

The yellow book

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VM Group

Sponsored by Fortis

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Jessica Cross, CEO
The VM Group/MineLife

Introduction

That The Yellow Book is made available to the market on a complimentary basis is due to Fortis Bank SA/NV. The VM Group (VMG) would like to thank 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 – contact us by email with specific data requests at: info@vmgroup.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.

This time 5 years ago

December 2nd 2002

Morning fix: \$317.3/oz

Afternoon fix: \$316.5/oz

Dollar to Sterling: 1.56

Yen to Dollar: 124.5

Rand to Dollar: 9.21

1 month lease rate: 0.01%

Reuters, November 12th 2002: Newmont Mining reduced its hedge book by 928,000 ounces in the quarter, which shrank ounces committed to 5.8 Moz. It inherited a hedge book of about 10 Moz from its takeover of Normandy Mining.

Reuters, November 19th 2002: China granted approval to its four biggest state banks, Bank of China, Industrial and Commercial Bank, Construction Bank and Agricultural Bank, to import and export gold. The banks will not be able to trade direct, but will still have to go through the People's Bank of China as gold is still regarded as a strategic resource. The People's Bank will dictate quotas later, but they may be small initially as demand remains low.

Reuters, November 20th 2002: Placer Dome, which suspended gold mining at its Getchell mine in 1999, announced that it had restarted operations at the Nevada property and hoped to produce up to 350,000 ounces annually by 2004.

Reuters, November 26th 2002: Barrick Gold Corp will produce slightly less gold next year due to the closure of five depleted mines. All but two of the mines were acquired when Barrick bought Homestake last year. Barrick plans to replace the production from the mines with a development plan that sees 2 million new ounces by the end of 2006 from four new mines.

Mining Weekly, November 28th 2002: South Africa's gold production rose to 3.25 Moz (101.1 tonnes) in the third quarter of 2002, about 1% higher than in the previous quarter. Production in the year to September was 9.52 Moz (296.1 tonnes), up from 9.39 Moz (292.1 tonnes) over the same period last year.

Feature: In Mumbai

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The London Bullion Market Association – the overseeing body for gold and silver markets in London – held its annual conference in Mumbai, India's business and financial capital, between November 18th and November 20th 2007.

LBMA annual conference



Source: VM Group

India remains the largest consumer of physical gold in the world with an offtake that is very high given the country's national income. India remains very poor, with an estimated 300m people living on \$1 per day. However, growth rates of GDP in recent years have approached levels seen in China and there is a great deal of confidence that India's economic future is brighter now than it has been for hundreds of years. It does not, of course, follow that gold demand will grow as quickly, or even remain at its current high level. That will depend on how the country's rising income affects the motives for gold purchasing. While it is likely that western-style jewellery will be increasingly bought by a growing middle class, gold's role as a saving instrument, in part due to a comparatively undeveloped financial and banking system, and its role in Indian wedding culture, will inescapably become more fragile as the economy develops.

Such concerns were little aired at the conference, where the number of bankers and investment managers outweighed miners by 12:1 (the latter having fallen to just 12 delegates, from around 30 in the previous four years). The overall mood – as one might expect with the gold price at around \$800/oz – was one of heady optimism, based partly on projections of Indian (and Chinese) demand. Even some of the negatives have managed to become positive, with a new angle on central banks (which remain resolutely on the sell side), which was that the new "sovereign wealth funds" would join the party – and they have billions or trillions of dollars to spend. Such sentiments strangely went hand-in-hand with the view that the European Gold Agreement – which limits the ability of such investors to sell their assets – must be renewed in 2009.

Zaveri Bazaar



Source: VM Group

It was a far cry from this aspect of the gold market, although presumably quite central to its hopes, to visit and experience the Zaveri Bazaar, Bhuleshwar Road in the Kalbadevi area of South Mumbai (on an official LBMA trip organised by the Bombay Bullion Association). This is the centre of Mumbai's gold jewellery industry, and to call it simply a bazaar doesn't quite do justice to this bustling hive of industry. There are, it is true, hundreds of small shops selling a wide variety of items of jewellery (mainly gold and silver) and gems, but the narrow, crowded and chaotic lanes, penned in by four or five story tenement buildings, also contain tens, possibly hundreds, of workshops with goldsmiths and artisans manufacturing the jewellery. Furthermore, as well as retailers and manufacturers, the whole gold distribution chain is situated right there, with refiners, scrap merchants, wholesalers, bullion dealers, and a Bank of India vault containing thousands of 'gold lockers' – locked deposit boxes where private individuals store their gold away from the risk of theft or the prying eyes of tax inspectors.

It is no exaggeration to see the Zaveri Bazaar as a microcosm of India in 2007 – a mix of low and high technology, poverty and riches. The industrial side of the business remains rather basic, as the picture below, of one of the workshops, shows. There is scant evidence of the glamorous aspects of the gold industry on view here. Working conditions are poor with a high level of pollution and the bare minimum of health and safety regulations – whilst we were there workers were moving molten metal by hand by workers wearing open-toed shoes. Furthermore many of the workers don't just work but live in these difficult conditions.

Men at work in the bazaar



Source: VM Group

Gold chain shop



Source: VM Group

The jewellery business is somewhat less rudimentary, although even here external facades are kept basic, in order to show that overheads are maintained as low as possible. The Bombay Bullion Association has made efforts, which are ongoing, to make the area more tourist-friendly. The Sheikh Mernon Road has been pedestrianised (which, given the rather relaxed attitude everyone has to walking in the road, is a good idea), made generally prettier (decorated with lanterns), and security is being stepped up; unfortunately the Bazaar has been attacked by terrorists twice in the last 20 years.

The picture to the left is of a display in a gold chain shop. Mark-ups are low, with prices only slightly above the spot price of gold. Volumes were said to be as high as 15kg of gold sold a day. Across the industry, however, the hallmarking scheme has not taken off. Another interesting sight was the *darum cuta* or honest weigher, of which there are three in the Bazaar. These weighers will buy from or sell gold to the public, weighing and assaying the metal to judge its value. The volume of trade can provide an indication of the prevailing mood in the market. On the day of our visit the queues of people wanting to sell their gold in return for cash appeared longer than those who were buying gold, of which you can make what you will. Finally at the top of one of the buildings – which we reached by means of a very rickety old lift – we caught a glimpse of a more modern India – an office filled with computers and LCD displays showing the London and Indian gold prices in real time. This is the office of an online commodities trading firm – the old India working contentedly side-by-side with the new.

2008 – another rollercoaster

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The gold market in 2008 is shaping up to be one of the most volatile for many years. We expect the physical market to record a small surplus, of 123t, suggesting that for prices to remain strong, investors need to remain faithful to bullion – which, given the background macro-economic problems relating to the probability of a US recession and a still weaker US currency, is more than likely. Yet our projected surplus *is* only small, and any of the major components of supply and demand could exceed or fall short of our forecasts, possibly enough to turn it into a deficit. It seems likely to us that the major factors affecting the gold market will be external – the fate of the US dollar, that of the western economies, and of course prospects for Asia.

In this fifth edition of The Yellow Book we once more give our view of the annual supply/demand balance, but it is important to reiterate that, at a time of high prices and heightened nervousness, this is a snapshot view of the market, subject to rapid change.

This year it is especially tricky to try to present a cogent table of market events, with almost unprecedented price movements and volatility; a generalised picture such as the one shown here tends to smooth out the peaks and troughs of the rollercoaster.

To recapitulate, our supply/demand balance details are what we can identify or model with varying degrees of confidence. In the case of a surplus the balance represents the amount of gold potentially available to investors, less an error factor; in the case of a deficit, the shortfall.

