins	4	5	5	5	5	14	0	0	0	0	0	0
Electronics	1	1	1	1	1	1	16	17	17	19	19	16
Other end uses	0	0	0	0	0	0	0	0	0	0	0	0
ETFs	(1)	1	2	6	(5)	3	0	0	0	0	0	0
Central Bank purchases	0	0	0	0	0	0	3	3	18	50	75	80
Dehedging	137	68	74	186	75	26	0	0	0	0	0	0
Total demand	**147**	**80**	**87**	**202**	**80**	**48**	**54**	**58**	**68**	**99**	**121**	**123**
Residual (supply less demand)	**229**	**302**	**235**	**139**	**256**	**284**	**166**	**166**	**164**	**189**	**130**	**164**

Source: VM Group

Note: Regional totals include jewellery consumption but not jewellery fabrication. Totals might not add due to rounding. The allocation of hedging and dehedging to individual regions is complicated and for simplicity we have used the regions used in The Fortis Hedging and Financial Gold Report.

Primary mine supply, 2004-2009f (tonnes)

	2004	2005	2006	2007	2008	2009f
South Africa	343.0	294.8	272.0	245.7	220.6	200.0
Ghana	60.0	66.5	72.0	70.8	80.9	83.0
Mali	40.0	49.0	58.0	56.8	52.9	46.5
Tanzania	48.0	45.5	45.0	47.0	37.6	33.8
Guinea	13.0	13.0	17.0	18.0	18.4	18.7
Mauritania	0.0	0.0	0.3	1.7	6.3	10.3
Other Africa	6.2	6.3	4.5	3.8	3.8	4.2
Congo (Dem Rep)	5.7	4.2	4.2	5.0	6.0	6.1
Ethiopia	6.0	6.0	6.0	6.0	6.0	6.0
Cote d'Ivoire	0.0	2.0	1.4	1.5	1.9	5.3
Zimbabwe	20.0	14.0	11.0	7.0	3.1	4.5
Botswana	0.2	2.7	3.0	3.0	3.2	3.6
Total Africa	**553.0**	**519.7**	**512.9**	**480.3**	**455.5**	**437.0**
China	220.0	224.0	240.0	270.5	282.0	296.1
Indonesia	100.0	142.0	110.9	117.0	76.9	105.0
Uzbekistan	90.0	84.2	74.2	72.9	74.1	74.1
Philippines	35.5	37.5	36.1	38.8	35.5	43.0
Other Asia	31.2	32.9	24.5	34.6	32.5	36.7
Kazakhstan	22.0	22.0	20.0	21.4	20.3	23.7
Kyrgyzstan	22.0	17.0	11.0	11.0	16.3	12.3
Mongolia	16.0	18.0	22.6	17.4	15.3	10.1
Japan	7.9	8.5	7.5	7.3	6.9	10.0
Other Asia	22.0	17.0	11.0	11.0	16.3	12.3
Total Asia	**544.5**	**586.0**	**546.8**	**590.8**	**559.8**	**611.0**
Australia	253.0	264.0	247.0	253.0	219.0	230.0
Papua New Guinea	71.0	68.7	58.3	60.0	66.6	68.6
New Zealand	10.1	10.6	10.6	10.7	15.9	16.5
Fiji	4.0	2.8	1.7	2.0	0.9	1.8
Other Australasia	0.0	0.0	0.0	0.0	0.0	0.0
Total Australasia	**338.1**	**346.1**	**317.6**	**325.7**	**302.4**	**316.9**
Russia	159.0	168.0	165.0	161.9	176.0	205.0
Armenia	2.1	1.4	0.9	0.6	0.6	1.0
Bulgaria	1.4	3.9	3.8	4.0	4.0	5.8
Georgia	1.4	1.6	2.4	2.4	3.1	3.2
Hungary	0.5	0.5	0.5	0.5	0.5	0.5
Romania	0.5	0.5	0.5	0.5	0.5	0.5
Ukraine	0.5	0.5	0.5	0.5	0.5	0.5
Serbia	0.3	0.3	0.3	0.3	0.3	0.3
Other Eastern Europe	9.0	7.7	4.2	8.0	10.0	10.0
Total Eastern Europe	**174.7**	**184.4**	**178.1**	**178.7**	**195.6**	**226.8**
Turkey	0.0	0.0	0.0	4.0	11.1	16.0
Sweden	6.0	5.2	6.8	6.8	6.8	5.9
Spain	5.0	5.7	6.1	5.8	5.3	5.2
Other Europe	6.5	6.3	9.3	3.3	4.0	3.0
Total Western Europe	**17.5**	**17.2**	**22.2**	**19.9**	**27.2**	**30.1**
India	5.0	3.4	2.5	2.7	2.5	2.2
Total Indian sub-continent	**5.0**	**3.4**	**2.5**	**2.7**	**2.5**	**2.2**
Peru	173.0	207.8	203.6	170.0	179.9	183.5
Brazil	34.0	35.0	41.0	45.2	52.9	56.0
Mexico	24.0	31.6	38.9	47.7	49.7	54.7
Colombia	30.0	35.8	37.0	39.0	41.5	42.7
Chile	39.0	39.6	40.8	40.9	39.2	38.6
Argentina	27.0	25.0	44.0	41.8	40.2	37.5
Other Latin America	11.0	15.7	22.2	26.0	28.0	30.0
Venezuela	14.0	10.8	11.3	8.7	9.1	18.1
Guatemala	0.0	0.7	5.0	7.1	7.3	7.9
Bolivia	0.0	8.9	9.6	9.0	8.7	7.7
Guyana	12.0	8.2	6.4	7.1	8.1	7.2
Ecuador	5.1	5.3	5.2	3.2	3.2	3.3
Nicaragua	5.0	3.4	3.5	3.6	2.6	1.9
Honduras	4.0	4.5	4.5	3.5	2.1	1.8
Total Latin America	**378.1**	**432.3**	**473.0**	**452.6**	**472.3**	**490.8**

Continued overleaf

Primary mine supply, 2004-2009f (tonnes)

	2004	2005	2006	2007	2008	2009f
Saudi Arabia	8.0	8.0	8.0	8.0	7.6	7.2
Other Middle East	1.0	0.0	0.0	0.0	0.0	0.0
Total Middle East	**9.0**	**8.0**	**8.0**	**8.0**	**7.6**	**7.2**
USA	260.0	261.0	260.0	238.0	237.3	215.0
Canada	129.0	118.5	104.0	101.2	95.6	94.5
Total North America	**389.0**	**379.5**	**364.0**	**339.2**	**332.9**	**309.5**
World total	**2,409.0**	**2,476.7**	**2,425.0**	**2,397.9**	**2,355.7**	**2,431.6**

Source: Raw Materials Group, Chamber of Mines, South Africa, News Wires

Scrap recycling (excluding process scrap), 2004-2009f (tonnes)

