Alchemist

LBMA

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In this issue

A date with history – In the summer of 1816, Lord Byron visited Lac Leman's Château de Chillon, near Montreaux, and was inspired to write his famous poem, *The Prisoner of Chillon.*

No less inspired, in the spring of 2006 the LBMA will host the delegates' dinner for its seventh annual conference – launched with a cocktail cruise from Montreaux – within the 12th-century château's walls. The cruise leaves at 6.30pm. As the château's clock shows, you still have time. See you on the quayside!
Cover photograph © Shawn Koppenhoefer

Through a Glass, Industrially

An Interview with Dave Andres, Global Precious Metals & Energy Leader at Owens Corning

Owens Corning has many a finger in many a hot pie, none currently hotter than the pgm group metals – principally platinum and rhodium – that are the catalysts of their and other industries. Dave Andres looks at the uses, the issues and the outlook.

How would you compare the industrial uses that you are now responsible for – glass and chemical – with your experiences in the automotive industry? What's similar – what's different?

Dave Andres: The major difference between the auto industry and the glass industry is that platinum metals are a direct material in the auto business – used in catalytic converters, oxygen sensors, spark plugs and electronics.

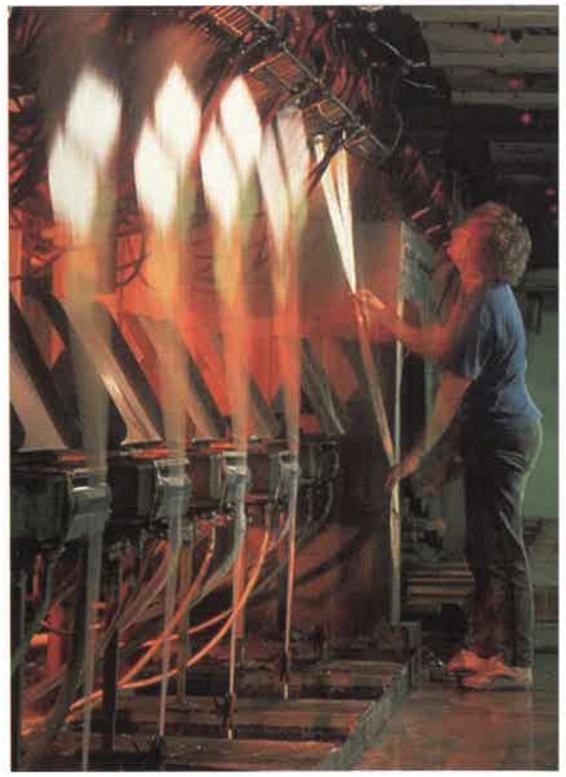
In the glass business, platinum metals are a capital item – the furnace bushings, which convert molten glass into glass fibre, are made of platinum / rhodium alloys because of the two-metal alloy's high temperature structural performance and its corrosion resistance to molten glass.

While the value of the metal being managed is very large in both businesses, in the auto industry it felt like you were always a buyer – every day – and supply relationships with the producers were an essential piece of the procurement strategy. In the glass fibre and insulation businesses, there is much more flexibility with our metal book in terms of both market timing our purchases and active metal leasing strategies that maximise the value of our ownership position.

Where are the areas of growth – both in applications and in geographic regions?

Owens Corning's market position is very strong in glass fiber and insulation. Glass fibre has a wide range of end uses, which helps insulate us from a drop in any one specific market. For example, we've just announced a new glass fibre product for the wind energy industry that allows turbine manufacturers to increase blade length and deliver 12% more power.

The US housing market, another big user, has been incredibly robust for more than five years and still remains historically strong. Of course, Asia is a growth region for Owens Corning in both building materials and glass fibre. We recently announced the tentative acquisition of Asahi Fiber Glass, which would help us grow our glass reinforcements and compounding business in Japan. Both our glass fibre and building insulations businesses are positioned to grow in the China market as well.



If the price of one or more metals were to spike even higher, how feasible is it to consider substitution? How much flexibility is there?

The engineering and technical work to substitute between platinum and palladium in catalytic converters is very well known. GM seemed to have the best results with both overall metal loadings and the speed to adjust and certify switches between the two. GM also worked well with the washcoat industry to implement new developments.

In glass, Owens Corning is very active in developing new bushing designs at our Science & Technology Center. Today's bushing composition is platinum and rhodium, and we have the capability to flex our rhodium percentage – within some limits – and are

Above, Hot glass flows through platinum/rhodium bushings to produce Owens Corning high quality glass fibre, used in the production of many items, from insulation to speed boats

At left, Various types of fibre-glass material from Owens Corning's Science and Technology Center in Granville, Ohio USA working on some interesting ideas with various materials that have the potential to extend the life of our bushings or reduce the amount of platinum and rhodium in our designs.

Material substitution is not the easiest work. With market prices for platinum above $1200 and with rhodium near $6000, if there were viable alternatives, industrial users would have already switched. The auto industry has done an effective job minimising the amount of PGMs in the converter, but there's a lot of inorganic chemistry and material science involved to convert vehicle exhaust chemistry into carbon dioxide, nitrogen, and water. We have similar challenges in the glass business with the high-temperature environment necessary to produce the high-quality glass fibre we manufacture.

How do you feel about the impact of investors on the market – the use of 'commodities as an asset class' – which has resulted in generally low lease rates and consistently high spot prices?

I think the relatively new participation from passive investors like pension funds has raised the price level in a lot of commodity markets. This is very passive money that will often buy a basket – like the Goldman Sachs Commodity Index – and just continue to add to their position as their pension fund contributions grow. It's largely one-way money until pension withdrawals start or they change their view on being in these types of markets.

I think the easy money has been made and, if future returns do not meet expectations, we could see fund managers cool very quickly to commodities and return to their core investment portfolio of equities, bonds and fixed income investments. Those outflows of money could move some commodity prices sharply lower if there isn't any underlying physical demand for that particular commodity.

Owens Corning insulation manufacturing at its Delmar, NY USA production facility

Are any hedging mechanisms used to protect against spikes in prices?

I was involved setting up GM's hedging program in the early 1990s. I've been told by most of the trading industry that GM was ahead of everyone in the auto industry in recognising that hedging tools are an effective way to reduce the price volatility of raw materials and energy, which in turn minimises the earnings and cash flow volatility of the company.

Owens Corning has a more active hedging process in terms of both policy and the engagement of the company's top leadership. Our natural gas and power exposures are significant, as many of our manufacturing processes are very energy intense. We use similar hedging strategies because FAS133 and Sarbanes-Oxley regulations very much guide how major corporations put in place the proper controls, governance and policies.

Given your experience with hedging, looking ahead, what are your expectations for prices?

I've been a little surprised that commodity prices have trended as high as they have for as long as they have. I'm more of a fundamentalist in terms of thinking what would move prices 20-to-30% higher or 20-to-30% lower. The platinum metals have such few key players on the supply side and only a few key consuming markets that price moves can be volatile and occasionally violent. I've seen the unobtainable become plentiful in a short period of time.

The growth of South African production will likely determine the level of platinum prices. The technical ability of the auto industry to achieve tailpipe emissions standards without increasing metal loadings will drive rhodium prices.

Both metals have been trending higher – partly because of fund and speculative interest – but it's hard to make a case how prices could move 20-to-30% lower without an innovation event in the auto industry or a major material substitution event. When we first started discussing this interview, rhodium prices were around $1,500 – in the space of a few short months, it's traded up to the $6,000 level. And if tomorrow's headline read 'rhodium cures baldness', who knows where the price would go?

But in general, my expectation is that platinum will trade sideways and rhodium will eventually find its way to a stable market price again – I would imagine it needs to work its way lower from these levels.

Do you think there would be any advantages for industrial users in having a range of fixings in specific products that have industrial uses, such as sponge?

Speaking for consumers, we want fair, credible neutral pricing references that represent today's 'fair value'. Surveys and posted prices always make us nervous because there's an inherent bias in the number.

A separate fixing for sponge would establish a fair method for determining the value of sponge vs. ingot – but we are talking about $1 or $2 on a metal that's trading well above $1,000 in the case of platinum and over $300 in the case of palladium. ■

Dave Andres *is the Global Precious Metals & Global Energy Leader at Owens Corning. He also leads the company's risk management committee. He joined Owens Corning, headquartered in Toledo, Ohio, in October 2004 as Global Metals Leader, and assumed his current responsibilities early in 2006.*

Prior to joining Owens Corning, Dave was Purchasing Director at General Motors, where he was responsible for Precious and Non-Ferrous Metals in GM's Worldwide Purchasing Group and managed GM's corporate hedging process. While at GM, he was on the NYMEX Metal Advisory Committee and was appointed as a Congressional Fellow with the Brookings Institution, working with the U.S. Congress in 1990.

Owens Corning was founded in 1938. A Fortune 500 company for more than 50 years, Owens Corning is a world leader in composite solutions and building materials systems, with products and services ranging from insulation, roofing, siding and stone, to glass composite materials used in construction, transportation, infrastructure and other high-performance applications.

The Carat or the Stick?

The Impact of Changes in Consumer Taste on Jewellery Consumption

By Neil Meader, Senior Metals Analyst, GFMS Limited

Explanations for changes in the consumption of precious metals in jewellery form often focus on the tangible factor of the price of the metal and, to a lesser extent, GDP growth. These are obviously crucial for the developing world yet, in isolation, often prove wholly inadequate in explaining swings in the industrialised world. This article addresses this imbalance with a review of how changes in consumer taste can shape jewellery consumption.

Photo 7: Diamond and pearl platinum ring and earrings by Mikimoto (photo courtesy of the Platinum Guild International Ltd)

A very clear example of the need for non-economic drivers for changes in precious metal consumption by the jewellery industry can be found in the case of Italy.

There, from a peak from 1992 to 2005, gold jewellery consumption fell by 58%, yet its GDP grew by 18% in real terms. Furthermore, the slide was quite linear, being scarcely deflected by the marked decline in the euro gold price in the second half of the 1990s. Short-term moves can also happen independently of the price and GDP growth. For example, US gold jewellery consumption in 2005 fell by 0.4%, but silver jewellery sales rose a few percent. The divergence for France was yet more marked: all retail sales rose by 1% but, on a piece basis, gold jewellery sales fell by 4%, while silver jewellery rose by 3%*.

Photo 6: Enamelled silver pendant with diamonds by Miluna (photo courtesy of VogueGioiello.net)

This 'missing link' of changes in taste or behaviour can be roughly separated into two parts. Firstly, there are longer-term, societal shifts – such as women leaving the home and earning their own salary. Secondly, there are shorter-term, more fashion-oriented changes – such as last season's taste for the semi-gothic (Photo 1) or the appearance of the mono-stiletto earring in the Spring/Summer 2006 fashion collections.

Competition Within and Outside the Jewellery World

One of the most important longer-term issues has been consumers choosing to devote an ever-greater percentage of their disposable income to goods other than jewellery. One of the most important competitors is technology goods (in particular mobile phones), an area that benefits from heavy promotion. Such rivals explain much of the slump in Italian gold jewellery consumption since 1992. Previously, it was common in that country for a gold chain to be given as a gift at a first communion, yet today (if the communion occurs) the latest Nokia could easily be the present of choice.

Changes in taste within jewellery can also be important, helping explain the above mismatches between US and French gold and silver jewellery sales. One theme in this regard apparent in many countries for several years is gold losing out to other metals, largely as a function of three factors: metal colour, market polarisation and branding.

Metal Colour Preferences

Looking firstly at the metal of choice, one important influence on this is the colour in fashion. Much was made last season of the return of yellow at the high fashion end, often taking the form of almost brash 1980s style pieces (Photo 2) or quasi-archaeological treasures (Photo 3). The degree to which this has filtered into the mainstream, however, remains distinctly limited, and white metal's share overall looks to have held firm. This is not necessarily bad news for gold – given the option of white gold – and the latter's share in the US bridal market is said to have risen last year. A note of caution, however, has to be added: white gold has been aided by its substitution for platinum – more a price, not a fashion issue. This was also seen in Japan and, whilst price was important, that market has arguably seen a cultural change, whereby the choice of white gold for bridal is no longer seen as miserly.

* All figures marked with an asterisk courtesy of Société 5.