During 2000-2006 the gold market was in overall deficit, with the exception of 2003, for which year our calculations show a tiny surplus of 52t. In total, the collective deficit over those seven years was 972t. This alone ought to have been enough to push prices higher (were it not for the massive stock overhang of above ground stocks). And this deficit has certainly played its part in fostering one of the strongest and longest bull markets in the metal's history.

That overall deficit will have disappeared in 2007, for which our preliminary findings reveal a small surplus of 220t. But this substantially undershoots the 326t increase in the net long position on Comex during the year. Given this large net long in investment gold, it should not surprise anyone that the \$800/oz level was broken with such speed and ease.

In 2007 the gold market fell into two distinct periods. For much of 1H 2007, the price consolidated in a trading range between \$650/oz-\$690/oz, with the volatility from the start of January until the end of August being just 16%. During this phase jewellery demand appeared to recover off the lows of the previous year, while scrap recycling remained at relatively high levels, although the amount of gold returned for recycling did not exceed that of 2006. Mine supply was reasonably constant and central bank sales steady, as anticipated.

This radically altered in 2H 2007, during which the gold price powered ahead to a high of \$845.65/oz on 7th November. One-month price volatility rose from a low of 10.8% in July to 17.4% in November. This price rally caused demand for investment jewellery and bars, in the Middle East in particular, to stall. But, most surprisingly, this price move failed to stimulate the type of recycling wave that might otherwise have been anticipated. While jewellery scrap is being returned to refiners at a steady rate, it has not been at levels that might have been expected with the gold price at near record levels. One explanation for this is that the scrap was readily available to the market; it had already been returned to the refiners from about \$600/oz onwards and therefore when the price broke through \$800/oz, the recycling cupboard, like that in Old Mother Hubbard's place, was bare. Even more important, the same observations apply to recycling

of bars, which as we write with a price at over \$810/oz, are conspicuously absent.

While picking over the past remains central to the understanding of any market, it is our brief to look forward and suggest what the future might bring. Our supply/demand balance collates our views through 2008.

We expect little change to mine supply. South Africa looks set to lose to China its position as largest producer. South Africa not being the top producer would once have been an event of huge magnitude, but it is now widely expected and inevitable. Expansion and new projects scheduled for the medium term do not fall into the time horizon covered by this report. Even so, we have been arguing that the market is unlikely to see a massive surge in new mine supply, despite the price levels of the last five years.

In 2008, scrap is likely to remain relatively high but we are not forecasting a significant surge in recycling volumes. Likewise, even at higher prices, we are unlikely to see a return to producers hedging in any large volumes, with the trend next year of a continued decline in the hedge book as discussed below.

Central Bank sales are likely to remain on track within the framework of the European Gold Agreement, but for the third year in a row sales are likely marginally to undershoot the 500t limit during the EGA year, which ends at the end of September 2008. This is despite a robust start to the current EGA year. As for the current EGA's final year (2008-2009), which extends beyond the scope of this report, much hinges on what the Bundesbank may decide. While some central banks may buy gold in 2008, the total volumes are likely, as in recent years, to be small and will only partially offset anticipated sales. We maintain, furthermore, that China's central bank will not add to its gold reserves. The amounts that would need to be purchased to make a difference would be so large as to make China a holder of gold on the European scale, and the Chinese will be aware that the Europeans have needed a sales limit in order to exit the market in an orderly fashion.

ETFs will continue to play an important role in supporting demand. For the last three years ETF offtake has been around or above 200t a year, and we see this rate continuing into 2008. Cumulatively we forecast that in 2008 the total amount of gold held in the various ETFs will exceed 1,000t; this estimate could be too low if new products are launched in the Middle East and Asia. However, it is worth noting that much of the demand for the market-leading US product has come from banks and investment funds, and as such might not be replicated in other markets.

Adornment jewellery offtake is expected to remain flat throughout 2008. The normal demographic pressures, which might otherwise result in growth in demand, are likely to be tempered by higher retail prices when jewellers restock after Christmas, as well as slower economic growth, which will cut consumer spending, especially in the US. We will look to the level of jewellery sales in the US over Christmas as a bellwether for 2008. While very weak at over \$800/oz, investment jewellery is likely to re-establish at under \$780/oz, and the level at which buying comes in strongly will suggest a current floor in the trading range in the months to come. While the oil price remains high, petrodollars will continue to flow into the Middle East, a proportion of which will find their way into the jewellery market.

Dehedging has been one of the most supportive features of the gold market during the boom period – almost completely offsetting central bank sales. This year we are on course for a net total dehedging of 400t, only 4t lower than last year's level. In 2008 this rate will surely slow, we estimate to 210t, as the bulk of the major dehedging has now been done. Yet the risks are on the side of higher dehedging – the success so far of what in effect is a gamble on higher

prices will not have been lost on companies and their shareholders – and there are few signs of major new hedge programmes coming to the fore.

Most of all however we look to the performance of the US currency and the background economic outlook for the US in its presidential election year as our main guide to the price trend for 2008. We argue that although a recovery in the US dollar is not impossible, and when it does come is likely to take us all by surprise, it won't be in 2008. That is an election year, and there will be such pressure from the Republican Party to give its candidate a hope of being selected for the White House that the Federal Reserve will do whatever it takes to stave off the threat of recession. This will translate into much lower US interest rates – perhaps a cut to as low as 3% by the end of 2008 – and a much weaker dollar than today. Such an interest rate cut may not in itself be sufficient to prevent a recession, which will see equity prices weaken. Gold could therefore benefit from this 'double whammy' – lower interest rates and a rush from equities. If the price does not rise to \$900/oz some time in 2008 it will be a great surprise, and if the background macro-economic picture in the US and a weaker dollar prevails and gold fails to hit \$900/oz, it will be a strong indicator that gold has reached a new historic ceiling. By Q1 2009, with a new president in the White House, the going is likely to get much trickier for precious metals.

The data

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 that are clandestine and unofficial, and therefore movements of metal within these sectors are largely beyond measurement and unverifiable. The VM Group (VMG) attempts to avoid spurious accuracy – measuring something 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.

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, China Gold Association and newswires.
- Scrap recycling – data from refineries and industry participants. VMG estimates based on gold price movements, political developments.
- Producer hedging – data from the Mitsui Hedge Report produced by VMG 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 VMG from our understanding of the individual markets, discussions with the bullion banks active in various physical markets, jewellery wholesalers, hallmarking figures where available, and trade data, which is subject to interpretation but gives direction of physical flows.
- Jewellery consumption – data series generated by VMG 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 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 that 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 VMG does not have data, and therefore this data series probably understates the sector. VMG makes allowance for this in the “other industrial” data series.
- Electronics – data series derived by VMG, 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 around 10% between 2000 and 2005 has been applied, although since then the picture has been mixed.

