Alchemist

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LBMA

In this issue

Knocking on China's Door

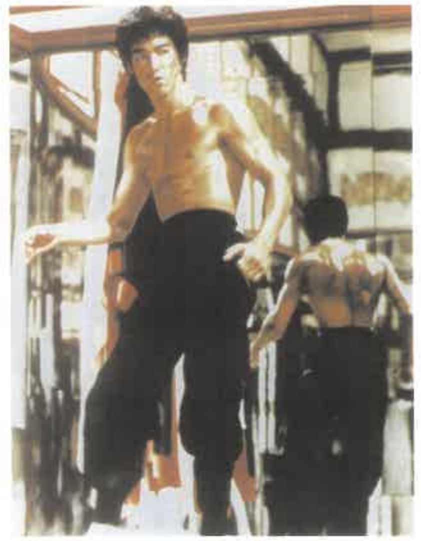
The LBMA hosts Fifth Annual Conference in Shanghai on 5 – 7 September

Entering the Hall of Mirrors

Illusion and Reality in China's Influence on Precious Metals Demand

By Kamal Naqvi, Precious Metals Analyst, Barclays Capital

With China increasingly recognised as the key driver for commodities, "Enter the Dragon" has become a popular phrase at commodity conferences over the past three years.



This brings to mind the Bruce Lee film of the same title. The association might not seem obvious at first, but perhaps a more apt title for a discussion of the commodity markets in China can be drawn from the film's climax. Lee chases Han, an evil warlord, through his palace, following him into a hall of mirrors. Seeing Han's reflection all around the room, Lee must smash his way through a series of mirrors in an attempt to locate the villain.

Herein lies the analogy: while much is said and written about China's impact on commodity markets, this article will attempt to test the arguments to see whether they hold true or are merely smoke and mirrors.

First, a quick snapshot of China's position in the metals markets. It is hugely important to the platinum market in terms of net demand, as it is for copper. However, for gold and silver, China actually has a larger global impact on supply rather than demand.

Reflections on Silver

While burgeoning Chinese demand is seen as a major positive for commodities, it must be remembered that China is a significant supplier of some of them, which must be taken into consideration before judging the country's net impact on any particular commodity.

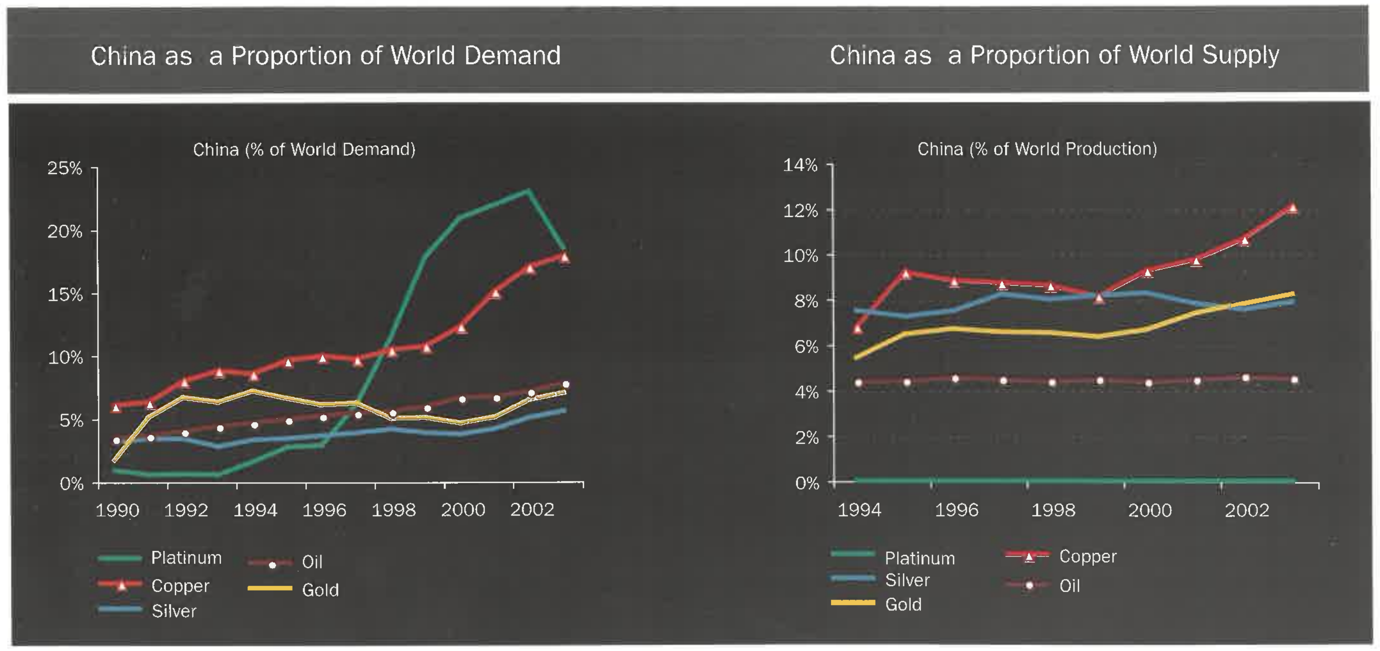
Silver provides a good illustration. When China gradually liberalised its domestic silver market during the late 1990s, silver bulls grew increasingly excited, theorising that limited Chinese mine production growth, plus rising demand, would see China challenge India to become the world's largest importer of silver.

On 1 January 2000, China abolished the country's 50-year state silver monopoly and finally allowed the metal to trade freely. Unfortunately for the bulls, the rise in Chinese imports was completely swamped by a tidal wave of exports (see chart next page). This burst of supply was the cumulative result of a combination of rising silver production from expanding zinc/lead smelting capacity, a build-up in trader and producer stocks in anticipation of liberalisation and, crucially, exports from the People's Bank of China silver inventory, which had been built up over time from (mandated) purchases of domestic production and leftovers from the silver standard that had ended in November 1935.

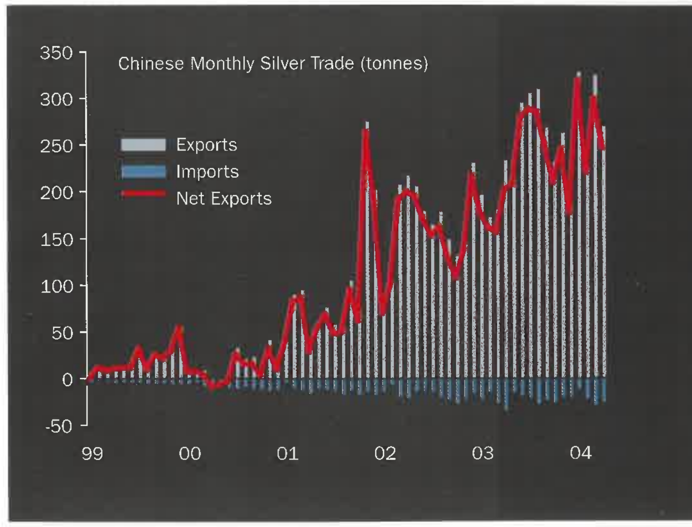
Chinese exports consequently became a massive weight on the silver market from 2000 through to today. Indeed, for the year to April, official Chinese silver exports have risen by 56% year-on-year, spurred by the sharp rise in silver prices. The continuing rise in Chinese exports, notwithstanding some improvement in official records, appears to confirm that domestic silver inventories remain significant – and helps to explain why silver prices fall back so dramatically as soon as speculative buying dissipates.

Beware the Armpit Theory

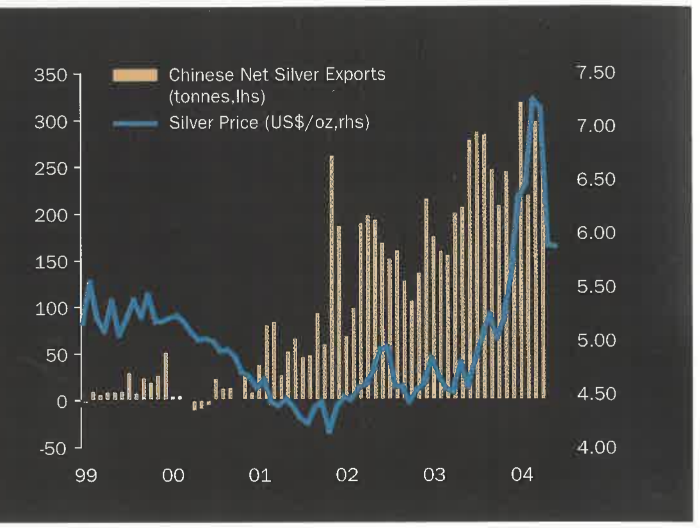
The expectation of a large and sustained fall in gold mine supply has been a major theme in the gold market. Strong local currencies, resource depletion, rising production costs and environmental pressures are resulting in falling mine output in South Africa and North America, a trend we expect to continue.



The Silver Reality – exports swamp imports



The "China impact" is not always price-positive!

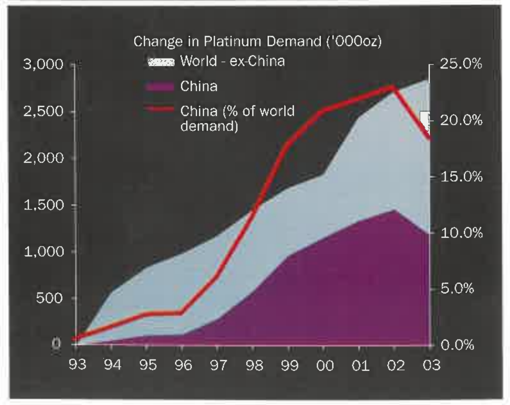


However, growth in South America, other African countries, Southeast Asia and more recently the former East bloc is offsetting the losses from the traditional producers. Importantly, the current and potential activity in countries such as China and Russia suggests that this trend is set not only to continue but accelerate, particularly given the current level of prices and availability of both equity and debt finance for project development. China has the potential to rise towards becoming the world's major producer of gold, given the number of already known deposits and increasing level of foreign interest.

This all brings to mind a marketing fable. In the early 1990s, a large US cosmetics company very confidently predicted that China would become the world's largest market for deodorant within the decade due to the presence of two billion armpits.

In reality, differences in climate, diet and attitude to body odour meant that a simple multiplication of the Chinese population (or armpits) by some ratio estimate for demand gave a wildly inaccurate projection. By 2000, not only did China still account for only a modest proportion of the world deodorant market, but deodorant itself accounted for less than 2% of China's RMB44.6 billion ($5.4 billion) cosmetics and toiletries market.

China takes over platinum demand



Is there a valid comparison between deodorant and the gold market? Some factors to keep in mind: first, China is already the world's third-largest consumer of gold jewellery. Second, it has actually already experienced a surge in gold demand – it increased fourfold from 40 to more than 210 tonnes from 1989 to 1992, driven by general market liberalisation, income growth, and depreciation of the renminbi. Notably, Chinese demand has stagnated around these levels ever since.

The Chinese experience was remarkably similar to that seen during the Indian gold demand boom that followed later in the 1990s, the difference being that Indian gold demand rose from around 200 tonnes to more than 700 tonnes, before weakening to its current apparent plateau of roughly 600 tonnes per year.

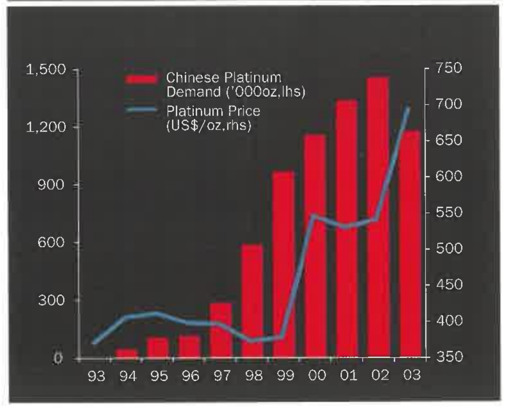
Part of the explanation for high demand in emerging markets is that, in the absence of alternatives, gold continues to play a key role as a hedge against both inflation and/or currency weakness. However, since the late 1990s, the trend in China (and, indeed, most Asian markets) has been for currency stability and disinflation. More recently, China's economic growth has resulted in upward pressure on its currency, while inflation has remained controlled until recently – not typically the environment in which we have seen gold demand surge in emerging markets.

However, macroeconomics is not generally used as the justification for huge potential growth in Chinese gold demand: population is. China has the lowest per capita gold consumption in the world – hence the argument is that, as market liberalisation continues, per capita consumption will grow. The typical extension of this is that given similar populations and a traditional affinity for gold, per capita consumption in China should rise to a level similar to India, which would represent a near three-fold increase.

However, rarely is reality this simple. As explained earlier, this 'armpit' approach to demand projections is critically flawed, as it does not take into consideration changing domestic spending patterns. A much more insightful comparison can be made by analysing the percentage of income spent on gold. In this comparison, the Middle East, the Indian sub-continent and other Asian countries clearly and predictably spend a considerably larger percentage of their income on gold. China is mid-table, while the western world countries spend the least of their income on gold.

Evidence suggests that, as economies develop, the range of spending and investing options expands considerably. This helps to explain why Chinese gold demand has stalled over the past decade despite the rapid income growth over this period. In the competition for growing Chinese disposable incomes, gold is very quickly losing market share. Given that China's economic development is likely to continue and the growing global influence of western culture (which tends to be negative for gold), we can expect China's income spend on gold to continue to decline. Indeed, this is not just the case for China but for the other large spenders as well!

Price Sensitivity Finally Appears!



This trend towards lower income spend on gold is the reason why we strongly believe that it is crucial to the long-term viability of the gold industry that western world gold demand is rejuvenated – both as jewellery and as investment. Not only does the west provide the greatest potential demand growth (for an increase in percentage spend), but it will also help to reinforce gold's existing position in emerging economies – and hence slow its declining share of disposable income. Such rejuvenation is a far from simple task, but that does not make it less vital.