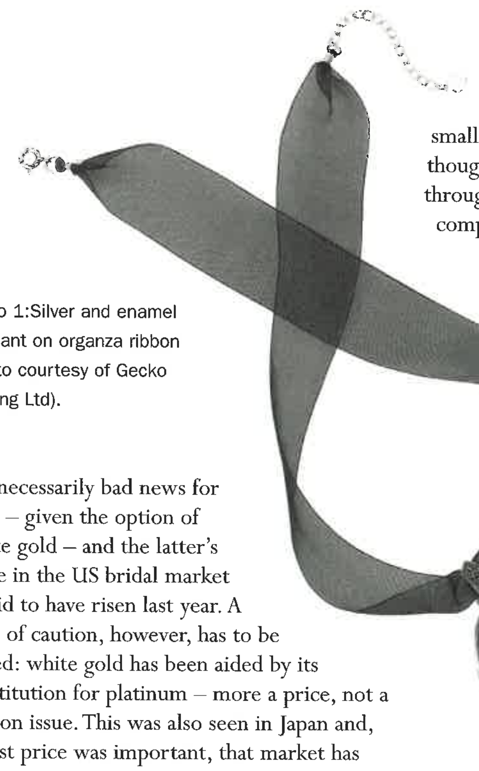


Photo 1:Silver and enamel pendant on organza ribbon (photo courtesy of Gecko Trading Ltd).

Heavy Metal Colours the Metrosexual

One factor helping explain the relative success of white metals is the continued rise in the acceptability of non-bridal jewellery for men, which has fed through to strong sales growth in this area. This trend formed a part of the emergence of the 'metrosexual', perhaps best summed up as straight men with an awareness of style who were eager to dress accordingly – perhaps best epitomised by the footballer David Beckham.

At present, this niche retains a non-precious outlook, largely as a result of two factors. Firstly, men's jewellery has a strong youth focus, yet this segment, tending to be less wealthy than older consumers, favours cheaper materials and, secondly, there are the more masculine connotations of 'performance' metals such as steel or titanium. Gold, especially yellow, is therefore rarely a beneficiary. One of the most common instances in which it can feature is as an accent (Photo 4), but the weight of these accents is invariably small (under 0.1g). Silver has benefited more, though the fine weight can be readily diluted through its inclusion with non-metal components (for example, the silver and cord bracelet in Photo 5).

Photo 3: Gold bracelet by Vendorafa Lombardi (photo courtesy of VogueGioiello.net)

Another reason for white's success is, as mentioned above, the swing in preference in the youth market to white, with yellow ever more dismissed as one's grandmother's choice. This is a key factor behind changes in German consumption – the weakest area for gold has been the 8-carat segment as these cheap pieces are dropped in favour of white rivals such as silver and steel. Two other, intertwined, factors explaining this are market polarisation and branding.

Market Polarisation and Branding

The first of the above factors concerns a broad change in consumer expenditure, where the top and the bottom ends of the market do well at the expense of the mid-market. This has manifested itself at the bottom end in jewellery as the more frequent purchase of low-priced, near-everyday accessories to match a particular outfit that can be discarded one season later (which obviously favours the cheaper metals). This success is partly a function of the rise of self-purchase (invariably by a woman) rather than gifting (usually by a man) as women's employment and pay have risen. This trend has also hit styles, as these have tended to move from simpler, geometric designs to more feminine, figurative pieces, often depicting flowers – a shift of significance as it has assisted the swing to labour-intensive, gemset items (Photo 6).

Branding has also undermined gold at the bottom end. In some markets (for example Italy), steel jewellery has been selling well (and has even begun to cut silver jewellery sales), thanks mainly to the heavy advertising of steel by the likes of Breil or Morellato, companies which have essentially ceased to produce silver items and which do not face rivals branding gold in quite the same way. Given Italy's reputation as a style leader, some may fear falling sales there may presage declines elsewhere, but some comfort can be drawn from the fact that silver in Italy has never really been perceived as sufficiently precious for proper jewellery. In Germany, in contrast, there seems room for growth in both steel and silver at present.

Photo 4: Gold-accented steel bracelet by Palm Beach Jewelry (photo courtesy of VogueGioiello.net)

The other side of market polarisation, the shift in favour of the top end, has also undermined the weight of gold sold as more of the value of expensive items is to be found in labour or stones, not metal. The success of these indulgent pieces has also partly been a function of branding, either through heavy promotion by existing jewellery brands (such as Bulgari or Harry Winston) or the move into jewellery by fashion brands (such as Gucci or Dior). Top end pieces have also been assisted by heavier promotion of the constituents of many items, most obviously diamonds and, to a lesser extent, platinum.

The Retreat of Plain Metal

As implied above, the weight of all precious metals used in jewellery has been undermined by the swing to gemset from plain. In France, for example, sales (by piece) of plain silver from 2002 to 2005 rose by 13%, yet gemset soared by 76%*. Isolating fashion as an independent variable in this development is not straightforward – continued heavy-producer promotion of diamonds, for example, was no doubt a key element to success. However, in many markets, coloured stones and pearls, which do not enjoy the same high profile generic promotion, are said to have sold well. Distributor push can also be significant, as gemset items give retailers the ability to offer greater novelty (important for one-season accessory pieces) and the opportunity to earn fatter and less transparent margins (Photo 7).

Photo 5: Men's silver and cord bracelet (photo courtesy of Gecko Trading Ltd).

Metal use has also been diluted by the incorporation of materials of little or no intrinsic value, as noted earlier with men's jewellery. Perhaps the most common example of this would be the replacement of a pendant's metal chain with, say, a leather or silk cord, though the list of products used, such as wood or rubber, is long and their application varied. Part of the reason for the use of such materials is that (as with gemset) it is an easier route to novelty and larger margins. Given that the cost advantage of replacing gold with non-traditional materials is greater than would be the case with silver, this trend has tended to be stronger in gold. A broader trend behind non-traditional materials' use is a shift to greater informality, both within society in general and within jewellery as regards what is 'acceptable' for inclusion.

This Season's Styles

As for shorter term, more specifically fashion-focused changes, one theme that could prove kind to precious metal use, and in particular gold, is the ongoing rise of individual accessorisation to counter our age of mass branding. This includes the use of charms to dress up bags, belts and so on, or 'random-wrap' chains as accessories on clothes, and

Photo 2: Gold charm bracelet by Chanel (photo courtesy of VogueGioiello.net).

these are often in gold. Chains (an important area in weight terms) as jewellery have also made something of a comeback in fashion terms, but only if worn in a similar layered, multi-sized manner.

One to Watch

As stated at the beginning, given this article's review of the intangible, its focus has been on less-price-sensitive western markets. However, the development of a large and ever wealthier middle class in countries such as China and India means these markets are changing – a process which involves a shift to a more western model of consumption, one that entails higher mark-ups and lower carat pieces, where the price of the underlying metal becomes less important. The analysis of the non-economic factors affecting these growing markets will therefore become ever more important. ■

Versace DV One watch (photo courtesy of VogueGioiello.net).

Timing is Everything

It is worth taking a near-jewellery area, watches, as an example of the forces at work.

Fashion at present is favourable for metal offtake, in that average sizes are up but precious metals are not the centre of attention. For men's pieces, the positive associations of sport and performance have helped keep steel and the like to the fore. For women's watches at an aspirational level, diamonds continue to dominate.

At present, those top-end companies whose core is watch production retain a sizeable offering of gold cases (less so bracelets), but this virtually disappears for companies whose core is clothing/accessories. As shown in the photo, even for a company such as Versace – with yellow gold in its DNA – the emphasis is on diamonds and novel materials, here ceramic.

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Neil Meader

joined GFMS in 2000 as a Metals Analyst. Having previously covered the Arabian Gulf countries, he is now responsible for most of Europe and for research on trends in adornment jewellery.

Prior to GFMS, Neil worked as an analyst in the energy industry and in soft commodity trading. He holds a degree in economic history from Exeter University.

A Financial Feast

A-la-Carte Commodity Investing

By David Holmes, Director – Precious Metals Sales, Dresdner Bank AG London Branch

With commodities in season, the financial community has prepared a smorgasbord of investment products to satisfy the voracious appetites of hungry investors.

The current commodity boom is underpinned by global growth, rampant demand from the BRICs – the newly industrialised countries, primarily Brazil, Russia, India and China – underinvestment in exploration, diminishing stocks and long lead times for the development of new projects. This potent cocktail of positive factors has led to an explosive rally in commodity prices, which has been further fanned by investors pouring money into commodity investments via conventional and new products. The latter have been designed to attract a different universe of investors by offering investment products that do not require specialist commodity knowledge and customized products tailored to meet the precise investment objectives of institutional and individual investors.

Institutional Investors Prefer Commodity Indices...

The best example of this evolution is the widespread acceptance of commodity indices by mainstream investors. These indices have played a key role in 'securitizing commodities', effectively transferring them from the physical to the paper world – a transformation that has enabled commodities to emerge as a separate asset class, positioned to compete with equities and bonds for investor dollars.

This success is demonstrated by an estimated $85 billion tracking the two primary indices – the GSCI and the DJ-AIG Commodity Index – up nearly $70 billion over the past three years, and growing by approximately $25 billion a year.

...While Equity Investors Like ETFs...

Another excellent example of the securitisation of commodities is the successful launch of a series of gold and silver Exchange Traded Funds (ETFs) in a variety of financial centres. ETFs have also proved to be very popular with equity investors, who have chosen to buy gold and silver via their stock broker, rather than going to the trouble and expense of opening a futures account or locating the nearest bullion dealer. Once again, the success is demonstrated by a whole new class of investors who have, to date, purchased 16 million ounces of gold and 65 million ounces of silver through these instruments.

Having unleashed institutional investor demand for commodity indices and equity investor demand for ETFs, financial institutions have not neglected the bond investors: they have tapped into this market by reconfiguring their medium-term note programs to appeal to a broader universe of investors by linking the note coupon to the performance of an underlying investment product.

...And Bond Investors Favour Structured Notes

Over the past 10 years there has been an explosive growth in structured notes, with redemptions linked to the performance of all types of instruments, including equities, rates, and baskets of currencies. Over the past couple of years the spotlight has shifted to commodities and there has been a proliferation of structured commodity notes designed to appeal to bond investors who are attracted to commodities.

Key Drivers: The Three Ps

Structured note holders are typically driven by three key considerations when contemplating a structured commodity note: principal protection, participation and product customisation.

Principal Protection – Unlike commodity indices and ETF investments, structured notes are typically principal-protected products that appeal to bond investors. They are issued in conjunction with a financial institution's medium-term note program and in almost all cases offer principal protection. The majority of notes protect 100% of principal – provided the note is held till maturity. In some cases, investors settle for less than 100% principal protection in order to boost the coupon return, but protection rarely drops below 90%.

Commodity
Investors' Menu

ENTRÉE

Commodity Index Salad

A fresh, zesty salad, including corn, wheat, soybeans, beef and assorted metals Drizzled with a generous serving of oil

MAIN COURSE

Baked ETF

An innovative dish, based on a traditional recipe,
"Commodities au naturel"
This variation comes wrapped in a thick equity crust
Available in two flavours: gold and silver

DESSERT

Commodity Note Surprise

Our chef's speciality.
Single or mixed commodities, sautéed in a sweet capital guaranteed sauce, topped with high-calorie participation
Cooked to order

Participation – Investors forgo interest income and, sometimes, some principal protection in order to benefit from a coupon linked to an underlying investment. At its simplest, in the case of a gold bull note, at maturity the investor receives a coupon if the price of gold is higher than it was on the issue date (and no coupon if it is lower). The issuing bank hedges its potential coupon obligation by purchasing a gold call option with the present value of proceeds from the unpaid dollar interest on the principal invested.

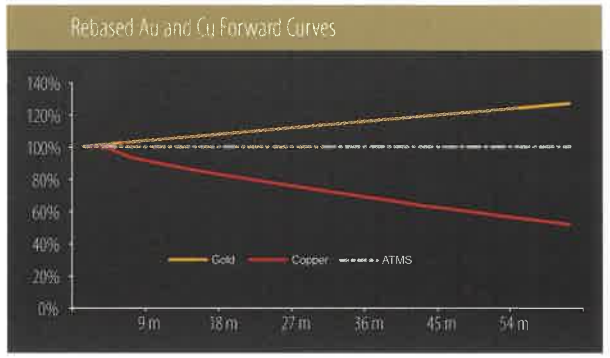
The participation rate is a key variable in the decision-making process. A 100% participation rate tends to be the benchmark and is considered to be attractive for gold, and means the investor will benefit by 1% for each 1% the underlying commodity price changes between inception and maturity. For example, assume that at inception of a structured gold bull note with 100% participation, the gold price is $600. At maturity, if the gold price has risen to $750 (a 25% rise) the investor will receive a 25% coupon.

Metal	Structure	Principal Protection	Participation (%) 1 Year	3 Year	5 Year
Gold	Uncapped Bull	100%	27%	49%	61%
Silver	Uncapped Bull	100%	22%	54%	91%
Copper	Uncapped Bull	100%	28%	113%	260%
Commodity Index	Uncapped Bull	100%	41%	93%	137%

Whereas an uncapped note gives the holder of a bull note unlimited participation in an increase in the underlying commodity price, with a capped note the benefit is limited to the level of the cap.

Customised Products – Unfortunately, it is not currently possible to achieve 100% participation for USD-denominated gold bull notes with terms of five years and under, as can be seen from Table 1.