	2004	2005	2006	2007	2008	2009f
Algeria	5.4	4.0	4.9	4.4	4.7	5.4
Morocco	5.5	4.0	4.9	4.4	4.7	5.1
Tunisia	5.2	3.5	4.3	3.9	4.1	4.9
Other Africa	5.5	3.0	3.7	3.5	3.7	4.1
Total Africa	**21.6**	**14.5**	**17.7**	**16.2**	**17.2**	**19.8**
China	45.0	50.0	70.0	80.0	95.0	114.0
Thailand	45.0	45.0	54.9	52.3	55.4	64.0
Indonesia	33.0	40.0	48.8	44.4	47.0	54.3
Japan	42.0	30.0	35.1	33.4	35.4	41.0
Malaysia	18.0	30.0	36.6	33.3	35.3	40.8
Philippines	15.0	18.0	22.0	20.0	21.2	24.4
South Korea	20.0	15.0	18.3	17.4	18.5	21.3
Taiwan	16.0	12.0	14.6	13.9	14.8	17.0
Singapore	15.0	10.0	12.2	11.6	12.3	14.3
Hong Kong	17.0	10.0	12.2	11.6	12.3	14.2
Other Asia	3.0	2.0	2.4	2.3	2.5	2.6
Total Asia	**269.0**	**262.0**	**327.1**	**320.2**	**349.7**	**408.2**
Australia	4.0	3.0	3.5	3.3	3.5	3.9
Total Australasia	**4.0**	**3.0**	**3.5**	**3.3**	**3.5**	**3.9**
Russia	45.0	40.0	52.8	50.3	55.3	60.8
Total Eastern Europe	**45.0**	**40.0**	**52.8**	**50.3**	**55.3**	**60.8**
Turkey	80.0	40.0	48.8	44.4	49.7	74.5
Italy	34.0	26.0	32.5	31.0	31.9	33.5
France	7.0	6.0	7.5	7.1	7.4	7.8
Germany	7.0	5.0	6.3	6.0	6.1	6.5
Switzerland	6.8	5.0	6.3	6.0	6.1	6.5
UK & Ireland	7.0	5.0	6.3	6.0	6.1	6.4
Other	21.1	14.5	18.0	17.1	17.6	18.6
Total Western Europe	**162.9**	**101.5**	**125.5**	**117.4**	**124.9**	**153.8**
India	145.0	115.0	161.0	146.4	175.6	228.3
Pakistan	30.0	20.0	28.0	25.5	30.5	38.2
Bangladesh	7.0	4.0	4.9	4.4	4.9	5.4
Sri Lanka	4.0	3.0	3.7	3.3	3.7	4.0
Total Indian subcontinent	**186.0**	**142.0**	**197.5**	**179.6**	**214.7**	**275.9**
Argentina	8.0	6.0	7.5	7.1	7.6	8.4
Brazil	10.0	6.0	7.5	7.1	7.6	8.4
Chile	8.0	5.0	6.3	6.0	6.4	7.1
Colombia	8.0	5.0	6.3	6.0	6.4	7.0
Mexico	8.0	5.0	6.3	6.0	6.4	6.9
Other Latin America	10.0	5.0	6.3	6.0	6.4	7.0
Peru	8.0	4.0	5.0	4.8	5.1	5.6
Venezuela	9.0	4.0	5.0	4.8	5.1	5.6
Total Latin America	**69.0**	**40.0**	**50.0**	**47.6**	**51.0**	**56.0**
Saudi Arabia	90.0	70.0	87.5	79.5	92.3	110.7
Iraq	65.0	40.0	50.0	45.5	52.7	63.3
Egypt	33.0	27.0	33.8	30.7	35.6	42.7
Iran	28.0	32.0	40.0	36.4	43.6	43.6
Kuwait	25.0	22.0	27.5	25.0	29.0	34.8
UAE	15.0	10.0	12.5	11.4	13.2	15.8
Lebanon	9.0	5.0	6.3	5.7	6.6	7.9
Israel	4.5	3.0	3.8	3.4	4.0	4.7
Total Middle East	**269.5**	**209.0**	**261.3**	**237.5**	**277.0**	**323.6**
USA	75.0	65.0	81.3	77.4	85.1	98.5
Canada	6.0	5.0	6.3	6.0	6.5	8.0
Total North America	**81.0**	**70.0**	**87.5**	**83.3**	**91.7**	**106.5**
World total	**1108.0**	**882.0**	**1122.9**	**1055.5**	**1184.9**	**1,408.6**

Source: VM Group

Jewellery fabrication, 2004-2009f (tonnes)

	2004	2005	2006	2007	2008	2009f
South Africa	9.6	9.6	8.2	7.4	7.5	7.6
Morocco	10.0	10.0	6.0	5.7	5.8	5.5
Libya	5.0	5.0	3.0	3.0	3.0	3.1
Algeria	5.0	5.0	3.0	2.9	2.9	2.8
Tunisia	1.0	1.0	0.6	0.7	0.7	0.7
Total Africa	**30.6**	**30.6**	**20.8**	**19.6**	**19.9**	**19.8**
China	240.0	250.0	260.0	252.2	245.0	255.0
Indonesia	100.0	100.0	60.0	57.0	51.3	50.3
Thailand	75.0	70.0	56.0	53.2	45.2	45.0
Taiwan	70.0	70.0	56.0	53.2	45.2	43.0
South Korea	50.0	52.0	31.2	31.5	28.4	28.9
Malaysia	50.0	55.0	33.0	31.4	26.6	25.3
Japan	25.0	25.0	22.5	21.4	18.1	18.0
Vietnam	30.0	34.5	20.7	25.0	22.5	23.7
Hong Kong	17.3	20.0	17.0	15.2	13.7	13.5
Afghanistan	10.0	10.0	8.0	7.9	8.1	7.7
Singapore	10.0	10.0	8.0	7.6	6.5	6.1
Cambodia	10.0	10.0	6.0	5.7	5.2	5.3
Other Asia	9.0	9.0	5.4	5.1	4.7	4.7
Total Asia	**696.3**	**715.5**	**583.8**	**566.4**	**520.54**	**526.5**
Australia	5.0	5.5	4.7	4.3	4.1	4.2
Total Australasia	**5.0**	**5.5**	**4.7**	**4.3**	**4.1**	**4.2**
Russia	30.0	35.0	29.8	26.8	24.3	23.9
Uzbekistan	3.0	3.0	2.6	2.3	2.2	2.3
Croatia	0.7	0.7	0.6	0.5	0.5	0.5
Bulgaria	0.3	0.3	0.3	0.3	0.2	0.2
Estonia	0.2	0.2	0.2	0.2	0.1	0.2
Total Eastern Europe	**34.2**	**39.2**	**33.4**	**30.1**	**27.5**	**27.1**
Italy	330.0	320.0	304.0	288.8	240.7	190.0
Turkey	263.6	283.5	192.7	230.8	163.9	149.1
Switzerland	30.0	30.0	28.5	27.1	22.6	21.4
Spain	30.0	30.0	28.5	27.1	22.6	21.4
UK & Ireland	49.0	38.0	32.0	32.8	24.7	20.0
Germany	22.5	22.5	21.4	20.3	16.9	16.1
France	20.0	22.0	20.9	19.9	16.5	15.7
Portugal	10.0	10.0	9.5	9.0	7.5	7.7
Greece	10.0	10.0	9.5	9.0	7.5	7.1
Poland	5.5	5.5	5.2	5.0	4.1	3.4
Other Western Europe	19.1	19.6	18.6	17.8	14.8	15.1
Total Western Europe	**789.7**	**791.1**	**670.8**	**687.5**	**541.8**	**467.2**
India	532.0	592.5	355.5	319.9	303.9	288.7
Pakistan	50.0	50.0	30.0	27.0	24.3	23.1
Bangladesh	20.0	14.0	8.4	7.6	6.8	6.5
Sri Lanka	5.0	5.0	3.0	2.7	2.4	2.4
Total Indian sub-continent	**607.0**	**661.5**	**396.9**	**357.2**	**337.4**	**320.7**
Mexico	30.0	30.0	25.5	23.6	21.4	21.9
Brazil	20.0	22.0	18.7	17.3	15.7	16.2
Dominican Republic	6.0	6.0	5.1	4.7	4.3	4.3
Peru	5.0	5.0	4.3	3.9	3.6	3.6
Chile	5.0	5.0	4.3	3.9	3.6	3.6
Colombia	3.0	3.0	2.6	2.4	2.1	2.2
Bolivia	3.0	3.0	2.6	2.4	2.1	2.2
Venezuela	2.0	2.0	1.7	1.6	1.4	1.5
Ecuador	2.0	2.0	1.7	1.6	1.4	1.4
Argentina	1.5	1.5	1.3	1.2	1.1	1.1
Total Latin America	**77.5**	**79.5**	**67.6**	**62.5**	**56.8**	**57.9**