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 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, 2003-2008f

World total and regional supply/demand imbalances (tonnes)

	World total						North America					
	2003	2004	2005	2006	2007e	2008f	2003	2004	2005	2006	2007e	2008f
Supply												
Mine supply	2,512	2,351	2,411	2,367	2,413	2,414	421	389	380	364	353	360
Scrap recycling	900	1,100	836	1,057	981	817	75	81	70	88	83	69
Hedging	188	68	84	40	42	25	41	19	30	29	22	10
Central Bank sales	571	464	616	379	583	495	15	0	0	2	0	0
Total supply	4,171	3,983	3,947	3,845	4,018	3,751	552	489	480	482	458	439
Demand												
Jewellery fabrication	2,808	2,878	2,996	2,276	2,257	2,334	212	212	207	177	168	160
Jewellery consumption	2,808	2,878	2,996	2,276	2,257	2,334	405	396	390	351	340	327
Legal tender coins	85	91	101	102	80	92	23	26	24	30	19	21
Electronics	310	332	357	372	403	416	71	73	75	78	84	87
Other end uses	315	350	393	315	311	313	31	31	31	29	29	28
ETFs	33	125	192	253	241	178	0	95	178	212	175	125
Central Bank purchases	39	61	39	132	64	61	0	0	0	0	0	0
Dehedging	529	524	223	462	442	235	298	195	146	336	207	57
Total demand	4,118	4,362	4,304	3,912	3,798	3,628	827	816	844	1,036	853	645
Residual (supply less demand)	52	(378)	(357)	(70)	220	123	(276)	(327)	(365)	(554)	(395)	(206)
	Western Europe						Asia					
	2003	2004	2005	2006	2007e	2008f	2003	2004	2005	2006	2007e	2008f
Supply												
Mine supply	22	18	15	19	11	12	408	365	413	397	467	454
Scrap recycling	135	163	102	126	117	98	222	261	237	288	269	224
Hedging	50	0	9	10	0	0	0	0	0	0	0	0
Central Bank sales	454	410	529	338	540	485	20	34	67	11	26	10
Total supply	660	590	654	493	668	595	650	660	717	695	762	688
Demand												
Jewellery fabrication	777	790	791	671	663	650	683	696	716	584	556	582
Jewellery consumption	540	547	546	476	465	456	602	614	633	499	477	501
Legal tender coins	57	57	68	63	53	61	0	0	0	0	0	0
Electronics	40	41	43	44	48	49	181	200	221	230	249	258
Other end uses	116	128	143	114	112	113	66	70	74	64	64	63
ETFs	25	28	9	36	47	35	0	0	0	0	0	0
Central Bank purchases	0	0	0	0	0	0	7	3	4	7	4	1
Dehedging	0	22	9	5	18	23	0	0	0	0	0	0
Total demand	777	823	818	739	742	737	857	887	931	800	794	832
Residual (supply less demand)	(117)	(233)	(164)	(246)	(74)	(142)	(207)	(228)	(214)	(104)	(32)	(134)
	Indian sub-continent						Middle East					
	2003	2004	2005	2006	2007e	2008f	2003	2004	2005	2006	2007e	2008f
Supply												
Mine supply	3	5	3	3	4	4	10	9	8	8	8	8
Scrap recycling	149	186	142	198	180	150	195	270	188	235	214	178
Hedging	0	0	0	0	0	0	0	0	0	0	0	0
Central Bank sales	0	0	0	0	0	0	20	20	20	20	0	0
Total supply	152	191	145	200	183	154	225	299	216	263	222	186
Demand												
Jewellery fabrication	575	607	661	397	416	478	416	426	466	321	336	348
Jewellery consumption	627	661	714	437	457	519	503	528	572	399	411	428
Legal tender coins	0	0	0	0	0	0	0	0	0	0	0	0
Electronics	0	0	0	0	0	0	0	0	0	0	0	0
Other end uses	70	86	105	79	78	80	21	24	28	19	17	19
ETFs	0	0	0	0	4	10	0	0	0	0	0	0
Central Bank purchases	0	0	0	0	0	0	0	0	30	100	18	10
Dehedging	0	0	0	0	0	0	0	0	0	0	0	0
Total demand	698	747	819	516	540	608	524	552	631	518	447	456
Residual (supply less demand)	(545)	(556)	(674)	(316)	(356)	(455)	(299)	(254)	(415)	(255)	(225)	(271)

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					
	2003	2004	2005	2006	2007e	2008f	2003	2004	2005	2006	2007e	2008f
Supply												
Mine supply	391	374	433	466	452	457	598	551	512	510	501	493
Scrap recycling	61	69	40	50	48	40	20	22	15	18	16	13
Hedging	0	0	0	0	0	0	0	16	12	0	4	0
Central Bank sales	0	0	0	6	0	0	58	0	0	0	1	0
Total supply	452	443	473	522	500	496	676	589	538	528	523	506
Demand												
Jewellery fabrication	77	78	80	68	64	61	29	31	31	21	20	20
Jewellery consumption	65	65	66	56	53	51	28	28	29	19	18	19
Legal tender coins	0	0	0	0	0	0	2	3	3	3	3	3
Electronics	1	2	2	2	2	2	0	0	0	0	0	0
Other end uses	9	10	11	10	11	10	0	0	0	0	0	0
ETFs	0	0	0	0	0	0	0	3	4	3	10	5
Central Bank purchases	28	55	0	0	2	0	0	0	0	0	0	0
Dehedging	0	0	0	0	0	0	99	170	0	40	41	78
Total demand	104	131	79	68	67	63	129	204	36	65	72	105
Residual (supply less demand)	348	312	395	454	432	434	547	384	502	464	451	402
	Australasia						Eastern Europe					
	2003	2004	2005	2006	2007e	2008f	2003	2004	2005	2006	2007e	2008f
Supply												
Mine supply	364	339	347	315	325	328	296	302	301	286	293	298
Scrap recycling	3	4	3	4	3	3	40	45	40	53	50	42
Hedging	97	33	33	1	16	15	0	0	0	0	0	0
Central Bank sales	0	0	0	0	0	0	5	0	0	1	15	0
Total supply	463	376	382	319	344	346	342	347	341	340	358	340
Demand												
Jewellery fabrication	5	5	6	5	4	4	34	34	39	33	30	30
Jewellery consumption	5	5	6	5	4	4	34	34	39	33	30	30
Legal tender coins	3	5	6	6	5	6	0	0	0	0	0	0
Electronics	1	1	1	1	1	1	16	16	17	17	19	19
Other end uses	0	0	0	0	0	0	0	0	0	0	0	0
ETFs	8	(1)	1	2	6	3	0	0	0	0	0	0
Central Bank purchases	0	0	0	0	0	0	4	3	5	25	40	50
Dehedging	132	137	68	81	176	77	0	0	0	0	0	0
Total demand	150	147	81	95	192	92	53	54	61	76	89	99
Residual (supply less demand)	314	229	301	224	151	254	288	293	280	264	270	241

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 Hedge Book.

Primary mine supply, 2003-2008f (tonnes)