The Birth of a New Luxury Empire

We noted with great interest comments in a recent feature article in *The Economist* concerning the rise of Chinese luxury consumers:

"The industry estimates that there are now around 10m-13m mainland customers for luxury goods ... whereas people in the West are buying more discretely branded luxury goods identifiable only by those 'in the know', the Chinese favour prominent logos that shout, 'Look, I'm rich.' "

Platinum is of course the precious metal that has most benefited from the growing affluence of the urban China consumer. By tapping into the upper end of the consumer market, platinum is not greatly affected by the recent tightening measures aimed at over-investment in certain industrial and property segments. Further, as the comments in The Economist suggest, luxury consumers tend not to be particularly price sensitive, as it is the expense of the item that is a large part of the exclusivity in owning it.

That said, it is true that some price sensitivity has appeared in the Chinese market. Chinese platinum demand actually fell 19% in 2003, and anecdotal reports also suggest dampened levels of buying this year. However, it is important to put this in context. First, SARS affected demand levels for many consumer goods last year and, second, reports also suggest that it is not end consumers that are being discouraged by higher prices, but the falling profitability of the fabricators of platinum jewellery that is the key.

Industrial Precious Metals

We remain positive on the outlook for industrial commodities demand from China, notwithstanding some expected short-term weakness, driven by ongoing industrialisation, urbanisation and consumerism.

As can be seen in the charts, gold demand is dominated by jewellery and is very unlikely to change. The charts also show the relative size of the markets and demonstrate that since the platinum market remains much smaller than gold, it should not be blamed for the stall in Chinese gold demand.

However, the prospects of growing industrial demand for silver, platinum and palladium are strong. We have included photography as an industrial end-use for silver in order to ease the comparison across the four metals. That said, demand for silver in photography accounts for only around 12% (180 tonnes out of 1,470 tonnes) of Chinese silver demand, so it does not greatly affect the comparison.

China has of course seen extremely rapid growth in manufacturing in many areas, but for precious metals the key segments are electronics and autos. The medium-term outlook for continued growth in both segments remains strong, although autos are one of the segments that the government is targeting for a slowdown, which now appears to be having some impact. However, China's production of a wide range of electronic products, including computers, suggests continuing strong growth in demand for silver (largely used as a contact) and palladium (used in multi-layer ceramic capacitors).

On the auto side, not only would we expect growing production volumes over time (for domestic and, eventually, export markets) but tightening emission levels should also see higher loadings of PGMs. We would expect palladium to benefit most from this growth, but it should be noted that diesel engines are gaining market share, and this will also ensure increased demand for platinum.

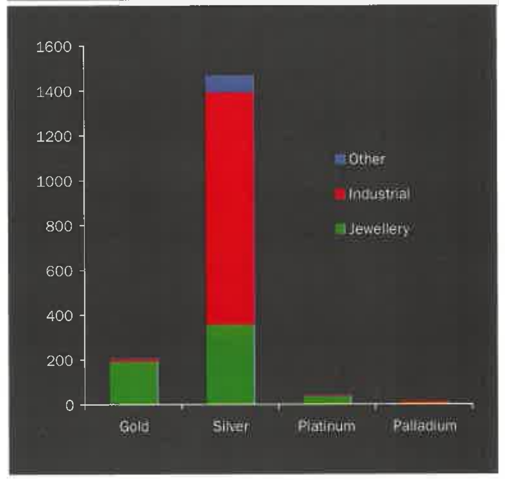
We are not convinced that photographic demand for silver will grow significantly as we expect many first-time camera buyers to move directly to the new digital technology – given the reduced cost of these cameras and the rapid increase in ownership of personal computers in China.

The Importance of Being Beijing

All elements of the precious metals markets, both domestic and external, were controlled by the People's Bank of China prior to start of liberalisation in the mid-1990s. Silver was the first market to be allowed to trade (largely) freely from 1 January 2000. Gold followed, marked by the opening of the Shanghai Gold Exchange (SGE) in October 2002. Platinum was liberalised in August 2003 when trading began on the SGE.

Trading of bullion on the SGE is free from both import tariffs and the 17% VAT. Silver is subject to the VAT but does receive a 15% export rebate. Exports are still regulated, with the Ministry of Commerce deciding upon silver export quotes.

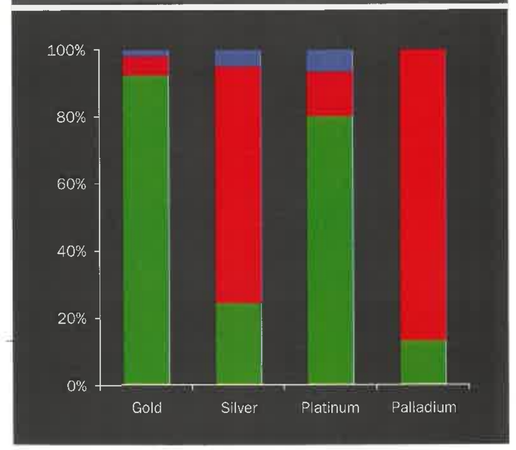
Chinese Demand by End Use (tonnes)



Domestic jewellery purchasers pay a 5% consumption tax (under review), while gold and silver jewellery imports are subject to a 23% tariff and other precious metals jewellery is subject to a 35% tariff.

One of the favourite gold bull hopes is that the People's Bank of China (and the Bank of Japan) will look to substitute their massive and growing reserves of US dollar denominated

Chinese Demand by End Use (% of Total)



assets for gold. The argument for such central bank buying of gold is based, firstly, on the theory that the People's Bank has become over-exposed to the weakening US dollar, but may be wary of buying either yen or euros and, secondly, that the opportunity cost of holding gold has fallen significantly due to low interest rates.

In the first instance, it should be noted that the People's Bank of China, with 600 tonnes, is already one of the top ten largest gold holders and, indeed, holds a similar quantum of gold to the ECB (767 tonnes). The difference, of course, is in gold's share of the total reserves.

Quite apart from the various pros and cons of any central bank owning gold, the major flaw in this story is that even if the People's Bank of China wanted to increase their gold reserves to a significant level, the gold market is not physically large enough to allow that without a major price reaction. For example, if People's Bank wanted to match the proportion of gold in its reserves to that of the ECB (initially), that increase to 15% would equate to a purchase of more than 4,600 tonnes – nearly two years of mine output – virtually impossible to transact in anything other than a massive off-market transaction. While there are clearly large willing sellers of gold in Europe, this scenario does seem extremely unlikely at present.

Mirrors, Mirrors in the Hall

The five key points from our journey into this hall of mirrors are:

The silver illusion:
China does not automatically mean buy

Beware the armpit theory:
Trends in demand growth are rarely linear

The birth of a new luxury empire:
The new rich in China aspire to western style

Industrial precious metals:
Additional demand is likely for PGMs & silver

The importance of being Beijing:
Limited government influence remains. ■

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This article has been adapted from a speech given at the China Seminar hosted by the Association of Mining Analysts on 1 July 2004.

Where There's a Will, There's a Way

Rationalising Gold Sales under CGBA II

By Gillian Moncur, Senior Consultant, CRU International

As a result of the birth of the European Central Bank at the start of 1999, the role of its member national central banks changed from that of warehouse managers to asset managers striving to make their assets perform – a significant proportion of which assets are held in gold.

The Dutch bank governor, Nout Wellink, tellingly noted in an interview to Reuters at the end of May that '…in the longer run central banks can make a better return on their assets than just keeping their gold in vaults'. Perhaps with a bit of creative accounting, gold could be sold, for example, to plug budgetary deficits or finance future pension payments. Moreover, fiscal pressures in Europe could lead several countries looking to do almost anything to avoid raising taxes. Thus gold is being made to earn its keep, one way or the other, instead of gathering dust.

It's How You Sell It

Nonetheless, back in 1996 it came as a shock to the gold market when the Swiss National Bank (SNB) proposed revaluing and gradually selling off half of its 2560t gold holding – seen as surplus to monetary policy requirements. Sales got underway in May 2000, and the Swiss have been a consistent weekly seller of gold ever since. By the end of July, just over 1100t had been sold.

The May 1996 announcement by HM Treasury that it planned to restructure the UK's official reserves, involving a programme of bimonthly auctions of gold, was more bad news for the market. The Bank of England oversaw the programme in which 395t of gold was sold between 1999 and 2002.

Both of these sales eventually fell under the Central Bank Gold Agreement of September 1999 (CBGA I). In addition to the UK and Switzerland, Austria, the Dutch, Germany and Portugal have all sold gold under this Agreement.

The Banco de Portugal sold 125t over 2003/04, the objective of which was to continue the diversification of the external reserves of the country. The resulting profit was retained by the bank and added to the newly created special reserve. The Dutch Central Bank has been a consistent seller of gold over the years. Within CBGA I, 235 tonnes of Dutch gold have been sold, and plans have been announced to sell another 100t in the renewed agreement to commence at the end of September. The Austrian Central Bank sold 90t of gold over 2000/02, which included sales to the Austrian Mint. And the Bundesbank has recently dabbled in the gold sales arena with several coin programmes mobilising around 36t of gold over the last three years, all within the CBGA I.

Reserves of the biggest hoarders of gold within the European Union – the Banque de France, the Bundesbank and the Banca d'Italia – have remained steady over the last couple of decades. But pressure to sell has inevitably escalated with gold interest rates dropping to increasingly lower levels. Over the last four years or so, there have been a growing number of announcements leaning towards mobilisation – with a variety of justifications provided for the sales.

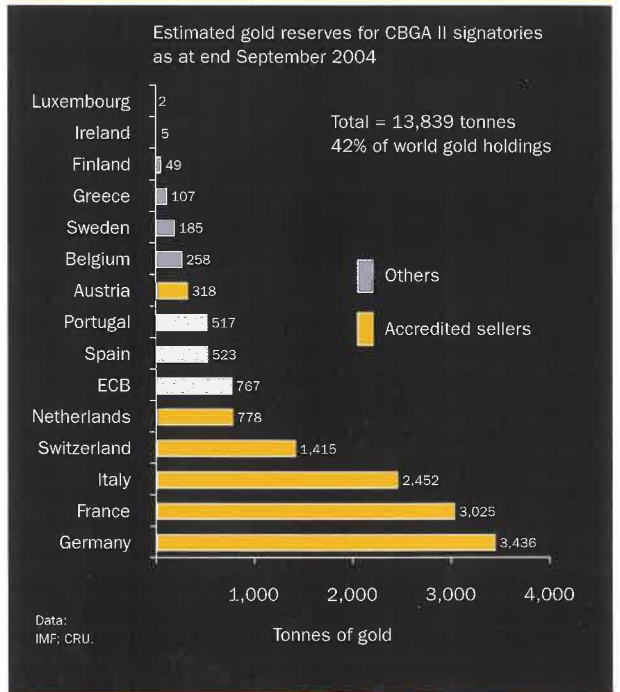
Back in 2000, the head of the finance committee of the French National Assembly suggested that Banque de France reserves could be tapped to raise funds to cover future shortfalls in the French pension system. Banque de France (interestingly not the government) subsequently denied that it planned to sell any gold. In 2002, the Chairman of Italy's parliamentary industry commission proposed breaking into Italy's gold reserves to ease its debt load, but the head of the parliament quashed this proposal.

Announcements flowed in Germany in 2003, as various Bundesbank officials suggested that Germany could sell some of its gold and invest the proceeds in interest-bearing assets to help fund research and development or education projects. Any sales would require a change in the law governing the Bundesbank, which currently obliges the transfer of any profits to the government.

Where There's a Law, There's a Loophole

In general, central banks in the EU are not allowed to sell assets or reserves to help finance government budgets, as this would be a breach of the Maastricht Treaty. However, there are ways those funds can be transferred from the central banks to the treasury, such as in the form of dividend payments. Gradually the arguments over whether to sell have given way to discussions of what to do with the proceeds from such sales.

Starting point for CBGA II



Accredited gold sales within CBGA II

Austria	*90*
France	*500*
Germany	*500*
Italy	*500*
Netherlands	*100*
Switzerland	*130*
Accredited sales	*1820*
Still-to-be accredited	*680*
Total sales	*2500*

Accredited sales account for 73% of the CBGA II sales limit

Data: CRU.

In January 2004, the Bundesbank said that it wanted an option to sell 600t of gold over the duration of a new five-year agreement, at an annual rate of 120t per year. Suggestions are for the profits from its gold sales to be paid into a fund, whose interest would be used to fund research and development in Germany. But the central bank duly hesitated, saying that 'the key is to maintain the value of the proceeds'.

The Bundesbank rethink in the days after the announcement of the CBGA renewal on 8 March came on the same day that France's Research Minister, Claudie Haignere, suggested that France's central bank may consider selling some of its gold and/or use the money made from privatisations of state-owned companies to help finance scientific research. The French government has earmarked 3bn for research in 2005-2007, but may struggle to provide this amount due to its promises to cap spending and cut France's public deficit under EU limits. (Like the Bundesbank, the French central bank is the guardian of national gold reserves and is the only body that can legally sell gold. However, this is becoming a sensitive issue between central banks and politicians, as the need to find extra funding grows.)

Bank of France Governor Christian Noyer said on 10 June that a sale of 500-600t was possible. The proceeds of the sale would remain with the central bank but interest earned – estimated at 100M in the first year and around 200M a year thereafter – would go to the government.

According to local press, Italy would be looking to sell a similar amount as France and Germany. More recently the economic adviser to the Prime Minister of Italy said in an interview that Italy could use its gold reserves to help slash its debt pile. These gold reserves were seen as 'idle…and in surplus' since the start of the euro.

The Willy Sutton Rationale: That's Where the Money Is

There are other ways in which the European governments could raise additional funds and tackle their growing debt issues. These include the privatisation of local utilities and non-strategic assets, which could face less controversy and opposition.