Continued overleaf

Jewellery fabrication, 2004-2009f (tonnes)

	2004	2005	2006	2007	2008	2009f
Saudi Arabia	180.0	190.0	133.0	139.7	142.4	149.6
Egypt	75.0	85.0	55.3	58.0	59.2	56.2
UAE	50.0	55.0	38.5	40.4	41.2	39.2
Iran	35.0	40.0	34.0	35.7	36.4	34.6
Iraq	30.0	35.0	21.0	22.1	22.5	22.0
Kuwait	15.0	17.5	10.9	11.4	11.6	11.0
Israel	15.0	15.0	12.3	11.7	10.2	10.7
Lebanon	10.0	12.0	6.6	6.9	7.1	6.7
Other Middle East	16.0	16.3	9.3	9.8	10.0	10.0
Total Middle East	**426.0**	**465.8**	**320.8**	**335.7**	**340.6**	**340.1**
USA	200.0	195.0	165.8	153.3	117.9	112.0
Canada	12.0	12.0	11.4	10.5	9.6	9.8
Total North America	**212.0**	**207.0**	**177.2**	**163.9**	**127.5**	**121.8**
World total	**2,878.2**	**2,995.6**	**2,275.8**	**2,227.0**	**1,976.2**	**1,885.2**

Source: VM Group

Jewellery consumption, 2004-2009f (tonnes)

	2004	2005	2006	2007	2008	2009f
Morocco	8.8	8.9	5.4	5.2	5.3	5.0
South Africa	5.9	5.9	5.1	4.7	4.6	4.3
Other Africa	13.7	14.1	8.5	8.5	8.6	8.4
Total Africa	**28.4**	**28.9**	**19.0**	**18.4**	**18.5**	**18.0**
China	265.0	274.2	252.6	243.2	228.6	234.1
Indonesia	82.0	82.8	57.7	55.2	50.8	50.7
Vietnam	30.0	34.5	20.7	25.0	22.5	23.7
South Korea	37.5	39.0	23.4	23.6	21.3	21.7
Afghanistan	27.0	28.5	19.9	20.0	20.1	20.1
Japan	28.8	28.8	24.2	23.0	19.6	19.4
Taiwan	27.5	27.3	21.8	20.7	17.6	17.5
Thailand	29.9	28.3	21.6	20.5	17.6	16.8
Malaysia	27.6	29.1	18.4	17.5	15.0	14.4
Singapore	18.9	19.4	12.9	12.2	10.5	10.1
Myanmar	12.7	12.6	8.0	7.5	6.6	6.5
Philippines	11.7	11.8	7.5	7.1	6.2	6.0
Other Asia	15.8	16.6	10.6	9.8	9.0	9.0
Total Asia	**614.4**	**632.9**	**499.3**	**485.4**	**445.5**	**450.0**
Australia	5.0	5.5	4.7	4.3	4.1	4.2
Total Australasia	**5.0**	**5.5**	**4.7**	**4.3**	**4.1**	**4.2**
Russia	30.0	35.0	29.8	26.8	24.3	23.9
Uzbekistan	3.0	3.0	2.6	2.3	2.2	2.3
Croatia	0.7	0.7	0.6	0.5	0.5	0.5
Bulgaria	0.3	0.3	0.3	0.3	0.2	0.2
Estonia	0.2	0.2	0.2	0.2	0.1	0.2
Total Eastern Europe	**34.2**	**39.2**	**33.4**	**30.1**	**27.5**	**27.1**
Turkey	128.5	137.6	98.9	114.7	85.1	79.1
Italy	87.4	85.1	81.1	77.1	64.6	51.9
Switzerland	72.7	71.7	63.7	59.6	47.8	45.4
Germany	58.5	57.4	50.1	46.7	37.0	35.2
UK & Ireland	54.5	51.2	47.0	45.3	38.4	33.7
Spain	38.9	38.3	36.2	34.6	29.1	27.5
France	20.5	21.8	20.8	19.8	16.9	16.1
Portugal	16.0	15.5	14.5	14.0	11.9	11.9
Greece	10.8	10.8	10.3	9.8	8.5	8.2
Austria	9.1	9.3	8.9	8.5	7.5	7.3
Belgium	9.7	9.3	8.8	8.5	7.3	6.9
Netherlands	8.5	8.1	7.6	7.3	6.0	5.3
Poland	7.6	7.3	6.8	6.6	5.4	4.5
Yugoslavia	3.0	3.0	2.9	2.7	2.3	2.3
Other Europe	21.1	20.1	18.6	18.0	14.7	14.0
Total Western Europe	**546.8**	**546.5**	**476.1**	**473.2**	**382.4**	**349.4**
India	526.0	576.3	353.2	323.2	305.9	289.2
Pakistan	93.2	100.2	61.4	57.3	52.6	49.9
Bangladesh	36.5	32.9	19.7	17.8	16.5	15.6
Sri Lanka	5.0	5.0	3.0	2.7	2.4	2.4
Total Indian sub-continent	**660.7**	**714.5**	**437.3**	**400.9**	**377.4**	**357.2**
Mexico	27.4	27.4	23.3	21.5	19.6	19.9
Brazil	11.0	12.0	10.2	9.4	8.5	8.8
Other Latin America	26.4	26.6	22.6	20.9	19.0	19.2
Total Latin America	**64.8**	**66.0**	**56.1**	**51.9**	**47.1**	**48.0**

Continued overleaf

Jewellery consumption, 2004-2009f (tonnes)

	2004	2005	2006	2007	2008	2009f
Saudi Arabia	152.3	160.0	116.8	123.4	114.8	113.5
Egypt	76.7	85.8	56.4	61.2	57.4	54.1
Iran	49.7	55.6	44.0	46.1	47.1	45.7
Iraq	54.1	60.3	39.0	42.4	39.6	38.9
UAE	40.4	43.1	31.3	34.9	27.6	26.0
Lebanon	34.3	38.1	24.6	26.5	25.2	24.8
Syria	32.2	34.4	23.4	26.0	23.3	23.5
Yemen	31.3	33.3	22.8	24.6	22.9	22.5
Kuwait	27.7	30.8	20.3	22.6	19.1	19.0
Jordan	27.3	29.0	18.6	20.1	19.4	18.1
Israel	1.8	1.8	1.5	1.5	1.3	1.4
Total Middle East	**527.7**	**572.3**	**398.7**	**429.3**	**397.7**	**387.5**
USA	378.5	372.2	334.5	317.8	261.8	230.9
Canada	17.7	17.7	16.8	15.8	14.1	13.8
Total North America	**396.2**	**390.0**	**351.3**	**333.6**	**276.0**	**243.9**
World total	**2,878.2**	**2,995.6**	**2,275.8**	**2,227.0**	**1,976.2**	**1,885.2**

