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THE YELLOW BOOK

Edition 1

November 2005

THE YELLOW BOOK NOVEMBER 2005

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INTRODUCTION

Welcome to this debut issue of The Yellow Book – a record of past activities and a discussion of possible future developments in the international gold market. With the compliments of Fortis Bank, The Yellow Book will be made available in May and November of each year. In this context Virtual Metals would like to particularly thank Gerry Schubert and John King of Fortis Bank for recognising the rationale behind this publication.

Each issue of The Yellow Book will contain:

- A feature article specific to the gold industry. This debut publication coincides with the 2005 LBMA gold conference being held in Johannesburg and therefore looks specifically at the challenges faced by the South African gold miners. Future editions of The Yellow Book will address other issues and our readers are encouraged to indicate areas of particular interest
- A discussion of the global flows of gold and current supply/demand relationships and some comments on what we think may unfold in the next 12 - 18 months
- Statistical data series considering each sector of the identifiable gold market. Virtual Metals will be happy to make the data series available to our readers electronically in excel format. Just drop us an email

The layout of this report allows the reader to cut straight to the chase and have a quick read, knowing that the data series are set out for future reference.

Furthermore, each issue of The Yellow Book will not:

- Claim to know everything there is to know about gold; it will instead alert readers to obscurities where we believe they exist
- Claim to have measured the last 100kgs of a minor end use in some tiny country somewhere – we avoid spurious accuracy
- Publish supply/demand tables that balance exactly
- Convey the views of anyone other than Virtual Metals. In this context Virtual Metals would like to thank our mining sponsors, Gold Fields Limited, Harmony Gold Mining and Barrick Gold Corporation for always affording us independence of thought and expression
- Leave the reader indifferent. We do not expect you to agree with everything in The Yellow Book but we do want you to find it thought provoking

Each edition of The Yellow Book will be available via either Fortis Bank or Virtual Metals' website. If you wish to receive The Yellow Book directly on issue, we will gladly include your details in our email list. Please contact us at info@virtualmetals.co.uk

Jessica Cross, CEO
Virtual Metals Research & Consulting Ltd
London, November 2005

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 participation are grouped into "other". Contact us if you need a detailed breakdown.

Housekeeping

THIS TIME 5 YEARS AGO

November 15th 2000

Morning fix: $265.25/oz

Afternoon fix: $264.40/oz

Dollar to Sterling: 1.43

Yen to Dollar: 108.7

Rand to Dollar: 7.68

1 month lease rate: 0.83%

"Asia Pacific gold market traders believe US Vice President Al Gore will win his bid for the presidency and hold true to Democratic Party policies that would mean a strong dollar and lower gold price. In a poll of 20 gold traders and analysts in the South Pacific region, 14 saw Gore winning the presidency in Tuesday's election on November 7. Only four forecast a win by Republican Party candidate Texas Governor George W. Bush."

Reuters, Tuesday 7 November, 2000

"The Bank of England sold 25 tonnes of gold on Tuesday in a sale that attracted a healthy amount of demand and sparked a small rally in the price. The price of the auction – which in demand outstripped the amount on offer by 3.3 times - was set at $264.30 an ounce, 20 cents above the morning fix. "

Reuters, Tuesday 7 November, 2000

"Senior executives of the world's largest gold miners are considering launching a giant media campaign to bolster demand for bullion by promoting jewellery. Support for the concept gained momentum at a dinner meeting at the Denver Gold Show in October and a steering committee has been established.…Sources say that [it] was recommended that all mining companies producing more than 100,000 ounces of gold [annually] should contribute 1% of their revenue to an advertising fund…..at current gold prices this would generate more than $150 million a year."

Globe and Mail, Monday 27 November, 2000

"The People's Bank of China (PBOC), the country's central bank which has the monopoly on domestic gold trading, has taken the first step to deregulate the domestic gold market by reducing its authorized gold purchasing points to all provinces. The move is expected to encourage some Chinese gold producers to sell more output to local end-users and reduce selling to the central bank."

Reuters, Wednesday 28 November, 2000

OUTLOOK – THE NEXT 12 TO 18 MONTHS
DONALD RUMSFELD AND SPANNERS

Gary Mead

The world's media love Donald Rumsfeld, the USA's Secretary of Defense. They love to cite his use of the English language, his convoluted explanations and his opaque utterances. They relished his explanation for the turmoil in post-Saddam Iraq: "Stuff happens." They gleefully quoted his comment on reports of looting in Baghdad in April 2003: "Freedom's untidy, and free people are free to make mistakes." But he secured his place in history during a press briefing at the Defense Department on 12th February 2002, when he said: "There are known knowns; there are things we know we know. We also know there are known unknowns. That is to say, we know there are some things we do not know. But there are also unknown unknowns, the things we don't know we don't know." But the media have missed the point of Donald Rumsfeld; he wasn't talking about Iraq at all; in fact he was talking about the wonderful world of gold. Curiously, it seems to be primarily gold for which statistics are perceived as cast in stone; best practices in national statistics having long recognised the knowns, the unknowns, the unknowable and the need for margin of error. We argue that in this context, gold is no different.

For the past 20 years the gold world has been beside itself with anxiety over all manner of things: what are central banks really up to? What are the hedge funds up to? Indian demand will continue going up, won't it? Will a free China take over the baton of massive gold buying from India? What is the real impact of hedging on the gold price? Who is driving the conspiracy to keep the gold price low? Has gold lost its historic function as a store of value of the last resort? And so on. To which the only honest answers are – stuff happens, freedom is untidy, there are some things which are unknown. A definitive answer can sensibly be given to only one of those questions – if there ever was a conspiracy to depress the gold price, it has clearly been a complete failure, as the last few weeks have shown.

A Rumsfeld taxonomy of gold would be quite helpful: we need to try to pin down those things which we *do* know; we need to isolate those things which we do not know; and we must admit that we can only speculate, with greater and lesser intelligence and modesty, about those things which we do *not* know and which are, moreover, things we do not know we don't know. That last category – the complete unknowns, the lurking spanners waiting to toss themselves into the machinery – are the real problem. Here, we suggest, are some of the more important knowns; the spanners we will return to.

The first thing we do know is the price itself. Of all the knowns, this is the most rock solid – or is it? Journalists love a new record, it helps them freshen something up which might otherwise be quite dull. Thus whenever gold touches a new level we read of a new 10-year or 15-year high, whatever the case may be. Presently we are told that gold is, or recently has been, at a 17-year high; an 18-year high would need gold to surpass its level of 8th January 1988, of $483.90/oz. If it gets over $500/oz it will be at a 22-year high. But what do these highs mean in real terms? In real terms, that is, after adjusting for the declining value of the US dollar, $460/oz is not that high. That 1988 high of $483.90/oz is equivalent to $850/oz today, whereas the all-time high of $850/oz in January 1980 would be worth $2,142/oz today. It is funny, or disturbing, how even the most certain thing shifts about like a mirage; the price, like much else in the gold world, depends on where you are standing.

If the real price of gold is more like a jellyfish than a rock, are there some other, more certain knowns? Perhaps, though, to switch metaphors, even some of these are more like limestone, slightly crumbly round the edges, porous and not 100% resistant to pressure, than tough, impervious granite. On this basis we present our supply/demand balance for the period 2000 to 2005.

WORLD TOTAL						**Est**
Tonnes	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
Supply						
Mine Supply	2,507	2,514	2,491	2,513	2,358	2,430
Scrap Recycling	660	620	860	900	1,100	836
Hedging	na	17	186	178	68	14
Central Bank Sales	579	519	448	571	464	511
Total Supply	3,746	3,670	3,985	4,163	3,990	3,791
Demand						
Jewellery	3,090	3,000	2,796	2,651	2,686	2,757
Legal Tender Coins	59	55	69	85	91	105
Electronics	257	273	291	310	332	357
Other end Uses	221	241	264	292	325	365
ETFs	0	0	0	33	125	123
Central Bank Purchases	117	89	29	35	61	2
Dehedging	na	125	625	541	518	309
Total Demand	3,744	3,782	4,074	3,947	4,138	4,019
Residual (Supply less Demand)	2	-112	-89	216	-148	-228

Source: Virtual Metals Research & Consulting, Raw Materials Group, Mitsui, Haliburton Mineral Services

In the Rumsfeldian category of knowns we include the following, on the supply side:

1. Mine supply is perhaps the most granite-like of all the factors involved in the creation of the gold price. We estimate that in 2005 mine supply will be 2,430 tonnes, 72 tonnes more than in 2004, but 84 tonnes less than the peak of 2001, when 2,514 tonnes were produced. Looking ahead, we anticipate mine supply in 2006 to be not much less than 2,400 tonnes.

2. Central bank sales are another piece of fairly tough granite, thanks to data from the IMF's statistical branch and the greater transparency of the signatories of the European Gold Agreement. Thus we anticipate sales of at least 511 tonnes of gold by central banks in 2005; this is 43 tonnes more than for the whole of 2004, and given that the second year of the second round of the EGA started at the end of September, we will probably learn of more tonnes sold before 2005 has ended. The peak of central bank selling, in 2001, when 602 tonnes were sold, coincided with the peak of mine supply. The EGA stipulates that its signatories will not sell more than 500 tonnes a year for the life of the Agreement and thus it is a fairly safe bet that 2006 will see, as a minimum, another 500 tonnes of supply from this source.

3. More granite is to be had from the data concerning hedging, the forward selling by miners at a pre-determined price. Gold mining companies have been steadily unwinding their hedge books for the past few years and their purchase of gold to close their hedges has provided an additional element of demand. But on the supply side of this equation, our calculations are that from a peak of 186 tonnes of hedging in 2001,

last year (2004) saw a drop to just 68 tonnes in 2004; we estimate that 2005 will see an even smaller amount of hedging, dropping to less than 15 tonnes.

