



**LBMA**

# Alchemist

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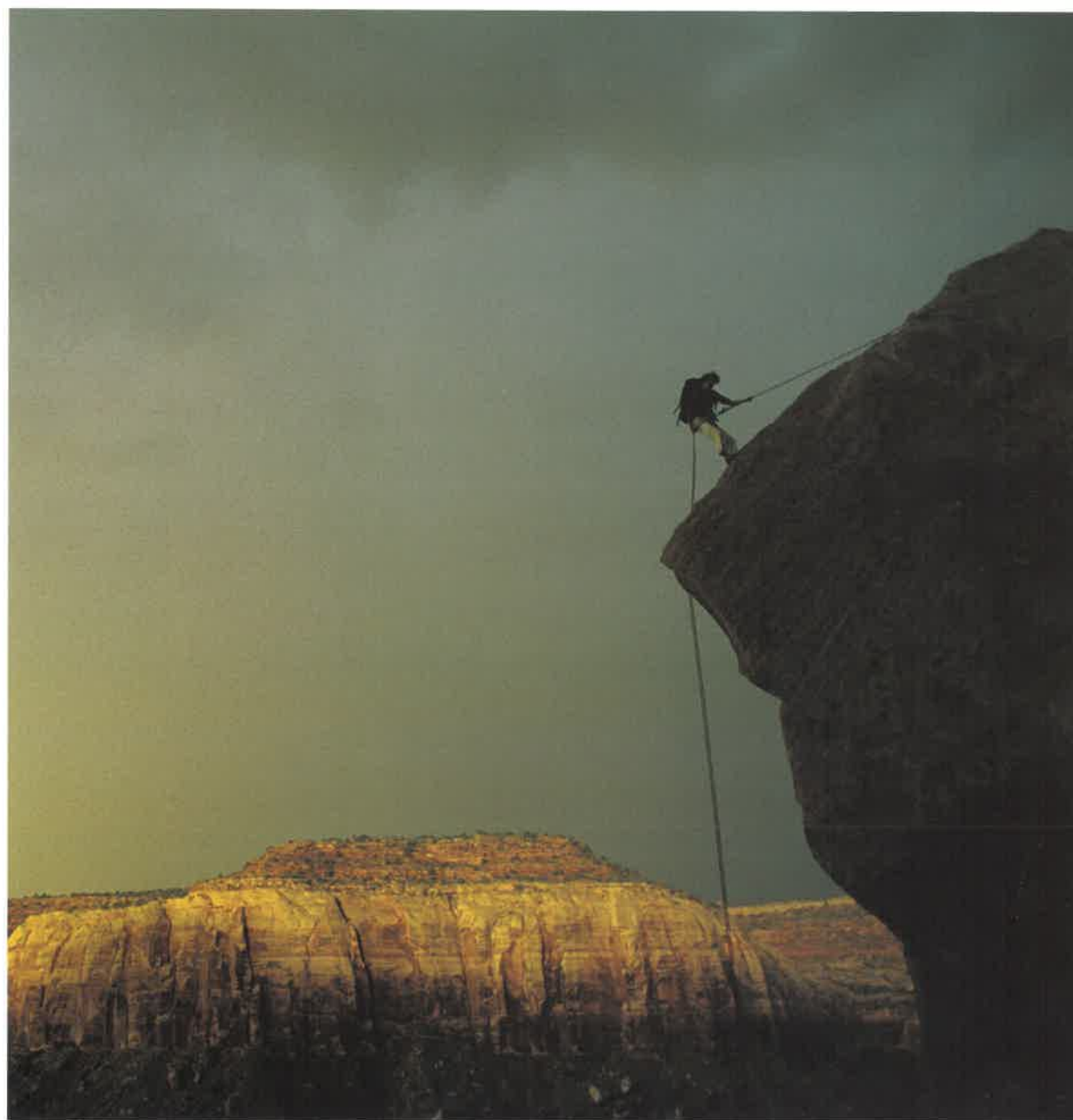
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**Silver rises to the occasion** – From ancient Romans lining their drinking vessels with silver to modern day athletes sporting silver-laced clothing, the anti-bacterial properties of silver have had a long history. For a full discussion of the modern applications of silver in hygiene, see the article by conference speaker Michael DiRienzo – *The Future is Now. The Future is Silver* – beginning on page 16.



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## Going Back to Gold? Historical Perspectives

By Professor Niall Ferguson, Harvard University

This article is adapted from a speech given at the 2006 LBMA Conference in Montreux, Switzerland.