Participation rates vary from commodity to commodity. The participation rate for a bull note is determined by the cost of purchasing an "At the Money Spot" (ATMS) call, which is expensive in gold and cheap in copper. Since gold forwards trade at a premium to the spot price, gold call options are relatively expensive, as they contain intrinsic value. This is not the case for copper, where forwards trade at a substantial discount to the spot price and there is no intrinsic component in the ATMS copper-call premiums. Consequently, copper bull notes will inevitably offer higher participation rates than gold notes.



Creating a Structured Commodity Note

Qualified investors with several million (or more) to invest in a single note can work directly with a financial institution to create a note that exactly matches their investment criteria. They specify a wide range of criteria:

- Issuer rating
- Principal protection
- Duration
- Underlying commodity / commodities
- Bull, bear or range note
- Capped or uncapped
- Additional features.

The financial institution models a note with the specified characteristics from the above list and reverts to the investor with a payout formula. If the payout formula fulfils the investor's investment objective, the note is launched. Institutional investors and high-net-worth individuals command the maximum structuring flexibility.

Qualified investors who do not have sufficient funds to launch their own customised note have to sift through myriad indicative term sheets to identify a note with suitable investment characteristics. They indicate their investment interest to the structured note sales team, which pools interests from various investors. When a critical mass of interest (approximately $5 million) in a particular term sheet is reached, the note will be launched.

A Four-Year ATMS European Call on a Commodity Basket Quanto Euro Medium-Term Note (and Other Basket Notes)

Participation rates can be improved by creating baskets of commodities, each component of which is in backwardation and is not highly correlated with the others. Baskets may contain combinations of base, precious and energy products. Although the various commodity sectors have recently become more correlated as practically all prices are rising together, the basket notes still offer higher participation rates, as correlations are never perfect.

For example, DrKW recently structured a four-year ATMS European Call on a Commodity Basket Quanto Euro Medium Term Note. The payout is based on the performance of an equally weighted basket composed of Brent Crude Oil, London gold bullion, and LME aluminium, zinc and copper. It is an uncapped note with 100% principal protection and 100% participation. The Quanto feature enables the investor to buy a euro-denominated note and receive the coupon in euros at a fixed exchange rate set on the transaction date with a payout based on the USD performance of the commodities.

Structured Commodity Notes – Market Size

Clearly, the flexibility and attractive payout profiles of these products have attracted a lot of interest, but the amount of investment is difficult to quantify, as not all notes are in the public domain. It is reasonable to assume that at least one USD billion worth of notes has been issued this year.

According to mtn-i data, Commodity Linked MTN Sales have raised USD548m equivalent across seven currencies. While they have identified nine gold-linked tickets, gold is often employed in basket structures, which will account for the majority of Commodity Linked sales this year.

Commodity Linked Sales 2006 By Product

MTN Structure	USD Eqv	No. MTNs	%
Commodity Linked / Not Specified	228	44	42%
Commodity Linked / Commodity Basket	173	15	32%
Commodity Linked / Gold	42	9	8%
Commodity Linked / Commodity Linked	21	2	4%
Commodity Linked / GSCI Basket Linked Note	13	2	2%
Commodity Linked / Hybrid: Commodity + Equity	12	1	2%
Commodity Linked / Copper, Aluminium, WTI, NG, Gold, Silver	12	1	2%
Commodity Linked / WTI Range Accrual	10	1	2%
Commodity Linked / Commodity Index Linked	10	1	2%
Commodity Linked / Zinc NG, Copper, Aluminium	7	1	1%
Others	20	7	4%
Total	**548**	**84**	**100%**

Source: mtn-i data

To Keeping the Bears at Bay

Clearly base metals, commodity indices and oil notes are very popular and there has been a proliferation of notes launched with very attractive participation rates.
The low participation rates in gold notes have resulted in relatively modest interest in structured bull notes, though we had been seeing some interest in gold-range accrual notes. For these products, the investor selects a price range (say $600 to $700) and receives an enhanced coupon if the price remains within that range for the note duration.

For example, an investor could buy a one-year $5 million note with a 12.5% coupon if the price remains within the range ($600 to $700) for every observation. Observation is daily and the payout = maximum coupon (12.5%) * no. of days in range / total number of observation days. If the price is outside the range on every observation date, the coupon is zero. Given current US rates of 5%, if the note spends more than 40% of its time in range it outperforms the "risk-free rate of return". Therefore the buyer has to believe gold is going to be range bound and, given the recent price volatility, interest in these has slowed.

In the future, when sentiment changes, there could be a lot of interest in gold bear notes, as participation rates are very attractive due to the gold forward curve structure. At which point, investors will be snapping up gold bear notes and disdaining base metal notes whose participation rates will be low by comparison.

In conclusion, over the past few years the commodities investment world has been opened to a new universe of institutional, equity and bond investors. They have seized this opportunity and feasted on products that enabled them to participate in the Bull Run. Let's hope this boom continues for several more years to come, and that we don't have to cater to the Bears in 2007! ■

Alternative Menu (for Commodity Bears)

ENTRÉE

Spilt milk

Sour grapes

MAIN COURSE

Humble pie

Beggar's chicken

DESSERT

Hard cheese

Service not included

David Holmes

is responsible for precious metals marketing and sales and commodity investment product sales at Dresdner Kleinwort Wasserstein. He began his career in precious metals in 1980 as a trader, transferring to sales in 1992. In all, he spent 18 years in New York, working with mining companies, central banks and investors, before returning to London in 2004.

David is a director at DrKW and a member of the LBMA Public Affairs Committee. He graduated from the University of Kent at Canterbury in 1980 with an honours degree in economics.

Riding the Waves

Applying Elliott Wave Theory to the Financial and Commodity Markets

By Robin Wilkin, Global Head of FX and Commodity Technical Strategy, JPMorgan Chase

JPMorgan has been providing Elliott Wave-backed analysis and strategies for our client base since the 1980s, when David Murrin started the technical division. My former colleague Jordan Kotick gave an excellent introduction to the Elliott Wave principle in Alchemists 40 and 41. This article shows how we at JPMorgan apply this theory to developing winning trading strategies for the metals and financial markets.

"A successful trader needs to have an edge" is a phrase that you have probably come across before. Ours is the Elliott Wave principle, as it lets us piece together the global market jigsaw and provides a probability framework as to when to enter a particular market and where to get out, whether for a profit or a loss.

As Jordan pointed out, the Wave Theory is not for everybody: many have tried and failed. The author and technical trader Connie Brown sums up the reason very well: "Traders/analysts can be 'Wave Deaf'. In much the same way that you can teach a person how to read music and the right keys on the piano, when you put a piece of Beethoven in front of them they can't make it sound right." Elliott Wave is therefore a blend of science and art. The distinguishing factor between a good and bad Elliotician – or any technical analyst for that matter – is their ability to correctly interpret.

We live in a world where a large proportion of the speculative risk is placed by the same player across a variety of markets; therefore, even those markets that are not normally correlated can briefly become intrinsically linked. For example, a sharp move in Emerging Markets can often trigger a move in metals, as players look for either a safe haven for their money or – more often than not – need to book profits to offset losses on a surprise move elsewhere. So if we can see the potential that a big C Wave washout or 3rd wave will develop in one market, that often gives us a clue as to what will happen in others, and we can gradually fit the entire jigsaw together. While a strong wave count can always be relied upon, we rarely look at an individual market in isolation.

Most manuals show you how to trade a 5-wave sequence, which is pretty straightforward, except during correction phases, when trading becomes a little trickier and the inexperienced and ill-disciplined trader can lose a lot of money. For this article, we will use the gold market at the end of 2004/beginning of 2005. The market had developed a significant base in 1999 at $251, and had arguably already seen a strong 3rd-wave rally. We believed early on that a 5-wave sequence was developing to re-test the 1983 and 1987 highs at $500/$510, and in that regard a decent 4th-wave correction was due.

The Triangle

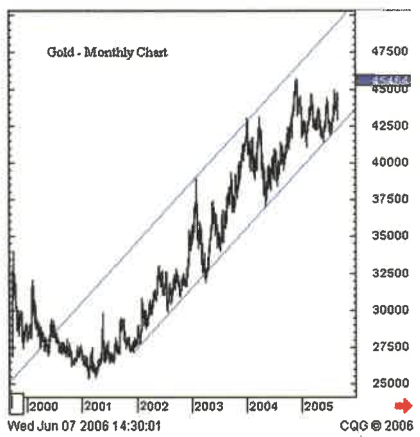
For anybody familiar with technical analysis, the triangle is probably one of the easiest patterns to spot, especially towards its maturity stage. Triangles in Elliott Wave are a series of five contracting waves of three. Whereas the normal technician generally has to wait for the breakout (up or down) to occur to confirm the direction and provide a trade signal, Elliotticians have the opportunity to buy into Wave E with confidence that a return to trend will occur, and soon. An interesting development in recent years is that Wave E more often than not has been truncated (especially in the FX markets) and never manages to reach and test the bottom of the triangle.

Chart 1–The triangle support

In this instance, the triangle support in gold was coming in around $415 and the low in Wave E was $419 (Chart 1). This is our best risk/reward trading opportunity, so stops were placed under Wave C ($414). We were then looking for a 5-wave rally to confirm a return to the underlying trend (Wave 5), which is in fact what happened. Even if you had missed Wave E, we had a perfect 5-wave advance through the top of the triangle, followed by a classic 3-wave (abc) pullback, which re-tested the original triangle top at $430, giving another strong risk/reward buying opportunity.

What was sentiment at the time? After basing out around $251, the gold market had been in a very strong bull phase, and this was one of four major corrections – the other three being from $340 to $254 (an almost 100% 2nd-wave pullback), $389 to $319 in 2003 and $430 to $371 in 2004, which formed the basis of a long-term channel (Chart 2) that provided additional support for a bullish outlook. But because the triangle took quite a while to play out, traders started to get jittery about whether the trend was over and the market was actually starting to build a top for a much deeper decline and hence sentiment had changed and long positions where reduced with some players going short.

Chart 2 – Long-term channel



In the early stages, even the Elliotician could not really know how the correction would play out. We firmly believed that the bull trend that had started in 1999 was going to re-test the $500/$520 previous highs and that the declines were corrective, but corrections can 'mutate', and are therefore very difficult to trade. The key to trading with Elliott successfully is to always remember that it may take a few attempts to pick a turning point – and therefore not to get overly piggish in your positions during a correction phase (remember the old adage: "bulls win, bears win, pigs get slaughtered"). Because the risk/reward ratio is so high, when your winning trades kick in, they will far outweigh a few small losses.

Back to our scenario: by the time Wave E was in play, we knew a triangle was developing. Even if you missed it, the pullback to test the breakout zone offered another buying opportunity. Looking for confirmation of a bullish scenario from correlated markets, silver and platinum had similar corrective processes playing out and lent support to this view (Charts 3 and 4). However, our favourite supporting factor came from the HUI (or gold bug stock) Index, which is great for pre-empting future moves in gold.

Chart 3 – Platinum correction

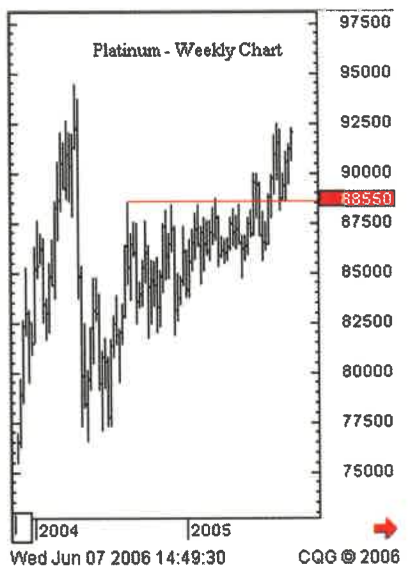
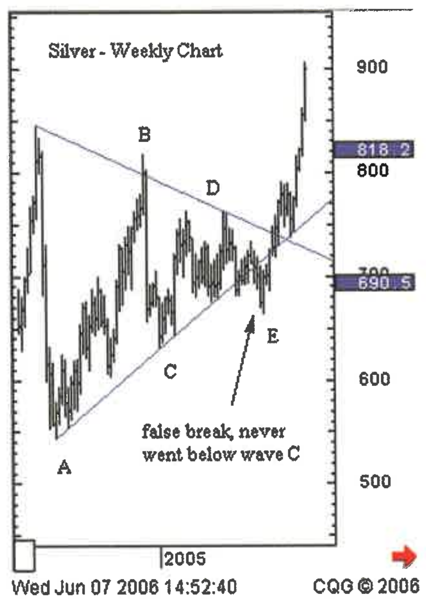


Chart 4 – Silver correction

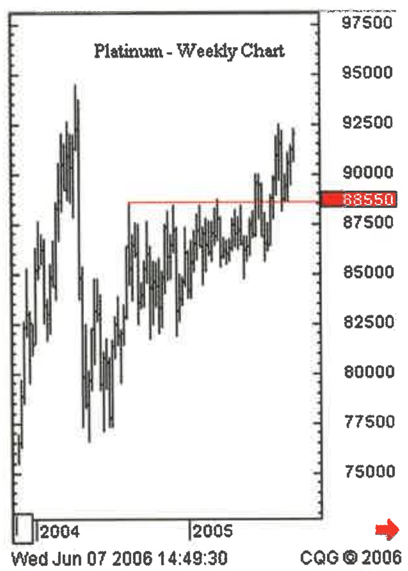


A Breakout for Bulls

Once the breakout occurred from such a major consolidation phase, we knew we were heading back into bull trends for metals – for gold towards the $500- $515 highs – which brings us to our next key correction process from $480. A long-term trader could just sit back and hold onto longs until the $500/$520 target is met, but they often suffer larger drawdowns, which can be painful. The correction from $480 to $455 would have been one – over a 20% drawdown in this position's p/l.