4. And finally, the recycling of gold scrap. Estimates of this vary but ours suggest that supply from this secondary source in 2005 was 836 tonnes, 264 tonnes less than in 2004. The calendar year 2004 saw record levels of gold recycling. The higher gold price in dollar terms but possibly, more importantly, the rate at which the price increase encouraged recycling in many parts of the world. Prices throughout 2005 have remained buoyant and being highly price sensitive, the rate at which scrap gold has been returned to the refineries has adjusted to these higher levels. This suggests that the gold price will have to surge ahead again very swiftly to encourage renewed scrap recycling at the levels seen in 2004.

Our figure for total supply for 2005 is therefore estimated to be 3,791 tonnes.

When we shift to the demand side of the equation, we slide closer to the Rumsfeldian category of known unknowns. Here the scope for debate widens, as the opacity of the available data becomes cloudier.

1. Jewellery demand is the equivalent of limestone bathed in diluted sulphuric acid, perpetually threatening to crumble away in the hands. Using trade flow data and industry sources, our calculation for jewellery demand is 2,686 tonnes for 2004 with an estimate that this will rise to 2,757 tonnes in 2005, an annual global increase of 2.6%. Regionally, particularly healthy increases in jewellery demand are being seen in the Middle East as a result of sharply higher inflows of petrodollars into countries like Saudi Arabia.

2. All other demand sources – coins, electronics, dentistry, the relatively new exchange traded funds – we project will account in 2005 for another 950 tonnes of demand.

3. Dehedging – the unwinding of gold miners' hedge positions – is one of the stronger knowns of the market, as public companies are required to publish figures on this matter. In 2005 dehedging will, we calculate, account for 309 tonnes of demand, a significant drop of 209 tonnes from 2004.

4. All in all, we expect total identified demand in 2005 to be 4,019 tonnes, a relatively marginal drop of 118 tonnes from 2004.

We then subtract demand from supply and get a residual. In 2005 we calculate that the market will see an overall deficit of 228 tonnes. Further, our calculations are that since 2001, the global gold market has shifted from small deficits (112 tonnes in 2001, 89 tonnes in 2002) to a substantial surplus of 216 tonnes in 2003 followed by a 148 tonne surplus in 2004. In other words, if we are correct, the gold market has for the past two years (including 2005) recorded a 376 tonne deficit. But what do these deficits actually represent? They are the difference between what we can identify between supply and demand. They are therefore our recognition of the unknowns and the unmeasurables in the gold market – collectively what cannot be measured. The greatest unknown is the hedge fund and other speculative activity in the market, and while it is convenient to deduce that these residuals represent in their entirety either investment or disinvestment in gold, depending on whether there is an annual deficit or a surplus, we maintain that, as hedge fund reporting is currently practiced, this aspect of the market is beyond conclusive measurement. To presume that the entire residual pertains to speculative activity might lead to erroneous conclusions about the price going forward. Yes, certainly there must be an element of investment (disinvestment) embedded in the residuals but we argue that the volumes concerned cannot be confirmed with any conclusive certainty.

Having said that, all the anecdotal evidence suggests that throughout 2004 and 2005 hedge fund activity in gold has been phenomenal. By moving convincingly into gold, the hedge funds give us insights into how they collectively are currently perceiving the macro-economic and the socio-political world right now, more specifically their reaction to knowns and unknowns with respect to inflation, future interest rate trends and the prognosis for the dollar.

In gold, as in other commodity markets, it is unwise to speak of causes rather than correlations; but given this scale of possible shortfall it is perhaps no surprise that the gold price has regained the ground it lost since it touched a low of $252.80\oz in July 1999 and is now trading at a much higher price than for either 17 years, or rather less, depending on your preferred benchmark of nominal or real terms.

Of course people always want to know what *will* happen rather than what *has* happened. If past achievements are no guide to future performance, they are, however, at least something to build a case on. And the case for gold continuing its current momentum is, on this basis, strong. Here there are a couple of known unknowns – some spanners that are dimly discernible and which might actually get tossed into the works.

On the positive side, there is anecdotal and trade-related evidence to suggest that the recent surge in energy prices, which has seen much higher profits for Middle East oil producing nations, has benefited gold. For the time being gold has probably been a net beneficiary of higher energy prices, as the additional petrodollar profits find their way into additional physical gold buying in the Middle East. There is also considerable momentum from the investment community, the large hedge funds who have – for the time being – decided that gold has further to run. By the end of the first week of October the large net long positions on COMEX in New York amounted to a staggering 708 tonnes, a fresh record high. Add in the speculative longs on TOCOM in Japan and the total net longs equated to 797 tonnes. By mid-October the total net longs on TOCOM and COMEX had slid back by a tiny 16 tonnes, to 781 tonnes. The fact that the gold price has risen even higher since then suggests that the investment community has a real appetite to stay with gold – at least for now.

On the negative side, we believe that the visible slowdown in dehedging will continue, and at some point hedging may recommence, as gold miners decide that the time is ripe to lock in some forward sales at higher than recent prices. The supportive influence of the gold miners' collective dehedging in the past few years is an often overlooked factor – a kind of unknown or half-recalled known. Yet in the three years up to the start of 2005 dehedging contributed 400 tonnes a year to demand, a quantity equivalent to the amount of gold sold by central banks over that period. A drying-up of dehedging to zero in 2006 would imply a demand fall of 309 tonnes from 2005, while any recommencement of hedging would require greater borrowing of and supply to the market of gold. At the moment, and for the time being, gold mining companies show no sign that they are inclined to re-start hedging, not least because their shareholders tend to dislike it as it puts a cap on any potential profits above the price at which the hedge was placed – and shareholders in gold mining companies tend to be in the game because they are passionately behind gold.

As far as higher energy costs are concerned, they are a real mixed blessing for gold. They bring with them the real risk of inflation and global economic slowdown, and at a time when obvious alternative safe investments are few and far between, that makes gold attractive. Yet in an inflationary environment with threatened economic recession, potential gold purchasers, particularly in price-sensitive and fashion-fickle jewellery markets, feel more scared and poorer, inhibiting their tendency to make luxury purchases. Petrodollar profits used to buy physical gold are probably a short-term benefit; at some point rising energy prices will choke demand to such a degree that additional petrodollar profits will dry up, to the detriment of Middle East physical gold demand.

Where does this leave us? In Rumsfeldian terms, we have some knowns – static or slightly declining mine supply, less inclination to scrap metal in countries like India and continued strong demand, as well as a fairly steady and well-understood quantity of gold coming from central banks, all of which tend towards supporting the price. The amount of offtake resulting from the new exchange traded funds, at a fairly static 120 or so tonnes in 2004 and 2005, is disappointing but at least offers another investment outlet.

On the demand side there are some known unknowns: physical gold is being bought with gusto in the Middle East, where political turbulence and higher petrodollar profits provide both the raison d'être and the means for the buying. Dehedging may run out of steam in 2006, and that would be detrimental to demand. But of all the factors which are currently at work upon the market, the greatest unknown unknown is – how far and how long are the hedge funds prepared to keep the current momentum going? What goes up eventually will come down; but it may go much higher, and perhaps even break through $500/oz in 2006, before it does come down. Our view at the moment is that the price in 2006 will average $430/oz, although within that benign looking average could be embedded considerable volatility and the testing of $500/oz. In Rumsfeldian phraseology, that is neither a known, nor an unknown, and as he told yet another Defense Department press assembly on 23rd February 2003:

"You're going to be told lots of things. You get told things every day that don't happen. Everyone's so eager to get the story before in fact the story's there that the world is constantly being fed things that haven't happened. All I can tell you is, it hasn't happened. It's going to happen."

FEATURE
CHALLENGES FACING THE GOLD MINING INDUSTRY IN THE NEW SOUTH AFRICA

Tom Butler and Jessica Cross

It has never really been easy to be a gold miner in South Africa. There have always been challenges to overcome, mainly the difficulties and cost of mining at great depths and the related metallurgical and financial issues. These difficulties still exist of course, but in the new South Africa they have been joined by increasingly onerous social responsibilities, greater legislative and regulatory obligations, the strong Rand, well-above-inflation wage settlements, the deteriorating health of the workforce as HIV/Aids becomes more widespread, reserve and grade constraints and associated cost pressures. The gold mining industry has been obliged to restructure, and, under these circumstances, the latest decline in gold production published by the Chamber of Mines of South Africa, comes as no surprise.

This essay looks at the changes that have already occurred in the South African gold mining industry and describes briefly the new regulatory environment in which it must now operate. It pays particular attention to the Minerals and Petroleum Resources Development Act (MPRDA) and the Broad-Based Socio-Economic Empowerment Charter, also known more simply as the Mining Charter. It also touches briefly on the controversial Royalty Bill.