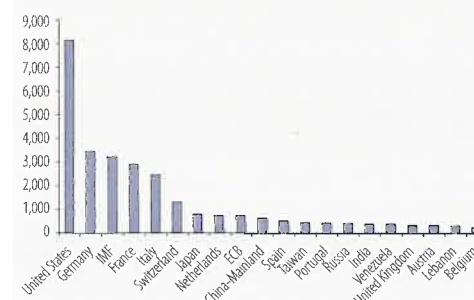
**When I was a teenage double bass player, I dreamt of playing Montreux, but I did not quite have this in mind.**

Rather than a jazz festival, I thought I would give you a little film festival. I am sure you are all familiar with the great movie version of Ian Fleming's *Goldfinger*. The original novel contains a rather lucid – if simplified – exposition of the way the gold standard used to work. In one passage, Bond has the gold standard, or rather the Bretton Woods system, explained to him by a Bank of England official named Smithers: 'Gold and currencies backed by gold are the foundation of our international credit. We can only tell what the true strength of the pound is, and other countries can only tell it, by knowing the amount of valuta we have behind our currency. You know about the currency crisis and the high bank rate? Of course. Well, England needs that gold, badly – and the quicker the better.'



"you don't expect me to talk, do you."  
"No Mr Bond I expect you to die."

Official Gold Holdings (tonnes)



### From Bars to Bling? Keynes vs Bretton Woods

Keynes has been vindicated even more in recent times by the unwinding of gold positions by the world's central banks. Official gold holdings are now quite small, with the notable exception of the United States, which still sits on quite a substantial hoard. That raises the question, 'Is gold in a transition from bars to bling?' Is that the fate of all barbarous relics – to become mere jewellery, no longer a serious part of the international monetary system?

By 1959 the idea that the pound's value depended on the amount of gold in the Bank of England's reserve was actually quite anachronistic. After all, as early as 1924, John Maynard Keynes had proclaimed the gold standard to be nothing more than a 'barbarous relic'. There is a memorable passage from his *Tract on Monetary Reform* (which I often think is the best thing Keynes ever wrote): 'All of us, from the Governor of the Bank of England downwards, are now primarily interested in preserving the stability of business, prices, and employment, and are not likely ... deliberately to sacrifice these to an outworn dogma ... of £3 17s 10½d per ounce.'



The question I want to address is whether this relic could be revived. I want to focus specifically on the possibility that in the wake of an incipient, perhaps already quite far advanced, crisis of the US dollar, which since 1945 has been the pre-eminent international currency, there could be a return to the gold standard.

The point is often made that as Asians – Indians in particular – grow wealthier and at the same time more sceptical about the US dollar as a store of value, they too may find the notion of a new gold standard attractive. It has been argued for some time now that in Asia a surrogate Bretton Woods system – the so-called Bretton Woods II model – was created over the last few years since the 1997 emerging markets crisis.

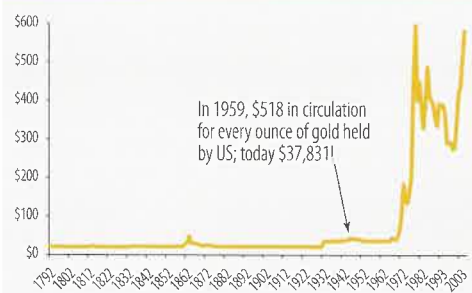
Keynes comes out of the argument better than Smithers/Fleming because the gold standard disintegrated little more than ten years after *Goldfinger* was published, and the whole notion that the international monetary system could be brought low by a SMERSH-financed raid on Fort Knox suddenly became rather absurd.

However, Bretton Woods II is an informal system, whereby Asian currencies peg themselves more or less loosely to a fiat currency, the dollar. The question is whether such a system is simply too inflationary and generates too much credit around the world to be sustainable, particularly given the possibility that the anchor currency – the dollar – could be

**That raises the question, 'Is gold in a transition from bars to bling?' Is that the fate of all barbarous relics – to become mere jewellery, no longer a serious part of the international monetary system?**



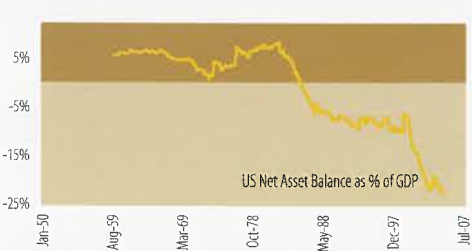
Gold Prices (London closing price), 1792-2006



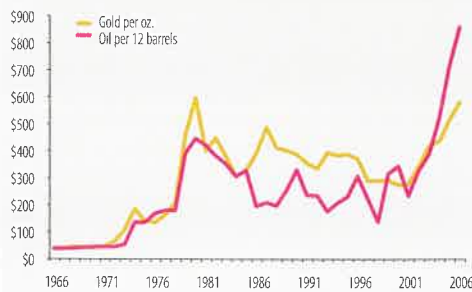
Ounces of Gold per \$1000 Dollars



America – The World's Debtor



An ounce of gold or a dozen barrels of oil? 1966-2006



unilaterally depreciated by the US government as a way of diminishing its external liabilities.