We doubted that prices would race straight to and through $500, as it was such a key psychological resistance zone. We also believed a 5-wave rally had developed after the triangle breakout (remember that Wave 1 was from $419 to $450, then a 2nd-wave pullback re-tested the breakout point at $429, then there was an aggressive 3rd-wave move to $480).

Chart 5 – Failure high and expected correction



We therefore suggested traders should beware a decent correction before $500 was tested and broken. The failure to extend through $480 and the subsequent pullback through $470 confirmed that to be a failure high, followed by the expected correction (Chart 5). This developed into an equal swing low at $460 (which in the chart is labelled Wave a). At this point you might suspect that the correction was too short, but it was a clear 3-wave decline and could easily have just turned around and rallied to our $500-$515 target, and was our first buy entry signal. So we went long around $461.

Chart 6 zooms in to the intra-day time frame and helps explain how corrections mutate.

Chart 6 – The intra-day timeframe

The market rallied nicely at first, then stalled around $473/$475. It was a tough call whether this was Wave 1 of a new bull phase to our medium-term targets, or a B wave. At this point, the trader has to decide what timeframe to use, as a shorter-term player might have thought Wave 1 or B had finished and some profits should be taken. I firmly believe that the shorter the timeframe, the more the wave counts can become cloudy, and the greater the margin of error. At the time we were bullish, and if the correction from $475 was going to be a shallow 2, we probably would not have bought back any partial profit taken in the $473- $475 area and missed our core opportunity.

We preferred to give the move the benefit of the doubt, but under the rules of Elliott, the market cannot go back through the Wave 1 low at $460, so we put stops under that level. The pullback should really have been limited to around $465, but when another sell-off started in early November 2005, we felt something was wrong. Indeed it was, as our stops were hit at 459.50, which only cost around $2, but felt worse after having been up $14 – welcome to the wonderful world of wave trading. However, to us that did tip the market's hand, as it became clear that $480 to $460 was Wave A and we were now in a C-Wave decline. We could draw in a bear channel and project down a target area for Wave C. More often than not, Wave C equals the length of Wave A, which in this case was $20, giving us a $455 target. That just so happened to be our channel base, and was exactly the 50% Fibonacci retracement to boot.

Once a correction is seen to this zone, the wave trader should be at his most confident and aggressive, having a clear entry zone and being able to place a pretty close stop as well. The market based and rallied in five waves back to channel resistance. This time around we were far more bullish and believed we were moving into the underlying 5th wave, which itself breaks up into 5 waves. So with Wave 1 (of 5) now in place, we knew that an aggressive Wave 3 was coming up and put out a report on Friday afternoon suggesting that $500+ would be seen the following week. I remember the timing distinctly, as early on Monday morning a trader from another bank rang up our trading desk and asked if the JPMorgan technical strategist was on drugs.

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Not only did we reach our $500-$510 target (originally expecting the old highs to be marginally breached), but the rally accelerated, and the rest is history.

Will the Bubble Burst?

What of our old long-term bull channel? That was the reason we realised that the market was going to accelerate further in the months ahead and that we were not finishing a 5-wave sequence, but rather seeing a major 3rd-wave extension – and therefore raised our targets. Something to bear in mind is that when a market breaks through a bull or bear channel in the direction of that channel, the price action often goes parabolic.

As we have seen, Elliott Wave can not only highlight key turning points in the markets, but also some of the pitfalls that can be encountered, especially in corrective phases. What about today's markets – has the bubble burst in metals? In the short term, yes, but we doubt it in the long run. The market has topped out pretty much on the 78.6% retracement zone at 722, but we are now approaching important Fibonacci support in the $608 to $570 region. We also suggest keeping an eye on the HUI Index for an early heads-up of a turn – or not. ■

Robin Wilkin *is the Global Head of FX and Commodity Technical Strategy and a Certified Market Technician with the International Federation of Technical Analysts. He has been involved in the financial and commodity markets for over 15 years.*

Elliott Wave in Brief

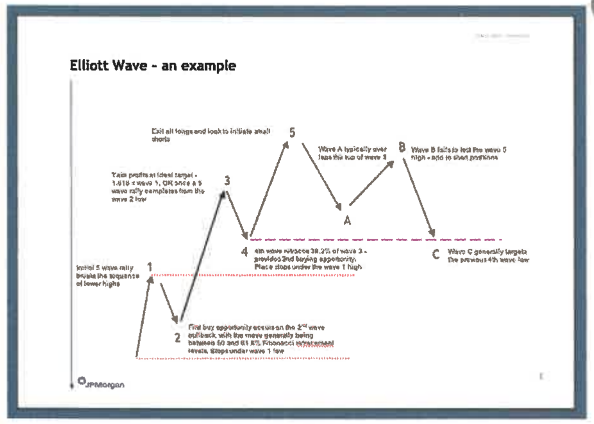
The Theory – Trends develop in waves of fives and threes. Waves 1, 3 and 5 are in the direction of trend. Waves 2 and 4 are corrections within that process.

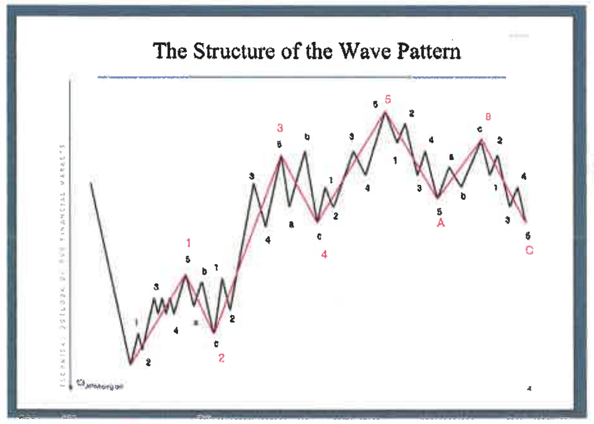
Once a 5-wave sequence completes, the market develops a 3-wave correction of the entire move, which we label Waves A, B and C (there are more complex counts in corrections, but for ease we will keep to ABC).

Positives – It filters out high and low probability trades in the markets. It provides an exact framework for entry, stop and profit levels. It can highlight triggers in other markets and fit together the Global Market Jigsaw.

Pitfalls – The shorter the timeframe, the higher the margin of error. Contrary to popular belief, trading the 4th wave can cost you a lot of money. Corrections can 'mutate' and make you look/feel stupid and – of course – cost you money.

Diagrams of Elliott formations





The Coming Age of Uncertainty Management

By Gerald Ashley, Managing Director, St. Mawgan & Co Ltd.

When did you first hear the term risk management? Nowadays it's so all-pervasive that it's hard to remember a time before it existed – though in truth twenty years ago little was said about it.

The catalyst that started everything was JP Morgan's FourFifteen Report, which was implemented in the mid-1980s in response to their then-chairman Dennis Weatherstone's demand to 'see what risk the bank has every day.'

This led to the development of JP Morgan's RiskMetrics, which became the first commercial risk management application. It used statistical measures to try and estimate the risk a bank faced or possible losses it might suffer (now often known as the Value at Risk, or VaR approach). Along with close rivals, such as Risk Adjusted Rate of Return, these applications heralded a new world of closely calculated mathematical risk measures. Risk management, with its clever maths and fast computing, grabbed the centre stage of banking, finance and related areas. Nowadays, our lives seem soaked in risk management, risk assessments and an all-embracing culture of 'risk awareness'. It all seems normal and sensible – even vital – but is it?

Risk and Rationality

Let's turn the clock back – in fact, to a long time ago, to the 1920s. In 1921 the distinguished American economist Frank Knight, who went on to found the Chicago School of Economics, wrote a book called 'Risk, Uncertainty and Profit', in which he argued that there was a critical distinction between 'risk' and 'uncertainty.' He defined situations with risk as those where decision making was made faced with unknown outcomes, but known ex-ante probability distributions.

He further argued that these situations, where decision-making rules – such as maximising expected utility – can be applied differ deeply from those where the probability distribution of a random outcome is unknown. If we are 'rational', we should always be expected to try to maximise our expected utility – the happiness or satisfaction gained consuming good and services – from any given situation or decision. However, behavioural economics suggests we don't act rationally. Knight's contribution was to observe that our rationality becomes more and more suspect when situations have less and less data (i.e. uncertainties rather than risks).

This may be best explained by a practical example. All of the readers of this article know that one day they will die. Although it is very uncertain on which particular day they will die, they are able to insure against this certain event through life insurance. In Knightian terms, the individual's 'death horizon' is an uncertainty; but a life insurance company can write a large portfolio of such uncertainties and, through actuarial tables and experience, make a good approximation of the average death horizon on their books – thus turning a series of individual uncertainties into a single portfolio of risk.

Here the life company has used the portfolio effect to aggregate uncertainties into a reasonable risk book, and as such is able to approximate a reasonable ex-ante probability distribution – something that could not be calculated for any single individual.

So Far, So What?

Whatever does this have to do with bullion trading, mining finance and the metals business? Well, during the late Eighties and the early Nineties, the explosion in desk computing power saw many financial institutions pursue risk management techniques enthusiastically, calculating confidence factors, two and three standard deviation risk losses, and trying to simulate shocks to their portfolios through stress testing. This was then taken up by the newly established – or re-invigorated – financial regulators with a passion. Here, apparently, was a calculation and an exact figure that could measure an institution's risk. If only financial life were so simple!

Unfortunately, in many financial markets the sources of past data (the known probabilities in Knightian terms) are patchy, often too short and rife with inaccuracies. It seems that financial cycles are just that bit longer than most maintained data sets, and longer still than most traders' and managers' memories and careers. After all, how many people reading this article remember the Polish debt crisis of 1981, the collapse of the secondary bank Slater Walker in 1971 and the London Stock Exchange near meltdown caused by the collapse of John Bloom and the Rolls Razor Washing Machine Co in 1964?

These are just a handful of examples – most of which are now forgotten, and are unlikely to feature in any risk database. But the lessons are clear: past data is only that, data from the past – it's not a perfect guide to the future (though many chartists make a good living out of trying to convince us that it is).

All the risk management tools in the world only work if two conditions are present: there is accurate and full information, and that information is broad enough to give a portfolio effect – thus heavily relying on the significance of the past data in the current and expected environment. This seems to work well with death tables monitored by insurance companies, but in the more complex world of bullion trading and mining finance, things are far less clear.

So are risk management tools wrong in this world? Well, no, not in entirety, but probably in fairness the best judgement is that they are inappropriate in some circumstances, and useless if there is not sufficient past data. In fact, still worse: they can be positively dangerous. After all, what senior manager will question the risk profile produced by his boffins and quants using maths that make his head hurt? Not many, I would venture, although this can, of course, be extremely dangerous – some risk results can give a spurious gloss to some rather dodgy assumptions lurking in the mathematical models.

So can we try to understand uncertainties, and stop just 'over-calculating' weak data and pretending they are risks? And if so, what approaches and tools can be used? If we develop Knight's ideas on uncertainty, it is clear that straightforward probability distribution models won't always work (where were the 9-11 attacks on the distribution curve?)

Four Certain Approaches to Uncertainty . . .

So we need to adopt other approaches. Chief amongst these are: scenario planning, selected use of real options, game theory and behavioural theory.

Scenario planning looks forward, not just back at past data – with care and planning managements can draw up a series of possible future scenarios, and then develop strategies around these to cope with future shocks. To keep the accountants happy, it is possible to break scenarios down into a series of decisions – a form of binomial tree – and then apply options pricing theory to give a reasonable valuation to each potential leg of the strategy.

A **real option** is the right, but not the obligation, to undertake some business decision – typically, the option to make a capital investment. They are called 'real' options because they pertain to physical or tangible assets rather than financial instruments. Taking them into account can greatly affect the valuation of potential investments, though certainly valuation methods such as Net Present Value (NPV) do not include the benefits that real options can provide.