Declining Production: difficulties with replacing reserves

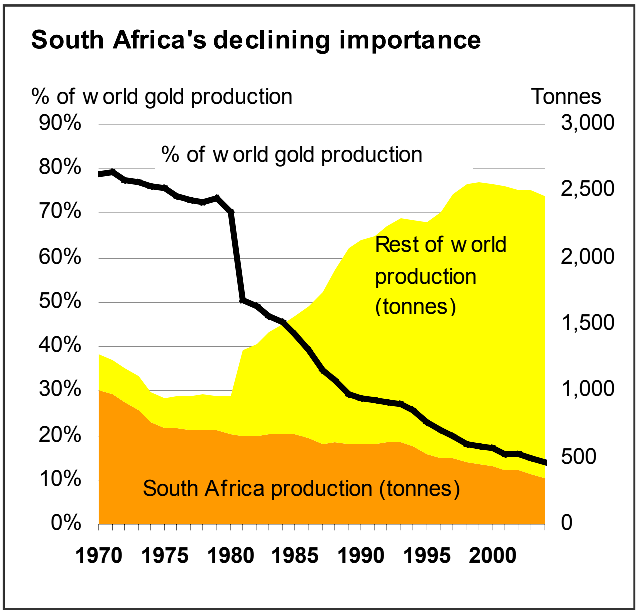
South African gold production in Q2 2005 fell to 72 tonnes, a 2.4% decline from Q1 and a massive 18% fall on a year-on-year basis when compared to Q2 2004. In the first half of 2005 output amounted to 146 tonnes, against 172 tonnes during the same period of 2004, and for 2005 as a whole, there is a distinct possibility that production could fall below 300 tonnes (343 tonnes in 2004). According to the World Bank, in 1983 gold accounted for 43% of South Africa's export earnings; this fell to 11.4% in 2003. In value terms, from 2003, exports of platinum group metals overtook gold as the country's leading metal export earner.

South African gold output peaked in 1970, at a fraction over 1,000 tonnes, representing at that time 78.6% of total world production (excluding the then Soviet Union). In 1971, although South African output fell to 976 tonnes, the country accounted for its greatest share of Western World output, at 79.2%. The historical importance of gold production to the South African economy was not only in terms of export earnings, but, crucially, in employment. The gold mining industry has traditionally been the major collective employer, both direct and indirect. In 1994, it employed 392,021 people. By mid-2004 this head-count had fallen to 187,039.[1] In addition, it is generally accepted that every one person employed in mining has to support between 7-12 dependents.

Mining is a double-edged sword. In the days when the world accepted South Africa as the premier gold producer, scant attention (apart from by the mining companies themselves) was paid to the fact that each

[1] Chamber of Mines of South Africa.

year at least that same amount of gold had to be replaced, in the form of economically viable reserves, in order for the mining company to simply stand still in terms of future growth potential. Of course, the relatively easily accessible and richer deposits were the first to be exploited in South Africa, so that with the passing of each year it has become more difficult and more expensive to find replacement reserves. Once reserves were found, they were invariably at greater depths and often at lower grades, implying constant upward pressure on both the capital costs of financing new operations or expansions of existing mines, and the operating costs of getting the new production to the surface.



South African Department of Minerals and Energy statistics show that, in 2003, committed investment in new gold mining projects totalled R23bn, compared with a little over R34bn associated with the pgms. The South African DME also reported that there is additional potential investment of over R22bn in gold mining that is not committed. However, the statistics also reveal that all of the committed projects are expansions of existing operations rather than new projects, which does not bode well for the future of the South African gold mining industry.

The situation of depleting viable reserves alone meant that the South African gold industry had to accept that its production in absolute terms would decline. Understandably, many of South Africa's gold producers have looked elsewhere to expand and diversify their reserve bases. But South Africa's decline was also in relative terms, as gold production in the 1980s-1990s in the USA, Canada and Australia showed healthy growth. Since then, others have joined the major producer list, including Ghana, Papua New Guinea, Russia, China and Mali. The reality can be seen in the accompanying chart, which shows South Africa's share of annual global production was down to just 14% in 2004.

Anyone who looks at US Geological Survey data on gold reserves might take greater hope in South Africa's future gold output. This data suggests that the decline in South African output could be only temporary, estimating that, at 33,000 tonnes, South Africa has six times more gold resources than the USA and Australia (6,000 tonnes each). However, this is sadly misleading. While the resources theoretically exist, in reality the economics of mining them at increasing depths, in combination with lower grades and the associated capital and working costs, means that they are less accessible than suggested. Much of this gold could never be mined at a profit, at least at current prices or close to them.

The industry restructures

A new era in politics, weak international gold prices during the mid-1980s and mid-1990s, as well as increasing output from other countries, all compelled a major restructuring of South Africa's gold mining industry. Part of this has been evidenced in South Africa's gold producers looking outside the country to expand and diversify reserve bases – a necessary process to extend the companies' reserve bases and to reduce costs. Three of the world's six largest gold producers are from South Africa. AngloGold Ashanti is South Africa's biggest producer with total production in 2004 of 188 tonnes of gold worldwide, 51% coming from South African mines. In 2004, Gold Fields produced 129 tonnes of which 87 tonnes (67%) came from South African mines, while Harmony Gold Mining produced 103 tonnes in 2004 with over 90% from South Africa. Harmony has almost all of its reserves in South Africa, with only 7% outside the country, as of 2004. Both AngloGold Ashanti and Gold Fields, having diversified offshore in the last few years, report 50% and 24% of reserves outside South Africa respectively, as of 2004.

Incoming Legislation – Black Economic Empowerment

The Minerals and Petroleum Resources Development Act (MPRDA) is now the primary legislation that drives South African mining. Under this, a new mineral rights regime has been introduced through which "new order" rights replace "old order" prospecting and mining rights that had been granted under the Minerals Act of 1991. The MPRDA came into effect on May 1st 2004 dictating that all old order mining rights have to be converted by May 2009. Failure to do so will mean that the mining rights revert to the State.

The MPRDA is based on State custodianship of mineral resources, as these are now viewed as the natural heritage of all South Africans. Prospecting, exploration and mining rights for all minerals are now vested in the State, and applications for those rights have to be made directly to government. Hence the origin of the "use it or lose it" principle - if a company fails to make use of its mineral rights within a certain period, it forfeits them and thus discourages the hoarding of mineral rights by established mining companies. It also encourages increased access of small and junior mining companies to mineral resources.

Under this legislation, therefore, mineral rights are a crucial vehicle in ensuring change in the ownership, the control and in the management of the local gold mining industry. This transformation goes beyond the confines of the mine - as the Act stipulates that the holders of mineral rights must contribute towards the socio-economic development of the host communities.

A new order mining right can be held for a maximum of 30 years, and will only be issued if a number of conditions are met including the implementation of a mining plan, demonstration of funding, environmental compliance, existence of social and labour plans and demonstration that the mine encourages opportunities for previously disadvantaged South Africans in a meaningful way.

The acquisition of new order mining rights is, of course, the most important step for operating a commercial mine in South Africa, but the MPRDA also covers the granting of other permits including reconnaissance permissions, prospecting rights, mining permits and retention permits. At the time of writing only one gold mining company (AngloGold Ashanti) had successfully converted its mineral rights from old order to new, although others are expected to follow suit in due course.

Furthermore adherence to the Broad-Based Socio-Economic Empowerment Charter is a condition of obtaining mining rights. The Mining Charter, as it is known, is in itself not law - it is an agreement signed by representatives of the sector's stake holders namely government, labour, the gold mining companies and local communities in the mining regions[2].

Essentially the Mining Charter is a framework through which historical, social and economic inequalities that existed in the past in South Africa's mineral industry can be addressed by the mining industry. It sets targets and a timetable for the participation of the previously disadvantaged in the mining sector, bringing into effect Section 100 of the MPRDA. The Mining Charter has the following strategies: human resource development, employment equity, community welfare, housing and living conditions, procurement, beneficiation and ownership.

And now – a right royal debate

At the moment, the most controversial and highly debated piece of new legislation is the Mineral and Petroleum Royalty Bill, which if promulgated is due to become effective in 2009. The Bill is based on the premise that South Africa's mineral resources are non-renewable and that they belong to the nation, with the state being custodian. Its objective is to levy a tax on the depletion of the country's non-renewable mineral wealth; mineral producers will pay a royalty on mineral production. In the case of gold, this is being mooted at 3% of revenue from gold output (as opposed to 4% on platinum and 8% on diamond revenues). The different levels of royalties are designed to take account of the relative profitability of the different industries.

Critics of the Royalty Bill claim it is too simplistic to assume that all diamond mining is more profitable than platinum mining, and platinum mining than gold mining.

Another fundamental criticism is that the proposed royalty is to be levied on revenues, not profits. It is argued that this reduces the value of mineral assets, takes no account of ability of a mining company to pay and is unfair, as once the royalties have been paid, profits will also be taxed. Supporters of a royalty on revenue, on the other hand, maintain that a revenue focus is necessary as mineral producers might otherwise state profit figures in a way that might avoid taxation.

In February 2005, the South African Minister of Finance told Parliament that a second draft of the Bill would retain the principle of a royalty on revenues but have "substantial refinements" based on the comments received from interested parties. It would also accommodate key concerns relating to mineral beneficiation and small-scale mining.

As we write, the debate continues, but, if passed, the royalties will be levied from 2009 in order to dovetail with the mining companies' conversion to the new mineral rights regime as laid out by the MPRDA.

The closely interconnected legislative pillars of social reform discussed so far are specific to the mining industry. The sector is also subject to the broader based Employment Equity Act which aims to achieve equity in the workplace by promoting equal opportunity and fair treatment in employment through the elimination of discrimination.

[2] There are of course other similar Charters being developed in other sectors throughout the South African economy, with the financial services Charter being the most developed to date. The participants and conditions of each Charter will be sector-specific.

The effort put into all this legislation has been considerable, but is overshadowed by the effort put into compliance on the part of the mining companies. Nowhere have we seen any analysis of the cost of this collective compliance to the industry. Somewhere there has to be a balance between South Africa in general admirably addressing the political and social wrongs of the past and the need for the gold mining industry specifically to remain profitable. Despite the fact that the gold industry now employs substantially less people than it did in the 1980s and 1990s, there are still many South Africans who directly and indirectly depend on gold mining for their livelihoods.