Back in 1959 when Nixon was in the early phase of his political career, there was around \$500 in circulation for every ounce of gold held by the American authorities; now it is in excess of \$37,000. The dollar is now worth roughly 6% what it was worth back in 1966. This is a pretty weak anchor for an international monetary system, and you have

to wonder at what point disillusionment is going to set in.

In the heyday of the gold standard, the United States was an enormous creditor; today it is a colossal debtor. This is of course the foundation for nervousness about the long-term value of the dollar. As the US becomes the world's debtor, it is unusual by comparison with Latin American countries in being able to borrow abroad in its own currency. We know from recent American history there is always a strong temptation to debase the currency when large quantities of it are held by foreigners.

### Gold and Black Gold on the S&P 500

Another reason why thoughts are turning back to the gold standard is of course the recent upward turn in the price of gold. In so far as gold is just another commodity like all the others – albeit a rather scarcer one – it is interesting to compare its performance with that of other commodities. If we take the story of oil and gold back to 1966, with roughly the same amount of money you could have bought a dozen barrels of oil or an ounce of gold.

In fact, the performance in the subsequent period has not been entirely divergent. If you link these two commodities to the US consumer price index or the S&P 500, it becomes clear that you would have been in reasonably good shape if you had put your money into gold back in 1966, or, for that matter, into oil. The critical point is that one should not regard gold – as is sometimes suggested in financial media commentary – as a hedge against inflation. It is not quite that. When you compare its performance with the real returns on stocks, gold has underperformed quite dramatically since 1966. What is important about gold from the point of view of asset allocation is that it is generally negatively correlated against the real returns on stocks.

For those reasons – the relatively strong performance of gold recently and the weakness of the dollar, which is the other side of the coin – it is worth looking back and asking how the gold standard actually performed and what the point of it was. Is

there in fact a case for returning to it? Should we carry on running the international monetary system on the basis of paper, or is there in fact an argument for building an anchor out of gold?

### A History of the Gold Standard

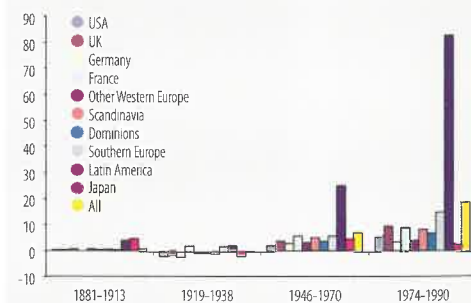
There were four phases of golden-exchange-rate stability, or world monetary anchoring to gold: 1819 to 1859, an age of bimetallism; 1871 to 1914, which was the classical gold standard; 1924 to 1931, which was the bastard son of the gold standard, the gold-exchange standard; and 1947 to 1971, the Bretton Woods dollar standard, which was really a dollar standard – though implicitly a dollar backed by gold. The time during which the world was authentically anchored to a pure gold standard was thus really quite a short period. In 1868 there were still a number of different kinds of monetary standard, ranging from full gold to paper. It was only by around 1908 that nearly all economies were authentically gold based. With the outbreak of the First World War just six years later, that pure gold standard was suspended more or less everywhere and was never wholly restored.

Economic historians argue that there were essentially two benefits to such a system: long-run price stability and relatively low long-term interest rates. That is explained in the literature in two ways. Firstly, the existence of a gold standard limited the room for manoeuvre for monetary and fiscal authorities.

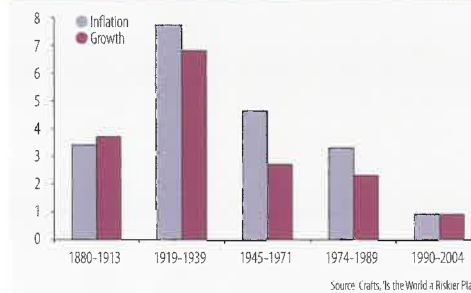
It obliged them to commit themselves to time-consistent monetary and fiscal policies. That is why Churchill famously called the gold standard 'knave-proof'.