Source: VM Group

Gold usage in electronics, 2004-2009f (tonnes)

	2004	2005	2006	2007	2008	2009f
Japan	125.0	131.6	135.5	146.3	150.7	124.1
South Korea	55.5	66.6	69.2	74.8	77.0	67.8
Singapore	13.5	15.4	15.6	16.9	17.4	15.3
China	2.5	3.8	5.7	7.4	14.5	20.0
Taiwan	3.3	3.4	3.6	3.9	4.0	3.5
Total Asia	**199.8**	**220.8**	**229.6**	**249.2**	**263.6**	**230.6**
Australia	0.5	0.5	0.6	0.6	0.6	0.6
Total Australasia	**0.5**	**0.5**	**0.6**	**0.6**	**0.6**	**0.6**
Russia	16.0	16.5	17.2	18.6	19.1	16.3
Total Eastern Europe	**16.0**	**16.5**	**17.2**	**18.6**	**19.1**	**16.3**
Germany	10.8	10.9	11.3	12.2	12.6	11.0
France	8.9	9.5	9.9	10.6	11.0	9.5
Switzerland	8.9	9.4	9.8	10.6	10.9	9.5
UK & Ireland	5.5	5.4	5.6	6.0	6.2	5.3
Other Western Europe	7.4	7.5	7.8	8.4	8.6	8.0
Total Western Europe	**41.5**	**42.6**	**44.3**	**47.9**	**49.3**	**43.1**
India	0.1	0.1	0.1	0.1	0.1	0.1
Total Indian sub-continent	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**
Brazil	1.4	1.4	1.5	1.6	1.6	1.4
Mexico	0.1	0.1	0.1	0.2	0.2	0.1
Total Latin America	**1.5**	**1.5**	**1.6**	**1.7**	**1.8**	**1.6**
Israel	0.1	0.1	0.1	0.2	0.2	0.1
Total Middle East	**0.1**	**0.1**	**0.1**	**0.2**	**0.2**	**0.1**
USA	72.2	74.4	77.4	83.5	86.0	73.1
Canada	0.7	0.7	0.7	0.8	0.8	0.7
Total North America	**72.9**	**75.1**	**78.1**	**84.3**	**86.9**	**73.9**
World total	**332.5**	**357.3**	**371.6**	**402.6**	**421.5**	**366.3**

Source: VM Group

Other end uses, 2004-2009f (tonnes)

	2004	2005	2006	2007	2008	2009f
Japan	53.4	56.2	47.8	47.0	45.7	39.8
South Korea	13.6	14.7	13.5	13.9	13.9	12.1
Other Asia	3.0	3.1	2.8	2.9	3.0	2.4
Total Asia	**69.9**	**74.0**	**64.1**	**63.7**	**62.6**	**54.6**
Australia	0.5	0.5	0.4	0.5	0.5	0.4
Total Australasia	**0.5**	**0.5**	**0.4**	**0.5**	**0.5**	**0.4**
Turkey	60.7	72.8	48.9	46.9	49.6	47.5
Germany	23.7	24.1	22.6	22.1	21.2	18.5
Switzerland	16.6	17.7	16.2	16.5	16.1	14.0
Italy	7.9	7.8	7.2	7.2	7.1	6.3
France	6.5	6.7	6.0	6.3	6.2	5.4
Netherlands	5.9	6.7	6.4	6.1	5.8	5.0
Spain	2.5	2.7	2.5	2.6	2.5	2.2
Other Europe	4.6	4.7	4.4	4.3	4.2	3.7
Total Western Europe	**128.4**	**143.2**	**114.1**	**112.0**	**112.7**	**102.5**
India	83.7	102.5	76.9	76.1	77.4	71.5
Pakistan	2.2	2.3	2.2	2.0	2.2	2.2
Total Indian sub-continent	**85.9**	**104.8**	**79.0**	**78.0**	**79.5**	**73.6**
Brazil	9.1	10.1	9.2	9.6	9.4	6.2
Other Latin America	1.0	1.0	0.9	0.9	0.9	0.4
Total Latin America	**10.1**	**11.1**	**10.1**	**10.5**	**10.3**	**8.9**
United Arab Emirates	18.5	22.2	13.3	12.1	13.3	13.3
Other Middle East	5.9	6.1	5.8	5.3	5.8	4.4
Total Middle East	**24.4**	**28.3**	**19.1**	**17.4**	**19.1**	**19.1**
USA	30.8	30.6	28.3	28.6	27.7	24.1
Canada	0.3	0.3	0.3	0.3	0.3	0.2
Total North America	**31.1**	**30.9**	**28.5**	**28.8**	**27.9**	**24.3**
World total	**350.3**	**392.8**	**315.4**	**311.0**	**312.6**	**283.5**

Source: VM Group *Note: Includes Dental Alloys, Non-Legal Tender Coins and Other Industrial Uses*

Legal tender coins, 2004-2009f (tonnes)

	2004	2005	2006	2007	2008	2009f
South Africa	3.0	2.0	1.9	8.7	9.1	14.6
Total Africa	**3.0**	**2.0**	**1.9**	**8.7**	**9.1**	**14.6**
Japan	0.0	0.0	0.0	0.0	8.5	10.6
China	17.9	9.1	9.7	13.1	10.8	9.0
South Korea	0.0	0.0	0.0	0.0	1.4	1.9
Taiwan	0.0	0.0	0.0	0.0	0.5	0.6
Singapore	0.0	0.0	0.0	0.0	0.5	0.6
Thailand	0.0	0.0	0.0	0.0	0.4	0.5
Total Asia	**17.9**	**9.1**	**9.7**	**13.1**	**21.9**	**23.2**
Australia	4.4	5.1	5.2	4.8	5.0	13.5
Total Australasian	**4.4**	**5.1**	**5.2**	**4.8**	**5.0**	**13.5**
Turkey	45.0	55.0	61.8	61.9	57.8	54.2
Austria	6.5	5.9	3.2	5.4	25.8	25.4
UK	2.4	3.0	2.5	2.5	3.0	3.5
Netherlands	2.4	2.5	2.5	2.3	3.0	3.0
France	0.5	0.2	0.1	0.4	0.2	0.6
Yugoslavia	0.0	0.0	0.0	0.0	0.1	0.2
Switzerland	0.2	0.1	0.1	0.1	1.3	0.1
Finland	0.1	0.1	0.1	0.1	0.1	0.1
Other	0.2	0.1	0.1	0.1	2.0	0.0
Total Europe	**57.3**	**66.9**	**70.4**	**72.7**	**93.5**	**87.0**
Mexico	0.0	0.0	0.0	0.0	11.5	15.0
Chile	0.0	0.0	0.0	0.0	0.5	0.7
Venezuela	0.0	0.0	0.0	0.0	0.3	0.2
Total Latin America	**0.0**	**0.0**	**0.0**	**0.0**	**12.3**	**15.8**
USA	16.7	14.0	18.2	21.9	48.9	34.9
Canada	8.9	9.4	7.2	7.5	10.0	9.9
Total North America	**25.6**	**23.3**	**25.4**	**29.4**	**58.9**	**44.8**
World total	**108.1**	**106.3**	**112.7**	**128.7**	**200.7**	**198.9**