THE DATA

Jessica Cross & Matthew Turner

The Methodology

General comments: In an industry characterised by large and permanent above-ground stocks, a 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. Furthermore, it has to be recognised that there are large swathes of the gold market which are clandestine and unofficial, and therefore movements of metal within these sectors are largely unmeasurable and unverifiable. Virtual Metals attempts to avoid spurious accuracy – measuring something visible to the last two decimal places is a waste of resources considering the global picture for this commodity. In the context of large tonnages of gold being smuggled across borders, the claim that it is possible to measure to fine accuracy the relatively small end uses such as dental alloys and medallions adds little to the understanding of the big picture.

These supply/demand balances are designed therefore to give overall general flows of metal between regions and sectors.

1. The Derivation of the Data Series

- Mine Supply - Data collated from Raw Materials Group, company reports, the Chamber of Mines of South Africa, ABARE, USBM and news wires

- Scrap Recycling – Data from refineries and industry participants. Virtual Metals estimates based on gold price movements, political developments

- Producer Hedging – Data from the Mitsui Hedge Report produced by Virtual Metals 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 Virtual Metals from a) our understanding of the individual markets, discussions with the bullion banks active in various physical markets, hallmarking figures where available, and trade data, which is subject to interpretation but does give direction of physical flows

- Jewellery Consumption – Data series generated by Virtual Metals based on our analysis of exports and imports of gold jewellery to and from countries 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 formulabased 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, eg 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 USA, 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 is sufficient to generate 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 Virtual Metals does not have data, and therefore this data series probably understates the sector. Virtual Metals makes allowance for this in the "other industrial" data series

- Electronics – Data series derived by Virtual Metals 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. With the exception of dental alloys, this combined sector is believed to have shown robust growth over the years and for the purposes of this supply/demand balance an average growth rate of 10% between 2000 and 2004 has been applied

2. 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 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.

WORLD TOTAL						Est
Tonnes	2000	2001	2002	2003	2004	2005
Supply						
Mine Supply	2,507	2,514	2,491	2,513	2,358	2,430
Scrap Recycling	660	620	860	900	1,100	836
Hedging	na	17	186	178	68	14
Central Bank Sales	579	519	448	571	464	511
Total Supply	**3,746**	**3,670**	**3,985**	**4,163**	**3,990**	**3,791**
Demand						
Jewellery Fabrication	3,090	3,000	2,796	2,651	2,686	2,757
Jewellery	3,090	3,000	2,796	2,651	2,686	2,757
Legal Tender Coins	59	55	69	85	91	105
Electronics	257	273	291	310	332	357
Other end Uses	221	241	264	292	325	365
ETFs	0	0	0	33	125	123
Central Bank Purchases	117	89	29	35	61	2
Dehedging	na	125	625	541	518	309
Total Demand	**3,744**	**3,782**	**4,074**	**3,947**	**4,138**	**4,019**
Residual (Supply less Demand)	**2**	**-112**	**-89**	**216**	**-148**	**-228**

NORTH AMERICA						Est
Tonnes	2000	2001	2002	2003	2004	2005
Supply						
Mine Supply	507	495	452	421	389	390
Scrap Recycling	65	65	75	75	81	70
Hedging	na	17	186	41	19	0
Central Bank Sales	19	2	14	15	0	3
Total Supply	**592**	**580**	**727**	**552**	**489**	**463**
Demand						
Jewellery Fabrication	210	188	190	165	165	162
Jewellery Consumption	505	459	430	390	376	369
Legal Tender Coins	10	16	22	23	26	28
Electronics	65	67	69	71	73	75
Other end Uses	32	32	31	31	31	31
ETFs	0	0	0	0	95	128
Central Bank Purchases	0	0	0	0	0	0
Dehedging	na	0	0	298	195	130
Total Demand	**612**	**574**	**552**	**812**	**795**	**761**
Residual (Supply less Demand)	**-21**	**6**	**175**	**-260**	**-306**	**-298**

Note: Global and regional totals include jewellery consumption but not jewellery fabrication.

Totals might not add due to rounding

EUROPE						Est
Tonnes	2000	2001	2002	2003	2004	2005
Supply						
Mine Supply	17	20	24	22	18	18
Scrap Recycling	107	99	130	135	163	102
Hedging	na	0	0	40	0	0
Central Bank Sales	393	392	381	454	410	485
Total Supply	**516**	**511**	**535**	**650**	**590**	**604**
Demand						
Jewellery Fabrication	895	816	755	751	740	776
Jewellery Consumption	559	524	496	482	475	495
Legal Tender Coins	43	34	42	57	57	68
Electronics	38	39	39	40	41	43
Other end Uses	88	96	105	116	128	143
ETFs	0	0	0	25	28	-5
Central Bank Purchases	0	0	0	0	0	0
Dehedging	na	22	4	0	22	8
Total Demand	**728**	**714**	**687**	**719**	**751**	**752**
Residual (Supply less Demand)	**-212**	**-203**	**-152**	**-69**	**-161**	**-148**

ASIA						Est
Tonnes	2000	2001	2002	2003	2004	2005
Supply						
Mine Supply	345	380	370	408	370	464
Scrap Recycling	159	155	222	222	261	237
Hedging	0	0	0	0	0	0
Central Bank Sales	0	0	0	20	34	0
Total Supply	**504**	**534**	**592**	**650**	**665**	**701**
Demand						
Jewellery Fabrication	692	717	693	658	654	681
Jewellery Consumption	620	639	614	582	579	601
Legal Tender Coins	0	0	0	0	0	0
Electronics	138	151	165	181	200	221
Other end Uses	28	29	30	31	32	34
ETFs	0	0	0	0	0	0
Central Bank Purchases	32	26	23	3	3	0
Dehedging	0	0	0	0	0	0
Total Demand	**818**	**844**	**832**	**798**	**814**	**855**
Residual (Supply less Demand)	**-313**	**-310**	**-240**	**-148**	**-150**	**-154**

Note: Regional totals include jewellery consumption but not jewellery fabrication.

Totals might not add due to rounding

INDIAN SUBCONTINENT						Est
Tonnes	2000	2001	2002	2003	2004	2005
Supply						
Mine Supply	1	1	1	3	5	5
Scrap Recycling	103	96	139	149	186	142
Hedging	0	0	0	0	0	
Central Bank Sales	0	0	0	0	0	0
Total Supply	**104**	**97**	**140**	**152**	**191**	**147**
Demand						
Jewellery Fabrication	740	740	610	575	625	594
Jewellery Consumption	775	774	646	612	662	637
Legal Tender Coins	0	0	0	0	0	0
Electronics	0	0	0	0	0	0
Other end Uses	39	48	58	70	86	105
ETFs	0	0	0	0	0	0
Central Bank Purchases	0	0	0	0	0	0
Dehedging	0	0	0	0	0	0
Total Demand	**814**	**822**	**704**	**683**	**748**	**742**
Residual (Supply less Demand)	**-710**	**-725**	**-563**	**-530**	**-557**	**-595**

MIDDLE EAST						Est
Tonnes	2000	2001	2002	2003	2004	2005
Supply						
Mine Supply	5	5	5	10	9	9
Scrap Recycling	138	126	175	195	270	188
Hedging	0	0	0	0	0	0
Central Bank Sales	21	25	30	20	20	21
Total Supply	**164**	**156**	**210**	**225**	**299**	**218**
Demand						
Jewellery Fabrication	407	397	406	361	358	393
Jewellery Consumption	495	471	478	454	462	516
Legal Tender Coins	0	0	0	0	0	0
Electronics	0	0	0	0	0	0
Other end Uses	14	16	18	21	24	28
ETFs	0	0	0	0	0	0
Central Bank Purchases	0	0	0	0	0	0
Dehedging	0	0	0	0	0	0
Total Demand	**509**	**487**	**496**	**475**	**486**	**544**
Residual (Demand Less Supply)	**-345**	**-331**	**-286**	**-251**	**-188**	**-327**

Note: Regional totals include jewellery consumption but not jewellery fabrication.

Totals might not add due to rounding

LATIN AMERICA Tonnes	2000	2001	2002	2003	2004	Est 2005
Supply						
Mine Supply	356	362	376	391	374	373
Scrap Recycling	41	41	61	61	69	40
Hedging	0	0	0	0	0	0
Central Bank Sales	108	80	23	0	0	1
Total Supply	**505**	**483**	**460**	**452**	**443**	**414**
Demand						
Jewellery Fabrication	83	78	78	76	78	80
Jewellery Consumption	68	65	65	64	65	66
Legal Tender Coins	0	0	0	0	0	0
Electronics	1	1	1	1	2	2
Other end Uses	20	20	21	22	23	24
ETFs	0	0	0	0	0	0
Central Bank Purchases	15	22	0	28	55	0
Dehedging	0	0	0	0	0	0
Total Demand	**104**	**108**	**88**	**116**	**144**	**92**
Residual (Supply less Demand)	**401**	**375**	**372**	**336**	**299**	**322**

AFRICA Tonnes	2000	2001	2002	2003	2004	Est 2005
Supply						
Mine Supply	611	597	614	600	553	530
Scrap Recycling	17	17	20	20	22	15
Hedging	na	0	0	0	16	4
Central Bank Sales	8	6	0	58	0	2
Total Supply	**636**	**620**	**635**	**678**	**591**	**551**
Demand						
Jewellery Fabrication	27	28	29	30	32	32
Jewellery Consumption	28	29	29	29	29	30
Legal Tender Coins	1	2	1	2	3	3
Electronics	0	0	0	0	0	0
Other end Uses	0	0	0	0	0	0
ETFs	0	0	0	0	3	0
Central Bank Purchases	61	0	0	0	0	0
Dehedging	na	21	163	99	170	102
Total Demand	**90**	**51**	**193**	**130**	**205**	**135**
Residual (Supply less Demand)	**545**	**569**	**441**	**548**	**385**	**416**

Note: Regional totals include jewellery consumption but not jewellery fabrication.