An example might be the opportunity for the owner of a factory to invest in its expansion. Another way in which real options differ from financial options is that they are not tradable. In this example, the factory owner cannot sell the right to extend his factory to another party – it is solely his decision to make. Obviously business operators have been making capital decisions for centuries, though the term 'real option' is relatively recent and is really a new method for thinking about such decisions in a more analytically-based way.

This kind of option is not a derivative instrument, but an actual tangible option (in the sense of 'choice') that a business may gain by undertaking certain endeavours. For example, by investing in a project or property, a company may have the real option of expanding, downsizing or abandoning other projects in the future. Other examples of real options might be opportunities for exploration, research and development, mergers and acquisitions and licensing.

. . . Three Theories of Behavioural Finance . . .

There are three main theories in behavioural finance and economics:

Heuristics: people often make decisions based on approximate rules of thumb, not strictly rational analyses

Framing: the way a problem is presented to the decision-maker will affect their action

Market inefficiencies: there are explanations for observed market outcomes that are contrary to rational expectations and market efficiency. These include mispricings, non-rational decision-making and return anomalies.

Another weakness of risk management is that it assumes that the world is somehow static; it takes no account of others' actions in the marketplace. Here game theory can be of use. Building models that try to take account of a competitor's actions is clearly superior to the daily inward-looking snapshot of a VaR report.

Increasingly in the oil industry and the pharmaceutical sector, these techniques are being used to assess new business ventures where there is little meaningful past data.

And what works well for oil prospecting and new drug development can also work well in new mine development and its financing. Scenario planning can help in developing strategies for exploration, and certainly using real options can help in determining the value and payback of any potential exploration venture. In addition, more attention is now being paid to the human decision-making and risk-taking biases displayed by managers. New techniques in behavioural finance are leading us beyond the FourFifteen risk figures. Probably the best example of these is the value map (see box below).

Value Map

The Value Map breaks a business down into three areas:

1 – Plain Vanilla

This is a well established business with plenty of past data (such as sales, P&L, capital costs). This company is in "business as usual" mode...no surprises, no new technologies...just Steady Eddie churning along. Here standard accounting measures, such as Discounted CashFlow and Internal Rate of Return, are fine and appropriate.

2 – Risk

This represents a new business venture with reasonable past data – maybe buying an existing business or starting up in a fairly well known area. Here there is enough data to use some standard techniques and price up the uncertain elements with real options. Developing and expanding existing mining operations is a good example, which fits here, rather than in No. 1, because by definition there are some doubts about the exact outcomes – for example, how much ore will be found or what the exact costs will be. Decisions to forward hedge or not may well fit in this zone as well. There is plenty of past data for forward hedging decisions, but there is still the element of 'choice' to be priced into the decision.

3 – Uncertainties

A totally novel and untried venture – for example, discovering a drug or drilling for oil in a new place and environment. There is no past data that can help, so – develop scenarios to plan...map these scenarios as a 'decision tree'...then price up each leg of the tree as a possible real option. As the venture unfolds, more real data will unfold – allowing more traditional accounting techniques to take over.

The huge benefit of the Value Map is that it allows managements to look at all three types of project on their books and price and value them in a consistent manner. All the values can be reduced to a single accounting spreadsheet, or value map. It also helps uncover behavioural irrationality – particularly framing and heuristic biases (i.e. people shaping the investment decision question in a biased manner or over-relying on 'rules of thumb' without proper analysis).

. . . And Two Quotes

So whilst risk management techniques are valid and robust in certain parts of strategy and planning, we are about to enter a new age of uncertainty management where a blend of new techniques will help us deal with the far harder topics of low-likelihood/high-impact events.

While these are still early days for these ideas, already some 'uncertainty pricing and valuation' software is being developed – so expect this to become more mainstream in coming years.

To conclude, here are two quotes to remember and ponder. Firstly the Danish philosopher Kierkegaard: "Life can only be understood backwards, but must be lived forwards." And secondly the doyen of economists, JM Keynes: "It's better to be roughly right than precisely wrong." ■

Gerald Ashley *is Managing Director of St. Mawgan & Co Limited (www.stmawgan.com), a risk management consultancy based in London, which specialises in behavioural risk analysis and long-term strategic planning for the banking and finance sectors.*

MARKET MOVES

Robin Baskin to **Fortis Bank**

Robin Baskin has joined the Commodity Derivatives group at Fortis Bank in London as Head of Metals Sales and Marketing for Europe and the Americas. She will be responsible for building a marketing team and expanding Fortis's coverage of its base- and precious-metals customer base. Before joining Fortis, Robin held sales and marketing positions in London and New York with JP Morgan, NM Rothschild and UBS.

Tony Dobra to **Standard Chartered, London**

Tony Dobra has been appointed Director on the metals trading team at Standard Chartered Bank, where he has specific responsibility for the PGM portfolio and marketing in Europe and Africa. Tony joined Mocatta from Sharps, Pixley in 1981, when it was a commodity trading subsidiary of Standard Chartered Bank. Having left the then ScotiaMocatta after a period in Hong Kong to join Commerzbank International in Luxembourg, Tony returns once more to London.

Jeremy East to **Standard Chartered, London**

Jeremy East has been appointed Head of Metals, Global Commodity Derivatives, a part of the Rates and Foreign Exchange Division at Standard Chartered Bank. Based in London, Jeremy has over 25 years of trading and marketing experience in commodities (metals and energy), most recently with Commerzbank International SA, where he was Global Head of Metals. He is International Advisor to the Shanghai Metals Exchange.

Amit Juneja to **Standard Chartered, Singapore**

Amit Juneja has been appointed Director, Commodity Marketing, part of the Global Commodity Derivatives Group at Standard Chartered Bank, responsible for leading the marketing efforts for India and Korea. A regular speaker at industry events covering the precious metals market, Amit previously successfully set up a market dominant position for Commerzbank in India.

Jeremy Kyd to **Sucden**

Jeremy Kyd has joined Sucden (UK) Limited, where he will be responsible for the development of the company's presence in bullion across both retail and corporate sectors of the market. He joins Sucden from Baird and Co., and brings extensive trading experience from his previous roles as a market maker with other global financial services firms, including HSBC and ANZ.

Matthew Lynch to **Mitsui**

Matthew Lynch has joined the London Branch of Mitsui Global Precious Metals to work on the marketing desk. Prior to joining Mitsui, Matthew was working at Johnson Matthey as a market analyst in the precious metals marketing department.

Edmund McNamara to **Standard Chartered, New York**

Edmund McNamara has been appointed Director, Commodity Marketing, part of the Global Commodity Derivatives Group at Standard Chartered Bank, responsible for leading the marketing efforts for the Americas. With over 25 years of trading, strategy development and marketing experience, Edmund was most recently Vice President at Commerzbank in New York.

Kaz Naoki to **Mitsui**

Kaz Naoki has joined London Branch of Mitsui Global Precious Metals to work on the trading desk. Prior to arriving in London, Kaz worked in the Sydney office for four years and, before that, in Tokyo for five years.

David Quarmby to **Standard Chartered, Singapore**

David Quarmby has been appointed Director, Commodity Marketing, part of the Global Commodity Derivatives Group at Standard Chartered Bank, responsible for leading the marketing efforts for the South-east Asian region. Previously at JPMorgan, where he was responsible for base metals sales, David was most recently with Barclays Capital in London.

James Steel to **HSBC**

James Steel joined HSBC in May as the bank's metals analyst. He is based in NY, reporting to Chris Georgs, head of US research. Prior to joining HSBC, James worked at Refco.

David Stevens to **Standard Chartered, Singapore**

David Stevens has been appointed Director, Global Commodity Derivatives, at Standard Chartered Bank, where he is responsible for metals trading in Asia. Prior to joining Standard Chartered, David was with RBC Capital Markets in Sydney as Vice President, Precious Metals.

Edel Tulley to **Mitsui**

Edel Tulley has joined the London Branch of Mitsui Global Precious Metals to work as a precious metals analyst. Edel most recently completed a doctorate at Trinity College in Dublin, focusing on pricing anomalies in the gold market. Her undergraduate and other post-graduate degrees were in mathematics and statistics.

Paul Walker to **Standard Chartered, London**

Paul Walker has been appointed Director in the Metals Trading team at Standard Chartered Bank, responsible for precious and base metal options in Europe. Paul began his career in the metals industry in 1991 at Lehman Brothers Commodities, followed by a position at the First National Bank of Chicago. During his eight years with Natexis Metals Ltd, he traded precious and base metals options and swaps.

Andrew Wang (Q!bo) to **Standard Chartered, Singapore**

Andrew Wang has been appointed Director, Commodity Marketing, part of the Global Commodity Derivatives Group at Standard Chartered Bank, responsible for leading the marketing efforts for the Greater China region. Andrew started in the commodities industry as base metal agent for Gerald Metals Inc. In 2000, he moved to spend five years with ScotiaMocatta in Hong Kong and, most recently, he worked with the precious metals team of Commerzbank in Singapore.

Alexander Zumpfe to **Heraeus Metallhandelsgesellschaft**

Alexander Zumpfe has joined Heraeus Metallhandelsgesellschaft in Hanau as a precious metals trader. Previously he held several positions within Dresdner Bank and Dresdner Kleinwort Wasserstein, where he was responsible for commodity trading, sales and research. Alexander has a degree in business administration from the University of Applied Sciences in Mainz. ■

‘Trees Don’t Grow to Heaven’

A View of Hedging from the Other Side of the Fence

Jeffrey Rhodes, Regional Head of Resource Banking, Middle East & North Africa, Standard Bank Plc, Dubai Branch*

This article has been adapted from a speech given at the Gold Symposium in Peru on 5 May.

It may seem strange that someone who operates out of the world’s major gold consuming centre should be making a speech on hedging to an audience largely comprised of delegates from the producing community.

However, the fortunes of gold producers and gold jewellery merchants are very much aligned, with annual gold jewellery demand typically matching all newly mined gold. In other words, virtually every ounce of gold extracted from the ground finds its way into the world’s gold souks or markets. Both sectors of the market face similar problems and issues that impact their respective businesses, irrespective of whether their assets are above or below ground, with the key unknown and unpredictable variable being the international price of gold.

My focus here is the hedging of gold assets in order to protect gold producers and merchants against adverse movements in the underlying gold price and the potential impact on future cash flows and the health of their businesses.

Hedging is . . .

Here follow some simple, and not so simple, definitions of hedging gleaned from the Internet:

‘Any technique designed to reduce or eliminate financial risk; for example, taking two positions that will offset each other if prices change.’

‘A hedging transaction is a purchase or sale of a financial product, having as its purpose the elimination of loss arising from price fluctuations. With regards to currency transactions, it would protect one against fluctuations in the foreign exchange rate.’

‘A strategy designed to reduce investment risk using call options, put options, short selling or futures contracts. A hedge can help lock in existing profits. Examples include a position in a futures market to offset the position held in a cash market, holding a security and selling that security short and a call option against a shorted stock. A perfect hedge eliminates the possibility for a future gain or loss. An imperfect hedge insures against a portion of the loss.’

Life on the Hedge

There are a number of traditional hedging techniques that are used by gold producers, bullion traders and jewellery merchants to safeguard or insure the underlying value of their physical gold assets, above or below ground, using a variety of financial markets and instruments. These include the below-described futures, forwards, gold loans and options

Gold futures contracts are offered on a number of international futures exchanges, the major one being the COMEX Division of the New York Mercantile Exchange, followed by TOCOM in Japan. There are also a number of developing regional exchanges, including the MCX and NCDEX in India and the DGCX in Dubai.

Though the use of **futures** as a hedging tool is popular, there are arguments for and against:

PRO	CON
Price transparency	Liquidity can be poor
Well regulated	Transaction costs
Low credit risk	Inflexible maturities
Low original margin	Lack of confidentiality
Small-size tickets	Price volatility

Forwards are over-the-counter products, typically provided by bullion banks, and they remain widely used by both producers and consumers alike, with products including swaps, fixed or outright forwards, floating forwards, spot-deferred contracts and forward rate agreements.

Gold producers and fabricators can use these products to smooth their cash flows and reduce their cost base by matching their sales and purchases of gold with their typical production schedules. This can be particularly relevant for producers in harsh climates, such as Siberia, while in other regions manufacturers can plan ahead in order to satisfy peak seasonal periods of physical demand – such as Diwali and the wedding seasons in India, Christmas, Chinese New Year, Eid holidays in the Muslim world, and even the circumcision season in Turkey.