But gold sales apparently raise more money, and we do not see a decision concerning how the proceeds of the gold sales should be spent as a prerequisite to gold sales taking place. With around 200t still to be sold for the SNB to reach its target of 1,300t, the Swiss parliament is still unable to decide on how to spend the funds from the mammoth gold sales. In the meantime, the proceeds from their sales are being invested with borrowers with an 'excellent rating', which achieved a yield of 4% in 2003. Initial plans to use the proceeds on humanitarian projects were rejected; the latest idea is to use some of the money to support social security and education. ■

Gillian Moncur *holds the position of senior consultant – precious metals at CRU International's London Office. Since joining CRU in 1997, she has worked on a number of research and consulting assignments for precious metals producers worldwide, including market and strategic studies of the gold and PGM industries. She is also the major contributor to CRU's quarterly and monthly services on precious metals.*

Prior to joining CRU, Gillian worked at the South African Chamber of Mines and the Rand Refinery. She holds a BCom from the University of the Witwatersrand.

At the Margin

Why Costs are Rising – And What the Gold Sector Can do About It

Victor Flores, CFA, Senior Mining Analyst, HSBC

There is no question that the cost containment achieved by the industry over the past few years has largely come to an end, and that costs are now clearly in an up-trend. In previous research we have offered the view that companies were beginning to slip in their efforts to hold the line on costs.

We have, in fact, been surprised at how quickly events have conspired to overwhelm the sector's cost-containment programmes. The cost benefits brought on by currency weakness have now been largely erased, while even the gains achieved by closing old operations have come to naught. Moreover, we have begun to see the effects of a maturing asset base on a number of companies.

What Goes Up...

While it has become fashionable to blame the impact of currencies – certainly a factor in South Africa – other factors are decidedly at play. Fuel costs have risen, as have power costs. Labour costs will rise in H2 2004 in South Africa with the new labour contract (see below) coming into effect. Steel costs and reagent costs are also on the rise, primarily due to rising energy costs.

We have previously underestimated the extent to which sector costs would rise. The appreciation of the South African rand and the Australian and Canadian dollars have put upward pressure on costs. However, this cannot be the only explanation for the increase. We believe that pent-up expenditures, put on hold during the period of low prices, are also responsible for this trend. For example, at the beginning of 2002 we were estimating an industry average cash cost of $144/oz for the senior producers. By mid-2002 we had raised our estimate to $159/oz, while the actual figure for the year was $165/oz.

In South Africa, the 2003 wage negotiations with the NUM and other unions are having a dramatic effect in 2004. At the time, a wage increase of (on average) 7% for 2004 was considered a victory for industry, given that the 2003 wage settlement was about 10%, while inflation was slightly higher than that. In other words, the sector was giving below-inflation raises, continuing the industry's historic trend. When coupled with the anticipated depreciation of the currency, the net effect was expected to be negligible. Unfortunately, inflation in South Africa today is in the range of 3-6% (and HSBC estimates that they could even come in below the bottom of the estimated range) and the rand has strengthened, making this year's wage increases expensive in real terms.

Figure 1 tracks the trend in industry costs for the past few years. After declining dramatically in the period 1999-2001—both in response to the lower gold price and as a result of weakening currencies—costs have risen every year since.

It is our view that the gold price has risen primarily as a result of the weakness of the dollar. Figure 2 illustrates the important role that currencies have played over the past few years. Unfortunately, the weakness in the USD has translated into strength in other currencies, among them the South African rand and the Australian dollar. The price of gold (in USD terms), industry costs, and these two key currencies declined with the fall in the US currency, and are now rising in tandem.

Cash and Total Costs

Figure 3 summarises our estimates of the cash costs, total costs, and realised prices for the gold industry for the years 2003-2005. We estimate that the industry's cash costs for 2004 will average $224/oz, increasing to $232/oz in 2005. Total costs are forecast to average $285/oz this year and $292/oz next year.

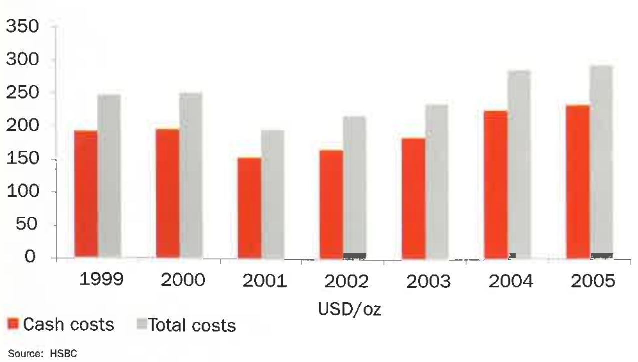
It should be noted that we have changed the way in which we calculate the cash costs for Freeport. Previously, we stuck to the letter of the law and used the Gold Institute standard for all the companies. In the case of Freeport, this led to significant distortion, given the company's high copper by-product credits. Including Freeport had the impact of understating the sector's costs, while excluding it had the opposite effect. We have decided that using co-product accounting for Freeport is more representative, and have calculated the company's costs on that basis.

Also note that the inclusion of Freeport-McMoRan tends to lower the average costs for the group. Using the Gold Institute cash cost standard, the company reports negative cash costs after copper by-product credits.

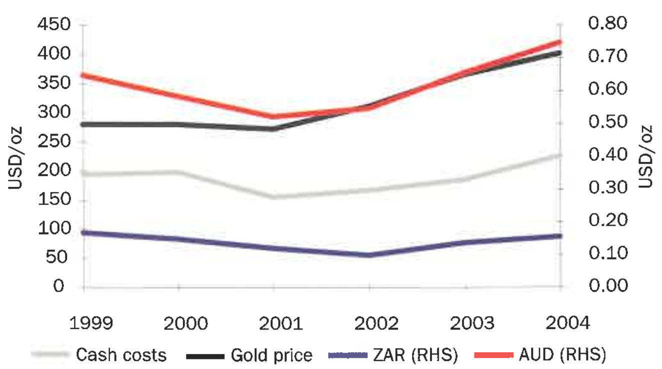
Based on the old methodology, we estimated that the sector's cash costs in 2004 would be in the range of $216/oz (including FCX) to $219/oz (excluding FCX). With the new approach we are estimating sector costs of $224/oz. This probably has more to do with rising cost pressures than it does with the actual change in the approach.

Incidentally, we are getting feedback from more and more institutions that believe that the industry 'cash costs' are a misleading figure, and that 'total costs' are a better indicator. We couldn't agree more. Total costs for 2004 are estimated at $285/oz. This is a $4/oz increase with respect to our February

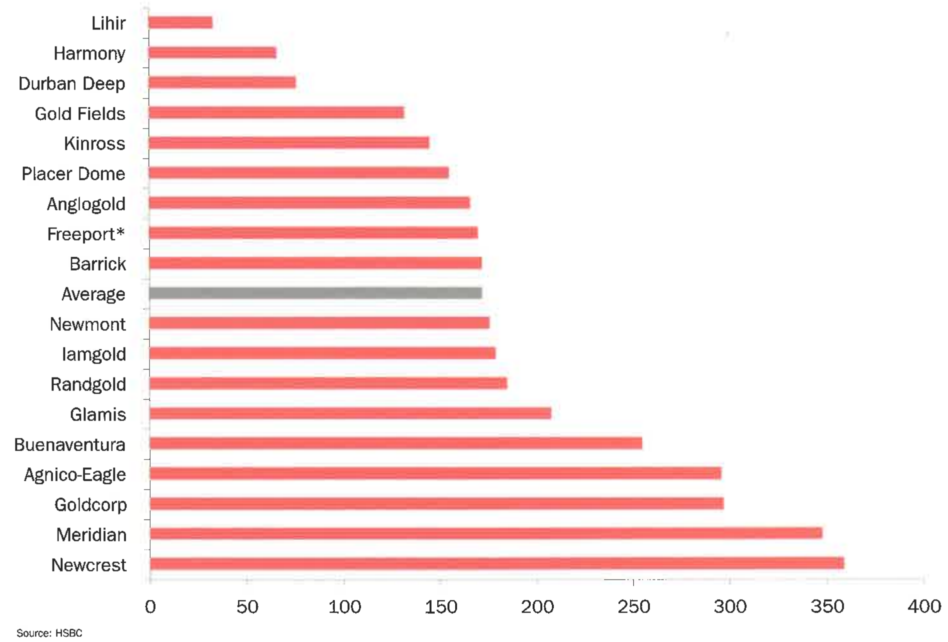
1. Gold Industry Costs 1999-2005



2. Gold, Currencies and Costs



4. Gold Industry Margins 2004 ($/oz)



3. Gold Industry Costs 2004 (USD/oz)

	Total cash cost (USD/oz)			Total cost (USD/oz)			Realised price (USD/oz)		
Company	2003	2004e	2005e	2003	2004e	2005e	2003	2004e	2005e
Meridian	78	56	41	137	116	101	364	404	430
Newcrest	87	60	46	173	151	140	364	419	416
Goldcorp	104	107	105	148	150	148	364	404	430
Buenaventura	138	142	127	267	162	147	358	397	416
Agnico-Eagle	276	108	101	350	171	163	368	404	430
Randgold	100	174	191	132	209	231	345	359	430
Anglogold	217	227	212	258	273	256	358	393	409
Glamis	180	196	153	254	279	223	364	404	430
Average	183	224	232	234	285	292	362	396	412
Placer Dome	241	228	233	281	288	288	367	383	399
Barrick	188	205	205	284	288	286	364	377	403
Newmont	220	225	223	289	305	303	364	401	420
Kinross	240	240	234	318	306	299	336	385	430
Gold Fields	260	286	257	298	331	301	365	418	419
Iamgold	215	225	200	320	332	271	373	404	430
Durban Deep	321	328	310	350	365	346	361	404	428
Freeport*	160	234	142	253	370	240	364	404	430
Harmony	301	338	305	334	378	344	364	425	450
Lihir	301	341	239	350	393	286	364	374	393
Spot gold	-	-	-	364	404	430	-	-	-

Note* Copper treated as a co-product

SOURCE: HSBC

5. Rising Costs (USD/oz)

	Cash costs		Total Costs	
	2004e/2002	2005/2002	2004e/2002	2005/2002
Agnico-Eagle	-76	-83	-62	-70
AngloGold	71	56	65	48
Barrick	28	28	20	18
Buenaventura	0	-15	11	-4
Durban Deep	84	66	107	88
Glamis	33	-10	45	-11
Gold Fields	104	75	117	87
Goldcorp	15	13	30	28
Harmony	69	36	90	56
Iamgold	55	30	76	15
Kinross	39	33	0	-7
Lihir	115	13	123	16
Meridian	-42	-57	-34	-49
Newcrest	-98	-112	-86	-97
Newmont	36	34	55	53
Placer Dome	47	52	55	55
Randgold	117	134	131	153
Average	**59**	**67**	**69**	**76**

SOURCE: HSBC

estimate. For 2005, we are estimating total costs for the sector of $295/oz.

Figure 4 summarises the wide differential in cost margins for the largest companies in the gold industry, based on HSBC's 2004 estimates.

Despite the market's ongoing angst with hedging, the practice is, for the most part, having a relatively minor impact on the industry. We estimate that the sector will realise an average gold price of $396/oz in 2004, relative to our average estimate of $404/oz. In other words, the industry as a whole is leaving $8/oz on the table as a result of its hedging activities. For 2005, we are estimating an average industry realised price of $412/oz, against a gold price forecast of $430/oz, for a net 'loss' due to hedging of $18/oz. Since the industry has been taking advantage of price dips to reduce exposure, we fully expect that the net impact of hedging could be even lower.

Eroding Margins

Figure 5 tracks the estimated change in costs for 2004 and 2005 with respect to 2002. On average, we expect the sector to experience an increase in cash and total costs of $59/oz and $69/oz, respectively, in 2004 with respect to 2002. Given the anticipated increases expected for 2005, we estimate that the change with respect to 2002 will increase to $67/oz for cash costs and $76/oz for total costs.

The largest increases in costs are generally in South Africa, although there are exceptions. Randgold Resources, for example, is experiencing an increase in costs only because of the extraordinarily low costs experienced in 2002. Lihir, although not South African, shares one important trait with its South African peers: a very high fixed-cost base.

At the other end of the spectrum are companies like Newcrest and Agnico-Eagle, which have benefited from a significant improvement in base metal credits. Meridian's costs have declined due to the sale of the Jerritt Canyon mine, but when one compares the trend in cash costs at its remaining asset, El Peñón, there has been no appreciable increase. The same can be said for Buenaventura, where costs have not increased.

The average increase in cash costs of $59/oz has obviously eaten into the industry's margins. We are forecasting an average gold price of $404/oz in 2004, compared to an actual average of $310/oz in 2002. This means that of the average increase in the gold price of $94/oz over the past two years, only $35/oz have flowed to the bottom line.

When we factor in the impact of hedging, margins have improved even less. We estimate that the sector realised an average gold price of $317/oz in 2002, which implies a cash margin of $165/oz. For 2004, we estimate the industry will achieve an average price of $396/oz, against a cash cost of $224/oz, for a margin of $172/oz. Thus, the actual margins for the sector have improved by only $13/oz over the past two years.