Source: VM Group

Financials: prices, volatilities and lease rates

Gold prices in various currencies, average, 1994-2009

	$/oz	Euro/oz	Rand/kg	Yen/gr	A$/oz
1994	384.02	324.26	42,409	1,261	527.24
1995	384.18	296.91	43,343	1,162	517.53
1996	387.71	309.91	52,205	1,356	493.66
1997	331.37	293.10	47,377	1,287	444.82
1998	294.17	262.39	50,729	1,238	469.37
1999	278.73	261.45	53,006	1,018	432.90
2000	279.14	302.78	60,106	967	480.54
2001	271.10	302.82	74,496	1,056	524.66
2002	307.20	328.03	101,011	1,243	569.83
2003	363.32	321.06	85,026	1,346	558.89
2004	409.17	329.16	84,361	1,422	556.16
2005	444.45	358.28	90,829	1,577	583.45
2006	603.77	480.43	131,490	2,256	801.48
2007	695.39	506.78	156,820	2,628	828.53
2008	871.96	593.08	229,426	2,906	1,033.39
Jan-07	631.17	486.00	145,481	2,444	806.83
Feb-07	664.75	507.94	152,744	2,573	848.98
Mar-07	654.90	494.32	154,266	2,469	826.17
Apr-07	679.37	502.22	154,376	2,597	819.98
May-07	666.86	493.72	149,995	2,590	808.69
Jun-07	655.49	488.32	150,450	2,584	778.48
Jul-07	665.30	484.90	148,702	2,596	767.82
Aug-07	665.41	488.69	153,807	2,499	802.42
Sep-07	712.65	511.95	162,228	2,636	840.38
Oct-07	754.60	530.15	163,353	2,811	838.76
Nov-07	806.25	549.31	173,674	2,875	901.03
Dec-07	803.20	551.45	176,025	2,897	922.29
Jan-08	889.60	604.22	200,081	3,079	1,008.60
Feb-08	922.30	624.89	226,839	3,175	1,009.79
Mar-08	968.43	623.45	248,043	3,139	1,047.77
Apr-08	909.70	577.21	226,708	3,002	976.94
May-08	888.66	571.35	217,201	2,980	936.09
Jun-08	889.49	571.32	226,821	3,056	935.02
Jul-08	939.77	596.11	230,152	3,228	977.05
Aug-08	839.03	560.59	206,175	2,950	951.17
Sep-08	829.93	577.73	214,719	2,842	1,015.07
Oct-08	806.62	606.52	252,065	2,602	1,176.86
Nov-08	760.86	597.85	247,133	2,368	1,160.32
Dec-08	816.09	606.99	261,127	2,391	1,218.97
Jan-09	858.69	648.64	272,607	2,493	1,273.56
Feb-09	943.16	737.06	301,343	2,816	1,453.23
Mar-09	924.27	707.51	294,030	2,903	1,387.14
Apr-09	890.20	674.85	255,252	2,827	1,246.27
May-09	928.64	679.56	249,181	2,880	1,212.82
Jun-09	945.67	674.94	243,703	2,939	1,179.94
Jul-09	934.23	663.48	238,071	2,837	1,160.57
Aug-09	949.38	665.69	241,462	2,899	1,137.00
Sep-09	996.59	684.40	239,415	2,928	1,156.55
Oct-09	1,043.2	704.10	249,944	3,029	1,150.80

Source: VM Group

Inflation-adjusted gold price (in 2008 dollars)

	Nominal gold price ($/oz)	US CPI (2008=100)	Real gold price (2008 dollars)
1980	612.6	39.2	1,440.1
1981	459.9	43.2	982.0
1982	375.8	45.9	753.2
1983	424.1	47.4	825.0
1984	360.3	49.4	671.8
1985	317.2	51.2	570.7
1986	367.7	52.1	649.1
1987	446.5	54.0	760.1
1988	437.0	56.3	715.7
1989	381.4	59.0	595.7
1990	383.5	62.2	568.5
1991	362.2	64.8	514.8
1992	343.7	66.7	474.2
1993	359.8	68.7	481.9
1994	384.1	70.5	501.6
1995	384.2	72.5	529.9
1996	387.7	74.6	519.5
1997	331.2	76.3	433.8
1998	294.2	77.5	379.4
1999	278.6	79.2	351.6
2000	279.1	81.9	340.8
2001	271.1	84.2	321.8
2002	307.2	85.6	359.0
2003	363.3	87.5	415.1
2004	409.2	89.9	455.4
2005	444.4	92.9	478.4
2006	603.8	95.9	629.6
2007	695.4	99.9	696.0
2008	872.0	100.0	872.0

Source: VM Group

Price volatility, 1994-2009 (%)

	Daily	1M	3M	6M	12M
1994	6.47	8.12	8.35	9.19	9.89
1995	4.22	5.70	5.74	5.91	6.05
1996	4.44	5.45	5.52	5.66	5.80
1997	7.52	9.80	9.78	9.23	8.81
1998	9.29	12.32	12.80	12.95	12.86
1999	9.44	13.41	13.87	13.10	12.64
2000	8.57	12.37	13.40	15.94	17.13
2001	8.17	11.41	11.83	11.89	11.75
2002	10.42	12.72	12.78	13.00	13.04
2003	11.53	15.69	16.13	15.79	15.31
2004	11.32	14.05	14.03	14.37	14.77
2005	9.31	11.60	11.39	11.27	12.29
2006	12.33	14.56	19.11	22.14	23.92
2007	17.10	22.01	19.00	15.59	15.23
2008	30.48	41.34	44.58	37.06	30.78
Jul-07	7.56	10.82	12.08	13.96	17.15
Aug-07	8.27	11.89	11.59	13.20	16.01
Sep-07	11.34	10.74	11.38	11.73	15.03
Oct-07	12.92	14.04	12.52	12.37	14.14
Nov-07	16.33	19.43	15.35	13.77	14.56
Dec-07	17.10	22.01	19.00	15.59	15.23
Jan-08	11.02	17.04	19.90	16.52	15.27
Feb-08	20.38	20.13	19.63	17.71	15.60
Mar-08	13.95	22.15	19.82	19.32	16.12
Apr-08	19.70	29.11	24.27	22.08	17.99
May-08	16.88	22.46	24.91	22.48	18.75
Jun-08	20.42	20.37	23.99	22.24	19.34
Jul-08	15.16	21.92	21.59	22.86	20.11
Aug-08	24.07	26.03	23.38	24.06	21.43
Sep-08	24.56	33.01	27.88	25.91	23.20
Oct-08	43.95	46.74	36.96	30.16	26.68
Nov-08	34.92	43.78	42.22	33.93	28.87
Dec-08	30.48	41.34	44.58	37.06	30.78
Jan-09	20.64	27.75	37.92	37.74	31.39
Feb-09	23.14	26.37	32.20	37.64	31.80
Mar-09	27.64	31.64	28.76	37.41	32.23
Apr-09	18.96	29.28	29.50	34.24	32.44
May-09	14.36	17.57	27.02	29.93	32.25
Jun-09	10.86	16.06	21.67	25.60	32.01
Jul-09	9.94	13.04	15.57	23.47	31.55
Aug-09	11.69	14.71	14.53	21.56	30.66
Sep-09	13.91	15.01	14.25	18.27	29.02
Oct-09	10.75	16.47	15.31	15.39	25.58

Source: VM Group

Lease rates, 1993-2009 (% p.a.)