Totals might not add due to rounding

AUSTRALASIA						Est
Tonnes	2000	2001	2002	2003	2004	2005
Supply						
Mine Supply	386	362	340	364	339	328
Scrap Recycling	3	3	3	3	4	3
Hedging	na	0	0	97	33	10
Central Bank Sales	0	0	0	0	0	0
Total Supply	**389**	**365**	**343**	**463**	**376**	**341**
Demand						
Jewellery Fabrication	6	6	5	5	5	6
Jewellery Consumption	6	6	5	5	5	6
Legal Tender Coins	4	3	3	3	5	6
Electronics	1	1	1	1	1	1
Other end Uses	0	0	0	0	0	0
ETFs	0	0	0	8	-1	0
Central Bank Purchases	0	0	0	0	0	0
Dehedging	na	82	458	144	131	69
Total Demand	**11**	**92**	**467**	**162**	**141**	**82**
Residual (Supply less Demand)	**378**	**273**	**-124**	**302**	**235**	**259**

EASTERN EUROPE						Est
Tonnes	2000	2001	2002	2003	2004	2005
Supply						
Mine Supply	278	291	307	296	302	313
Scrap Recycling	28	20	35	40	45	40
Hedging	0	0	0	0	0	
Central Bank Sales	30	13	0	5	0	0
Total Supply	**336**	**324**	**342**	**342**	**347**	**353**
Demand						
Jewellery Fabrication	30	30	30	30	30	35
Jewellery Consumption	34	34	34	33	33	38
Legal Tender Coins	0	0	0	0	0	0
Electronics	14	15	15	16	16	17
Other end Uses	0	0	0	0	0	0
ETFs						
Central Bank Purchases	9	41	6	4	3	2
Dehedging	0	0	0	0	0	0
Total Demand	**57**	**90**	**55**	**52**	**52**	**57**
Residual (Supply less Demand)	**278**	**234**	**287**	**289**	**295**	**296**

Note: Regional totals include jewellery consumption but not jewellery fabrication.

Totals might not add due to rounding

Primary Mine Supply, Tonnes, 2000 - 2005						*Est*
	2000	**2001**	**2002**	**2003**	**2004**	**2005**
South Africa	428.0	393.5	395.2	375.8	343.0	295.0
Ghana	76.5	72.9	69.0	70.0	60.0	70.0
Tanzania	18.0	35.0	40.0	45.0	48.0	52.0
Mali	30.4	41.3	56.0	48.0	40.0	50.0
Zimbabwe	22.0	18.0	18.0	12.6	20.0	20.0
Other Africa	-	-	-	13.8	13.0	15.0
Guinea	17.0	17.0	17.0	16.5	13.0	12.0
Ethiopia	4.5	5.0	5.0	6.0	6.0	6.0
Congo (Dem Rep)	5.0	5.0	5.0	5.0	5.0	5.0
Sudan	5.8	5.5	5.5	5.1	5.0	5.0
Cote D'Ivoire	3.5	3.5	3.5	2.0	-	-
Total Africa	**610.6**	**596.7**	**614.2**	**599.8**	**553.0**	**530.0**
China	162.0	165.0	190.0	213.0	220.0	240.0
Indonesia	139.0	175.0	145.0	147.0	100.0	100.0
Japan	8.4	7.9	8.0	8.2	8.0	80.0
Mongolia	9.0	9.0	9.0	12.0	16.0	18.0
Other Asia	6.5	6.7	5.6	16.7	15.6	16.0
North Korea	5.0	5.0	5.0	5.0	5.0	5.0
Philippines	15.5	11.2	7.9	5.8	5.0	5.0
Total Asia	**345.5**	**379.8**	**370.5**	**407.7**	**369.6**	**464.0**
Australia	296.0	280.0	263.0	284.0	253.0	240.0
Papua New Guinea	75.0	67.1	63.2	66.0	71.0	74.0
New Zealand	9.9	10.0	10.0	10.0	11.0	10.0
Fiji	3.8	4.9	3.8	3.6	4.0	4.0
Other	1.7	-	-	-	-	-
Total Australasia	**386.4**	**362.0**	**340.0**	**363.6**	**339.0**	**328.0**
Russia	143.0	155.0	170.0	158.0	159.0	165.0
Uzbekistan	87.0	85.0	88.0	86.0	90.0	90.0
Kazakhstan	16.4	18.0	20.0	20.0	22.0	25.0
Kyrgyzstan	22.0	24.7	18.0	22.5	22.0	23.0
Other	9.4	8.3	11.3	10.0	9.0	10.0
Total Eastern Europe	**277.8**	**291.0**	**307.3**	**296.5**	**302.0**	**313.0**
Other Europe	9.0	9.2	11.2	8.9	6.5	6.5
Sweden	3.6	5.0	5.8	5.7	6.0	6.0
Spain	4.3	5.9	7.0	7.0	5.0	5.0
Total Europe/EU	**16.9**	**20.1**	**24.0**	**21.6**	**17.5**	**17.5**
India	1.4	1.4	1.4	3.3	5.0	5.0
Total Indian Sub-continent	**1.4**	**1.4**	**1.4**	**3.3**	**5.0**	**5.0**
Peru	132.6	138.7	157.3	172.6	173.0	175.0
Chile	54.0	40.9	36.5	38.9	39.0	40.0
Brazil	52.0	54.0	37.0	34.0	34.0	35.0
Colombia	14.0	14.0	35.0	46.5	30.0	30.0
Argentina	26.0	30.6	32.5	28.6	27.0	25.0
Mexico	25.8	25.7	23.3	22.2	24.0	22.0
Venezuela	15.0	16.0	16.0	15.0	15.0	15.0
Guyana	13.5	14.2	13.0	12.0	12.0	12.0
Other Latin America	-	-	-	1.6	11.0	10.0
Nicaragua	5.0	5.0	5.0	3.5	5.0	5.0
Honduras	1.0	5.0	5.5	5.0	4.0	4.0
Bolivia	11.0	12.0	10.0	7.0	-	-
Domincan Republic	-	-	0.6	-	-	-
Ecuador	6.0	6.0	4.0	4.0	-	-
Total Latin America	**355.9**	**362.2**	**375.7**	**390.9**	**374.0**	**373.0**
Saudi Arabia	3.6	4.0	4.0	8.8	8.0	8.0
Other Middle East	1.4	1.4	1.4	0.8	1.0	1.0
Total Middle East	**5.0**	**5.4**	**5.4**	**9.6**	**9.0**	**9.0**
USA	353.0	335.0	300.0	280.0	260.0	265.0
Canada	154.4	160.2	152.2	140.6	129.0	125.0
Total North America	**507.4**	**495.2**	**452.2**	**420.6**	**389.0**	**390.0**
World Total	**2,506.8**	**2,513.8**	**2,490.6**	**2,513.5**	**2,358.1**	**2,429.5**

Source: Raw Materials Group

Scrap Recycling, Tonnes, 2000 - 2005						*Est*
	2000	**2001**	**2002**	**2003**	**2004**	**2005**
Morocco	4.0	4.0	5.1	5.1	5.5	4.0
Algeria	4.0	4.0	5.2	5.2	5.4	4.0
Tunisia	4.0	4.0	5.1	5.1	5.2	3.5
Other Africa	5.0	5.0	5.0	5.0	5.5	3.0
Total Africa	**17.0**	**17.0**	**20.4**	**20.4**	**21.6**	**14.5**
Thailand	25.0	25.0	35.0	35.0	45.0	45.0
Indonesia	20.0	18.0	30.0	30.0	33.0	40.0
Japan	28.0	28.0	35.0	35.0	42.0	30.0
Malaysia	12.5	12.5	18.0	18.0	18.0	30.0
China	25.0	25.0	35.0	35.0	37.0	25.0
Philippines	7.5	7.5	12.0	12.0	15.0	18.0
South Korea	17.5	15.0	18.0	18.0	20.0	15.0
Taiwan	7.5	7.5	12.0	12.0	16.0	12.0
Hong Kong	7.5	7.5	12.0	12.0	17.0	10.0
Singapore	7.5	7.5	12.0	12.0	15.0	10.0
Other Asia	1.0	1.0	3.0	3.0	3.0	2.0
Total Asia	**159.0**	**154.5**	**222.0**	**222.0**	**261.0**	**237.0**
Australia	3.0	3.0	3.0	3.0	4.0	3.0
Total Australasia	**3.0**	**3.0**	**3.0**	**3.0**	**4.0**	**3.0**
Russia	28.0	20.0	35.0	40.0	45.0	40.0
Total Eastern Europe	**28.0**	**20.0**	**35.0**	**40.0**	**45.0**	**40.0**
Turkey	50.0	45.0	60.0	65.0	80.0	40.0
Italy	25.0	22.0	30.0	30.0	34.0	26.0
France	5.0	5.0	5.2	5.2	7.0	6.0
Germany	5.0	5.0	6.0	6.0	7.0	5.0
UK & Ireland	5.0	5.0	6.0	6.0	7.0	5.0
Switzerland	5.0	5.0	6.0	6.0	6.8	5.0
Other Europe	11.5	11.5	16.4	16.4	21.1	14.5
Total Europe/EU	**106.5**	**98.5**	**129.6**	**134.6**	**162.9**	**101.5**
India	85.0	80.0	110.0	120.0	145.0	115.0
Pakistan	15.0	13.0	22.0	22.0	30.0	20.0
Bangladesh	5.0	5.0	7.0	7.0	10.0	6.0
Sri Lanka	5.0	5.0	7.0	7.0	8.0	6.0
Total Indian Sub-continent	**110.0**	**103.0**	**146.0**	**156.0**	**193.0**	**147.0**
Brazil	6.0	6.0	8.0	8.0	10.0	5.0
Venezuela	5.0	5.0	8.0	8.0	8.0	5.0
Argentina	5.0	5.0	8.0	8.0	8.0	5.0
Other Latin America	17.5	17.5	30.0	30.0	36.0	20.0
Total Latin America	**33.5**	**33.5**	**54.0**	**54.0**	**62.0**	**35.0**
Saudi Arabia	60.0	57.0	70.0	70.0	90.0	70.0
Iraq	12.5	12.5	20.0	40.0	65.0	40.0
Egypt	25.0	20.0	30.0	30.0	33.0	20.0
Iran	12.5	10.0	15.0	15.0	28.0	20.0
Kuwait	15.0	13.0	20.0	20.0	25.0	20.0
Arab Emirates	5.0	5.0	10.0	10.0	15.0	10.0
Other Middle East	8.0	8.0	10.0	10.0	13.5	8.0
Total Middle East	**138.0**	**125.5**	**175.0**	**195.0**	**269.5**	**188.0**
USA	60.0	60.0	70.0	70.0	75.0	65.0
Canada	5.0	5.0	5.0	5.0	6.0	5.0
Total North America	**65.0**	**65.0**	**75.0**	**75.0**	**81.0**	**70.0**
World Total	**660.0**	**620.0**	**860.0**	**900.0**	**1,100.0**	**836.0**