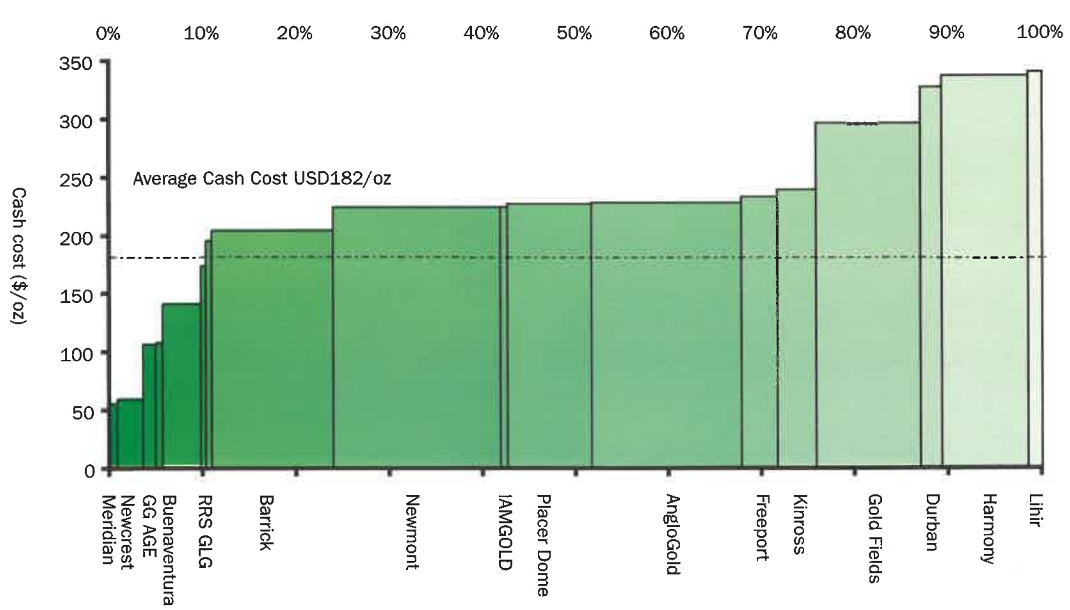
Industry Cost Curve

Figure 6 presents a composite cash-cost curve (using total cash costs) for the senior gold producers based on our 2004 production and cost forecasts (all adjusted to a 2004 calendar year). We have included Freeport's cash costs using the co-product methodology.

We continue to see little in the way of cost differential among the largest producers, with the exception of the South Africans, which continue to be weighted towards the high end of the cost curve.

The only companies remaining at the lowest end of the curve are, primarily, single-asset companies. These include Meridian with El Peñón, Goldcorp at Red Lake, and Randgold at Morila. Buenaventura is, however, an exception. Yanacocha is a low-cost producer, but so are the company's other assets. Also an exception are Agnico-Eagle and Newcrest, although this is largely due to the impact of by-product copper credits. The middle of the cost curve is dominated by the most geographically diversified, largest producers: Barrick, Newmont and Placer Dome. The most expensive producer is Lihir which, as mentioned, has a high fixed-cost base (and has had unexpected process plant problems).

6. Gold Industry Cost Curve (2004e)



Currency, Energy, Labour – Challenge or Opportunity?

While the culprits have been various – currencies, labour, fuel, energy, steel, reagents – the most important question, what should the industry do about this? remains unanswered.

Unfortunately, the answers are neither easy nor pleasant. If the gold price is indeed being driven by weakness in the dollar, then future increases in gold will come, as they have in the past three years, with increasing costs. Thus, the only effective, short-term means of protecting the industry's margins may be to consider currency hedging.

Considering the efforts the industry has made, and continues to make, to eliminate the vestiges of gold hedging, this may sound like apostasy to most readers. The other alternative, albeit more long-term in nature, is to diversify the portfolio. Acquiring and/or developing assets in the so-called "non commodity" countries would diversify country risk and potentially create a portfolio with less currency exposure.

With respect to energy prices, the same unpleasant answer – hedging – immediately comes to mind. As unpleasant as that may sound, there is no efficient way of diversifying away the impact of rising energy costs. Rising labour costs can only be managed by attempting to tie compensation to productivity, but as we know this is sometimes very difficult in many jurisdictions. Companies have made inroads by re-assessing how they manage their procurement practices, using software to manage their inventories, enhancing their maintenance practices to extend the lives of their equipment, and by centralising certain management functions.

These initiatives can shave a few dollars off the industry's production costs, but the battle will be won, or lost, on three fronts: currency, energy and labour. Those companies that can effectively reign in this triple threat – whether by management savvy or by virtue of the location and quality of their assets – will become the industry leaders in the next few years. ■

Victor Flores *is Senior Mining Analyst at HSBC, where he is responsible for research and analysis of North American and Australian precious metals producers. He is also coordinator and editor of HSBC's global sector research. Victor is a CFA whose previous experience includes portfolio management and research analysis. His professional memberships include the Association for Investment Management and Research and the Society of Mining Engineers.*

Second LBMA Bullion Market Forum

Moscow – 3 & 4 June 2004

What is gold in today's conditions, and what will it be tomorrow? Fully-fledged money? Raw metal? A financial commodity that has somewhat lost its significance? If so, what is its future? Will it lose all its significance – or will its lost function be reinstated in some other form?

– Oleg Mozhaiskov, Deputy Chairman, Bank of Russia "Perspectives of Gold: A Viewpoint from the Central Bank"

Oleg Mozhaiskov began his keynote speech at the LBMA's second Bullion Market Forum by comparing the position of a central bank with that a giraffe. On one hand, it may be slow to react to external events but, as the Russian proverb states, "The giraffe is tall, he sees best." Day-to-day prices movements might not draw the attention of the central bank giraffe, but a thorough examination of what influences might determine gold's future role as a reserve element will.

The perspective of the central bank was one of many – and at times differing – viewpoints aired in the day-and-a-half long programme, which looked at the Russian precious metals markets from all sides. Firstly, from the point of view of local concerns – government ministries, commercial banks, producers, refiners and fabricators. Secondly, from the view taken by foreign companies doing business in the country. Third and finally, there was a review of the products and services in use in the London bullion market.

Specific issues were discussed, including considerations in financing local producers, the evolution of bullion banking in Russia and differing viewpoints on whether bullion should be subject to value added tax – a lively discussion that extended into the question and answer session.

Simultaneous interpretation from both Russian into English and vice versa was provided throughout the event, the Association's second Bullion Market Forum (the first was in Delhi last year). Unlike the annual conferences, which are designed around a programme encompassing topics of interest to the global market, the forums focus exclusively on an evolving market centre.

Alan Williamson, HSBC Bank

Tatiana Safonova, Ministry of Finance

Excerpts from Selected Speeches

"Although there are only a few reserve currencies, an appalling lack of discipline is demonstrated by the US dollar. As things stand today, the United States is indebted to the external world to the tune of $3 trillion. This sum actually exceeds the total official currency reserves of all the nations of the world – including the USA.

"The evolution of the reserve role of the American currency in recent years gives grounds for a pretty pessimistic prognosis. The relationship between the state of the dollar and the value of gold is obvious. In relation to our discussion today, this means that gold continues to have a particular monetary attraction in the minds of all prudent financial investors."

Oleg Mozhaiskov, Deputy Chairman, Bank of Russia
Condensed from "Perspectives of Gold: A Viewpoint from the Central Bank"

The Forum was attended by over 150 delegates

"First and foremost, both Russian and foreign investors must make an unprejudiced evaluation of the potential of the Russian gold market – and shake off some of the more widespread myth. At the very least, we have such important factors as free price formation, clear mechanisms for export and the possibility on the part of both enterprises and banks to buy and sell gold to practically all types of investors, be they institutional or private.

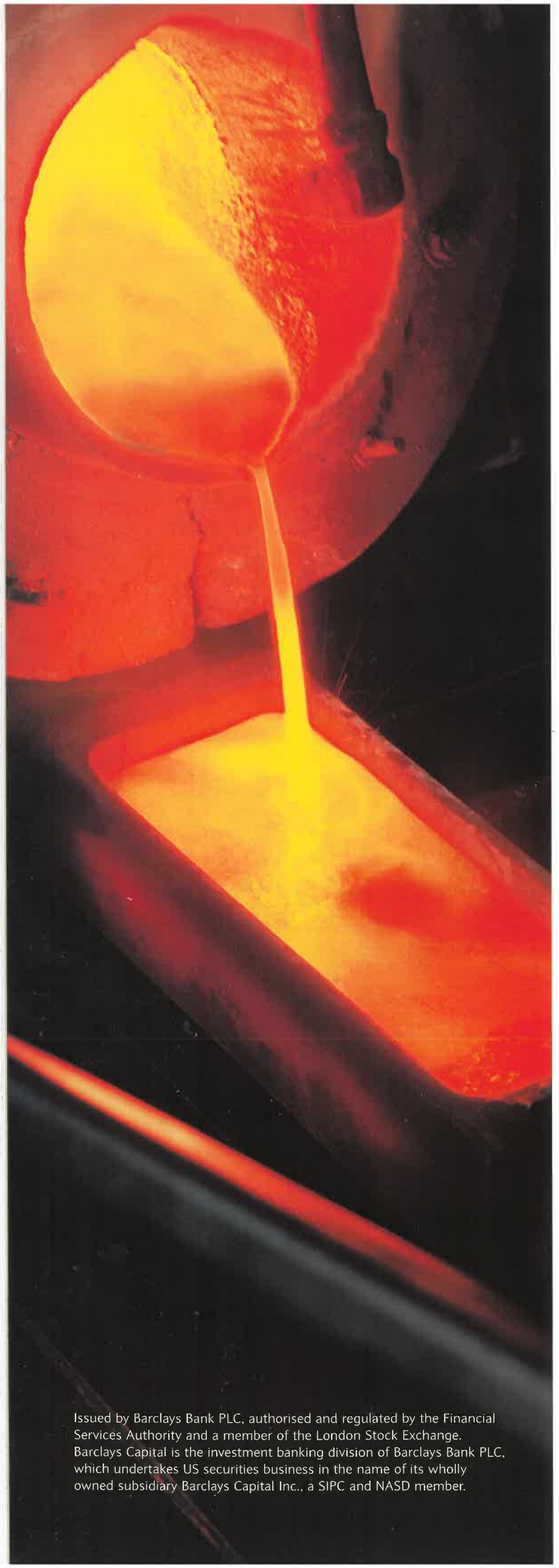
"But let us not forget just what country we are living in and where we are. Unfortunately, a consistent line in legislation or governing the country is not followed here, and we all very much rely on the authority of individual people at any specific time. There are many examples of this, and even today at this Forum we heard the presentation made by the respected tax service that changes in the principles of taxation of the mining industry are already under consideration."

Konstantin Chernavin, Deputy Chairman of the Board, ExpoBank
Condensed from "Considerations in Financing"

"You know the system for developing legislation in the Russian Federation; you know that it is not so much the government of the Russian Federation that holds the right to initiate legislation, but it is the deputies of the State Duma, who are, quite frankly, representing your interests.

"Perhaps the tax agencies did not develop [the Code] sufficiently, but, as I have already stated, the function of the tax system is, principally, a fiscal one, and our objective is to make it impossible for taxpayers to avoid paying taxes. Therefore, sirs, I call on you to show initiative in this area".

Tatiana Safonova, Ministry of Taxation
Condensed from "Taxation: Present Situation" ■



The Outlook for Global Mine Production

By David Davis, Mining Investment Analyst, Andisa Securities

The ultimate direction of global mine supply is not just an academic dispute – it impacts significantly on supply and demand dynamics and ultimately the direction of the gold price.

Over the past three years two opposing schools of thought on production have emerged: "static" (future mine supply will at least hold current levels and may accelerate) and "declinist" (supply will contract). The arguments and counter-arguments have intensified following the recent price rise.

Many in the industry would have expected global production to decline in the environment of a continued low price, but since output stayed more or less constant throughout the bear market, logically production should now expand. The price increase has undoubtedly swayed some proponents of the declinist view towards the static view.

Those who favour the static view also point to the major resources around the world still to be exploited (though some are dependant on the economic climate). Also cited is the fact that, with a few exceptions, all of the mega-orebodies that have been in production for at least 25 years – in some instances for over a century – still provide the backbone of global production.

But We Must Decline

However, we would take the declinist view. After having increased almost consistently from 1984 to 1998, production levels reached a plateau of around 2590 tonnes per annum (2593 tonnes in 2003). In order to maintain current levels, we calculate that current global reserves should be replenished at a year-on-year rate of around 12%. A sustained gold price of above $330 would be needed to maintain reserves – and hence production – at the 12% replacement level. The current reserve replacement rate of almost all of the top six gold producers averages some 6%, well below that required for the maintenance of current production levels.

We doubt that – even with prices above $350 – a 12% year-on-year replacement rate is sustainable for the following reasons:

Global exploration expenditure has halved since 1998 from $2.6 billion to an estimated $1.3 billion in 2002 – The main drivers behind exploration expenditure are a combination of the economic/political environment and the need to replace reserves through greenfields projects. Over the last five years, the industry has "acquired" reserves through mergers and acquisitions rather than exploration programmes. The net result of this strategy has not been an overall increase in global reserves but rather a shifting of reserves between companies.

Contraction of exploration target areas – The falling gold price between 1995 and 2000 does not in itself account for the significant decrease in exploration expenditure. Another factor is the contraction of exploration target areas, due mainly to a gradual move away from the geological distribution of known gold regions (Archean terrains, which date back to the earliest known rock formations), which have been extensively explored and have produced a number of large mines (above 500,000 ounces) to locations unlikely to produce mines able to satisfy the economic criteria of many of the large gold mining companies.

Outside the Archean terrains, the potential for finding large deposits falls off rapidly. Many deposits outside these regions are associated with sulphides and/or copper-gold porphyry systems, which generally require higher extraction costs and are not attractive to pure gold-focused companies.

The Rule of Twos – Unfavourable political, economic and environmental factors have also contributed to many potentially attractive exploration target areas being dropped by gold mining companies, and this reduced potential of finding large deposits is problematic to many of these companies. They are mainly looking for large long-life mines, which obviously preclude many small deposits. Many companies use the "Rule of Twos", which gives guidelines for the minimum size of a potential greenfields mine:

- Two million ounces of reserves
- 200,000 ounces p.a. production (long life > 10 years, low-cost)
- Cash cost half the gold price
- Double-digit rate of return.

The Rule of Twos gives exploration geologists an attainable goal and filters out the dross and if attained, there is a better chance of finding a giant. For example, Barrick has indicated that it looks for gold deposits of at least five million ounces capable of making a return exceeding their cost of capital. Between 1994 and 1998, ten deposits of this type were discovered. Only three deposits matching the criteria were discovered between 1999 and 2003.

The average life-of-mine based on reserves is trending downwards – As a result of a decline in global reserves and flat global production, it has fallen from roughly 10.5 years in 1998 to 8.5 years in 2002. In order to maintain production at current levels, we calculate that current global reserves should be replenished at a year-on-year rate of around 12%.