	1-month	3-month	6-month	12-month
1993	0.74	0.86	0.94	1.15
1994	0.54	0.66	0.75	0.91
1995	1.74	1.69	1.59	1.59
1996	1.52	1.71	1.90	2.17
1997	1.84	1.90	1.97	2.12
1998	2.60	2.69	2.94	3.27
1999	1.71	1.90	2.05	2.27
2000	0.60	0.82	1.04	1.50
2001	1.29	1.33	1.42	1.68
2002	0.26	0.40	0.58	0.94
2003	0.09	0.14	0.23	0.41
2004	0.08	0.11	0.15	0.25
2005	0.11	0.11	0.13	0.18
2006	0.09	0.11	0.12	0.12
2007	0.16	0.21	0.25	0.26
2008	0.51	0.71	0.83	0.82
Jul-07	0.11	0.14	0.17	0.20
Aug-07	0.19	0.23	0.28	0.29
Sep-07	0.23	0.28	0.33	0.33
Oct-07	0.20	0.32	0.35	0.37
Nov-07	0.20	0.36	0.39	0.33
Dec-07	0.41	0.38	0.47	0.45
Jan-08	0.16	0.22	0.34	0.33
Feb-08	0.21	0.29	0.46	0.45
Mar-08	0.14	0.27	0.43	0.45
Apr-08	0.15	0.22	0.40	0.46
May-08	0.24	0.34	0.47	0.55
Jun-08	0.18	0.30	0.47	0.52
Jul-08	0.02	0.16	0.33	0.36
Aug-08	0.13	0.29	0.48	0.52
Sep-08	0.50	0.63	0.84	0.87
Oct-08	2.12	2.38	2.18	2.06
Nov-08	1.37	1.93	1.92	1.68
Dec-08	0.86	1.52	1.68	1.56
Jan-09	0.16	0.75	1.04	1.17
Feb-09	0.08	0.49	0.86	1.03
Mar-09	(0.04)	0.36	0.84	1.04
Apr-09	(0.15)	0.28	0.77	1.01
May-09	(0.12)	0.16	0.64	0.91
Jun-09	(0.03)	0.16	0.61	0.90
Jul-09	(0.01)	0.10	0.48	0.85
Aug-09	(0.09)	(0.01)	0.32	0.72
Sep-09	(0.09)	(0.09)	0.21	0.63
Oct-09	(0.04)	(0.05)	0.15	0.59

Source: VM Group. Note: LBMA indicative rates not dealer rates.

Official sector by region, 2004-2009 (tonnes)

	2004	2005	2006	2007	2008	2009f
Africa	420	420	420	420	420	420
Asia	2,402	2,417	2,496	2,564	2,654	2,699
Australasia	80	80	80	80	80	80
Eastern Europe	930	933	949	941	1,015	1,095
Western Europe	14,051	13,529	13,207	12,708	12,437	12,301
Indian sub-continent	432	432	432	432	432	657
Latin America	571	571	565	566	569	579
Middle East	1,072	1,082	1,162	1,174	1,182	1,187
North America	8,140	8,140	8,138	8,138	8,138	8,138
IMF/BIS	3,425	3,418	3,402	3,368	3,355	3,155
Total	**31,444**	**30,943**	**30,772**	**30,311**	**30,204**	**30,233**

Source: IMF, national central banks websites, VM Group

Official sector purchases, 2004-2009 (tonnes)

	2004	2005	2006	2007	2008	2009f
Africa	0.0	0.0	0.0	0.2	0.0	0.0
Asia	78.8	82.1	90.0	79.9	102.6	60.0
Australasia	0.0	0.0	0.0	0.0	0.0	0.0
Eastern Europe	3.4	2.7	17.7	49.9	74.7	80.0
Western Europe	0.0	0.0	0.0	0.8	0.0	0.0
Indian sub-continent	0.0	0.0	0.0	0.0	0.0	225.0
Latin America	54.8	0.0	0.0	1.5	3.4	10.0
Middle East	0.0	30.0	100.0	11.8	10.0	5.0
North America	0.0	0.0	0.0	0.0	0.0	0.0
IMF/BIS	0.0	0.0	0.0	0.0	0.0	0.0
Total	**137.0**	**114.8**	**207.7**	**144.1**	**190.7**	**380.0**

Source: IMF, national central banks websites, VM Group

Official sector sales, 2004-2009 (tonnes)

	2004	2005	2006	2007	2008	2009f
Africa	0.0	0.0	0.0	0.0	0.0	0.0
Asia	34.0	66.9	11.0	12.1	12.3	15.0
Australasia	0.0	0.0	0.0	0.0	0.0	0.0
Eastern Europe	0.0	0.0	1.2	58.3	0.2	0.0
Western Europe	410.0	522.0	322.3	499.9	270.4	136.0
Indian sub-continent	0.0	0.0	0.0	0.0	0.0	0.0
Latin America	0.0	0.0	6.0	0.3	0.3	0.0
Middle East	20.0	20.0	20.0	0.0	1.6	0.0
North America	0.0	0.0	2.0	0.0	0.0	0.0
IMF/BIS	0.0	7.0	16.0	34.3	12.8	200.0
Total	**464.0**	**615.9**	**378.5**	**604.9**	**297.6**	**351.0**

Source: IMF, national central banks websites, VM Group

Gold lending, 2004-2009f (tonnes) (*)

	2004	2005	2006	2007	2008	2009f
Africa	123	107	104	92	83	75
Asia	648	536	520	438	373	318
Australasia	76	76	72	64	58	52
Eastern Europe	405	382	345	306	234	206
Western Europe	2,218	2,002	1,737	1,459	1,180	873
Indian sub-continent	100	95	94	94	72	65
Latin America	299	277	251	231	164	133
Middle East	444	356	294	232	179	140
North America	2	2	1	1	1	1
Total	**4,315**	**3,831**	**3,418**	**2,918**	**2,345**	**1,862**

Source: IMF, national central banks websites, VM Group. Note the IMF does not lend gold, so the BIS has been included in estimates of Western European lending in order to not identify its level.
(*) Includes estimate of private lending.

Other

Hedging, delta-adjusted, end-period, 2005-2009 Q2 (tonnes)

	2005	2006	2007	2008	2009 Q2
Global					
Net forwards	1,307	922	563	336	301
Net calls	296	291	252	138	147
Other products	52	36	3	2	1
Net puts	13	7	17	19	9
Total hedge impact	**1667**	**1256**	**835**	**495**	**458**
Change	*(141)*	*(411)*	*(421)*	(340)	(36)
Americas					
Net forwards	764	503	325	201	207
Net calls	54	24	13	5	6
Other products	25	10	3	2	1
Net puts	5	3	2	2	1
Total hedge impact	**847**	**541**	**342**	**210**	**215**
Change	*(116)*	*(307)*	*(198)*	(132)	4
Africa					
Net forwards	184	129	120	48	9
Net calls	214	237	217	125	136
Other products	0	0	0	0	0
Net puts	0	(9	(4	(3)	(5)
Total hedge impact	**398**	**358**	**334**	**170**	**140**
Change	7	(40)	(24)	(164)	(30)
Australias					
Net forwards	317	249	93	57	57
Net calls	21	14	10	4	3
Other products	27	25	0	0	0
Net puts	5	8	20	20	13
Total hedge impact	**370**	**297**	**124**	**81**	**73**
Change	(35)	(73)	(174)	(43)	(8)
Europe					
Net forwards	42	41	25	30	28
Net calls	6	16	12	4	2
Other products	0	0	0	0	0
Net puts	3	4	(1	(0)	(0)
Total hedge impact	**51**	**61**	**36**	**33**	**30**
Change	*3*	*9*	*(25)*	(3)	(3)