	2003	2004	2005	2006	2007e	2008f
South Africa	375.8	343.0	294.8	272.0	260.0	245.0
Ghana	70.0	60.0	66.5	72.0	80.0	75.0
Mali	48.0	40.0	44.2	62.0	64.0	68.0
Tanzania	45.0	48.0	45.5	45.0	42.0	50.0
Guinea	16.5	13.0	13.0	14.0	14.5	15.0
Other Africa	11.9	10.9	15.7	18.6	14.0	15.0
Congo (Dem Rep)	5.0	5.0	5.0	5.0	5.0	6.0
Ethiopia	6.0	6.0	6.0	6.0	6.0	6.0
Sudan	5.1	5.0	5.0	3.5	5.0	5.0
Zimbabwe	12.6	20.0	14.0	11.0	8.7	5.0
Cote D'Ivoire	2.0	0.0	2.0	1.4	2.0	3.0
Total Africa	597.9	550.9	511.7	510.4	501.2	493.0
China	213.0	220.0	224.0	240.0	260.0	260.0
Indonesia	147.0	100.0	142.0	110.9	147.9	125.0
Other Asia	16.7	10.7	10.7	9.2	22.0	30.0
Mongolia	12.0	16.0	18.0	18.0	18.0	20.0
Japan	8.2	8.0	7.5	7.5	7.3	7.0
Philippines	5.8	5.0	6.2	6.0	6.5	7.0
North Korea	5.0	5.0	5.0	5.0	5.0	5.0
Total Asia	407.7	364.7	413.4	396.6	466.7	454.0
Australia	284.0	253.0	264.0	244.0	253.0	250.0
Papua New Guinea	66.0	71.0	68.7	59.0	60.0	65.0
New Zealand	10.0	11.0	11.0	10.0	9.0	10.0
Fiji	3.6	4.0	2.8	1.7	2.8	3.0
Other Australasia	0.0	0.0	0.0	0.0	0.0	0.0
Total Australasia	363.6	339.0	346.5	314.7	324.8	328.0
Russia	158.0	159.0	168.0	165.0	159.0	160.0
Uzbekistan	86.0	90.0	86.0	86.0	88.0	88.0
Kazakhstan	20.0	22.0	22.0	20.0	23.0	21.0
Kyrgyzstan	22.5	22.0	17.0	11.0	15.0	19.0
Other Eastern Europe	10.0	9.0	7.7	4.2	8.0	10.0
Total Eastern Europe	296.5	302.0	300.7	286.2	293.0	298.0
Sweden	5.8	5.7	6.0	5.2	6.8	5.0
Spain	7.0	7.0	5.0	3.0	3.0	2.5
Other Western Europe	11.2	8.9	6.5	6.3	9.3	3.3
Total Western Europe	24.0	21.6	17.5	14.5	19.1	10.8
India	3.3	5.0	3.4	2.5	3.5	4.0
Total Indian sub-continent	1.4	3.3	5.0	3.4	2.5	3.5
Peru	172.6	173.0	207.8	203.6	180.0	185.0
Chile	38.9	39.0	39.6	42.0	48.0	50.0
Brazil	34.0	34.0	35.0	40.0	42.0	42.0
Colombia	46.5	30.0	35.8	37.0	39.0	38.0
Mexico	22.2	24.0	31.6	33.7	35.0	35.0
Other Latin America	1.6	11.0	15.7	22.2	26.0	35.0
Argentina	28.6	27.0	25.0	43.2	38.0	30.0
Venezuela	15.0	15.0	14.0	16.0	16.0	15.0
Bolivia	7.0	0.0	8.9	9.6	10.0	10.0
Ecuador	4.0	0.0	4.0	4.0	4.0	5.0
Guyana	12.0	12.0	8.2	6.4	6.0	5.0
Nicaragua	3.5	5.0	3.4	3.4	3.6	3.7
Honduras	5.0	4.0	4.5	4.5	4.5	3.0
Dominican Republic	0.0	0.0	0.0	0.0	0.0	0.0
Total Latin America	390.9	374.0	433.4	465.6	452.1	456.7
Saudi Arabia	8.8	8.0	8.0	8.0	8.0	8.0
Other Middle East	0.8	1.0	0.0	0.0	0.0	0.0
Total Middle East	9.6	9.0	8.0	8.0	8.0	8.0
USA	280.0	260.0	261.0	260.0	248.0	250.0
Canada	140.6	129.0	118.5	104.0	105.0	110.0
Total North America	420.6	389.0	379.5	364.0	353.0	360.0
World total	2,511.6	2,351.1	2,411.2	2,367.0	2,413.1	2,413.7

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

Scrap recycling (excluding process scrap), 2003-2008f (tonnes)

	2003	2004	2005	2006	2007e	2008f
Algeria	5.2	5.4	4.0	4.9	4.4	3.7
Morocco	5.1	5.5	4.0	4.9	4.4	3.7
Tunisia	5.1	5.2	3.5	4.3	3.9	3.2
Other Africa	5.0	5.5	3.0	3.7	3.5	2.9
Total Africa	20.4	21.6	14.5	17.7	16.2	13.5
Thailand	35.0	45.0	45.0	54.9	52.3	43.6
Indonesia	30.0	33.0	40.0	48.8	44.4	37.0
Japan	35.0	42.0	30.0	35.1	33.4	27.9
Malaysia	18.0	18.0	30.0	36.6	33.3	27.7
China	35.0	37.0	25.0	30.5	29.0	24.2
Philippines	12.0	15.0	18.0	22.0	20.0	16.6
South Korea	18.0	20.0	15.0	18.3	17.4	14.5
Taiwan	12.0	16.0	12.0	14.6	13.9	11.6
Singapore	12.0	15.0	10.0	12.2	11.6	9.7
Hong Kong	12.0	17.0	10.0	12.2	11.6	9.7
Myanmar	3.0	3.0	2.0	2.4	2.3	1.9
Total Asia	222.0	261.0	237.0	287.6	269.3	224.4
Australia	3.0	4.0	3.0	3.5	3.3	2.8
Total Australasia	3.0	3.0	4.0	3.0	3.5	3.3
Russia	40.0	45.0	40.0	52.8	50.3	41.9
Total Eastern Europe	40.0	45.0	40.0	52.8	50.3	41.9
Turkey	65.0	80.0	40.0	48.8	44.4	37.0
Italy	30.0	34.0	26.0	32.5	31.0	25.8
France	5.2	7.0	6.0	7.5	7.1	6.0
UK & Ireland	6.0	7.0	5.0	6.3	6.0	5.0
Switzerland	6.0	6.8	5.0	6.3	6.0	5.0
Germany	6.0	7.0	5.0	6.3	6.0	5.0
Other Western Europe	16.4	21.1	14.5	18.0	17.1	14.3
Total Western Europe	134.6	162.9	101.5	125.5	117.4	97.9
India	120.0	145.0	115.0	161.0	146.4	122.0
Pakistan	22.0	30.0	20.0	28.0	25.5	21.2
Bangladesh	4.0	7.0	4.0	4.9	4.4	3.7
Sri Lanka	3.0	4.0	3.0	3.7	3.3	2.8
Total Indian sub-continent	149.0	186.0	142.0	197.5	179.6	149.7
Argentina	7.0	8.0	6.0	7.5	7.1	6.0
Brazil	7.0	10.0	6.0	7.5	7.1	6.0
Chile	7.0	8.0	5.0	6.3	6.0	5.0
Colombia	8.0	8.0	5.0	6.3	6.0	5.0
Mexico	8.0	8.0	5.0	6.3	6.0	5.0
Other Latin America	8.0	10.0	5.0	6.3	6.0	5.0
Peru	8.0	8.0	4.0	5.0	4.8	4.0
Venezuela	8.0	9.0	4.0	5.0	4.8	4.0
Total Latin America	61.0	69.0	40.0	50.0	47.6	39.7
Saudi Arabia	70.0	90.0	70.0	87.5	79.5	66.3
Iraq	40.0	65.0	40.0	50.0	45.5	37.9
Egypt	30.0	33.0	20.0	25.0	22.7	18.9
Iran	15.0	28.0	20.0	25.0	22.7	18.9
Kuwait	20.0	25.0	20.0	25.0	22.7	18.9
UAE	10.0	15.0	10.0	12.5	11.4	9.5
Lebanon	6.0	9.0	5.0	6.3	5.7	4.7
Israel	4.0	4.5	3.0	3.8	3.4	2.8
Total Middle East	195.0	269.5	188.0	235.0	213.6	178.0
USA	70.0	75.0	65.0	81.3	77.4	64.5
Canada	5.0	6.0	5.0	6.3	6.0	5.0
Total North America	75.0	81.0	70.0	87.5	83.3	69.4
World total	900.0	1,100.0	836.0	1,057.2	980.7	817.3

Source: VM Group

Jewellery fabrication, 2003-2008f (tonnes)