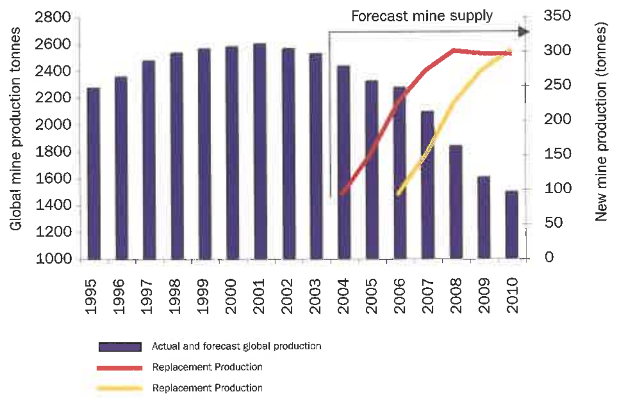
We have estimated future gold production to 2010 by combining the life-of-mine production profiles of the major global gold producers and indexing them to total 2002 gold production. The life-of-mine of gold produced shows a significant decline from 2003 onwards. To meet current levels of gold production, we estimate approximately 1,070 tonnes (34.4 million ounces) or 41% of current mine production of gold will be needed by 2010.

The Big Four

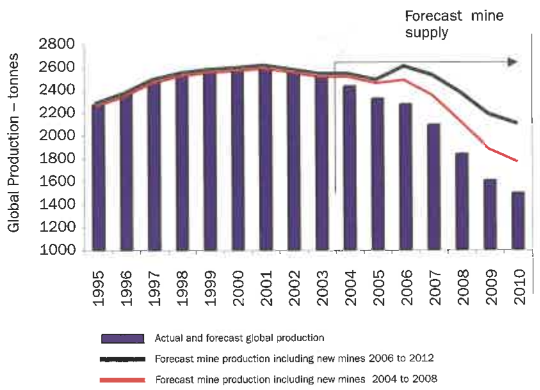
In the medium to long term, the bulk of mine supply contractions will come from the traditional Big Four gold producing countries: South Africa, the USA, Canada and Australia. The biggest contraction is likely to come from the South African mines, where we estimate that production will contract by around 55%, from 376 tonnes in 2003 to around 180 tonnes in 2010.

The current South African economic climate is not conducive to the development of deep-level mines and, even if the economic climate changed for the better, exploiting the deep-level reserves would require a lead time of at least ten years.

Global Life-of-Mine of Gold Recovered and Forecast Replacement Production



Global Life-of-Mine of Gold Recovered and Forecast Production to 2010



Australian mine output is set to increase in the short term as new mines and expansions (such as Newcrest's Telfer mine and Gold Fields St Ives expansion) come on stream. We believe production from China and the former Soviet Union countries ("stan" countries) is also set to increase.

Can the new mines due to be commissioned offset the forecasted decline?

There are a number of new mines currently in the pipeline. Based on published data, we calculate approximately 29 new mines of between 200,000 ounces and 800,000 ounces p.a. – representing 128 million ounces of reserves and 9.7 million ounces of supply (or 17% of current global reserves and 12% of current global mine supply) – may be brought to account during 2004 – 2006. However, a number of these could be delayed and/or shelved because of serious environmental and political issues.

Our calculations show that even given the most optimistic view – our high-case scenario – that all 29 new mines are commissioned, global production will decline regardless. The rate of decline will be marginal between 2004 and 2006 – around 2%.

After a possible peak in 2006, global supply is forecast to drop rapidly at a rate of around 8% per year until 2010, for a loss of around 780 tonnes in total from 2,567 tonnes in 2002 to 1,790 tonnes in 2010. Offsetting this decline would require an equivalent of ten additional 500,000-ounce p.a. mines to be brought on line every year.

Realistically, we would expect the cycle of new mines that could be brought into production to repeat itself, particularly in the environment of a rising gold price. We have again taken a very optimistic view and have looked at a two-year cycle, and included an additional 29 new mines to be brought to account between 2006 and 2012.

We find that global production still declines after 2006, this time by around 470 tonnes, from 2,567 tonnes in 2002 to 2,100 tonnes in 2010. This would require an equivalent of additional four 500,000-ounce p.a. mines to be bought on line every year to offset the decline in production from present levels. We regard this decline as our low case scenario.

Needed: Long Lead Times and High Capital Sums

Based on published data, we calculate approximately 18 new large mines of up to 500,000 ounces p.a. are waiting in the wings. Many of these are deep-level mines (3,000m and below) and, not surprisingly, 50% of them are located in South Africa. Given the economic climate, the deep-level mines can be expected to require 10 to 15 years from exploration to mine commissioning. For example, the Western Areas/Placer Dome JV South Deep mine will have taken 15 years and approximately R6.5 billion to become fully operational, and another three years at least to reach design capacity.

The current economic situation in South Africa makes it highly unlikely that any new greenfields projects – with the exception of South Deep Phase 2 – will be considered in the next five years, thus new mine production in South Africa could be delayed for up to 20 years.

Outside South Africa, capital sums of up to $500 million are now considered common for the development of large mines – for Sukhoi Log, figures of up to $2 billion have been mentioned. At these levels of capital requirement, financiers will require watertight arguments for a sustained economic gold price. They will also be looking for low-risk operations with high returns and hedge cover, for projects of long lead times and high capital to go ahead.

***

The large number of mines currently on the drawing board that are due to be commissioned within the next 2 to 10 years will not offset the fall in production from the rest of the world. We have shown that, given the most optimistic view of all 58 new mines becoming commissioned between 2004 and 2012, global production will decline regardless.

The decline in global mine supply will likely result in an increasing supply/demand deficit, which will likely change market perception significantly and, as a result, put upward pressure on the gold price. ■

Dr David Richard Davis *has been associated with South Africa's mining industry for the past 25 years. He has served on executive committees in platinum, gold and uranium and base metals, advising on metals benificiation, strategic planning, mining asset management and new business.*

David is published widely in academic journals, financial magazines and newspapers and regularly presents at local and international conferences and symposiums.

Reversal Patterns

The Battles of the Bulls and the Bears

by Taso Anastasiou, Global FX Technical Strategist, UBS Investment Bank

There are two opposite objectives in analysing trends: to determine whether the trend will continue in a given direction or whether the trend appears to be losing momentum and is about to reverse.

One of the central tenets of Dow Theory is that a trend is assumed to be intact until it provides enough evidence of its reversal. Pattern analysis is at the core of this theory, displaying the clear battle that develops between bulls and bears when trends reach these critical turning points.

An uptrend is defined as a sequence of higher highs and higher lows, while a downtrend reflects a series of lower lows and lower highs. It is essential to establish where this trend sequence of highs and lows breaks down when identifying trend reversals. Generally speaking, markets tend to reverse a trend after a period of deliberation, when a somewhat evenly balanced battle brews between bulls and bears – contrasted with the one-sided affair evident during an impulsive trend.

Reversal patterns are the result of this battle between bulls and bears, and the identification of a pattern provides a trader with reinforcing evidence that a reversal is imminent. Sentiment is always an important indicator. If bullish sentiment is rising, one would typically expect price activity to reflect this by trending higher. During a reversal stage, sentiment is usually extreme – however, the price fails to reflect this condition and instead displays an inability to trend. This behaviour generally provides the first warning that momentum is waning and it is during this period that patterns will develop. Price reversal patterns therefore have the ability to clearly reflect shifting dynamics in market sentiment, allowing the trader to adjust positioning either through closing existing positions or tightening risk parameters.

This article will focus on reversal patterns: double tops and bottoms, head and shoulders, the key reversal day, island reversals, V formations, rounded tops and bottoms and diamond formations.

1. The Three Phases of a Trend

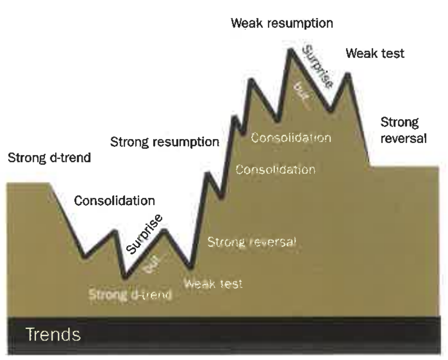


Chart 1 displays the evolution of a trend, which typically breaks down into three phases. The first is the basing (accumulation) or topping (distribution) phase. The second phase marks the trend confirmation that results in the explosive, impulsive directional move. This is followed by a period of accumulation or distribution (depending on the direction of the trend) and represents the trend's final phase. From this we can conclude that reversal patterns are found in the first and third phases of a trend. This area will also represent the region where the sequence of highs and lows that define a trend begins to break down.

Pattern recognition enables a trader to identify a change in market sentiment and identify the point at which that change in sentiment is confirmed. This helps to improve timing when a trade is executed. One other valuable piece of information that reversal patterns provide – once the pattern has been confirmed – is a projected target. This helps one assesses the risk/reward conditions of a potential trade.

2. Head and Shoulders Reversal

In Chart 2, (Bund Daily Bar Chart), point x is the point at which the sequence of higher highs and higher lows that has defined the uptrend breaks down, providing a key trend reversal signal.

A head and shoulders formation is made up of three points. The market defines a fresh high in the trend and then retreats to form the left shoulder (S1). A fresh rally follows that also meets resistance above S1 and retreats to form the head. Finally, the market begins to recover once again, although it fails to break the prior high (S1) and then retreats to confirm a fresh low (below point x) and a reversal. The line that connects the reaction lows is known as the neckline, and the pattern is confirmed once this is breached.

All reversal patterns utilise the same application – in other words, assessing the point at which the sequence of highs and lows that make up that particular trend reverses. An additional advantage of this pattern is the ability to calculate a price projection once the pattern is confirmed. This is achieved by calculating the distance between the head and the neckline and projecting the difference once the market breaks below the neckline.

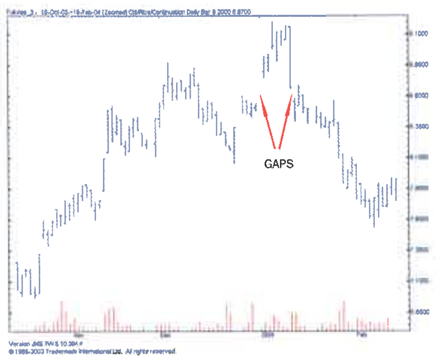
Where is the pattern negated? There are two schools of thought on this: the first is that price action must remain below the neckline and the second is that a break above the right shoulder is required to negate this reversal pattern (which you choose is a subjective decision). A head and shoulders pattern that reverses a downtrend is known as an inverted head and shoulders reversal.

3. Double Top/Bottom Reversal

The double top / bottom reversal is similar to the head and shoulders. Point x is where the sequence of lower lows and lower highs seen in Chart 3 (AUD/NZD Daily Bar Chart) breaks down and the trend is reversed. The key feature in this pattern is the subsequent deep sell-off in the direction of the trend following the reactive high to x. This results in a move towards the extreme lows of the trend. However, the market fails to confirm a new low and begins to recover. The break above x is known as a break above the midpoint, and confirms the reversal pattern.

A double top reversal pattern occurs at the top of an uptrend. As we saw in the head and shoulders pattern, double top / bottom reversal patterns provide a price projection. In the case of a double bottom, this is determined by calculating the distance between the lowest point of the pattern to the midpoint and projecting the sum from the midpoint. A rounded reversal is similar to the double top/bottom formation, except that the pattern does not identify two separate trading periods and adopts a more rounded appearance.

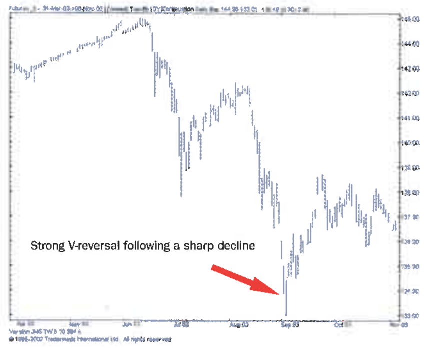
4. Island Reversal



The island reversal, shown in Chart 4 (CBT – Rice), represents a short trading period over a very tight price range. This area of trading is separated from previous activity by an exhaustion gap and a breakaway gap. The pattern, and hence the reversal, is confirmed by a breakaway gap.

The key feature here is the presence of an isolated trading period and the two gaps, which clearly display a change in sentiment. The existence of a gap at the beginning of a trend is in itself a powerful signal that reinforces the start of a fresh trend.

5. V-Formations



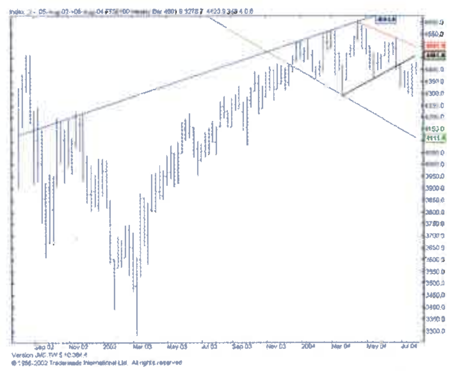
V-Formations are the most difficult reversal patterns to trade because price action does not provide much warning that the trend is about to reverse, (though the existence of exhaustion gaps provides some warning of an impending reversal). An abrupt reversal unfolds, allowing little time to react. Momentum trading systems combined with the increase in futures trading have resulted in an increase in this type of reversal. A V-reversal is also likely to occur where a steep trend has developed. These types of trends are generally regarded as being unsustainable. Chart 5 (JB-10Y) illustrates a V-reversal.

6. Key Reversal Day

While we will refer to this pattern as a key reversal day, it is equally applicable to a weekly or even a monthly reference (see Chart 6, DAX – Daily Bar Chart). This is a single-day pattern that clearly indicates a shift in market sentiment during a single session.

During an uptrend, the first criterion for a key reversal day is a fresh high above the previous high. The market then sells off enough to confirm an "outside day" (the reversal day's range is greater than the previous day's range). The close is also below the previous day's open. The failure to hold onto new highs and the subsequent sell-off that results in a close below the previous day's open does not reflect a market that is supposedly bullish. The opposite would hold for a bear market reversal. In Japanese candlestick terms, this pattern is known as the engulfing pattern. Of note is that the reversal day's range should be more than the average range, emphasising the significance of the reversal.