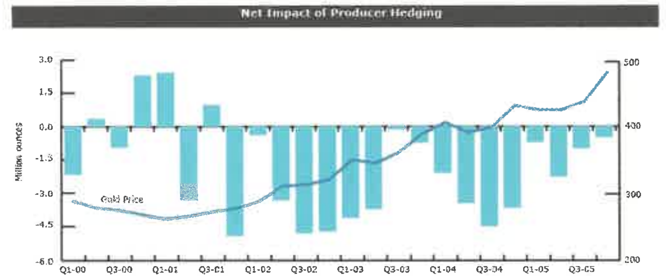
Gold loans are probably the most straightforward and commonsense method of hedging gold price exposure for both producers and physical gold merchants. Simply by borrowing gold rather than cash to finance business development and growth, the gold producer or merchant creates a paper liability that equally matches the physical assets held either below ground in the gold mine or above ground in the gold souk. The monetary value of both sides of the gold balance sheet will rise and fall in equal proportion in line with the gold price.

Gold loan rates are typically much cheaper than currency borrowings – over a ten-year period the three-month gold LIBOR rate has averaged well below 1% per annum, a point that is particularly relevant in high-interest-rate economies. Indeed, since 2001, central banks – the key providers of gold liquidity – have not been able to earn any return of note on their gold assets.

A potential problem with gold loans, however, can be margin calls, as was most famously seen in the autumn of 1998 when gold spiked from $252 to $340 in less than a month, and some high-profile gold producers had serious cash-flow problems arising from margin calls. However, the process of de-hedging that has taken place over the last five years has reduced this risk and, despite gold rising to its highest levels for 25 years, I am not aware of any major problems.

The development of the gold derivatives market in the 25 years since gold was last seen at current price levels has helped to provide both gold producers and consumers with a vital hedging tool to help them manage their business and cash flows in highly volatile markets. The prudent use of **options** as a form of price insurance is now commonplace, and is in my view one of the reasons that today’s gold market is relatively orderly, despite the fact that gold rose by more than 40% this year and reached a level $475 an ounce above the lows seen in the summer of 2001.

Global Hedge Book Overview



Prices

	Spot	1 year	2 years	3 years	4 years	5 years	Cash Costs 2005
Gold in USD	660	696	734	772	813	856	278
Gold in AUD	866	918	976	1,034	1,095	1,158	367
Gold in ZAR	3,993	4,282	4,600	4,440	5,300	5,675	2,215

In the kind of rising market we are currently experiencing, the most obvious use of options for a gold producer is to buy downside protection using puts. This prudent approach protects future cash flows and ensures the value of gold still in the ground – while at the same allowing the gold miner to benefit in full from any further upside appreciation. As an example, when price levels were $660 (and moving higher), the purchase of a strip of $550 puts covering the period Dec 06 to Sept 09 would have cost around $14 per ounce, and $500 puts were indicated at $7 per ounce (source: Standard Bank). In my view, producers should buy this kind of price protection and build this vital insurance into their cost base.

However, while producers may have plenty of gold in the ground, it doesn’t necessarily follow that they have the cash in the bank to buy the put options. In this case a producer can mitigate the cost of price insurance by selling a sufficient amount of call options in order to generate the premium to pay for the puts. This popular type of strategy is often referred to as a producer min-max or costless collar. Or, of course, a friendly bullion bank will consider providing premium finance.

Finally, producers should consider using contingent premium put strategies. The key characteristic of this product is that the premium on the puts is payable only if specific price levels are triggered above the market. This option allows the buyer to lock in close to at-the-money put strikes while avoiding a cash premium payable at spot. Instead, payments are made only if the market rallies to the payout points. Unlike the min-max, the worst-risk scenario is defined and limited at the start of the trade – i.e. that all three payout points are breached.

The main rationale for these puts is that in a higher-price environment, a producer should be in a better cash position than in a lower-price environment. This structure allows producers to achieve protection at no cost when they need it most, and then pay for the puts when cash flow is presumably at its greatest point: a high price environment.

2005 Producer Hedge Positions: An Overview

Having thus reviewed the tools of our trades, an overview of global producer hedge positions as at the end of 2005 is in order. (For the data in the top slide, I am grateful to GFMS for allowing me to use their excellent hedge book report for Q4 2005, along with the 2006 *Gold Survey*.)

In 2005 the pace of producer de-hedging slowed to 131 tons, down from 442 tons in 2004, leaving the outstanding producer hedge book at 1,673 tons as at the end of 2005, which represented 66% of annual mine production. The net decline in the delta-adjusted hedge book last year was the smallest annual fall since the cycle of de-hedging began in 2000.

With gold prices extending their gains in 2006 to 25-year highs, market reports suggest that net de-hedging resumed in Q1 2006, with some pundits suggesting that this may have exceeded 50 tons – compared to virtually nothing in the final quarter of 2005. It will be interesting to see what approach gold producers will now adopt and whether or not they can resist the lure of prices that many have never seen before.

The bottom slide makes very interesting reading: it gives indicative levels for spot gold prices at 25-year highs, gold lease rates at historic lows and dollar interest rates at 5% , which results in very attractive forward gold prices. Producers can now lock in future cash flows based on all-time record prices – even the most ardent anti-hedger must be tempted to use the dreaded H word when comparing say, five-year forward prices to current cash costs. While this is clearly a simplistic view ‘from the other side of the fence’, it is clear that the planets are in alignment for the world’s gold producers – even the South African industry, which has had to deal with an appreciating rand over recent years.

A Market in Balance – Barely

In today’s world of gold, a crucial fact worth noting is that the amount of newly mined gold each year is more than matched by gold jewellery consumption. According to GFMS, in 2005 new mine production was 2,519 tonnes, compared to annual jewellery fabrication demand of 2,712 tonnes. In other words, the global physical gold market is roughly in balance, and the 158% increase in the price over the last five years has been driven by investment and speculative activity.

However, investor sentiment, currently in the throes of extreme bullishness, can be fickle. Remember the old adage in the gold market: ‘trees don’t grow to heaven’. In time the rising gold price will take its toll on physical demand and attract increased scrap supplies. If this combines with a psychological reversal by the hedge fund community to commodities, and if this were to coincide with a reduction in geo-political tensions and a sharp fall in the oil price, the gold price could collapse.

While there are a lot of ifs and buts in this statement, my point is that the gold producers, refiners, manufacturers, wholesalers and retailers that make up the global physical market are – or should be – more concerned with generating positive cash flows from the difference between their revenues and their costs, rather than making windfall profits from movements in the underlying price of gold bullion.

An Ounce of Protection (at ~650/oz)

My view from the other side of the fence – and the other side of the globe – is simple: hedging of physical gold assets protects against adverse movements in the underlying gold price.

There is a wide range of simple but effective hedging products available to gold producers and physical gold merchants alike. Make more use of options, particularly purchases of puts. Please view them as insurance, not the speculative products that many uninformed commentators cite as the reason for extremes in price volatility. Prudent use of these derivatives will have the opposite effect and help to smooth and soothe erratic markets.

It is crucial for producers and physical merchants to minimise their exposure to the inherent speculative elements of the international gold market so that they can ensure that their business remains healthy in all market conditions and is not hurt by excessive volatility in the gold price caused by factors completely outside of their control.

In my view, a gold producer or physical gold merchant that does not protect the value of their gold assets to the extent that their business remains sound in the long term is, in fact, a speculator. And you don't need to run a gold mining business to speculate in gold – it is easier to simply buy futures or ETFs.

Some might say that my views put me firmly in the pro-hedging camp. But then, sceptics would say that goes with my territory, as I ply my trade as a bullion banker. However, given my position on the other side of the market from the producer community, my views are fairly objective. My stance might better be described as 'pro price insurance', and I can assure you that I do truly believe in the comments I have made. They are not just banker-speak designed to entice you into doing business that is either unsuitable for you or that you might regret later.

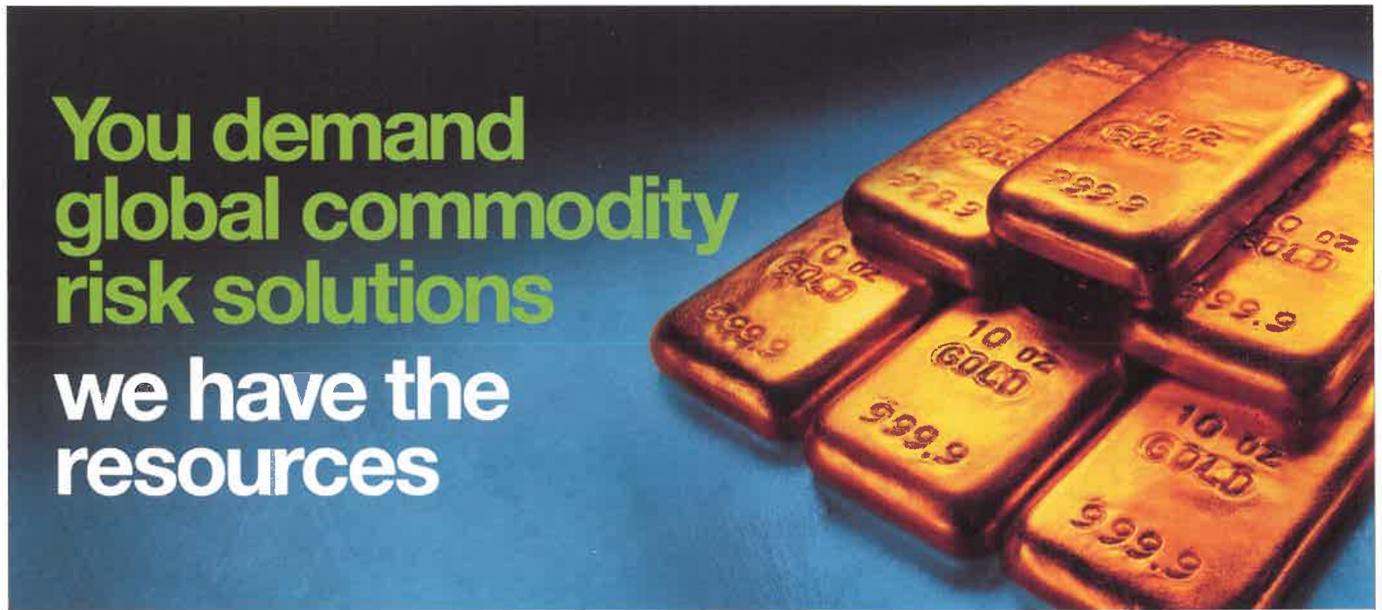
My message to gold producers is: buy puts. Build the premia into your cost base. And enjoy the ride. ■

Jeffrey Rhodes *is Regional Head of Resource Banking, Middle East & North Africa, for the Dubai Branch of Standard Bank Plc. Before establishing the bank's Dubai operations in 1997, he was responsible for precious metals at the SBL's London office.*

As the bank's gold specialist, he has helped SBL successfully develop its resource banking portfolio in the region, highlighted by SBL consistently achieving a significant market share of Dubai's flourishing gold market – ranked as the largest gold re-distribution center in the world.

He joined SBL in 1995 from Credit Suisse, where he held senior management positions in the Precious Metals and Private Banking departments. Jeffrey is a member of the Dubai Gold Advisory Group, a past chairman of the LBMA's Public Affairs Committee and was the founding editor of this publication.

*Standard Bank Plc Dubai Branch is regulated by the Dubai Financial Services Authority
Standard Bank Plc is authroised and regulated by the U.K. Financial Services Authority



Off to the Races – Perhaps

Martin Stokes looks back on his 32 eventful years in the Bullion business

Reports of my professional demise have been much exaggerated, but it's fair to say that I have decided to make a tactical retreat from the front line of the Bullion Market. Consequently, my involvement with the LBMA is likely to cease and the Alchemist editor therefore suggested that I should contribute a few lines about my career.

From Left to right: Pierro Mazonni, Glenda Barron, Tony Harrison, Martin Stokes, Andy Stoppani, Frank Horsford

My first exposure to risk management was the challenge of augmenting my university grant at the racecourse. Unfortunately, there was no time to study the racing form when I began working at Barclays International in Old Broad St. However, they paid £800 pa. and, as I finished at 5.00 pm, there was a chance to earn an extra £5 per night working as a barman at Dirty Dick's pub in Bishopsgate.

After a year or so, I realised that these career paths were limited and in the FT there was an advert for a trader's assistant at Johnson Matthey Bankers Ltd. My face seemed to fit and very soon, as one of the senior traders had left, I was running the Sterling Treasury book. In a small team there was a great opportunity to learn all the basics of FX and interest rate trading – the major challenge being the bank's £2 mio capital.

In 1974, a vacancy came up in the Bullion department. In this market, JM was a bigger fish. Gold trading then was real seat of the pants stuff – no futures or screens to help you.

We had several large Middle East clients who turned up occasionally with large bags of cash – no money laundering concerns at that time! One of these clients actually purchased 100% of one of the subsequent IMF auctions – I wrote out the bid tickets myself in Washington DC – heady stuff for a North Country boy.