	2003	2004	2005	2006	2007e	2008f
South Africa	8.0	9.6	9.6	8.2	7.4	7.5
Morocco	10.0	10.0	10.0	6.0	5.7	5.8
Libya	5.0	5.0	5.0	3.0	3.0	3.0
Algeria	5.0	5.0	5.0	3.0	2.9	2.9
Tunisia	1.0	1.0	1.0	0.6	0.7	0.7
Total Africa	29.0	30.6	30.6	20.8	19.6	19.8
China	230.0	240.0	250.0	260.0	234.0	245.7
Indonesia	100.0	100.0	100.0	60.0	57.0	65.6
Thailand	75.0	75.0	70.0	56.0	53.2	54.8
Taiwan	75.0	70.0	70.0	56.0	53.2	53.2
South Korea	50.0	50.0	52.0	31.2	31.5	33.1
Malaysia	50.0	50.0	55.0	33.0	31.4	31.4
Japan	25.0	25.0	25.0	22.5	21.4	20.4
Vietnam	25.0	30.0	34.5	20.7	18.5	19.4
Hong Kong	15.0	17.3	20.0	17.0	15.2	15.9
Afghanistan	10.0	10.0	10.0	8.0	7.9	8.0
Singapore	10.0	10.0	10.0	8.0	7.6	7.7
Cambodia	10.0	10.0	10.0	6.0	5.7	6.6
Other Asia	8.0	9.0	9.0	5.4	5.1	5.8
Total Asia	683.0	696.3	715.5	583.8	555.6	582.1
Australia	5.0	5.0	5.5	4.7	4.3	4.3
Total Australasia	5.0	5.0	5.5	4.7	4.3	4.3
Russia	30.0	30.0	35.0	29.8	26.8	27.0
Uzbekistan	3.0	3.0	3.0	2.6	2.3	2.1
Croatia	0.6	0.7	0.7	0.6	0.5	0.5
Bulgaria	0.3	0.3	0.3	0.3	0.3	0.3
Estonia	0.1	0.2	0.2	0.2	0.2	0.1
Total Eastern Europe	34.0	34.2	39.2	33.4	30.1	30.1
Italy	350.0	330.0	320.0	304.0	297.9	283.7
Turkey	225.7	263.6	283.5	192.7	194.0	203.7
UK & Ireland	50.0	49.0	38.0	32.0	31.4	29.9
Spain	30.0	30.0	30.0	28.5	27.9	26.6
Switzerland	30.0	30.0	30.0	28.5	27.9	26.6
Germany	25.0	22.5	22.5	21.4	20.9	20.0
France	22.0	20.0	22.0	20.9	20.5	19.5
Greece	9.0	10.0	10.0	9.5	9.3	8.9
Portugal	10.0	10.0	10.0	9.5	9.3	8.9
Poland	5.2	5.5	5.5	5.2	5.1	4.9
Other Western Europe	19.9	19.1	19.6	18.6	18.3	17.4
Total Western Europe	776.8	789.7	791.1	670.8	662.6	650.0
India	500.0	532.0	592.5	355.5	373.2	429.2
Pakistan	50.0	50.0	50.0	30.0	31.5	36.2
Bangladesh	20.0	20.0	14.0	8.4	8.8	10.1
Sri Lanka	5.0	5.0	5.0	3.0	2.7	2.7
Total Indian sub-continent	575.0	607.0	661.5	396.9	416.2	478.3
Mexico	30.0	30.0	30.0	25.5	24.2	23.1
Brazil	20.0	20.0	22.0	18.7	17.8	16.9
Dominican Republic	6.0	6.0	6.0	5.1	4.8	4.6
Peru	5.0	5.0	5.0	4.3	4.0	3.8
Chile	5.0	5.0	5.0	4.3	4.0	3.8
Colombia	3.0	3.0	3.0	2.6	2.4	2.3
Bolivia	2.9	3.0	3.0	2.6	2.4	2.3
Venezuela	2.0	2.0	2.0	1.7	1.6	1.5
Ecuador	2.0	2.0	2.0	1.7	1.6	1.5
Argentina	1.5	1.5	1.5	1.3	1.2	1.2
Total Latin America	77.4	77.5	79.5	67.6	64.2	61.1

Continued overleaf

Jewellery fabrication, 2003-2008f (tonnes)

	2003	2004	2005	2006	2007e	2008f
Saudi Arabia	170.0	180.0	190.0	133.0	139.7	146.6
Egypt	75.0	75.0	85.0	55.3	58.0	60.9
UAE	47.5	50.0	55.0	38.5	40.4	41.2
Iran	35.0	35.0	40.0	34.0	35.7	36.4
Iraq	35.0	30.0	35.0	21.0	22.1	22.5
Kuwait	15.0	15.0	17.5	10.9	11.4	12.0
Israel	14.0	15.0	15.0	12.3	11.7	11.2
Lebanon	9.0	10.0	12.0	6.6	6.9	7.1
Other Middle East	15.6	16.0	16.3	9.3	9.8	10.2
Total Middle East	416.1	426.0	465.8	320.8	335.7	348.0
USA	200.0	200.0	195.0	165.8	157.5	150.0
Canada	12.0	12.0	12.0	11.4	10.8	10.3
Total North America	212.0	212.0	207.0	177.2	168.3	160.3
World total	2,808.3	2,878.2	2,995.6	2,275.8	2,256.6	2,334.0

Source: VM Group

Jewellery consumption, 2003-2008f (tonnes)

	2003	2004	2005	2006	2007e	2008f
Morocco	8.8	8.8	8.9	5.4	5.2	5.3
South Africa	5.2	5.9	5.9	5.1	4.8	4.7
Other Africa	13.9	13.7	14.1	8.5	8.5	8.6
Total Africa	27.9	28.4	28.9	19.0	18.4	18.6
China	258.2	265.0	274.2	252.6	240.4	251.1
Indonesia	81.3	82.0	82.8	57.7	53.9	60.0
South Korea	37.5	37.5	39.0	23.4	23.6	24.8
Japan	29.4	28.8	28.8	24.2	23.1	22.7
Afghanistan	26.1	27.0	28.5	19.9	20.5	21.7
Thailand	29.9	29.9	28.3	21.6	20.5	21.4
Taiwan	29.3	27.5	27.3	21.8	20.7	20.8
Vietnam	25.0	30.0	34.5	20.7	18.5	19.4
Malaysia	27.7	27.6	29.1	18.4	17.5	18.0
Singapore	18.9	18.9	19.4	12.9	12.2	12.7
Myanmar	11.7	12.7	12.6	8.0	7.8	8.5
Philippines	11.7	11.7	11.8	7.5	7.1	7.7
Other Asia	15.8	16.1	16.5	10.7	10.1	11.3
Total Asia	602.2	614.4	632.9	499.3	476.9	501.3
Australia	5.0	5.0	5.5	4.7	4.3	4.3
Total Australasia	5.0	5.0	5.5	4.7	4.3	4.3
Russia	30.0	30.0	35.0	29.8	26.8	27.0
Uzbekistan	3.0	3.0	3.0	2.6	2.3	2.1
Croatia	0.6	0.7	0.7	0.6	0.5	0.5
Bulgaria	0.3	0.3	0.3	0.3	0.3	0.3
Estonia	0.1	0.2	0.2	0.2	0.2	0.1
Total Eastern Europe	34.0	34.2	39.2	33.4	30.1	30.1
Turkey	112.1	128.5	137.6	98.9	98.8	103.4
Italy	92.5	87.4	85.1	81.1	79.4	75.8
Switzerland	72.9	72.7	71.7	63.7	61.2	58.6
Germany	59.0	58.5	57.4	50.1	47.9	45.9
UK & Ireland	55.8	54.5	51.2	47.0	45.4	44.5
Spain	39.0	38.9	38.3	36.2	35.4	34.0
France	22.0	20.5	21.8	20.8	20.3	19.6
Portugal	15.9	16.0	15.5	14.5	14.2	13.8
Greece	10.3	10.8	10.8	10.3	10.0	9.8
Austria	9.7	9.1	9.3	8.9	8.7	8.5
Belgium	9.8	9.7	9.3	8.8	8.5	8.4
Netherlands	8.9	8.5	8.1	7.6	7.4	7.1
Poland	7.5	7.6	7.3	6.8	6.7	6.4
Yugoslavia	3.2	3.0	3.0	2.9	2.8	2.7
Other Europe	21.9	21.2	20.1	18.6	18.3	17.4
Total Western Europe	540.2	546.8	546.5	476.1	464.9	455.9
India	497.4	526.0	576.3	353.2	369.9	419.5
Pakistan	89.2	93.2	100.2	61.4	64.1	72.6
Bangladesh	35.5	36.5	32.9	19.7	20.7	23.8
Sri Lanka	5.0	5.0	5.0	3.0	2.7	2.7
Total Indian sub-continent	627.1	660.7	714.5	437.3	457.4	518.6
Mexico	27.4	27.4	27.4	23.3	22.1	21.0
Brazil	11.0	11.0	12.0	10.2	9.7	9.2
Other Latin America	26.3	26.5	26.6	22.6	21.5	20.5
Total Latin America	64.7	64.8	66.0	56.1	53.3	50.7