Jewellery Fabrication, Tonnes, 2000 - 2005

	2000	2001	2002	2003	2004	*Est* 2005
Morocco	10.0	10.0	10.0	10.0	10.0	10.0
South Africa	4.5	6.0	7.0	8.0	9.6	9.6
Other Africa	12.0	12.0	12.0	12.0	12.0	12.0
Total Africa	**26.5**	**28.0**	**29.0**	**30.0**	**31.6**	**31.6**
China	200.0	200.0	200.0	200.0	200.0	225.0
Indonesia	100.0	100.0	100.0	100.0	100.0	100.0
Taiwan	80.0	85.0	80.0	75.0	70.0	70.0
Thailand	50.0	75.0	75.0	75.0	75.0	70.0
Malaysia	75.0	75.0	75.0	50.0	50.0	55.0
South Korea	75.0	70.0	50.0	50.0	50.0	52.0
Japan	25.0	25.0	25.0	25.0	25.0	25.0
Vietnam	15.0	20.0	25.0	25.0	25.0	25.0
Cambodia	10.0	10.0	10.0	10.0	10.0	10.0
Hong Kong	20.0	15.0	10.0	10.0	10.0	10.0
Singapore	15.0	15.0	15.0	10.0	10.0	10.0
Afghanistan	10.0	10.0	10.0	10.0	10.0	10.0
Other Asia	17.0	17.0	17.5	18.0	19.0	19.0
Total Asia	**692.0**	**717.0**	**692.5**	**658.0**	**654.0**	**681.0**
Australia	6.0	6.0	5.0	5.0	5.0	5.5
Total Australasia	**6.0**	**6.0**	**5.0**	**5.0**	**5.0**	**5.5**
Russia	30.0	30.0	30.0	30.0	30.0	35.0
Other Eastern Europe	0.3	0.3	0.3	0.3	0.3	0.3
Total Eastern Europe	**30.3**	**30.3**	**30.3**	**30.3**	**30.3**	**35.3**
Italy	500.0	450.0	400.0	350.0	320.0	300.0
Turkey	200.0	175.0	175.0	225.0	250.0	300.0
Spain	35.0	35.0	30.0	30.0	30.0	30.0
Switzerland	27.5	25.0	27.5	30.0	30.0	30.0
UK & Ireland	27.0	27.0	26.0	25.0	25.0	26.0
Germany	35.0	35.0	30.0	25.0	20.0	22.5
France	25.0	25.0	23.0	22.0	20.0	22.0
Greece	11.0	9.0	8.0	9.0	10.0	10.0
Portugal	10.0	10.0	10.0	10.0	10.0	10.0
Other Europe	24.7	24.8	25.4	25.0	24.5	25.1
Total Europe	**895.2**	**815.8**	**754.9**	**751.0**	**739.5**	**775.6**
India	650.0	650.0	525.0	500.0	550.0	525.0
Pakistan	50.0	50.0	50.0	50.0	50.0	50.0
Bangladesh	30.0	30.0	25.0	20.0	20.0	14.0
Other Indain Sub-continent	10.0	10.0	10.0	5.0	5.0	5.0
Total Indian Sub-continent	**740.0**	**740.0**	**610.0**	**575.0**	**625.0**	**594.0**
Mexico	30.0	30.0	30.0	30.0	30.0	30.0
Brazil	25.0	20.0	20.0	20.0	20.0	22.0
Domincan Republic	6.0	6.0	6.0	6.0	6.0	6.0
Other Latin America	22.2	21.6	22.0	20.4	21.5	21.5
Total Latin America	**83.2**	**77.6**	**78.0**	**76.4**	**77.5**	**79.5**
Saudi Arabia	150.0	150.0	150.0	125.0	125.0	130.0
Egypt	100.0	100.0	100.0	75.0	75.0	85.0
Iraq	40.0	40.0	40.0	40.0	40.0	45.0
Arab Emirates	40.0	35.0	35.0	35.0	35.0	40.0
Iran	20.0	20.0	30.0	35.0	30.0	35.0
Israel	20.0	15.0	15.0	15.0	15.0	17.5
Kuwait	17.5	17.0	15.0	14.0	15.0	15.0
Yemen	5.0	6.0	8.0	9.0	10.0	12.0
Other Middle East	14.1	14.0	13.3	12.8	13.0	13.0
Total Middle East	**406.6**	**397.0**	**406.3**	**360.8**	**358.0**	**392.5**
USA	190.0	175.0	175.0	150.0	150.0	150.0
Canada	20.0	13.0	15.0	15.0	15.0	12.0
Total North America	**210.0**	**188.0**	**190.0**	**165.0**	**165.0**	**162.0**
World Total	**3,089.8**	**2,999.7**	**2,796.0**	**2,651.5**	**2,685.9**	**2,757.0**

Jewellery Consumption, Tonnes, 2000 - 2005

	2000	2001	2002	2003	2004	*Est* 2005
Morocco	9.1	9.1	9.1	8.8	8.8	8.9
South Africa	4.2	4.7	5.0	5.2	5.9	5.8
Libya	5.0	5.0	5.2	5.3	5.2	5.3
Algeria	5.6	5.6	5.6	5.3	5.3	5.4
Other Africa	4.2	4.2	4.4	4.3	4.2	4.4
Total Africa	**28.0**	**28.5**	**29.2**	**28.9**	**29.4**	**29.8**
China	251.4	254.3	243.9	234.4	232.8	250.0
Indonesia	79.9	80.4	80.4	79.2	79.2	81.1
South Korea	56.3	52.5	37.5	37.5	37.5	39.0
Malaysia	35.8	36.9	36.8	27.7	27.6	29.1
Japan	30.4	30.7	30.0	29.4	28.6	28.8
Thailand	22.0	30.0	30.0	29.9	29.9	28.3
Taiwan	30.3	32.9	31.1	29.3	27.5	27.3
Vietnam	15.0	20.0	25.0	25.0	25.0	25.0
Afghanistan	26.3	26.2	25.1	22.9	23.3	23.7
Singapore	23.0	24.0	24.0	18.9	18.9	19.4
Myanmar	11.4	12.1	12.5	11.7	12.7	12.6
Philippines	12.2	12.9	12.9	11.7	11.7	11.8
Cambodia	10.0	10.0	10.0	10.0	10.0	10.0
Other Asia	16.5	15.8	15.0	15.0	15.0	15.0
Total Asia	**620.3**	**638.5**	**614.1**	**582.4**	**579.5**	**601.0**
Australia	**6.0**	**6.0**	**5.0**	**5.0**	**5.0**	**5.5**
Russia	30.0	30.0	30.0	30.0	30.0	35.0
Other Eastern Europe	4.0	4.0	3.7	3.3	3.0	3.2
Total Eastern Europe	**34.0**	**34.0**	**33.7**	**33.3**	**33.0**	**38.2**
Turkey	90.9	81.4	80.7	99.0	107.8	128.4
Switzerland	69.9	64.7	65.7	61.1	60.7	61.0
UK & Ireland	58.7	56.0	51.5	47.6	45.3	44.8
Italy	130.3	117.8	105.0	92.2	84.4	79.9
Germany	52.5	48.9	48.6	42.7	42.5	42.7
Spain	43.2	43.2	37.8	37.4	37.2	37.4
France	24.7	24.6	22.8	21.7	20.0	21.5
Portugal	14.3	14.5	14.5	14.4	14.4	14.6
Greece	11.5	10.4	9.7	10.0	10.3	10.4
Austria	11.2	10.9	10.1	9.4	8.5	9.0
Belgium	9.4	9.1	8.7	8.2	8.0	8.4
Other Europe	42.5	42.2	40.7	38.3	36.2	37.3
Total Europe	**559.1**	**523.7**	**495.7**	**481.9**	**475.1**	**495.2**
India	613.1	613.1	504.9	482.7	525.7	507.3
Pakistan	102.7	102.0	90.0	88.9	94.3	93.6
Bangladesh	49.0	49.0	40.8	35.5	37.0	30.9
Sri Lanka	10.0	10.0	10.0	5.0	5.0	5.0
Total Indian Sub-continent	**774.8**	**774.1**	**645.6**	**612.1**	**662.0**	**636.7**
Mexico	27.4	27.4	27.4	27.4	27.4	27.4
Brazil	13.5	11.0	11.0	11.0	11.0	12.0
Chile	3.7	4.2	4.7	5.1	5.2	5.2
Other Latin America	23.4	22.2	22.1	20.7	21.3	21.5
Total Latin America	**67.9**	**64.7**	**65.1**	**64.2**	**64.8**	**66.0**
Saudi Arabia	139.8	134.1	131.2	119.4	120.3	128.2
Egypt	90.8	89.0	89.0	73.8	75.5	86.7
Arab Emirates	33.8	31.7	31.6	35.1	37.6	43.7
Iraq	41.3	40.0	48.1	52.1	49.4	56.7
Iran	52.5	47.7	48.1	45.8	45.6	51.2
Yemen	25.7	24.7	24.8	23.5	24.2	26.4
Lebanon	26.6	26.5	28.7	28.5	29.9	34.1
Syria	28.7	27.0	26.6	26.2	27.5	30.8
Jordan	24.4	23.9	23.7	22.2	22.9	24.9
Kuwait	29.3	24.5	24.5	25.7	27.0	31.6
Other Middle East	1.8	1.8	1.7	1.7	1.8	1.8
Total Middle East	**494.5**	**470.8**	**477.9**	**454.1**	**461.6**	**516.1**
USA	480.0	439.7	409.3	369.7	356.1	351.3
Canada	25.1	19.6	20.5	19.8	19.5	17.3
Total North America	**505.2**	**459.3**	**429.8**	**389.5**	**375.6**	**368.6**
World Total	**3,089.8**	**2,999.7**	**2,796.0**	**2,651.5**	**2,685.9**	**2,757.0**