Source: "The Fortis Hedging and Financial Gold Report", by Haliburton Mineral Services and VM Group

Hedging, committed, end-period, 2004-2009 Q2 (tonnes)

	2005	2006	2007	2008	2009 Q2
Global					
Net forwards	1327	934	575	343	306
Calls sold	407	417	306	172	175
Calls bought	57	56	20	8	6
Other products	53	36	3	2	1
Total committed	**1,731**	**1,331**	**865**	**509**	**476**
Change	*(162)*	*(400)*	*(466)*	(30)	(41)
Puts bought	241	196	203	117	94
Puts sold	23	50	47	17	33
Americas					
Net forwards	776	510	334	207	210
Calls sold	65	48	21	11	10
Calls bought	1	4	3	4	1
Other products	26	10	3	2	1
Total committed	**866**	**565**	**355**	**215**	**220**
Change	*(107)*	*(301*	*(210)*	*(16)*	*(5)*
Puts bought	93	57	27	17	15
Puts sold	2	0	0	0	0
Africa					
Net forwards	187	131	121	48	10
Calls sold	301	323	260	152	159
Calls bought	56	52	17	4	4
Other products	0	0	0	0	0
Total committed	**433**	**402**	**364**	**196**	**164**
Change	*(16)*	*(31)*	*(38)*	*(10)*	*(24)*
Puts bought	84	59	1	1	0
Puts sold	21	50	47	17	32
Australias					
Net forwards	319	252	96	58	58
Calls sold	28	16	11	5	4
Calls bought	0	0	0	0	0
Other products	28	26	0	0	0
Total committed	**375**	**294**	**107**	**63**	**61**
Change	*(45)*	*(81)*	*(187)*	*(2)*	*(8)*
Puts bought	48	51	153	94	76
Puts sold	0	0	0	0	0
Europe					
Net forwards	44	41	25	30	28
Calls sold	13	29	14	5	2
Calls bought	0	0	0	0	0
Other products	0	0	0	0	0
Total committed	**58**	**70**	**39**	**35**	**31**
Change	*6*	*12*	*(31)*	*(2)*	*(4)*
Puts bought	16	29	22	5	2
Puts sold	0	0	0	0	0

Source: "The Hedge Book", by Mitsui Global Precious Metals, Haliburton Mineral Services, VM Group

Exchange traded funds, annual offtake, 2004-2009f (tonnes)

	2004	2005	2006	2007	2008	2009f
Africa	3.0	4.3	2.6	13.5	3.2	22.0
Australasia	(1.0)	0.9	2.1	5.8	(4.9)	3.0
India	0.0	0.0	0.0	4.4	1.0	4.5
Europe	27.6	11.9	36.7	43.6	157.0	204.0
North America	94.9	178.2	212.3	185.4	163.9	380.0
World total	**124.5**	**195.3**	**253.6**	**252.7**	**320.2**	**610.0**

Source: Company websites, VM Group analysis.

COMEX speculation futures and options, end-period, 1994-Oct 2009 (tonnes)

	Open interest	Large speculators net long (futures)	Small speculators net long (futures)	Total net long
1994	559	(125)	5	(120)
1995	439	7	45	52
1996	590	(130)	(5)	(135)
1997	553	(159)	21	(138)
1998	506	(108)	(8)	(116)
1999	487	(90)	34	(56)
2000	357	(44)	25	(20)
2001	345	(9)	46	37
2002	644	185	140	325
2003	867	350	147	497
2004	1,029	307	121	428
2005	1,226	481	108	589
2006	1,059	212	109	321
2007	2,089	620	121	741
2008	1,342	392	52	444
Jun-07	1,484	196	64	260
Jul-07	1,323	252	99	350
Aug-07	1,268	240	67	308
Sep-07	1,714	541	106	647
Oct-07	2,095	618	114	732
Nov-07	1,938	545	94	639
Dec-07	2,089	620	121	741
Jan-08	2,006	640	122	762
Feb-08	2,011	651	133	784
Mar-08	1,932	547	95	642
Apr-08	1,726	500	77	577
May-08	1,755	485	83	568
Jun-08	1,619	478	103	581
Jul-08	1,734	567	116	683
Aug-08	1,561	327	52	379
Sep-08	1,524	366	72	438
Oct-08	1,496	244	21	265
Nov-08	1,236	255	35	290
Dec-08	1,342	392	52	444
Jan-09	1,501	439	54	493
Feb-09	1,693	503	90	593
Mar-09	1,711	473	91	564
Apr-09	1,462	402	76	478
May-09	1,614	551	96	647
Jun-09	1,545	511	105	616
Jul-09	1,547	537	93	630
Aug-09	1,558	569	88	657
Sep-09	1,789	720	136	856
Oct-09	2,027	849	97	946

Source: Commodity Futures Trading Commission

Weights and measures

Chemical properties

Atomic weight	196.967
Atomic number	79
Chemical symbol	Au
Melting point deg C	1,063
Hardness (mohs)	2.5-3.0
Boiling point deg C	2,966
Specific gravity gr/cubic cm	19.32
Hardness	25
Tensile strength km/Sq mm	11.9

Source: VM Group

Purity (caratage) – In parts per 1,000

24 carat	1,000	
	999.9	Termed four nines
	995	London good delivery
22 carat	916	Common caratage for jewellery in Middle East & Asia
18 carat	750	Common caratage for jewellery throughout Europe
14 carat	583	Common caratage for jewellery in the USA
10 carat	417	Lowest acceptable for jewellery in USA
9 carat	375	Common caratage for jewellery in the UK
8 carat	333	Lowest acceptable caratage in parts of Europe
1 carat	41.7	

Source: VM Group

Measures

1 troy ounce	= 31.103 grammes
	= 408.6 grains
	= 1.097 oz avoirdupois
	= 20 pennyweights
1 metric tonne	= 32.151 troy ounces
	= 1.102 short tons
1 short ton	= 0.893 long tonnes
	= 2,000 Pounds
1 pound	= 14.58 troy ounces
1 grain	= 0.0648 grammes
	= 0.002083 troy ounces
1 gramme	= 14.43 grains
1 pennyweight	= 24 grains
1 kilogramme	= 32.1507 troy ounces
1 oz avoirdupois	= 0.9115 troy ounces

Source: VM Group

Glossary

A

- **Accelerated supply**: Gold reaching the market through lending and leasing before it is physically produced.
- **American style**: (option) that can be exercised at any stage during its life, in other words at or before expiration date. Contrast **European style**.
- **Asian options**: A **history-dependent** option where the outcome is reliant not only on whether or not the option is **in-the-money** at expiry but also depends on the average price of the underlying throughout the option life. These options are used mostly (in the base metal markets) to reduce exposure or incentives to manipulate the underlying price at expiry. Asian options are also used by market participants who are obliged to have frequent exposure to the underlying asset over time. The options are then useful in capping the overall cost of the physical exposure and are ideal for producers.
- **At-the-money option**: An option with a strike price equal to that of the current price.

B

- **Backwardation**: A market situation where the spot price trades at a premium to the forward price. Opposite of **contango**.
- **Barrier options**: Unlike standard **European options** where the income depends only on the price of the underlying at expiration, barrier options are **history-dependent**. In other words, their outcome depends on the performance of the price of the underlying during the life of the option and whether that price breeches some predetermined barrier or level. See 'in' barrier and 'out' barrier options.
- **Binary options**: Unlike standard options which have a constant income, binary options have variable (usually all or nothing) pay backs depending on whether or not the price of the underlying meets some pre-agreed condition. Binary options can be either **history-dependent** or **history-independent**.
- **BIS**: Bank for International Settlements.
- **Bonds**: Means of raising debt through the capital markets. See also Gold-backed bonds.