Continued overleaf

Jewellery consumption, 2003-2008f (tonnes)

	2003	2004	2005	2006	2007e	2008f
Saudi Arabia	143.9	152.3	160.0	116.8	120.1	124.1
Egypt	74.0	76.7	85.8	56.4	58.6	61.5
Iran	49.1	49.7	55.6	44.0	46.1	47.4
Iraq	55.5	54.1	60.3	39.0	40.5	42.0
UAE	36.2	40.4	43.1	31.3	31.1	32.4
Lebanon	31.9	34.3	38.1	24.6	25.6	26.6
Syria	29.6	32.2	34.4	23.4	24.2	25.3
Yemen	29.4	31.3	33.3	22.8	23.7	24.8
Kuwait	25.8	27.7	30.8	20.3	20.8	21.8
Jordan	25.6	27.3	29.0	18.6	19.4	20.2
Israel	1.7	1.8	1.8	1.5	1.5	1.4
Total Middle East	502.6	527.7	572.3	398.7	411.5	427.6
USA	386.7	378.5	372.2	334.5	323.8	311.4
Canada	17.9	17.7	17.7	16.8	15.9	15.5
Total North America	404.6	396.2	390.0	351.3	339.8	327.0
World total	2,808.3	2,878.2	2,995.6	2,275.8	2,256.6	2,334.0

Source: VM Group

Gold usage in electronics, 2003-2008f (tonnes)

	2003	2004	2005	2006	2007e	2008f
Japan	118.5	125.0	131.6	135.5	146.3	150.7
South Korea	46.2	55.5	66.6	69.2	74.8	77.0
Singapore	11.9	13.5	15.4	15.6	16.9	17.4
China	1.7	2.5	3.8	5.7	7.4	8.5
Taiwan	3.1	3.3	3.4	3.6	3.9	4.0
Total Asia	181.4	199.8	220.8	229.6	249.2	257.6
Australia	0.5	0.5	0.5	0.6	0.6	0.6
Total Australasia	0.5	0.5	0.5	0.5	0.6	0.6
Russia	15.6	16.0	16.5	17.2	18.6	19.1
Total Eastern Europe	15.6	16.0	16.5	17.2	18.6	19.1
Germany	10.8	10.8	10.9	11.3	12.2	12.6
France	8.3	8.9	9.5	9.9	10.6	11.0
Switzerland	8.4	8.9	9.4	9.8	10.6	10.9
UK & Ireland	5.7	5.5	5.4	5.6	6.0	6.2
Other Western Europe	33.1	34.1	35.1	36.6	39.5	40.7
Total Western Europe	40.4	41.5	42.6	44.3	47.9	49.3
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	1.4	1.4	1.5	1.6	1.6
Mexico	0.1	0.1	0.1	0.1	0.2	0.2
Total Latin America	1.5	1.5	1.5	1.6	1.7	1.8
Israel	0.1	0.1	0.1	0.1	0.1	0.2
Total Middle East	0.1	0.1	0.1	0.1	0.1	0.2
USA	70.1	72.2	74.4	77.4	83.5	86.0
Canada	0.7	0.7	0.7	0.7	0.8	0.8
Total North America	70.8	72.9	75.1	78.1	84.3	86.9
World total	310.4	332.5	357.3	371.6	402.6	415.5

Source: VM Group

Other end uses, 2003-2008f (tonnes)

	2003	2004	2005	2006	2007e	2008f
Japan	50.9	53.4	56.2	47.8	47.0	45.7
South Korea	12.5	13.6	14.7	13.5	13.9	13.9
Other Asia	2.8	2.9	3.1	2.8	2.9	3.0
Total Asia	66.2	69.9	74.0	64.1	63.7	62.6
Australia	0.5	0.5	0.5	0.5	0.4	0.5
Total Australasia	0.5	0.5	0.5	0.5	0.4	0.5
Turkey	50.6	60.7	72.8	48.9	46.9	49.6
Germany	23.2	23.7	24.1	22.6	22.1	21.2
Switzerland	15.5	16.6	17.7	16.2	16.5	16.1
Italy	7.9	7.9	7.8	7.2	7.2	7.1
France	6.4	6.5	6.7	6.0	6.3	6.2
Netherlands	5.2	5.9	6.7	6.4	6.1	5.8
Spain	2.3	2.5	2.7	2.5	2.6	2.5
Other Europe	111.1	123.7	138.5	109.7	107.6	108.5
Total Western Europe	115.8	128.4	143.2	114.1	112.0	112.7
India	68.4	83.7	102.5	76.9	76.1	77.4
Pakistan	2.1	2.2	2.3	2.2	2.0	2.2
Total Indian sub-continent	70.5	85.9	104.8	79.0	78.0	79.5
Brazil	8.2	9.1	10.1	9.2	9.6	9.4
Other Latin America	1.0	1.0	1.0	0.9	0.9	0.9
Total Latin America	9.1	10.1	11.1	10.1	10.5	10.3
United Arab Emirates	15.4	18.5	22.2	13.3	12.1	13.3
Other Middle East	5.8	5.9	6.1	5.8	5.3	5.8
Total Middle East	21.2	24.4	28.3	19.1	17.4	19.1
USA	31.1	30.8	30.6	28.3	28.6	27.7
Canada	0.3	0.3	0.3	0.3	0.3	0.3
Total North America	31.4	31.1	30.9	28.5	28.8	27.9
World total	314.6	350.3	392.8	315.4	311.0	312.6

Source: VM Group

Note: Includes Dental Alloys, Non-Legal Tender Coins and Other Industrial Uses

Legal tender coins, 2003-2008f (tonnes)

	2003	2004	2005	2006	2007e	2008f
South Africa	2.2	2.9	3	3	2.7	3.1
Total Africa	2.2	2.9	3	3	2.7	3.1
Japan	0	0	0	0	0	0
Singapore	0	0	0	0	0	0
South Korea	0	0	0	0	0	0
Taiwan	0	0	0	0	0	0
Thailand	0	0	0	0	0	0
Total Asia	0	0	0	0	0	0
Australia	3.4	5.2	6	6	5.5	6.3
Total Australasia	3.4	5.2	6	6	5.5	6.3
Austria	6.5	7	7.5	7.5	6.3	7.2
Belgium	0	0	0	0	0	0
France	0	0	0	0	0	0
Italy	0	0	0	0	0	0
Netherlands	2.5	2.4	2.5	2.5	2.3	2.6
Switzerland	0	0	0	0	0	0
Turkey	45	45	55	50	41.7	47.9
UK & Ireland	2.5	2.4	3	3	2.7	3.1
Yugoslavia	0	0	0	0	0	0
Total Europe	56.5	56.8	68	63	52.9	60.9
Chile	0	0	0	0	0	0
Mexico	0	0	0	0	0	0
Venezuela	0	0	0	0	0	0
Total Latin America	0	0	0	0	0	0
Canada	7.4	8.9	10	12	8	9.2
USA	15.1	16.7	14	18.2	10.5	12.1
Total North America	22.5	25.6	24	30.2	18.5	21.3
World total	84.6	90.5	101	102.2	79.6	91.5