Gold Usage in Electronics, Tonnes, 2000 - 2005

	2000	2001	2002	2003	2004	2005
Japan	100.6	106.6	113.0	119.8	127.0	134.6
South Korea	26.7	32.1	38.5	46.2	55.5	66.6
Singapore	8.0	9.2	10.6	12.2	14.0	16.1
Taiwan	2.7	2.8	3.0	3.1	3.3	3.4
Total Asia	**138.1**	**150.8**	**165.1**	**181.4**	**199.8**	**220.8**
Australia	0.5	0.5	0.5	0.5	0.5	0.5
Total Australasia	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Russia	14.3	14.7	15.1	15.6	16.0	16.5
Total Eastern Europe	**14.3**	**14.7**	**15.1**	**15.6**	**16.0**	**16.5**
Germany	10.6	10.7	10.7	10.8	10.8	10.9
France	6.8	7.2	7.7	8.3	8.9	9.5
Switzerland	7.0	7.5	7.9	8.4	8.9	9.4
UK & Ireland	6.2	6.1	5.9	5.7	5.5	5.4
Other Europe	7.0	7.1	7.2	7.3	7.4	7.5
Total Europe	**37.7**	**38.5**	**39.4**	**40.4**	**41.5**	**42.6**
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	1.3	1.3	1.3	1.3	1.4	1.4
Mexico	0.1	0.1	0.1	0.1	0.1	0.1
Total Latin America	**1.4**	**1.4**	**1.5**	**1.5**	**1.5**	**1.5**
Israel	0.1	0.1	0.1	0.1	0.1	0.1
Total Middle East	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**
USA	64.2	66.1	68.1	70.1	72.2	74.4
Canada	0.6	0.6	0.7	0.7	0.7	0.7
Total North America	**64.8**	**66.7**	**68.7**	**70.8**	**72.9**	**75.1**
World Total	**256.9**	**272.9**	**290.6**	**310.4**	**332.5**	**357.3**

Legal Tender Coins, tonnes, 2000 - 2005

	2000	2001	2002	2003	2004	2005
Africa	1.4	1.6	1.29	2.22	2.93	3.0
Asia	0	0	0	0	0	0.0
Australasia	3.9	3.1	2.9	3.4	5.2	6.0
Eastern Europe	0	0	0	0	0	0.0
Europe	43.3	33.6	42.4	56.5	56.8	68.0
Indian Subcontinent	0	0	0	0	0	0.0
Latin America	0	0	0	0	0	0.0
Middle East	0	0	0	0	0	0.0
North America	10.3	16.3	22	22.5	25.6	28.0
Total	**58.9**	**54.6**	**68.6**	**84.6**	**90.5**	**105.0**

Other End Uses, Tonnes, 2000 - 2005

	2000	2001	2002	2003	2004	*Est* 2005
Japan	15.3	15.3	15.4	15.5	15.6	15.8
South Korea	9.9	10.7	11.6	12.5	13.6	14.7
Other Asia	2.4	2.5	2.7	2.8	2.9	3.1
Total Asia	**27.5**	**28.6**	**29.6**	**30.8**	**32.1**	**33.5**
Australia	0.5	0.5	0.5	0.5	0.5	0.5
Total Australasia	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Turkey	29.3	35.1	42.1	50.6	60.7	72.8
Germany	22.0	22.4	22.8	23.2	23.7	24.1
Switzerland	12.9	13.7	14.6	15.5	16.6	17.7
Italy	8.2	8.1	8.0	7.9	7.9	7.8
Netherlands	3.6	4.1	4.6	5.2	5.9	6.7
France	5.9	6.1	6.2	6.4	6.5	6.7
Other Europe	6.4	6.5	6.7	6.9	7.2	7.4
Total Europe/EU	**88.3**	**96.0**	**105.1**	**115.8**	**128.4**	**143.2**
India	37.4	45.7	55.9	68.4	83.7	102.5
Pakistan	1.8	1.9	2.0	2.1	2.2	2.3
Total Indian Sub-continent	**39.2**	**47.6**	**57.9**	**70.5**	**85.9**	**104.8**
Brazil	11.2	11.9	12.7	13.6	14.5	15.6
Other Latin America	8.3	8.3	8.4	8.4	8.4	8.5
Total Latin America	**19.5**	**20.3**	**21.1**	**21.9**	**22.9**	**24.1**
Arab Emirates	8.9	10.7	12.8	15.4	18.5	22.2
Other Middle East	5.3	5.5	5.6	5.8	5.9	6.1
Total Middle East	**14.2**	**16.2**	**18.4**	**21.2**	**24.4**	**28.3**
USA	31.9	31.6	31.4	31.1	30.8	30.6
Canada	0.3	0.3	0.3	0.3	0.3	0.3
Total North America	**32.2**	**31.9**	**31.7**	**31.4**	**31.1**	**30.9**
World Total	**221.5**	**241.0**	**264.3**	**292.1**	**325.4**	**365.3**

Include Dental Alloys, Non-Legal Tender Coins and Other Industrial Uses

Gold prices in various currencies, annual average, 1994-2005

	$/oz	Euro/oz	Rand/kg	Yen/gr	A$/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	408.89	328.98	84,687	1,422	555.69
2005 (end-Oct)	435.00	346.80	88,621	1,517	567.32
Jan-05	423.72	323.19	79,037	1,408	554.77
Feb-05	423.35	325.21	79,211	1,427	541.88
Mar-05	434.32	328.80	84,001	1,468	554.93
Apr-05	429.00	331.66	84,866	1,480	555.00
May-05	423.05	332.20	85,296	1,447	551.58
Jun-05	428.60	352.51	93,076	1,498	561.30
Jul-05	424.33	352.09	91,235	1,526	563.53
Aug-05	437.93	356.48	91,108	1,558	575.20
Sep-05	456.52	373.33	93,375	1,631	596.15
Oct-05	469.55	390.92	99,125	1,731	623.25

Inflation-adjusted gold price (in 2005 dollars)

	Nominal gold price ($/oz)	US CPI (2005=100)	Real gold price (2005 dollars)
1980	612.6	42.4	1,440.08
1981	459.9	46.8	982.04
1982	375.8	49.6	753.20
1983	424.1	51.2	825.02
1984	360.3	53.4	671.84
1985	317.2	55.3	570.71
1986	367.7	56.4	649.10
1987	446.5	58.4	760.14
1988	437.0	60.8	715.70
1989	381.4	63.8	595.67
1990	383.5	67.2	568.45
1991	362.2	70.0	514.80
1992	343.7	72.2	474.18
1993	359.8	74.3	481.91
1994	384.1	76.2	501.58
1995	384.2	78.4	490.18
1996	387.7	80.7	480.59
1997	331.2	82.6	401.21
1998	294.2	83.8	350.87
1999	278.6	85.7	325.24
2000	279.1	88.6	315.18
2001	271.1	91.1	297.68
2002	307.2	92.5	332.07
2003	363.3	94.6	384.01
2004	408.9	97.1	420.91
2005	435.0	100.0	435.00

Price volatility, %, 1994-2005

	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	8.35	10.69	10.73	11.01	12.40
Jan-05	8.93	12.22	12.37	12.48	14.34
Feb-05	7.62	10.56	11.84	12.04	14.13
Mar-05	7.35	9.33	11.06	11.74	13.68
Apr-05	8.52	9.42	9.87	11.24	13.18
May-05	7.39	10.64	9.92	10.88	12.48
Jun-05	8.01	9.54	9.92	10.60	11.86
Jul-05	7.14	10.33	10.24	10.05	11.31
Aug-05	6.81	9.66	9.94	9.91	11.00
Sep-05	9.42	11.58	10.65	10.29	11.03
Oct-05	12.93	14.26	11.87	11.12	11.16