7. Diamond Formation



The diamond formation is rare and when it does develop, it is found at market tops or bottoms. The appearance of price activity that is lacking a clear direction following a trend is consistent with the typical behavioural elements one would expect at a reversal stage. A diamond as seen in Chart 7 – FTSE 100 starts out as a broadening formation and is usually followed by a symmetrical triangle. The eventual breakout confirms the pattern, and hence the trend reversal. This pattern also provides a trader with a price objective, determined by calculating the widest part of the pattern and projecting this value once the breakout occurs.

A Final Word On Momentum And Volume

A study of momentum and volume can help in identifying reversal patterns. A fall in volume during the accumulation or distribution phases is to be expected, whilst an increase in volume is expected when a reversal pattern is confirmed. This increase in volume is essential when the pattern reverses a downtrend. Equally, conditions in momentum – such as overbought and oversold allied with a divergence between momentum and price – would act as a warning sign that the trend is entering its final stage. ■

Taso Anastasiou *is Global FX Technical Strategist for UBS Investment Bank, which he joined four years ago. He produces technical research and develops trading strategy on the FX and precious metals markets. He is part of the global fundamental and technical team that works closely with the bank's traders, sales professionals and clients and has been a technical analyst for 11 years.*

Prior to joining UBS, Taso worked for what was then S&P MMS as an FX technical analyst. He spent five years at MMS, the last 18 months managing the FX technical product there. Prior to that, he traded IMM currency futures in Athens.

Silver as Investment: A Wild West Idea?

By Andy Smith, Precious Metals Analyst, Mitsui & Co Precious Metals Inc.

Welcome to the Wild West, where typical local landscapes comprise long arid patches of desert, broken very occasionally by sharp peaks. Familiar scenery, perhaps? Welcome to Silver Country! Some would say – and they have – that this lies on the road to 'Double Digit Country'.

Silver, an investment? Huh? Almost whatever the price topography – peaks, troughs, plains – silver has endured estimated disinvestment in all but one of the last thirteen years. A mesa cumulating to 32,000 tonnes, almost two years' mine output.

Running 'dry' of silver? Unlike reputations – even most base metals – silver is rarely destroyed. There's a mountain of inventory out there, bigger than any in Monument Valley.

Isn't the 'mountain' about to crumble? In fact, mine output has stamina of which the Lone Ranger would be proud. Silver demand has barely kept pace with world GDP. True, that's better than zinc, and even better than gold. Curious, isn't it, how the precious metal suffering a massacre of its traditional demand is screaming the loudest about 'investment'? Against gold's scalping, the so-called 'image problem' of silver – the digital threat to core silver halide paper demand – looks rather glossy.

Silver, the fearless inflation fighter? Actually, it's not as heroic as paper dollars in a bank earning interest. Even zinc tarnishes less with inflation.

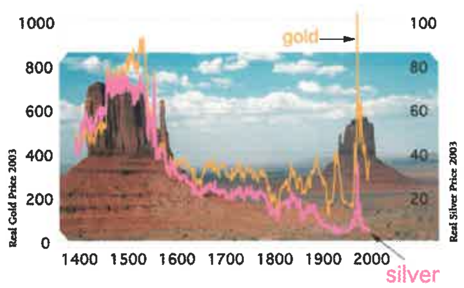
But over the longer term, doesn't silver show its anti-inflation mettle? Here we need to revisit a familiar landscape. In today's money, silver's annual peak in 1980 at just over $40 was only half its summit in the mid 1400s, as many of us remember. Columbus should have gone short, for about 600 years.

Hard Money Men to the rescue? The almost legendary exploits of Messrs Hunt and Buffett in Silver Country give many the hope that a tall handsome stranger will ride into town, be smitten, and stay long enough to kick out the bad guys (the Short Gang?)

But still, silver's a 'lucky metal', isn't it? Well, if it's a really big return you want, since 1984 the chances of seeing silver north of $10 are about the same as getting killed by an asteroid.

Central banks have done their worst. Most official silver was sold in the last quarter of the 19th century. Silver decoupled from gold and has hovered around 'commodity purchasing power parity' ever since, its official inventory largely dispersed, privatised. So

Familiar terrain



corralling lenders is harder, lease rates are less predictable and backwardations more frequent than in gold. And there is no greater turn-on for speculators than a futures position that 'pays' for itself.

Silver is cheaper and so more cheerful. At prices of $6/oz, or often much less, otherwise fanciful higher-tech new-use hopes can be taken more seriously. Cheapness gives silver a science 'street cred' – in HTS cable for superconductivity, in every 'bio' use there is, except biography.

Cheap and tiny. Enjoy the ride. A $6/oz tag also gives silver casino appeal: its price volatility is almost twice gold's. Which gets to the essence of commodity 'investment' – timing.

Silver has no high horse. I.e., no pretensions to being a workaday money, so it's not really treated as such by miners. Consequently hedging is much less a factor in the silver scheme of things.

This down-to-earthness may soon work to silver's relative benefit. It's no coincidence that gold's swing from bulk hedging to de-hedging has seen the gold price fall, then rise relative to silver.

More simply, as the incentive to sell forward has waxed and waned, so silver's price has risen and fallen relative to gold's. Again, silver has taken its biggest hit. Interest rates are now at their lows, gold de-hedging nearer an end; when rates rise, re-hedging by gold miners should see silver outride gold.

Silver 'investment' is a more pleasant sales pitch. Interest rates rise partly because hope triumphs over fear, growth over gloom. This can be seen in the close partnership of bonds relative to the S&P with the gold/silver price ratio. For over a year equities [hope] have outgunned bonds [fear] and silver has raced ahead of gold, without the spurs of investment PR or mine de-hedging.

The Wild East: opportunity or threat – either way, silver benefits. If the China commodity arrow breaks, silver is the least exposed of many an 'investment' (China has the lowest contribution to recent demand growth and the lowest share of demand of many precious and base metals). If China's commodity arrow keeps soaring, silver has most scope to benefit.

None of which, alas, means 'Hi-yo silver…away'. And not quite a silver-bullet solution either. But maybe this has helped lift the mask on a few silver heresies. Good guys and good metals do win in the end. So let no one make a 'Kemosabe' – horse's rear end – out of you. ■

Andy Smith *is principal commodities analyst at Mitsui & Co Precious Metals Inc., a position he has held since 1998. For the ten years prior to this he was precious metals analyst at Union Bank of Switzerland. Previous positions include group economist at Consolidated Gold Fields and senior economist in British Petroleum's corporate strategy division. He has also worked with the UK government, principally in Treasury, modelling world economy and in the economic briefing department.*

Andy holds degrees in economics from Reading University (BA, first class honours, 1975) and London School of Economics (Master of Science, Distinction, 1977).

MARKET MOVES

Robin Baskin *to JP Morgan*
Robin Baskin has joined the Global Currency and Commodities Group at JP Morgan in London. Involved in metals marketing for ten years, she was most recently with N.M Rothschild in London. Robin previously worked in New York with the commodities trading groups of Rothschild, Republic and UBS.

Shane Chenery *to RBC Capital Markets*
Shane Chenery has joined the options trading team at RBC Capital Markets, where he will be responsible for precious metal options. He has been trading for seven years, covering precious metals, base metals and foreign exchange. Prior to joining RBC Capital Markets, he worked for both NMR London and NMR Australia.

Clare Cork *to RBC Capital Markets*
Clare Cork has joined RBC Capital Markets, where she will be involved in trading gold and silver in the interbank spot market. She previously worked with NM Rothschild, most recently as a precious metals derivatives trader.

Lee Drage *to RBC Capital Markets*
Lee Drage has joined the bullion structuring and marketing team of RBC Capital Markets as a quantitative analyst. From 1999 to 2004, Lee worked with NM Rothschild, where his responsibilities included dealing in options.

Matt Gillie *to Fortis Bank SA/NV*
Matt Gillie has joined Fortis Bank as Senior Trader, LME & Precious Metals. He comes to his new position from Spectron, where he was head of LME Brokerage, having previously worked at N.M. Rothschild and Sons Ltd. as a senior option trader on the base and precious metals desk. His ten years of experience in the commodity markets has also included time as an LME ring trader at Amalgamated Metal Trading and as option trader at Billiton Metals Ltd.

David Holmes *to RBC Capital Markets*
David Holmes has joined the corporate sales division of RBC Capital Markets as a vice president, responsible for marketing precious metals derivatives. His background includes trading and risk management and the development of sales strategies. He has 23 years of experience in the bullion market, most recently with NMR in London.

Ruark Lineker *to Barclays Capital*
Ruark Lineker has joined Barclays Capital from Citigroup in London to trade precious and base metal options. While at Citigroup, he managed all aspects of the bank's exposures across precious and base metals. Prior to joining Citigroup, Ruark worked with WestLB in Sydney and, later, in London as a precious metal option trader.

Paul Merrick *to RBC Capital Markets*
Paul Merrick has joined RBC Capital Markets as part of the bullion structuring and marketing team. Prior to joining RBC, he was employed with NM Rothschild in both Australia and London, most recently as director of technical development.

Kevin Roberts *to JP Morgan*
Kevin Roberts has joined the Global Currency and Commodities Group at JP Morgan in London from Investec, London. Kevin has held previous positions on the metals trading groups at both UBS and Credit Suisse.

Gerry Robinson *to RBC Capital Markets*
Gerry Robinson has joined RBC Capital Markets, where he will trade gold and silver on the interbank spot market. Gerry, who has over 20 years experience in spot markets, has worked most recently with NM Rothschild and Sons. Prior to that he was a trader at UBS and Lehman Brothers.

Stephen White *to Barclays Capital*
Stephen White has joined Barclays Capital from N.M. Rothschild & Sons Ltd to trade precious and base metals. He is based in the Singapore office. He joins Barclays from Rothschild Sydney, where he was responsible for the spot bullion book. Prior to working in the metals market, Stephen was based in Tokyo as Chief Dealer – FX with HSBC.

Michael T. Zeitler *to Barclays Capital*
Michael T. Zeitler has joined Barclays Capital in London to strengthen their precious metals trading activities.
Michael started his career at Baden-Wuerttembergische Bank AG in 2001, and was part of the team that led BW Bank's way into bullion trading. Earlier, he spent time with DaimlerChrysler Bank AG's Fund Products Department. ■

Retiring, but not Shy

Former LBMA Chairman Retires

Peter Fava, centre

After more than three decades in the market, former LBMA Chairman and HSBC director Peter Fava is moving on. But not out.

At a dinner thanking him for his wide-ranging participation in the activities of the Association, current Chairman Simon Weeks paid tribute to Peter, whom he called "a Maltese, Catholic, as straight as a die." He went on to note that Peter had had not one, but two careers in bullion – surely more than enough for most.

But not for Peter, who now embarks on a third career in bullion: precious metals consultant. He expects this will involve travel to a bullion market centres around the world, such as India, Italy and Dubai – which will enable him to keep up his suntan, enjoy mezze and, of course, practise his belly dancing.

Peter's 34-year career in bullion began in 1970 with Johnson Matthey Bankers. From there, he joined the bullion department at NM Rothschild, later transferring to the money markets area during the 1980s. But the lure of bullion proved impossible to resist, and he rejoined the market in 1993 at the then Samuel Montagu, which subsequently evolved into HSBC.

A Guide to LBMA Membership

The LBMA's membership now stands at 101 – its highest-ever level – and includes Members and Associates in 21 countries, engaged in precious metals trading, refining, assaying, shipping, broking, mining and research.

When the Association was founded in 1987, membership was restricted to companies based in the UK, with the only option for joining being full membership – either as a Market Maker or an Ordinary Member.

The year 2000 saw the introduction of the category of Associate, which opened the membership to a much broader range of companies, and the extension of full membership to countries based outside the UK in 2002 widened the pool of eligible companies still further.

Here follow answers to the most frequently asked questions about applying to join the LBMA. The sidebar details the benefits available to Members and Associates.

LBMA Member Benefits

Full Member and Associate Benefits

- Complimentary copies of the Association's publications, including *A Guide to the London Bullion Market* and the *Alchemist*
- Direct access to LBMA information, including monthly data on longer-dated forward rates and option volatilities, which can be used for valuation purposes
- Involvement in the cultural and educational life of the Association, including invitations to seminars, receptions, dinners and other social events
- Reduced rates for advertising in the *Alchemist*
- Multiple copies of the *Alchemist* (e.g., for display in a member's reception area)
- Discounted registration fees at LBMA conferences and seminars
- Access to the Conference delegate list prior to having registered for the event
- Inclusion on the LBMA website, with the option of a direct link to the company's own website
- Permission to incorporate a special version of the LBMA logo into printed material
- For Good Delivery List refiners, the annual subscription includes the fee of £700 per annum per metal in respect of the basic proactive monitoring service.

Additional Benefits of Full Membership

- A vote at the Association's General Meetings
- The ability to nominate candidates for LBMA committees – Management, Finance, Membership, Physical, Public Affairs
- Sponsorship of other companies applying to become Members or Associates
- UK Members fall under the Value Added Tax (Terminal Markets) Order 1973, an agreement between the Commissioners of HM Customs & Excise and the LBMA.

What determines whether a company should apply as a Member or as an Associate?

While the distinction is not always clear-cut, some general guidelines apply.

- Banks located in the UK that have been authorised or passported in by the FSA (originally authorised elsewhere within the EU or EEA) must apply to become Members
- Banks without a full branch in the UK must apply as Associates
- Dealers, producers and refiners located outside the UK should apply as Associates
- Companies providing services such as assaying or consultancy should apply as Associates.

Generally speaking, UK-based companies that are directly involved in the market are expected to apply to become Members, though refiners based in the UK may be accepted as Associates at the discretion of the Management Committee.

What are the requirements for membership?