Source: VM Group

Financials: prices, volatilities and lease rates

Gold prices in various currencies, average, 1994-2007

	\$/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	556.18
2005	444.45	358.28	90,829	1,577	583.45
2006	603.77	480.43	131,490	2,256	801.48
Jan-06	549.86	453.22	107,284	2,040	732.45
Feb-06	555.00	464.84	108,872	2,104	748.98
Mar-06	557.09	463.05	111,832	2,101	767.01
Apr-06	610.65	496.60	119,188	2,292	828.26
May-06	675.39	528.48	136,993	2,425	884.22
Jun-06	596.15	470.65	133,408	2,197	805.93
Jul-06	633.71	499.37	144,107	2,357	842.66
Aug-06	632.59	493.90	140,804	2,357	829.01
Sep-06	598.19	469.92	142,911	2,253	791.81
Oct-06	585.78	464.15	143,601	2,233	776.96
Nov-06	627.83	487.10	145,867	2,367	812.45
Dec-06	629.79	476.66	142,321	2,370	801.89
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	494.31	154,266	2,469	826.17
Apr-07	679.37	502.21	154,376	2,597	819.98
May-07	666.86	493.73	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	549.30	173,674	2,875	901.03

Source: VM Group

Inflation-adjusted gold price (in 2007 dollars)

	Nominal gold price (\$/oz)	US CPI (2007=100)	Real gold price (2007 dollars)
1980	612.6	40.1	1,529.4
1981	459.9	44.2	1,040.7
1982	375.8	46.9	801.1
1983	424.1	48.4	876.1
1984	360.3	50.5	713.6
1985	317.2	52.3	606.7
1986	367.7	53.3	690.2
1987	446.5	55.2	808.4
1988	437.0	57.5	760.2
1989	381.4	60.3	633.0
1990	383.5	63.5	603.9
1991	362.2	66.2	547.1
1992	343.7	68.2	504.0
1993	359.8	70.2	512.4
1994	384.1	72.0	533.1
1995	384.2	74.1	518.7
1996	387.7	76.2	508.5
1997	331.2	78.0	424.5
1998	294.2	79.2	371.3
1999	278.6	81.0	344.2
2000	279.1	83.7	333.5
2001	271.1	86.1	315.0
2002	307.2	87.4	351.4
2003	363.3	89.4	406.3
2004	409.2	91.8	445.7
2005	444.4	94.5	470.3
2006	603.8	96.5	625.7
2007*	688.0	100.0	688.0

Source: VM Group

* average year to date, CPI October 2007.

Price volatility, 1994-2007 (%)

	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
Jan-06	19.03	27.56	20.71	16.71	13.93
Feb-06	13.08	20.20	22.01	18.11	14.72
Mar-06	19.87	19.43	22.54	19.23	15.49
Apr-06	13.52	19.85	19.90	20.12	16.30
May-06	29.17	26.75	22.80	22.21	17.91
Jun-06	20.07	34.84	29.39	26.08	20.64
Jul-06	24.06	26.07	30.81	25.96	21.76
Aug-06	18.04	26.86	29.43	26.63	22.96
Sep-06	16.64	20.59	24.84	26.84	23.55
Oct-06	21.24	23.16	23.52	27.24	24.13
Nov-06	13.17	18.38	21.11	25.54	24.36
Dec-06	12.33	14.56	19.11	22.14	23.92
Jan-07	12.33	17.02	16.60	20.44	23.24
Feb-07	12.48	15.50	15.84	18.55	23.02
Mar-07	14.13	19.31	17.41	18.25	22.94
Apr-07	8.79	10.77	15.61	16.23	22.47
May-07	9.91	12.99	14.70	15.25	20.49
Jun-07	7.51	12.26	12.03	14.93	18.62
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	17.42	17.76	14.51	13.36	14.39

Source: VM Group

Lease rates, 1993-2007 (% 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
Jan-06	0.11	0.11	0.12	0.15
Feb-06	0.09	0.12	0.15	0.18
Mar-06	0.13	0.11	0.13	0.15
Apr-06	0.12	0.11	0.13	0.15
May-06	0.09	0.10	0.10	0.11
Jun-06	0.11	0.12	0.13	0.15
Jul-06	0.09	0.08	0.09	0.11
Aug-06	0.05	0.06	0.08	0.08
Sep-06	0.06	0.09	0.09	0.08
Oct-06	0.07	0.11	0.13	0.11
Nov-06	0.09	0.12	0.12	0.10
Dec-06	0.11	0.12	0.13	0.12
Jan-07	0.10	0.13	0.16	0.18
Feb-07	0.10	0.13	0.17	0.19
Mar-07	0.11	0.15	0.18	0.17
Apr-07	0.11	0.14	0.17	0.17
May-07	0.11	0.14	0.17	0.20
Jun-07	0.11	0.13	0.17	0.21
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

Source: VM Group

Official sector by region, 2001-2008 (tonnes)

	2003	2004	2005	2006	2007e	2008f
Africa	420	420	420	420	419	419
Asia	2,356	2,326	2,262	2,257	2,235	2,226
Australasia	80	80	80	80	80	80
Eastern Europe	926	930	935	959	991	1,041
Western Europe	14,461	14,051	13,522	13,194	12,680	12,205
Indian sub-continent	432	432	432	432	432	432
Latin America	516	571	571	565	566	566
Middle East	1,092	1,072	1,082	1,162	1,180	1,190
North America	8,140	8,140	8,140	8,138	8,138	8,138
IMF/BIS	3,411	3,425	3,418	3,408	3,385	3,375
Total	31,833	31,444	30,861	30,614	30,106	29,672

Source: IMF, national central banks websites, VM Group

Official sector purchases, 2003-2008 (tonnes)

	2003	2004	2005	2006	2007e	2008f
Africa	0.0	0.0	0.0	0.0	0.0	0.0
Asia	7.0	3.1	3.7	6.7	4.3	1.0
Australasia	0.0	0.0	0.0	0.0	0.0	0.0
Eastern Europe	3.5	3.4	5.4	25.3	40.3	50.0
Western Europe	0.0	0.0	0.0	0.0	0.1	0.0
Indian sub-continent	0.0	0.0	0.0	0.0	0.0	0.0
Latin America	28.3	54.8	0.0	0.0	1.8	0.0
Middle East	0.0	0.0	30.0	100.0	18.0	10.0
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	38.8	61.3	39.1	132.0	64.4	61.0

Source: IMF, national central banks websites, VM Group

Official sector sales, 2003-2008f (tonnes)

	2003	2004	2005	2006	2007e	2008f
Africa	57.5	0.0	0.0	0.0	1.0	0.0
Asia	19.8	34.0	66.9	11.0	26.3	10.0
Australasia	0.0	0.0	0.0	0.0	0.0	0.0
Eastern Europe	5.1	0.0	0.0	1.2	15.0	0.0
Western Europe	453.7	410.0	529.0	328.3	517.5	475.0
Indian sub-continent	0.0	0.0	0.0	0.0	0.0	0.0
Latin America	0.0	0.0	0.0	6.0	0.0	0.0
Middle East	20.0	20.0	20.0	20.0	0.0	0.0
North America	15.2	0.0	0.0	2.0	0.0	0.0
IMF/BIS	2.0	0.0	7.0	10.0	22.7	10.0
Total	573.3	464.0	622.9	378.5	582.5	495.0

Source: IMF, national central banks websites, VM Group

Gold lending, 2003-2008f (tonnes) (*)

	2003	2004	2005	2006	2007e	2008f
Africa	123	123	107	104	92	83
Asia	648	648	536	520	438	394
Australasia	76	76	76	72	64	58
Eastern Europe	375	405	382	345	306	276
Western Europe	2,627	2,218	2,002	1,723	1,453	1,190
Indian sub-continent	100	100	95	94	94	85
Latin America	299	299	277	251	231	184
Middle East	476	444	356	294	232	200
North America	2	2	2	1	1	1
Total	4,724	4,315	3,831	3,405	2,912	2,470

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 exact level.