C

- **Call option**: Option giving the purchaser the right but not the obligation to buy gold at a predetermined (strike) price.
- **CBOT**: The Chicago Board of Trade.
- **CCA**: Comex Clearing Association.
- **CFTC**: Commodity Futures Trading Commission (the futures and options watch-dog).
- **CIS**: Commonwealth of Independent States (former Soviet Union).
- **Collars**: Options which have the same pay-out as the standard call except that the upside is not unlimited. It is subject to a maximum. The option buyer forgoes any further income above this maximum.
- **COMEX**: The Commodity Exchange in New York.
- **Compound options**: These are options on options. The underlying asset is an option rather than a tangible commodity or security. Valuation of the option is complicated by the fact that two expiry dates must be accounted for: the time to expiration of the compound and the time to expiration of the underlying option.
- **Contango**: A market situation where the spot price is lower than the forward quotation; the differential representing the carrying (financing) costs and prevailing interest rates. Opposite of backwardation.
- **Cost curve**: Graphical representation of the costs of producing a metal for an entire primary industry. Usually cumulative output expressed in percent plotted against unit operating costs.
- **Coupon**: Annual interest rate associated with capital market bond issues.

E

- **EGA**: European Gold Agreement.
- **EMCF**: European Monetary Co-operation Fund.
- **ETF**: Exchange Traded Fund.
- **European style**: An option that can only be exercised on the date of expiry.
- **Exercising**: (**An Option**) Whereby the option purchaser holds the writer (seller) of an option to the agreed contract.
- **Exotic options**: Generic term for the more sophisticated option strategy which has features over and above the basic contracts.

G

- **GOFO**: Reuters screen code for the daily gold lease rates.
- **Gold backed bonds**: Debt raised through the capital markets issued with a gold options alternative to enhance the value/attraction of the investment.
- **Gold loan**: A means of raising capital for project financing which involves monetising gold.

I

- **IFS**: International Financial Statistics.
- **IMF**: International Monetary Fund.
- **IMM**: International Monetary Market.
- **'In' barrier options**: Options which are paid for at the time of the initial transaction but are not received until a specified price level (the barrier or the knock-in boundary) is broken. If the barrier is broken at some stage during the option's life, then the buyer receives a standard **European** option with a **strike** price and time to expiration. If the barrier is not broken, then at expiry, the holder receives a cash rebate.
- **In-the-money option**: An option which has a positive **intrinsic value** is said to be in the money. In the case of a **call**, it is in the money when the **strike** price is lower than the current price. A **put** option is in the money when the **strike** price is higher than the current price.
- **Intrinsic value** (of an option): The difference between the strike price and current price of the underlying commodity.

K

- **Knock-out options**: **Exotic option** whereby the contract is cancelled if the spot price breaks through an agreed price. See up-and-out puts and down-and-out calls. The knock-out option is priced differently since it can explode or be cancelled while theoretically it still has **time value**.

L

- **Limit down**: Arbitrary price level below which trading on a Futures and Options Exchange ceases during that trading day. Imposed to prevent very sharp price declines in futures prices and are adjusted from time to time at the discretion of the Exchange. See Limits.
- **Limits**: Arbitrary price barriers imposed by Futures and Options Exchanges to limit severe price movements during a trading day. There are no limits in the spot market. See Limit Up and Limit Down.
- **Limit up**: Arbitrary price level above which trading on a Futures and Options Exchange ceases during that trading day. Imposed to prevent very sharp price increases in futures prices and are adjusted from time-to-time at the discretion of the Exchange.
- **Liquidity**: The volume of business or turnover on an exchange or any market forum; can be applied to either the paper market or the physical.
- **Loco**: Physical location of metal. Unless otherwise stated, price quotations imply delivery loco London.
- **Long**: To be long of a commodity or associated futures or options contract is to have been a buyer. Contrast **short**.

M

- **Maturity date**: Date on which option matures; when it is either exercised or it expires worthless. Also known as expiration date.
- **Margin**: The cash deposit against a paper contract payable as a guarantee. An initial payment is usually made and thereafter further margin requirements may have to be met depending on the performance of the contract throughout its life.

N

- **Naked options**: Option granted and left unhedged or exposed to potential exercising.

O

- **Open outcry**: Method of trading any commodity where dealers face each other in a dealing ring or pit and there is direct communication. Contrast: **Screen Trading**.
- **Out-of-the-money** (option): An option that has no **intrinsic value** is said to be out-of-the-money. A **call** is out-of-the-money when the **strike** price is higher than the current price. A **put** is when the **strike** price is lower than the current price.
- **OTC**: Over-the-counter; term used to describe an option that is written and traded through principals rather than an exchange.
- **'Out' Barrier**: Options which are paid for immediately and exist until, during the option life, a predetermined barrier is broken after which the options are rendered null and void – they cease to exist. If the barrier is not breached, the holder receives standard **European** options. If the barrier is broken and the options are extinguished, the holder is then paid a rebate.

P

- **Principal-to-principal**: Bullion transactions executed directly between the client and the market makers without being channelled through an exchange. Used primarily by market participants who have actual physical transactions to complete rather than the speculators. Speculative business tends to be channelled via the exchanges.
- **Premium**: The cost which the buyer of an option pays to the writer or seller of the option; normally only a very small fraction of the value of the underlying commodity.
- **Put option**: Option giving the purchaser the right but not the obligation to sell gold at a particular **strike** price.

R

- **Reuters**: International screen-based news agency widely used by all metal and foreign exchange market participants.

S

- **Screen trading**: Method of trading via computer screens and telephones in which there is no direct contact between dealers. Contrast: **open outcry**.
- **SDR**: Special Drawing Right.
- **Short**: To be short of a commodity or associated futures or options contract is to have been a seller. Contrast **long**.
- **Spot deferred**: Hybrid forward contract offering floating interest rates and no fixed delivery. More flexible than a conventional forward but without the cost of an option.
- **Spot market**: The immediate market where delivery obligations usually occur no more that 2 days after the transaction.
- **Strike price**: The agreed price at which the option can be exercised which will be equal to, higher or lower than the current price of the underlying.
- **Swap**: A spot sale with a simultaneous equal forward purchase of equal tonnage. This is the definition of a gold or bullion swap which may differ from the term used by the foreign exchange markets.

- **Synthetic gold loan**: A means of raising finance using the gold forward market but which does not result in the monetising of physical metal.

T

- **Time value**: Option value associated with the time left to maturity since during its life an option can move in- and out-of-the-money.

U

- **Underlying**: Shortened term for the underlying commodity upon which futures and options are traded.

V

- **Volatility**: The rate of change in the price of the underlying commodity.

W

- **Writing options**: Selling someone else the right to buy or sell gold at a particular price.
- **10K report**: Set of audited annual accounts published and issued to shareholders. Differs from an annual report only in detail.

Notes

Notes

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About VM Group

VM Group is a dynamic team of highly experienced analysts dedicated to understanding and explaining the current and future state of commodity markets – focusing on the precious and base metals markets but also covering conventional and renewable energy, and agricultural commodities. The team combines a range of skills with a collective 60 years' experience in the precious metals markets and all that this implies – a plethora of market contacts and personal networks of long-standing trust and wisdom.

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