The bull market in precious metals had begun in earnest by then and we were often dealing on bid/offer spreads of $10 in Gold and $1 in Silver. Risk and reward were remarkable and JMB were major players. My silver-trading colleague Andy Stoppani and I had a great team around us and many of those guys are now senior managers around the market. The jokes and the lunches were legendary.

In 1979 and 1980, I spent two wonderful six-month postings in Hong Kong, learning that the punters at Happy Valley were equally astute in the gold market and knew how to have fun – more opportunities to meet fascinating characters who are still my friends today.

In late 1980 I was posted to New York and spent five years getting beaten up by the locals on the COMEX. Testing, but very profitable times, which were brought to an end by the uncontrolled lending activities of my London colleagues. A major scandal ensued and all of the banks £550 mio capital was lost. In New York, I was without a job or a work permit.

However, within six months my circumstances had greatly improved: I'd met my wife Frances and been employed by JP Morgan back in London, reporting to Guy Field. The bank's strong balance sheet gave us huge opportunity, and with a talented group we quickly built up a serious business – but as ever, one based on team spirit and having fun. One particular war story from those times was a sale by a very impatient client of more than 1 million ounces of gold at the market – all completed in an hour with no errors and relatively little market impact!

In the late 1980's as the market grew more mature, the regulatory environment pushed towards the establishment of an association to encompass all of the players. Guy Field was one of the LBMA's founding members and I took over in 1989 following his retirement. I've been on the Management Committee since that time, serving four years as Vice Chairman and as Chairman from 1999-2002.

My early interest in standard documentation and my enthusiasm for IBMA and the ISDA terms came as a result of self interest. Morgan's paperwork for clients was overwhelming by comparison to our competitors and I had to level the playing field.

Of course, there were more general benefits and eventually others saw that in some areas it made sense to pool resources through the LBMA. Competition could be focused on pricing and service.

When I became Chairman, we had been in an almost 20-year bear market. The worldwide bullion community was looking for leadership and, with the support of the Bank of England, London was best placed to step up. We hired Stewart Murray as full-time Chief Executive, and his expertise and work ethic gave us the confidence to plan for a programme of conferences and seminars that continues to flourish today.

Our first conference in Dubai was something of a highlight. We had great support from Sheikh Mohammed and the local Gold & Silver Society, and Clifford Smout of the Bank of England gave an important speech (Do buy the UK's gold!) It was the first experience of the Middle East for many in the market – and turned out to be a great success. One of the topics chosen was FAS-133, and we thought it best to use a small room for that workshop – what chance do accounting principles stand against a white sand beach and water park? But the room was packed to overflowing – people wanted to learn.

Other initiatives around this time were an expansion of the Alchemist under Susanne's editorship and the organisation of a few good parties – useful in an increasingly electronic market where personal contacts are waning. Shortly afterwards, we introduced the concept of International Associates, which has so far brought 44 new names under the LBMA umbrella. Finally, pro-active monitoring of our Good Delivery refineries has provided a forum for excellence and even greater confidence in the marketplace. Simon Weeks, my successor, has continued the good work with enthusiasm and I wish all the best to those who follow in our footsteps.

It's been an exciting and rewarding 32 years and I've been very fortunate to see two market cycles. I've been lucky enough to travel to some fascinating places and to make friends in every corner of the globe – a long way from the days when I struggled to work out who Tom Next was and why everyone wanted to know where he was.

Commodities have become fashionable again and more respectable as portfolio diversifiers – long may it last! The Bullion Market will continue to evolve – probably becoming more derivative and complex. I urge participants to continue building up their personal friendships and never to give up on expanding their education. Most importantly, don't forget to have fun!

For the future, I would like to have more opportunity to spend more time with my family – before it's too late for my teenage kids. Otherwise, I hope to see the horses in which I have a share win some more Group races. ■

The LBMA Good Delivery List for Gold and Silver

Treatment of Bars from Deep Storage

The LBMA has noted that in the past year, an increasing number of gold and silver bars have been re-appearing in the market after having been held for many years in vaults (whether in London or elsewhere). Most of these bars will still be acceptable in the London bullion market, even if they are not fully compliant with the LBMA's current Good Delivery Rules, which have been modified in a number of ways since the establishment of the LBMA in 1987.

However, some of these "deep storage" bars may no longer be regarded as acceptable, either because of physical defects or poor marking. This can apply both to bars from currently active Good Delivery List refiners and also to those from refiners which are now on the Former List (and which may well no longer be in business). In particular, the LBMA has confirmed that bars that are not stamped with the original refiner's assay mark and fineness (with these being shown instead on an accompanying certificate) will no longer be acceptable as Good Delivery.

In such cases, there are a number of scenarios:

- The receiving vault manager may refuse to accept the bars and will then discuss with the customer who submitted the bars whether they should be returned or dealt with as below
- The owner of the bars may elect:
  - To have the bars upgraded, at its own cost, to an acceptable form by remelting (or refining) at a current Good Delivery List refiner; or
  - To accept a discounted price that reflects the cost of this upgrading.
- In some cases, Members of the LBMA may be able to assist in the disposal of such bars by finding industrial consumers for whom the abovementioned defects are relatively unimportant, so that the bars may be sold for a smaller discount than would be involved in conversion to full Good Delivery status
- Customers may incur funding costs if bars are not of acceptable quality. This will be particularly relevant if a customer intends to use the metal to fund a short position on their unallocated loco London gold or silver account. If the bars are not of suitable quality and the unallocated credit cannot be passed, there may be a requirement for the customer to borrow metal to fund their loco London account until such time that the quality issue is resolved.

Responsibility of Good Delivery Refiners

It should be noted that in the case of bars previously produced by current Good Delivery List refiners, the LBMA would expect them to make good on any problems in the form of defects that would have made their bars unacceptable at the time of their manufacture. On the other hand, where bars have been rendered unacceptable because of a modification of the LBMA's standards, it would not normally be expected that the refiner would take responsibility for converting the bars into an acceptable form.

Before implementing changes to the standards for Good Delivery bars, the LBMA will always take into consideration the likely impact that such changes may have with regard to bars produced prior to the date of implementing any such changes.

Ad Hoc Inspection Panel

In case of need, the LBMA may, without obligation or responsibility, set up a panel of inspectors to give an opinion on batches of bars whose acceptability is in doubt. However, it is the vault manager who ultimately has the right to accept or reject bars submitted to his vault. ■

LBMA News

By Stewart Murray, Chief Executive, LBMA

MEMBERSHIP

Members

Rabobank resigned as an ordinary Member on 18 May 2006.

GOOD DELIVERY LIST

Gold

JSC Uralelectromed of Russia was added to the Gold List on 12 May 2006.

The refinery of the Central Bank of the DPR of Korea was re-listed on the Gold List as of 12 May 2006.

ANNUAL GENERAL MEETING

The LBMA's 18th AGM was held on 14 June at the Armourers Hall. The new Management Committee was elected, consisting of:

Jack Allen, Calyon
Philip Aubertin, UBS
Stephen Branton-Speak, Goldman Sachs
Jeremy Charles, HSBC
David Gornall, Natexis
Nigel Munt, Bache Financial
Simon Weeks, Bank of Nova Scotia
Martyn Whitehead, Barclays

The new Committee then met and elected Jeremy Charles as Chairman and Martyn Whitehead as Vice Chairman.

COMMITTEES

Management

The Committee has met only once in the past quarter, which is in part a reflection of the very active trading in the bullion market recently. Because of this, the Committee has decided that it will change the timing of future meetings from 3.30pm to 8.30 in the morning.

The Committee considered a draft announcement that had been prepared by the Physical Committee concerning the acceptability of bars that have been in deep storage for long periods of time. The text of the final announcement, which was released on 9 June, is given on page 26.

As part of the new arrangements for market making described in Alchemist 42, the Committee has agreed that the silver forward (SIFO) rates contributed by Market Makers should be converted onto a mid-swap rate basis (instead of an offered basis, which has been used until now). Once this has been effected, these rates will be shown on the LBMA website as with the GOFO data, although it will be stressed that the SIFO rates are indicative and should therefore not be used as a basis for pricing.

The Committee has also considered a revised version of the Bullion Annex in the Non-Investment Products Code. The NIPs code is drawn up jointly by the LBMA, the Foreign Exchange Joint Standing Committee and the Money Markets Liaison Group as a guide to good practice in these wholesale markets. The revised version of the Code will be published on the Bank of England website in October, 2006.

On the Public Affairs front, the Committee approved recommendations from the Public Affairs Committee concerning events over the next year. In particular, it was agreed that the LBMA's Eighth Precious Metals Conference should be held in Mumbai in November, 2007.

The subject of MiFID (the European Union's forthcoming Directive on Markets in Financial Instruments) has been discussed within the Committee. Its particular focus was the question of whether the LBMA should become involved in helping its Members to prepare for the introduction of the new Directive. The final decision on this matter was that the Executive should not participate in the work of preparing Members for this Directive and instead that this task should be left to the legal and compliance services in Member companies.

Finally, the Committee has approved a programme of work experience for the LBMA's principal contact at the Department of Trade and Industry, who will be meeting Members at various events over the coming months.

Physical Committee

In addition to the listing of the gold refiners noted above, the Committee is processing applications from three other refiners, which are currently undergoing technical testing.

The investigation of the electronic weighing of gold as an alternative to beam balance weighing is very close to completion. This long-running investigation has thoroughly checked the use of two electronic balances in a number of different vaults and environments and compared the resulting electronic weighings with those of the traditional beam balance.

The Committee has discussed the way in which other markets and exchanges use the LBMA Good Delivery List as part of their own documentation and the provision by the LBMA Executive of information on changes affecting the List to such institutions.

Proactive monitoring of the refiners on the Good Delivery List has now passed the half-way point of the first three-year cycle. The monitoring scheme has enabled the LBMA to identify and rectify a few instances where assaying standards had slipped. It was, for example, most encouraging recently to see the case of one refiner whose fire assaying standards had failed to satisfy the LBMA during initial monitoring. Following additional training of its assaying personnel and investment in new equipment – as recommended by the LBMA – the laboratory has been able to demonstrate the very highest standards of fire-assaying accuracy in a full-assay test.

Public Affairs Committee

This has been a quiet quarter for the PAC, in that all the hard work for the Montreux Conference had been done previously. Looking forward, however, as indicated below, the Committee has a very full agenda related to events during the coming year.

SNMPE Seventh Gold Symposium

The Chief Executive spoke at the Seventh Symposium organised by the Peruvian Society for Minerals, Petroleum and Energy in Lima in early May.

Paralleling Peru's dramatic growth as a gold-mining country (it currently ranks fifth in the world), the Symposium has grown over the years into a large, well-attended conference – this year with more than 60 speakers and 100 stands in the associated exhibition area. A copy of the Chief Executive's presentation on "The LBMA and its Good Delivery System" can be found on the LBMA website.

FUTURE DATES FOR YOUR DIARY

The 7th LBMA Precious Metals Conference

Registrations for this year's Conference, which is being held in Montreux, Switzerland, have already exceeded those at the Johannesburg Conference last year, although it looks unlikely that the record attendance at the 2004 Shanghai Conference will be exceeded.

Biennial Dinner

The Biennial Dinner will take place at Goldsmiths Hall on the evening of 2 November 2006. The guest speaker will be Kelvin Williams, recently retired as the Executive Director of Marketing of AngloGold Ashanti.

A number of invitations to LBMA guests in government, official sector and other institutions related to the bullion market have already been issued.

Tickets for the event are always in great demand and will be allocated as before to Members and Associates on a pro-rata basis. Tickets will be priced at £110.00 + VAT each (essentially unchanged from the 2004 Dinner).

Seminar on Assaying and Refining

The date for the Assaying and Refining Seminar to be held in London has now been fixed for 28 – 29 November. Any comments or suggestions for topics to be included on the agenda for the Seminar would be welcomed by the Executive.

Annual Party 2007

It is proposed to hold the bullion market's Annual Party for bullion staff in Member and Associate companies in the second half of February next year. The Executive and PAC would welcome suggestions for a theme and/or possible interesting venues for the party. ■

Here Lies . . .

LBMA Golf Day 2006
By John Coley

And who ever said that golf does not reflect life? Or the gold market?

Amid the current frenzy of metals prices, the fact that only 12 participants could free themselves from their busy desks for the Annual LBMA Golf Day fills me with admiration. And tempts me to write this as the obituary of a fine tradition. But despite the workaholically induced low numbers, it again proved to be another excellent day.

The day began with sunshine but gradually clouded over, with some light rain at times. However, this did little to dampen the enthusiasm of those playing at Brickendon Grange. The course was in great condition, and is a very fair one – being enough of a challenge to regular golfers, without intimidating the occasional players.