(*) Includes estimate of private lending.

Other

Hedging, hedge impact, end-period, 2002-2006 (tonnes)

	2002	2003	2004	2005	2006
Global					
Net forwards	2,052	1,731	1,489	1,307	915
Net calls	270	290	252	296	292
Other products	145	123	44	52	36
Net puts	137	120	22	13	2
Total hedge impact	2,605	2,264	1,808	1,667	1,244
<i>Change</i>	<i>(439)</i>	<i>(341)</i>	<i>(456)</i>	<i>(141)</i>	<i>(422)</i>
Americas					
Net forwards	1,245	976	849	764	503
Net calls	56	90	62	54	24
Other products	41	33	29	25	10
Net puts	55	41	22	5	3
Total hedge impact	1,397	1,140	963	847	541
<i>Change</i>	<i>186</i>	<i>(257)</i>	<i>(176)</i>	<i>(116)</i>	<i>(307)</i>
Africa					
Net forwards	455	381	235	184	129
Net calls	171	159	162	214	237
Other products	0	0	0	0	0
Net puts	19	5	-6	0	-9
Total hedge impact	644	546	392	398	358
<i>Change</i>	<i>(163)</i>	<i>(99)</i>	<i>(154)</i>	<i>7</i>	<i>(40)</i>
Australias					
Net forwards	335	309	357	317	244
Net calls	43	40	27	21	14
Other products	104	87	15	27	25
Net puts	62	73	6	5	6
Total hedge impact	543	508	404	370	290
<i>Change</i>	<i>(461)</i>	<i>(35)</i>	<i>(104)</i>	<i>(35)</i>	<i>(80)</i>
Europe					
Net forwards	17	65	48	42	38
Net calls	1	1	0	6	16
Other products	0	3	0	0	0
Net puts	2	2	0	3	2
Total hedge impact	20	70	48	51	56
<i>Change</i>	<i>(1)</i>	<i>50</i>	<i>(22)</i>	<i>3</i>	<i>5</i>

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

Hedging, committed, end-period, 2002-2006 (tonnes)

	2002	2003	2004	2005	2006
Global					
Net forwards	2,170	1,797	1,517	1,327	934
Calls sold	503	456	391	407	417
Calls bought	112	71	64	57	56
Other products	212	149	49	53	36
Total committed	2,774	2,331	1,893	1,731	1,331
<i>Change</i>	<i>(530)</i>	<i>(443)</i>	<i>(438)</i>	<i>(162)</i>	<i>(400)</i>
Puts bought	557	525	253	241	184
Puts sold	60	65	40	23	50
Americas					
Net forwards	1,309	1,011	866	776	510
Calls sold	94	109	76	65	48
Calls bought	12	0	3	1	4
Other products	81	40	35	26	10
Total committed	1,472	1,160	973	866	565
<i>Change</i>	<i>44</i>	<i>(312)</i>	<i>(187)</i>	<i>(107)</i>	<i>(301)</i>
Puts bought	212	237	151	93	57
Puts sold	40	17	5	2	0
Africa					
Net forwards	474	394	239	187	131
Calls sold	345	280	271	301	323
Calls bought	94	71	61	56	52
Other products	0	0	0	0	0
Total committed	725	603	448	433	402
<i>Change</i>	<i>(171)</i>	<i>(122)</i>	<i>(154)</i>	<i>(16)</i>	<i>(31)</i>
Puts bought	117	91	75	84	59
Puts sold	20	49	35	21	50
Australias					
Net forwards	369	324	361	319	252
Calls sold	61	64	44	28	16
Calls bought	6	0	0	0	0
Other products	131	106	15	28	26
Total committed	554	494	420	375	294
<i>Change</i>	<i>(398)</i>	<i>(60)</i>	<i>(74)</i>	<i>(45)</i>	<i>(81)</i>
Puts bought	217	187	27	48	51
Puts sold	0	0	0	0	0
Europe					
Net forwards	18	68	51	44	41
Calls sold	4	4	0	13	29
Calls bought	0	0	0	0	0
Other products	0	3	0	0	0
Total committed	22	74	51	58	70
<i>Change</i>	<i>(4)</i>	<i>52</i>	<i>(23)</i>	<i>6</i>	<i>12</i>
Puts bought	11	9	0	16	17
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, 2003-2008f (tonnes)

	2003	2004	2005	2006	2007e	2008f
Africa	0.0	3.0	4.3	2.6	9.6	5.0
Australasia	8.4	(1.0)	0.9	2.1	5.5	3.0
India	0.0	0.0	0.0	0.0	4.0	10.0
Europe	24.5	27.6	8.5	36.4	46.7	35.0
North America	0.0	94.9	178.2	212.3	175.0	125.0
World total	32.9	124.5	191.9	253.3	236.8	178.0

Source: Company websites, VM Group analysis.

COMEX speculation, end-period, 1994-October 2007 (tonnes)

	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
2005	996	481	108	589
2006	1,294	212	109	321
Jan-06	1,326	433	87	520
Feb-06	1,340	396	92	488
Mar-06	1,282	375	90	465
Apr-06	1,448	402	117	519
May-06	1,261	316	118	434
Jun-06	1,195	266	95	361
Jul-06	1,345	316	118	434
Aug-06	1,216	273	92	365
Sep-06	1,266	222	75	292
Oct-06	1,331	201	85	286
Nov-06	1,318	248	118	366
Dec-06	1,294	212	109	321
Jan-07	1,326	312	110	422
Feb-07	1,659	442	130	572
Mar-07	1,360	421	122	543
Apr-07	1,569	416	118	534
May-07	1,511	295	74	369
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	1,939	545	94	639

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 breaches 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/attractiveness 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 than 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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About the VM Group

The VM Group comprises a team of dynamic, 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 energy, plastics and agribusiness. The VM Group 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.

Our clients include world-class mining companies for whom the VM Group specialises in proprietary research and others, including corporations, national governments and research bodies.

The VM Group team excels in macro-economic analysis, the generation of supply and demand scenarios, costs analysis, derivative research and price forecasting. Confidentiality, experience and independence are key elements of such advisory roles. Our aim is to assist those in need of external expertise, as well as those who wish to supplement their own in-house resources. With our extensive international contacts, we are able to broaden our services through links with experienced associates in related fields. For example, the VM Group maintains close working relationships with other highly regarded consultants such as Ted Reeve of Haliburton Mineral Services and Magnus Ericsson of the Raw Materials Group. The VM Group also produces for Fortis a range of monthly reports, the first covering all metals (base and precious) as well as plastics and more recently products covering energy, metals from an Asian perspective and agricommodities. All are available on a complimentary basis.

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

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