Lease Rates, % p.a, 1994-2005

	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	1.24	1.42	1.66	1.91
1999	1.69	1.88	2.03	2.25
2000	0.82	1.03	1.25	1.70
2001	1.55	1.58	1.67	1.94
2002	0.50	0.64	0.83	1.18
2003	0.44	0.48	0.58	0.75
2004	0.41	0.44	0.48	0.58
Jan-05	0.41	0.43	0.45	0.50
Feb-05	0.43	0.44	0.47	0.52
Mar-05	0.42	0.44	0.46	0.52
Apr-05	0.42	0.44	0.45	0.52
May-05	0.46	0.48	0.50	0.55
Jun-05	0.47	0.48	0.51	0.58
Jul-05	0.44	0.46	0.48	0.53
Aug-05	0.43	0.46	0.51	0.64
Sep-05	0.44	0.46	0.46	0.52

Official sector holdings, Tonnes, 2000-2005

	2000	2001	2002	2003	2004	2005 *est*
Africa	483	477	477	420	420	418
Asia	2,324	2,350	2,373	2,356	2,326	2,326
Australasia	80	80	80	80	80	80
Eastern Europe	894	922	928	926	930	932
Europe	15,688	15,296	14,915	14,461	14,051	13,586
Indian Subcontinent	432	432	432	432	432	432
Latin America	569	510	487	516	571	570
Middle East	1,167	1,142	1,112	1,092	1,072	1,051
North America	8,171	8,169	8,155	8,140	8,140	8,137
Institutions	3,426	3,426	3,426	3,426	3,426	3,406
Total	**33,233**	**32,803**	**32,384**	**31,848**	**31,445**	**30,936**

Official sector purchases, Tonnes, 2000-2005

	2000	2001	2002	2003	2004	2005 *est*
Africa	61	-	-	-	-	-
Asia	32	26	23	3	3	-
Australasia	-	-	-	-	-	-
Eastern Europe	9	41	6	4	3	2
Europe	-	-	-	-	-	-
Indian Subcontinent	-	-	-	-	-	-
Latin America	15	22	-	28	55	-
Middle East	-	-	-	-	-	-
North America	-	-	-	-	-	-
Total	**117**	**89**	**29**	**35**	**61**	**2**

Official sector sales, Tonnes, 2000-2005

	2000	2001	2002	2003	2004	2005 *est*
Africa	8	6	-	58	-	2
Asia	-	-	-	20	34	-
Australasia	-	-	-	-	-	-
Eastern Europe	30	13	-	5	-	-
Europe	393	392	381	454	410	485
Indian Subcontinent	-	-	-	-	-	-
Latin America	108	80	23	-	-	1
Middle East	21	25	30	20	20	21
North America	19	2	14	15	-	3
Unspecified	**-**	**-**	**-**	**-**	**-**	**-**
Total	**579**	**519**	**448**	**571**	**464**	**511**

Source: IMF, national central banks websites, Virtual Metals

Central Bank lending, Tonnes, 2000 to 2005

	2000	2001	2002	2003	2004	2005
Africa	120	124	97	123	123	103
Asia	658	689	664	648	648	555
Australasia	76	76	76	76	76	76
Eastern Europe	380	436	437	403	403	359
Europe	3,103	3,140	2,862	2,580	2,153	2,066
Indian Subcontinent	199	195	100	100	100	93
Latin America	356	326	299	299	299	283
Middle East	559	489	466	476	444	356
North America	17	17	8	2	2	2
Total	**5,468**	**5,492**	**5,008**	**4,705**	**4,247**	**3,892**

Hedging, Hedge Impact, Tonnes, end-period, 2001-2005

Global	**2001**	**2002**	**2003**	**2004**	**Q2 2005**
Net Forwards	2328	2050	1717	1477	1386
Net Calls	232	270	290	253	240
Other Products	217	125	91	16	14
Net Puts	244	137	120	22	11
Total Hedge Impact	3020	2582	2218	1768	1651
Change		*-439*	*-364*	*-450*	*-117*
Americas	**2001**	**2002**	**2003**	**2004**	**Q2 2005**
Net Forwards	1098	1245	976	849	808
Net Calls	69	56	90	62	46
Other Products	18	41	33	29	27
Net Puts	26	55	41	22	10
Total Hedge Impact	1211	1397	1140	963	891
Change	-66	64	-56	-36	-48
Africa	**2001**	**2002**	**2003**	**2004**	**Q2 2005**
Net Forwards	589	455	381	235	214
Net Calls	116	171	159	162	175
Other Products	42	0	0	0	0
Net Puts	59	19	5	-6	-4
Total Hedge Impact	807	644	546	392	385
Change	*-41*	*-13*	*-3*	*-67*	*-13*
Australias	**2001**	**2002**	**2003**	**2004**	**Q2 2005**
Net Forwards	625	335	309	357	330
Net Calls	44	43	40	29	18
Other Products	157	84	54	-14	-13
Net Puts	154	62	73	6	5
Total Hedge Impact	981	523	476	378	340
Change	-47	-182	-9	-3	-18
Europe	**2001**	**2002**	**2003**	**2004**	**Q2 2005**
Net Forwards	15	15	51	35	33
Net Calls	2	1	1	0	0
Other Products	0	0	3	0	0
Net Puts	4	2	2	0	0
Total Hedge Impact	21	17	57	35	33
Change	-1	-2	6	-5	-1

Source: "The Hedge Book", by Mitsui Precious Metals, Haliburton Mineral Services, Virtual Metals

Hedging, Committed, Tonnes, end-period, 2001-2005

Global	**2001**	**2002**	**2003**	**2004**	**Q2 2005**
Net Forwards	2472	2167	1781	1501	1411
Calls sold	757	503	456	391	373
Calls bought	208	112	71	64	75
Other Products	390	212	149	49	44
Net Calls Sold	550	391	385	327	298
Total Committed	3323	2795	2315	1877	1753
Change	*-105*	*-210*	*-86*	*-95*	*-86*
Puts bought	722	557	662	253	209
Puts sold	32	60	129	40	34
Americas	**2001**	**2002**	**2003**	**2004**	**Q2 2005**
Net Forwards	1175	1309	1011	866	826
Calls sold	277	94	109	76	55
Calls bought	33	12	0	3	1
Other Products	21	81	40	35	30
Total Committed	1428	1497	1160	973	909
Change	*-28*	*22*	*-52*	*-31*	*-40*
Puts bought	103	212	237	151	98
Puts sold	23	40	17	5	4
Africa	**2001**	**2002**	**2003**	**2004**	**Q2 2005**
Net Forwards	621	474	394	239	218
Calls sold	406	345	280	271	295
Calls bought	170	94	71	61	74
Other Products	63	0	0	0	0
Total Committed	920	725	603	448	439
Change	*-27*	*-33*	*-27*	*-53*	*-19*
Puts bought	187	117	91	75	74
Puts sold	8	20	49	35	31
Australias	**2001**	**2002**	**2003**	**2004**	**Q2 2005**
Net Forwards	676	369	324	361	334
Calls sold	74	61	64	44	24
Calls bought	5	6	0	0	0
Other Products	306	131	106	15	14
Total Committed	949	554	494	420	372
Change	*-49*	*-194*	*-10*	*-6*	*-25*
Puts bought	432	217	324	27	36
Puts sold	0	0	64	0	0
Europe	**2001**	**2002**	**2003**	**2004**	**Q2 2005**
Net Forwards	16	15	52	36	34
Calls sold	10	4	4	0	0
Calls bought	0	0	0	0	0
Other Products	0	0	3	0	0
Total Committed	26	19	58	36	34
Change	*-2*	*-5*	*4*	*-5*	*-1*
Puts bought	0	11	9	0	0
Puts sold	0	0	0	0	0

Source: "The Hedge Book", by Mitsui Precious Metals, Haliburton Mineral Services, Virtual Metals

Exchange Traded funds, annual offtake, Tonnes, 2000-2005

	2000	2001	2002	2003	2004	2005
Africa					3	0
Asia						
Australasia				8	-1	0
Eastern Europe						
Europe				25	28	-5
Indian Subcontinent						
Latin America						
Middle East						
North America					95	128
Total				**33**	**125**	**123**

COMEX speculation, end-period, Tonnes, 1994 - 2005

	Open interest	Large speculators net long	Small speculators net long	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
25-Jan-05	850	88	97	185
22-Feb-05	833	121	108	229
29-Mar-05	876	316	101	416
26-Apr-05	940	429	98	527
31-May-05	796	103	62	165
28-Jun-05	944	404	111	515
26-Jul-05	799	152	105	258
30-Aug-05	908	342	93	434
27-Sep-05	1,141	517	87	604

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/Square mm	11.9	
Purity (Caratage)		
In Parts Per 1,000		
24 Carat	1,000	
	999.90	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	
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	= 15.43 Grains	
1 Pennyweight	= 24 Grains	
1 Kilogramme	= 32.1507 Troy Ounces	
1 Oz Avoirdupois	= 0.9115 Troy Ounces	

GLOSSARY

A

ACCELERATED SUPPLY Gold reaching the market through lending and leasing before it is physically produced.

AMERICAN STYLE An 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.

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.

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In July 2005, Virtual Metals launched MineLife a non-profit alliance of mining members committed to heightened social responsibility among host communities throughout Africa.

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ABOUT FORTIS BANK

Fortis is an integrated financial services provider active in the fields of banking and insurance. With a market capitalisation of EUR 26.9 billion (31/01/2005) and over 52,000 employees, Fortis ranks in the top 20 of European financial institutions. In its home market, the Benelux countries, Fortis occupies a leading position which it aims to develop and bolster. Fortis is drawing on the expertise it has acquired in its home market to realise its European ambitions via growth platforms. Fortis also operates successfully worldwide in selected activities. In specific countries in Europe and Asia it effectively exploits its know-how and experience in bancassurance.

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