The main competition was played in the morning for the Jack Spall Trophy, and proved to be a titanic struggle. Ian Gathercole put up a spirited defence of his title with a highly creditable 37 points – however, this was only good enough for 3rd place. John Clark, playing off 20, and this writer, playing off 7, both scored 38 points, with John Clark just squeezing in by one point on countback over the last 9 holes. Both players could be excused for thinking they had won as both chipped in from off the green for birdie 2's on the final hole! It was pleasure to see the eponymous Jack Spall himself both play and present the trophy.

That chip shot off the old block, Ben Coley, won the Guest Prize to keep his 100% record of winning it every time he has played. He also won the Nearest-the-Pin prizes for both morning and afternoon – that's my boy! John Clark won the nearest the pin competition in 2 and Matthew Lynch the longest drive. The Team Trophy in the afternoon was in the very popular Texas Scramble format, and was won by John and Ben Coley, Mukesh Vyas and Ernie Watkins.

The very generous prize table was again by kind courtesy of Securicor International Valuables Transport Ltd, which deserve a big thank you for their continued sponsorship. Thanks are also due for the LBMA's sponsorship, which makes sure that a great day out is enjoyed for a very reasonable price.

The 2007 event is provisionally booked for Thursday, 31st May at Blackmoor Golf Club. Any interested reader (including retirees and past employees of member companies) should not wait to be invited. Please contact the LBMA to ensure you are properly advised for next year. Also, to those subscribers who automatically receive prior notice – please make sure everyone is advised and given the chance to play.

DIARY OF EVENTS

June 2006

25 – 27
The Seventh Annual LBMA Precious Metals Conference
Montreux, Switzerland
T: +44 (0)20 7796 3067
F: +44 (0)20 7796 2112
conference@lbma.org.uk
www.lbma.org.uk

July

4 – 6
African Junior Mining Congress
Sandton, South Africa
T: +27 11 463 6001
F: +27 11 463 6903
brian.shabangu@terrapinn.co.za
www.terrapin.com

5 – 6
Commodity Investment Summit 06
London
T: +44 (0)20 7368 9465
F: +44 (0)20 7368 9401
commodity@wbr.co.uk
www.commodityinvestmentsummit.com

August

7 – 9
Diggers & Dealers Mining Forum
Kalgoorlie, Australia
T: +61 8 9481 6440
F: +61 8 9481 6446
admin@diggersndealers.com.au
diggersndealers.com.au

September

3 – 6
Gold 2006: New Industrial Applications for Gold
Limerick, Ireland
F: +353 61 202 602
vicky.kelly@staffmail.ul.ie
www.gold2006.org

6 – 7
Gold and Precious Metals Investment Conference
Las Vegas
T: +1 305 669 1963
F: +1 305 669 7350
info@iiconf.com
www.iiconf.com

7 – 8
Africa Downunder Conference
Perth, Australia
T: +61 (8) 9321 0355
F: +61(8) 9321 0426
www.mbendi.com

12
34th Minesite Mining Forum
London
T: +44 (0) 20 7395 1935
F: +44 (0) 20 7395 1931
www.minesite.com

14
GFMS Precious & Base Metals Seminar
London
T: +44 (0)20 7478 1750
laurette.perrard@gfms.co.uk
www.gfms.co.uk

21 – 22
The Silver Summit 2006
Coeur d'Alene, Idaho, USA
T: +1 208 556 1621
silverminers@usamedia.tv
www.thesilversummit.com

24 – 27
Denver Gold Forum
Denver, Colorado, USA
T: +1 303 825 3368
info@denvergold.org
www.denvergold.org

October

2 – 5
Commodity Investment World
London
T: +44 (0)20 7242 2324
F: +44 (0)20 7242 2324
lilian.chee@terrapin.com
www.terrapin.com

10 – 13
Commodity Investment World Africa
Sandton, South Africa
T: +27 11 463 6001
F: +27 11 463 6903
brian.shabangu@terrapinn.co.za
www.terrapin.com

11 – 13
Gold and Precious Metals Investment World
Hong Kong
T: +65 6322 2764
F: +65 6226 3264
brenna.koh@terrapinn.com
www.terrapinn.com

17
35th Minesite Mining Forum
London
Details as above

Where Angels Fear to Tread

Editorial Comment by Tim Wilson, Vice President, JPMorgan Chase Bank Chairman, LBMA Public Affairs Committee

If the top of a market is signalled by the rush of financial institutions leaping in where – just a few short years ago – even angels, let alone investors, feared to tread, then that must be where we are in the gold market.

Not a week goes by without a story of a hedge fund, a pension fund or, indeed, a bank looking to gain exposure to the commodity markets in general and the gold market in particular. The musical chairs in the Market Moves section of this very publication bear testimony to this resurgent demand for talented bullion market personnel.

It's not only our members that are seeing increased activity. These are buoyant times at the LBMA – hits on the website are at all-time highs, there is a continual stream of membership enquiries, conference and seminar registrations outstrip availability, and media interest and publication distribution continue to increase. By definition all this interest must be good news – but how do we, as members, capitalise on it?

Certainly the level of activity demanded of the Executive by a hectic market has increased – consequently, the level of input required from the membership is higher. In addition to the Management Committee, the LBMA has steering committees covering specific remits, which were set up to encourage the views of all sectors of the market to be expressed.

It is through the subcommittees that the direction and actions of the LBMA can be influenced. They are effective channels through which users of the London bullion market can express their institution's views on how the market should be responding to developments or evolving to meet the demands and opportunities presented by the resurgent interest in bullion. There is an opportunity for all to get involved – not just those who serve directly on the committees.

Lions and Tigers and Bulls. And Niall Ferguson.

Last year's conference in Johannesburg highlighted a resurgent local industry – albeit one still facing challenges. Among them is the spread of HIV/AIDS, with infection rates the highest of any individual sector in the region. To help, the LBMA is using the proceeds of the past year's GOFO penalties – levied on the contributors for transgressing market-data-submission rules – to make a substantial donation to this cause.

As much as our conferences are 'by the industry and for the industry', we work to do what we can to make positive change, when and where we can.

The strength-to-strength success of all of the annual LBMA Conferences – from choosing a venue to targeting topics and selecting world-class speakers, such as Niall Ferguson in Montreaux – is the jewel in the crown of our Public Affairs Committee, ever seeking locations with strong ties to the market, whether through trading, fabricating, mining or refining.

Given its role as centre for gold refining, trading and investment – and natural beauty – Switzerland was chosen as the venue for this year's event. Working with the LBMA Executive, the PAC is justifiably proud of once more making the LBMA conference one of the most successful events on the precious metals calendar.

Whether or not you were able to join us in Montreux this year, please give us your feedback – on the topics that you think we should cover, whether at the conference, a seminar or in the Alchemist. We rely extensively on your thoughts as we look to increase the interest and participation in the markets under the LBMA umbrella. ■

facing facts

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Of Drills and Skills, Thrills and Spills

The gold price has experienced a spectacular rise in recent months and, despite a certain amount of volatility and downward corrections, quite clearly lies in a different realm from when it bottomed out in 2001.

The extent and speed of the upturn has, of course, put a smile on the faces of all involved in the gold mining industry, and it has also prompted commentators and analysts to examine the underlying factors responsible for this dramatic change in fortunes. Aside from a dollar dump and the growth in investment in gold through ETF products, one positive variable is a decline in gold production in recent years and modest, if any, growth projections for the next couple of years.

So as the LMBA meets for its annual conference, it is perhaps appropriate for a review of the state of the gold mining industry.

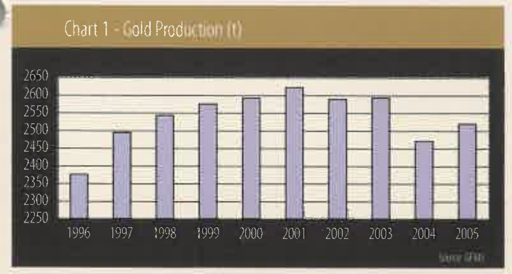
A Special Relationship

Gold is special. Unlike base metals such as copper or zinc, primary supply – the gold dug up each year by the mining companies – is not such a major factor in the supply-demand balance, and thus has little influence on the short-term price. There is always a deficit, which is made up in the end by above-ground stocks.

However, in the longer term the healthiness of the mining industry, and its ability to provide new, bright and shiny gold into the future, does impact on the price equation.

It's no coincidence that the 2001 low in the gold price equated to the cost-per-ounce that most of the industry was able to extract gold at.

Chart 1 shows mine production over the past ten years. It has generally been in decline for a few years and the trend is expected to continue, all things being equal.



The rise in mine supply in 2005 was principally the result of known projects, some of which had lain fallow for years, and only came into the picture as the price improved. The advent of this new gold supply has probably shifted an expected production decline out by two to three years, but the dearth of exploration successes since the late 1990s is telling.

Spurred by a new-found investor appetite, exploration activity has now picked up, but such is the lead time between making a significant discovery and pouring that bar of gold, it may be seven or eight years before a find today impacts on the production profile.

How to Increase Reserves: Buy Them

Although the strong gold price has stimulated exploration, reserves are still relatively scarce. The top gold producers, those producing in excess of 6 Moz/y, have only between 10 and 16 years' of production classed as reserves, and thus mineable, in the ground.

Reserve growth is one important measure of company performance, so the largest producers in South Africa, Canada or the US are always striving to find new ounces in the ground (and in so doing depriving their competitors of those ounces).

By implication, from what I've said above on the paucity of new discoveries, their ability to grow reserves internally and organically is somewhat limited.

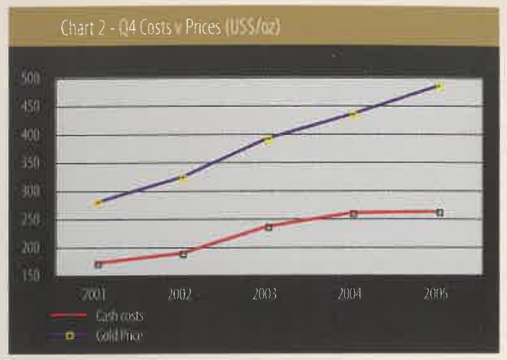
With exploration at an early stage in the cycle and off-the-shelf projects scarce, the most aggressive companies are buying up promising ventures to augment homegrown projects. It is happening at the rarefied levels of the 'mega-majors' (Barrick has just bought Placer Dome), at the senior level (Goldcorp bought Wheaton River last year and more recently some of Placer's assets from Barrick), at the mid-tier level (Agnico-Eagle bought junior Riddarhyttan Resources last year) and at the more junior end of the market (Crew Gold acquired Guinor Gold).

The combination of such consolidation and renewed investor interest pumping money into the sector has led to the creation of big companies, as measured by market worth.

In 1997, the gold mining companies (excluding diverse mineral companies like Rio Tinto) had a collective market capitalisation of around US$40 billion. Three years ago that figure had risen to around US$120 billion. At the beginning of May, the comparable figure was US$210-220 billion.

But before we get too carried away, to put things into perspective, the value of Microsoft alone was about US$275 billion at the same date and eBay was valued at US$50 billion. That's almost twice the value of the biggest gold company at the time, Barrick Gold, with a market capitalisation of just under US$27 billion.

Not all Price Rises are Gold



With the gold price up to 25-year highs, share prices soaring and the industry five times more valuable than it was 10 years ago, the future must be bright.

Well, that's not necessarily the case, because although the gold price has risen steadily, unit costs of production have, up until the price spike of April/May, kept pace with the price increase and thus margins have hardly improved.

The industry is under huge inflationary pressures. Escalating costs of labour, fuel, power, cement and other consumables are threatening to squeeze margins all the time. The industry is still not making much money and, apart from capital growth, you have to question how much value shareholders really do get.

Chart 2 shows the average spot gold price (the London pm fix) for the December quarter for each of the last five years plotted against average cash costs for the same quarters.

The chart shows that with the acceleration in the gold price at the end of last year the gap seems to be widening finally. But a word of caution – and that word is 'Hedging'!

The spot price does not always equate to the gold price realised. Although hedging is regarded as a swear word these days, with few companies willing to voluntarily adopt a new hedging strategy, there are still some large hedge books lingering around. And whereas five years ago having a hedge virtually guaranteed a premium to spot, the reverse is true today.

Drills and Skills, Thrills and Spills

So the likes of AngloGold Ashanti and Barrick Gold, despite intent on actively reducing their hedge positions, are receiving prices below unhedged Newmont Mining. As an illustration, the average spot price in the March quarter was US$554/oz, whereas AngloGold Ashanti realised US$545/oz and Barrick US$537/oz.

Nevertheless, the industry is buoyant. Exploration is booming – although drills and skills are in short supply. Every day new companies are going to the equity exchanges to pursue their dreams. Investors are buying into those dreams, but it's a gamble. Few will make it and those that do will have to toil for many years to reach the production stage, and thus contribute to world mine supply.

Probably they will be swallowed up by one of the large predators before then because, although the global mine supply cake may not be getting bigger, there are fewer players. And each is intent on getting a bigger slice of that cake. ■

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