Members and Associates need to be actively involved in the London bullion market or in the provision of services to the market as mentioned above. In filling out the application form, applicants will need to name three companies from amongst current LBMA Members that are willing to act as sponsors. These should be companies with which the applicant has an ongoing business relationship, and in at least one case the relationship between the two companies must be in precious metals. Each sponsor will be asked by the LBMA to supply a letter of recommendation to the Association confirming the business relationship between the two companies and supporting the application.

At least one sponsor must be a Market Maker. LBMA Associates are not eligible to sponsor applications.

Should the applicant contact their sponsors directly for the letters of recommendation?

No – they only need to obtain the companies' agreement to act as sponsors. Upon receipt of the application, the LBMA contacts the sponsors, with the letters of recommendation being sent directly to the Association.

How long must a company be active in bullion before they can apply?

There is no minimum amount of time required, but sponsors will need to have some experience in dealing with a company in order to fulfil their company's due diligence and KYC (know your customer) requirements in recommending the applicant for membership.

Is there any minimum net-worth requirement?

No.

How long does it take an application to be processed?

It normally takes two to three months, from the date of receipt of the application by the LBMA to approval.

What does membership cost?

Members and Associates pay a one-off entry fee of £2,500 and £500 respectively upon acceptance of their application. Market Making Members then pay an annual subscription of £10,000, Members pay £5,000 and Associates pay £2,000 – prorated according to when their application was accepted. ■

Members & Associates of The London Bullion Market Association

Market Making Members

The Bank of Nova Scotia – Scotia-Mocatta	+44 20 7638 5644	*J Aron & Company (U.K.)*	+44 20 7774 2010
Barclays Bank Plc	+44 20 7773 8630	*JP Morgan Chase Bank*	+44 20 7726 4681
Deutsche Bank AG	+44 20 7545 8000	*Société Générale*	+44 20 7676 8414
HSBC Bank USA National Association, London Branch	+44 20 7791 8888	*UBS AG*	+44 20 7567 8000

Ordinary Members

ABN-AMRO Bank NV, Australian Branch	+61 2 8259 5000	*Lehman Brothers International (Europe)*	+44 20 7102 1000
AIG International Limited	+44 20 7659 7060	*Macquarie Bank Limited*	+44 20 7065 2260
Amalgamated Metal Trading Limited	+44 20 7626 4521	*Man Financial Limited*	+44 20 7285 3000
Australia & New Zealand Banking Group Limited	+44 20 7378 2547	*Marubeni Europe Plc*	+44 20 7826 8600
Baird & Co Limited	+44 20 8555 5217	*Merrill Lynch International*	+44 20 7995 3785
Bank of China	+44 20 7282 8888	*Mitsubishi Corporation (UK) Plc*	+44 20 7025 3200
Bayerische Hypo-und-Vereinsbank AG	+44 20 7634 3701	*Mitsui & Co Precious Metals Inc, London Branch*	+44 20 7489 6761
Bayerische Landesbank	+49 89 2171 25479	*Morgan Stanley & Co International Limited*	+44 20 7513 8000
Brink's Limited	+44 20 7247 9481	*NM Rothschild & Sons Limited*	+44 20 7280 5000
Canadian Imperial Bank of Commerce	+44 20 7234 6000	*Natexis Metals Limited*	+44 20 7648 4950
Citibank N A	+44 20 7986 3866	*Phibro Bullion, Division of Phibro Futures and Metals Limited*	+44 20 7484 8774
Commerzbank International SA Luxembourg	+352 47 79 11 2540	*Prudential-Bache International Limited*	+44 20 7283 9166
Commonwealth Bank of Australia	+61 2 9378 2000	*Rabobank International*	+44 20 7664 9650
Cookson Precious Metals Limited	+44 121 200 2120	*Royal Bank of Canada*	+44 20 7489 1188
Credit Lyonnais Rouse Limited	+44 20 7374 6100	*Royal Bank of Scotland Plc*	+44 20 7375 4000
Credit Suisse First Boston	+44 20 7888 8888	*Royal Mint*	+44 1443 222 111
Derek Pobjoy International Limited	+44 1737 818 181	*Securicor International Valuables Transport Limited*	+44 20 7776 1300
Dresdner Bank AG, London Branch	+44 20 7623 8000	*Sempra Metals Limited*	+44 20 7783 2000
EBS Dealing Resources International Limited	+44 20 7426 1600	*Standard Bank London Limited*	+44 20 7815 4130
Engelhard Metals Limited	+44 20 7456 7300	*Sucden (UK) Limited*	+44 20 7940 9400
Fleet National Bank	+1 401 278 5789	*Sumitomo Corporation (Europe) PLC*	+44 20 7246 3600
Fortis Bank SA./NV	+44 20 7444 8000	*Triland Metals Limited*	+44 20 7061 5510
GFI Brokers Limited	+44 20 7422 1000	*VIA MAT International Limited*	+44 1932 230 130
ICAP Metals Limited	+44 20 7000 5000	*WestLB AG, London*	+44 20 7020 3116
Investec Bank (UK) Limited	+44 20 7597 4300	*Westpac Banking Corporation*	+61 2 9284 8607
Johnson Matthey PLC	+44 20 7269 8000		
Koch Metals Trading Limited	+44 20 7648 6300		

Associates

AUSTRALIA	
AGR Matthey	+61 8 9479 9999
CANADA	
Royal Canadian Mint	+1 613 993 7540
CHINA	
Great Wall Gold & Silver Refinery of China	+86 28 2725461
GERMANY	
Baden-Württembergische Bank AG	+49 711 180 1257
Umicore AG & Co KG	+49 618 159 6292
W C Heraeus Gmbh & Co KG	+49 618 135 257
GHANA	
Ashanti Goldfields Company Ltd	+44 20 7786 5081
JAPAN	
Mitsubishi Materials Corporation	+81 3 5252 5370
Sumitomo Metal Mining Co Ltd	+81 3 3436 7839
Tanaka Kikinzoku Kogyo K. K.	+81 3 3669 8422
KAZAKHSTAN	
OJSC Kazzinc	+7 3232 473 794
KOREA	
Korea Zinc Co. Limited	+822 519 3447

Associates *continued*

MEXICO	
Met-Mex Peñoles S.A. de C.V.	+52 871 729 5704
NETHERLANDS	
Schöne Edelmetaal B.V.	+31 20 627 0026
POLAND	
KGHM Polska Miedz S.A.	+48 76 846 4646
SINGAPORE	
Mahesh & Co Pte Limited	+65 6293 1390
SOUTH AFRICA	
AngloGold Limited	+27 11 637 6287
Harmony Gold Mining Co Limited	+27 11 684 0140
Rand Refinery Limited	+27 11 418 9000
SWITZERLAND	
Argor-Heraeus SA	+41 91 640 53 53
Cendres & Métaux SA	+41 32 344 22 11
Metalor Technologies SA	+41 32 720 61 11
MKS Finance SA	+41 22 818 52 00
PAMP SA	+41 91 695 04 50
Valcambi SA	+41 91 695 53 11
UNITED ARAB EMIRATES	
A.R.Y.	+9714 225 1588
Bin Sabt Jewellery (LLC)	+9714 228 5500/224 6948
Kaloti Jewellery Group	+9714 225 4092
Lakhoo Jewellery Trading Co (LLC)	+9714 226 4885
Transguard	+9714 282 2255
UNITED KINGDOM	
Alex Stewart (Assayers) Limited	+44 151 548 7777
Alfred H Knight International Limited	+44 1744 733 757
BSI Inspectorate Limited	+44 1376 515 081
GFMS Limited	+44 20 7478 1777
JBR Recovery Limited	+44 121 525 1691
TheBullionDesk	+44 1787 278685
UNITED STATES	
Gerald Metals Inc	+1 203 609 8421
Sovereign Bank	+1 401 752 1400
UZBEKISTAN	
Almalyk Mining – Metallurgical Complex	+998 71 120 20 60
Navoi Mining & Metallurgical Combinat	+998 79 223 11 03

Proactive Monitoring: An Update

by Stewart Murray, Chief Executive, London Bullion Market Association

The Proactive Monitoring system which was announced in January of this year involves refiners on the Good Delivery List either providing a witnessed sample of their current production of gold or silver for test assaying by the LBMA's referees or, in the case of four-nines gold refiners, assaying a set of reference samples provided by the LBMA.

As was explained at the special Good Delivery meeting held at the end of the Bullion Market Forum in Moscow in June, the genesis of the Proactive Monitoring system was a complaint from a government mint that some gold bars marked 999.9 that had been produced by Good Delivery refiners were assayed less than this. Although refiners on the Good Delivery List will always stand behind their bars and respond to any such complaints, the LBMA decided to introduce a system that would ensure that the high standards of refining and assaying demonstrated at the application stage would be maintained in all cases. During an extensive development period in 2002 and 2003, the system of Proactive Monitoring (described in *Alchemist* 33) was developed.

The intention is that each quarter a group of refiners on the List will be asked to submit to monitoring. In a three-year cycle, all the companies on the List will be monitored at least once. The first batch of companies being monitored were informed in June that they should make arrangements within one month of the announcement to have the dip-sampling operation witnessed by one of the LBMA's three approved supervising companies (Alex Stewart Assayers, Alfred H Knight and BSI Inspectorate). In all, 10 companies on the List were sent these announcements. These included three companies which were on both the gold and the silver Lists. Two of the companies had previously indicated that they wished to be treated as four-nines gold refiners. In this first round of monitoring, all the companies approached were in Europe and these included companies which had not so far agreed to pay for the annual maintenance charge (£700 per metal).

The two gold refiners which had elected to be monitored via the four-nines route produced excellent results, with their average deviation over the six reference samples being in each case only 0.03 in fineness terms when compared with the reference values. All the dip-samples were submitted to the LBMA Executive by the end of July and were sent to one of the LBMA's panel of referees for assaying. A second set of the same samples was retained in the LBMA office in case any of the first set showed assay values which deviated by more than the LBMA's allowed criteria. As with all aspects of the Good Delivery work, the testing described above is performed on a double blind basis. In other words, neither the referees (who provide the reference samples and test the dip samples) nor the refiners being monitored are aware of the identity of the other party involved.

The assay results on the dip samples were due to be considered by the LBMA's Physical Committee at its meeting on 24 August.

The next round of monitoring will be initiated at the end of September. ■

LBMA News

By Stewart Murray, Chief Executive, LBMA

Membership

Members

ABN-AMRO, Australian Branch was admitted as a full Member on 21 June, 2004.

ICAP Metals Ltd relocated to 2 Broadgate, London EC2M 7UR on 2 June.

With the agreement of the Management Committee, Fortis Bank has changed its nominated address on the Membership list to its Head Office, Montagne Du Parc, 3B-1000 Brussels, Belgium, though its bullion traders will continue to be based at its branch in Camomile Street in the City of London.

Mitsui & Co Precious Metals Inc, London Branch relocated to 5th Floor, St Martins Court, 10 Paternoster Row, London EC4M 7BB on 9 August.

With effect from 1 August, 2004, HSBC has been trading bullion under the name of HSBC Bank USA National Association, London Branch.

Associates

On 21 June 2004 the Kaloti Jewellery Group of Dubai was admitted as an Associate.

Good Delivery List

Uralelectromed of Russia was added to the Silver List on 24 August, 2004.

The Neimenggu Precious Metals Refinery of China (which is on both the Gold and the Silver List) has changed its name to the Inner Mongolia Qiankun Gold and Silver Refinery with effect from July, 2004.

In large part because of the implementation of proactive monitoring, a number of refiners were transferred to the Former List on 30 June, 2004:

Austria: Ögussa (Silver)
Brazil: Casa da Moeda do Brasil (Gold)
Italy: Portovesme (Silver)
DPR Korea: Central Bank of the DPR of Korea (Gold and Silver)
Mexico: Compania de Real del Monte y Pachuca SA (Silver)
Netherlands: Engelhard-CLAL/Drijfhout BV (Gold and Silver).

Annual General Meeting

The LBMA's AGM was held at the Armourers' Hall, Coleman Street, on 23 June. In addition to the normal business of approving the Accounts, the following Members' representatives were elected to the Management Committee:

Simon Weeks (Chairman)
Jeremy Charles (Vice Chairman)
Jack Allen, Nigel Munt,
Anton Down, Diego Parrilla
Martin Stokes, Martyn Whitehead.

The LBMA takes this opportunity to thank the members who served on the Committee during the past year: Paul Copsey, Kevin Crisp, Peter Fava and Nicholas Frappell.

Biennial Dinner

On 23 August, all Members and Associates were informed about the arrangements for the Biennial Dinner which will be held at Goldsmiths' Hall on 26 October. The initial allocation of tickets is:

Market Makers	5
Members	3
Associates	1

Additional tickets may be purchased subsequently. The Executive has already invited a number of representatives of market-related organisations to attend the dinner as LBMA guests.

Committees

Management Committee

The Management Committee has met only once since the AGM – namely in early August. It reviewed the progress in the discussions with the DTI and HM Customs and Excise relating to the EU's imposition of duties on gold and silver bars since March this year. All Members and Associates have been sent briefing notes updating them on these discussions.

The Committee also noted that the Office for National Statistics in the UK had prepared a paper on the treatment of gold in national and international financial statistics. The ONS paper has been circulated to the LBMA's statistical working party. Any Member or Associate wishing to have a copy should contact the Chief Executive.

The Committee also approved a major upgrade to the LBMA's computer system.

Physical Committee

The Physical Committee has met twice during the summer months. Its discussions have included consideration of the discussions held between representatives of the DTI, HM Customs and Excise and the LBMA on a number of questions. These include the EU's retaliatory duties on gold and silver bars; the updating of the 1991 market agreement between the LBMA and Customs; and the first meeting of the new Commodities Forum set up by Customs. The latter meeting – on 15 July – discussed the use of the Terminal Markets Order by various commodity groupings in the UK.

All Members have been informed (by email on 6 August) about the discussions with Customs regarding the Market Agreement. The Agreement is largely based on the Terminal Markets Order (1973) and predates both the Special Accounting Scheme for Gold that was introduced in 1993 and the Investment Gold Directive, which came into force on 1 January, 2000. Together, these regulations form the basis under which the bullion market trades gold in the UK and all LBMA Members are considered by Customs to operate within them.

The possibility of the London market using electronic (as opposed to beam balance) weighing for gold bars has been under review by the Committee since the middle of 2003. Following an initial extensive trial of two balances, carried out at HSBC and Johnson Matthey, it has now been decided to carry out a further, though shorter, trial involving the vaults of Brinks, JPMorgan Chase and the Bank of England

In association with the introduction of proactive monitoring (see the article on page 27), the Committee has overseen arrangements to hold special Good Delivery meetings in Moscow (in June), Shanghai (on 7 September) and Tokyo (on 9 September). These are to allow the LBMA Chief Executive and the Chairman of the Physical Committee to respond to questions from Good Delivery refiners about the methodology of monitoring and the reasons for introducing the system.

Public Affairs Committee

The PAC met in July in order to finalise the programme for the Conference in Shanghai. It also looked at preliminary drafts of the layouts for the revamped website which is now under development. Any readers with suggestions about the contents or format of the website are invited to send these to the LBMA's PR Manager, Susanne Capano.

Committee Membership

There have been a number of changes in the membership of the LBMA's subcommittees.

Finance Committee: Richard England of Standard Bank, London has taken over the chairmanship of the Committee from Philip Aubertin of UBS, who remains as a member of the Committee.

Membership Committee: Bob Davis of Sempra Metals and Raymond Eyles of JP Morgan Chase have joined the Committee in place of Jeremy Charles (who was elected as the LBMA's vice-chairman at the AGM) and Mark Neuhof of AIG (who returned to the USA earlier this year).

PAC: Darryl Hooker of EBS replaced Daniel Pittack of AIG following his resignation earlier this year.

The LBMA would like to express its gratitude to all those company representatives who freely give their time and experience to guide the work of the subcommittees. Full details of the subcommittee membership can be found in the "Who We Are" section of the website.

LBMA Staff

We are delighted to announce that Wendy Andrews has joined the staff as Executive Assistant to the Chief Executive. Wendy was previously employed by the Investment Management Association. ■

The Growing Importance of Regional Centres

Editorial Comment

by Martin Stokes, Vice President, JPMorgan Chase Bank

Shanghai was chosen by the LBMA as the destination for this year's Conference not just because of the establishment of the Shanghai Gold Exchange, but also because this continues our long-term strategy of supporting new major trading centres in emerging market economies. We view our programme of conferences and seminars – which has included events in Dubai, Istanbul, New Delhi and Moscow – as being a significant part of the LBMA's international role. As a matter of policy, the Association holds its events in regions of key importance to the precious metals business, examining the market from the point of view of various sectors – producers, consumers, investors and central banks.

In the context of China and within the confines of the local regulatory regime, the Shanghai Gold Exchange has been very proactive in expanding its market. In many ways, the Chinese bullion market is a microcosm of the global gold market, with significant potential as both a producer and a consumer of gold and silver. As foreign exchange restrictions fall away – as they must do in the longer term – the SGE will be well placed to serve a marketplace of more than one billion clients. Indeed the continuing long-term health of the bullion market is ultimately dependent upon its ability to attract and retain such a retail clientele.

It is interesting to observe how the global gold market is becoming at the same time more international in its outlook as well as more regional in its structure, as local market initiatives expand and grow in importance. Contrary to some expectations, this expansion serves to compliment rather than diminish London's key role in the international gold arena, as new players in new markets increase both market depth and arbitrage opportunities. London's willingness to share its experience and to provide a model for best practice should ensure the best chance of success for these local initiatives.

Moreover, for a variety of reasons, the London Bullion Market has become a centre which can only accommodate wholesale business and is therefore less able to serve the needs of smaller traders. Local banks, trade houses and exchanges in regional centres can far more efficiently handle such interests. As far as vital regulatory controls are concerned, clients and potential clients are better known locally, and from a perspective of minimising product delivery costs, gold investment can form part of a portfolio of banking services to local customers.

We look forward to the day when there is an active arbitrage market between all the important regional gold centres – with each of them fulfilling the needs of a very different but equally important client base.

In this regard, the LBMA is very conscious of its international responsibility with regard to the Good Delivery List and the transparency of both spot and forward bullion rates. Further, we will maintain our programme of educational seminars and conferences – especially when we can meet in such an impressive city as Shanghai. ■

DIARY OF EVENTS

September 2004

6 – 7
LBMA Fifth Annual Precious Metals Conference
Shanghai
T: +44 (0) 20 7796 3067
F: +44 (0) 20 7796 2112
mail@lbma.org.uk
www.lbma.org.uk

7
18th Minesite Mining Forum
London
T: +1 (705) 679-5403
F: +1 (705) 679-5360
www.minesite.com

8 – 9
Gold and Precious Metals Conference
Las Vegas, USA
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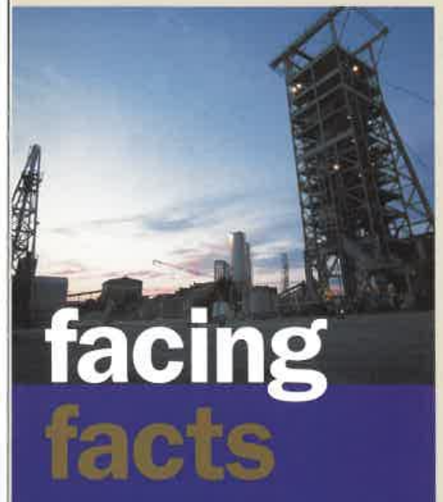

facing facts

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Rising in the East

China's Gold Producing Industry Starts to Realise its Potential

By Paul Burton
Editor, *World Gold*

China has become an economic phenomenon in recent years, driving the commodity markets with its seemingly insatiable appetite for raw materials in the wake of rapid industrialisation, making it the world's largest consumer of copper, alumina, zinc, iron ore and metallurgical coal – and the world's largest producer of steel.

Less heralded has been its progression into the world's top ten gold producers, usurping Canada as the world's fourth largest producer in 2000.

China has been a producer of gold for centuries, with a history of usage that stretches back to antiquity. In recent times, driven by domestic demand the government invested heavily in the mining industry during the 1990s and, as a result, Chinese gold production has risen significantly to 213t in 2003, according to GFMS.

But despite the recent surge, the industry remains fragmented, archaic and under-capitalised.

Domestic Production

Most of the China's production comes from small, underground mines with little mechanisation. There are thought to be over 1,000 small- to medium-sized mines in operation throughout the country, with the average mine producing in the region of 16,000 oz/y. With small size and high labour component, productivity is low, perhaps as low as one-twentieth of corresponding North American mines.

Although gold occurs in every province of this vast country, production has traditionally centred on the eastern provinces of Shandong, Henan, Hebei, Shaanxi and Liaoning, and, more recently, in Fujian. About 50% of the gold in China occurs in quartz-gold vein structures, with another 17% occurring in placer deposits and the remainder found in polymetallic deposits, often in association with copper. Refractory ores are common.

Control and ownership of many of the country's largest mines is vested in the state and administered through the China National Gold Group Corporation (CNGGC), which controls the major gold mines in seven out of the eight main producing provinces. The one exception is Shandong, the most important producing province, which accounts for 20 to 25% of Chinese production. Production not administered by CNGGC is under the control of provincial, regional or local gold mining companies, with many operations being collectives run by townships or villages.

CNGGC contributes 20% of the total gold production in China, and shares 30% of the total gold resources. It officially controls 450 mines, but even the largest of these produces only around 150,000 oz/y.

In 2000, China launched its first 'shareholder' company – the Zhongjin Gold Co Ltd, now listed on the Shanghai Exchange with CNGGC as its majority shareholder.In December 2003, Zijin Mining Group Co. Ltd (formerly Fujian Zijin Mining Industry) listed in spectacular fashion on the Hong Kong stock exchange: it was oversubscribed 744 times.

Controlling more than 235 t of gold resources (plus 2.46 Mt of copper resources), Zijin currently produces some 300,000 oz/y of gold, mainly from the Zijinshan open-pit mine (China's largest), working an epithermal copper-gold deposit in Fujian province. Zijin's other operations include Shuiyingdong gold mine (55% owned), Hunchun copper-gold mine (72%) and Paodaoling gold mine (75%), all of which commenced production in 2003.

Zijin plans to boost its total output to around 450,000 oz/y by 2008.

International Involvement

When the government withdrew much of its funding for gold mining in the late 1990s, it was in anticipation that foreign investment would immediately replace state funding.

However it was only recently – following economic reforms (China became a member of the World Trade Organisation in 2001) and a greater openness to foreign investment (foreigners permitted to own gold deposits in 2002) – that Australian and North American companies were encouraged to begin exploring and developing China's recognised gold potential.

Clearly the industry in China needs to become more efficient and productive. The keys to that are consolidation and the introduction of modern technology, mining and processing techniques. International companies can assist, supplying the necessary expertise and finance to help the industry grow.

There is now a growing foreign presence within the country, led by Australia's Sino Gold. The Sydney-based company has been operating in the country since its incorporation in 1996, opening up new gold provinces in the western regions of China.

Sino Gold, listed with an Initial Public Offering on the Australian Stock Exchange at the end of 2002, operates the Jianchaling underground mine, located in the central Chinese province of Shaanxi. The mine is now mature, having produced over 400,000 oz since 1998. End-2003 reserves contained only 34,000 oz of gold and resources contained 138,000 oz.

With limited life left, Sino Gold's strategy is to establish Jianchaling as a treatment centre for ore from a variety of sources within the area. The company's future will be secured with the development of the Jinfeng deposit, at 3.5 Moz China's largest undeveloped gold resource, in which the Australian is earning an 82% interest.

The Jinfeng project lies within a large gold region known as the Golden Triangle, covering southwest Guizhou, southeast Yunnan and northwest Guangxi Provinces. Numerous gold deposits have been discovered in the area, some of which have reported gold resources in excess of one million ounces – including the Huangchanggou deposit, which lies in the heart of the Jinfeng property.

In August this year the board of Sino Gold gave the green light for the construction of a modern US$70 million mine at Jinfeng. This 180,000-oz/y open-pit (followed by underground) operation will be China's second-largest mine when it opens in 2006.

Elsewhere, Sino has commenced an exploration programme at its 80%-owned White Mountain in Jilin Province in northeast China, and is acquiring a 65% interest in the Dong'an project, a low-sulphidation epithermal quartz-vein system located in Heilongjiang Province in northern China.

Of the majors, Gold Fields is the most prominent, for in addition to an investment in and working partnership with Sino Gold, it is also a significant shareholder in Zijin Mining Group, and has another joint venture with the group.

AngloGold Ashanti has recently established an office in Beijing, joining Placer Dome and Barrick Gold.

Meanwhile a number of smaller companies are actively exploring and developing projects.

On the back of an innovative approach to the gold industry in China, Australia's Michelago Ltd was one of the star performers in the market last year. Recognising that many of the gold ores in the country are refractory in nature, and thus difficult to process with conventional technology, Michelago has acquired an 82% interest in a company that treats gold concentrates from all over the Shandong province using a proprietary bio-leaching technique.

Having secured a hold on the downstream side of the industry, Michelago is involved with a number of exploration ventures, from the late-stage development project at Jinya in Guangxi to more grassroots exploration in Shandong and Xinjiang.

Australians Leyshon Resources, Crescent Gold and NGM Resources have followed Michelago, albeit through a more traditional route, and are exploring in various areas.

A number of Canadian companies are also active in China.

Afcan Mining is already in production, although in a small way, at the Tanjianshan gold project (TJS) in Qinghai Province. Afcan purchased Sino Gold's 85% interest in the mine late in 2002. Afcan is now proposing an open-pit producing some 70-100,000 oz/y.

Minco Mining and Metals Corp, which has been active in China for ten years, is working towards a feasibility study by the third quarter of 2005 at a near-surface gold deposit at the Changkeng project, in Guangdong Province, South China. The deposit has a substantial inferred resource of 870,000 oz, based on previous work by the Chinese.

Minco has also commenced exploration programmes on its three gold properties on the Yangshan Gold Belt in Gansu Province.

The TSX venture company, Jinshan Gold Mines, is developing the 217 gold project, covering a large-tonnage low-grade gold target in the Nei Mongol Autonomous Region of northern China. The project is in conjunction with 50/50 partner Ivanhoe Mines. The company is also earning an 80% interest in the QCZ project, in eastern Liaoning Province, through exploration spending.

Other companies include Mundoro Mining Inc, which is drilling on the Maoling property in Liaoning Province, and Southwestern Resources Corp, which recently completed its earn-in of a 70% interest in the early-stage Boka gold project, located in Yunnan Province in southern China.

Eldorado Gold signed an agreement with CNGGC in 2003 that allowed the Canadian to review CNGGC's portfolio of projects, and current work is focusing on three operating properties.

Finally, two London-listed companies – Caledon Resources plc and Griffin Mining – are active in China. Caledon is drilling a number of projects in Guangxi province, and Griffin is constructing an open-pit mine scheduled for completion in mid-2005 that will produce mainly zinc and silver along with some gold.

For Risk – and Patience – Reward

The pattern of foreign involvement in China follows a blueprint commonly seen in 'frontier' regions. It is the smaller exploration companies, with a greater propensity for risk, which are the pioneers in opening up new areas. The majors tend to be followers, linking up in joint ventures with the junior explorers.

China is now 'open for business', but it will take some years before any fundamental change or growth is seen in its gold production. Not only is much of the exploration at a very early stage, but it takes time and patience to cement relationships, build trust and establish new project agreements. Companies such as Sino Gold – there for almost 10 years – are only now starting to reap the rewards of their groundwork.

The keys to further development of the industry will be the introduction of modern technology to help find, mine and process new orebodies, as well as the provision of capital to undertake such initiatives. And at the moment there seems to be no shortage of willing suppliers for both technology and money. ■

A full version of this article will appear in the October issue of **World Gold**

SINO GOLD PROJECT LOCATIONS

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