...Churchill famously called the gold standard 'knave-proof'

Average mean inflation (GDP deflator) by monetary eras



Volatility: Standard deviations for inflation and growth, G7 economies, 1880-2004



Secondly, according to Michael Bordo, professor of economics at Rutgers University, bond markets prior to 1914 regarded the gold standard as a kind of 'Good Housekeeping Seal of Approval'. If you were on gold, it meant you probably would not debase your currency any time soon. You probably would not engage in reckless fiscal policy either, and so it was relatively safer to lend and invest money in countries that were on gold.

Superficially, this analysis is quite persuasive. Long-run price stability – if you take average mean inflation rates for the different monetary eras – was exceptionally low in the period of the pure gold standard up to 1914. Average long-term interest rates for the major economies of the world were also lower in that period.

### A Trilemma, and Then Some

However, before we come over all nostalgic about gold, we should recognise the disadvantages of the gold standard. First, in the simple economic model known as the policy 'trilemma', if you make an exchange rate or gold price commitment in your monetary policy and do not have capital controls, there are real limits to how far your domestic national monetary policy can be regarded as independent. Monetary policy makers in such a case

cannot really pay any significant attention to growth or unemployment because all their efforts must be focused on meeting the gold target – either the price of gold or, more commonly, the gold reserve.

A second important point about how the gold standard worked was that, although it implied long-run price stability, it also implied quite high volatility in short-term rates, inflation and economic activity. That seems to be one of the corollaries of all systems whereby a single monetary target takes precedence over others. In trying to meet that target, the Bank of England before 1914 constantly had to adjust its minimum lending rate, the so-called Bank rate.

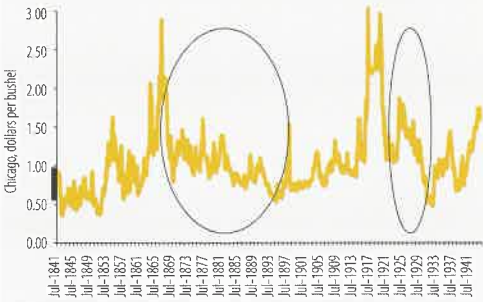
Thirdly, the gold standard pegged the international monetary system to a very scarce metal, and that implied a real constraint on the growth of credit. It turned out to be perfectly possible for the gold standard to generate deflation, if growth outstripped the availability of gold for monetary uses.

Fourthly, and perhaps the most important argument in the literature in recent years, a system as rigid as the pure gold standard has the capacity to transmit crises very rapidly around the world. In a relatively minor way in 1907 and an absolutely spectacular way in the Great Depression, the gold standard turned out to be a system that could generate tremendous international monetary and financial crises.

The volatility story is interesting. We are living through a period of amazingly low volatility. By almost any financial measure, in terms of growth, inflation or asset prices, our fiat-money era evinces much lower volatility than even the time of the classical gold standard. World gold production suffered a significant stagnation from around the 1900s to the 1930s, and it is no coincidence that this was a time when deflationary pressures became a serious problem for the international economy.

Finally, there was the potential for asymmetries in the gold standard. If central banks did not play by the rules, gold could be hoarded in the reserves of a particular bank. The United States became a systematic hoarder of gold in the 1920s – with disastrous repercussions for the rest of the international system.

The price of wheat, 1841-1944

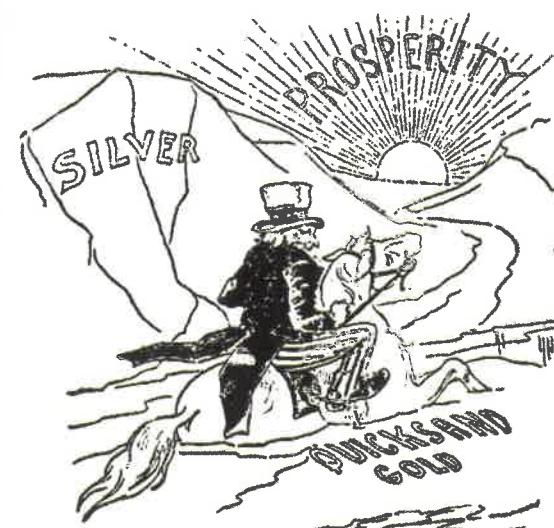


### Goodbye Yellow Brick Road

The gold standard, in sum, meant volatility and periods of deflation for many people. If we consider the price of wheat in Chicago from 1841 to 1944, there were periods when quite steep price declines occurred. This reminds us that if you do price things in gold, more plentiful commodities are likely to experience quite serious deflation. That explains the populist backlashes against the gold standard in the late 19th century and the inter-war period. The populist movement in the United States mobilised farmers against what was seen to be a London-centred conspiracy to cause their debts to grow in real terms. Many populists argued strongly against the gold standard and in favour of re-monetising silver to try to inject some inflation back into the world economy.

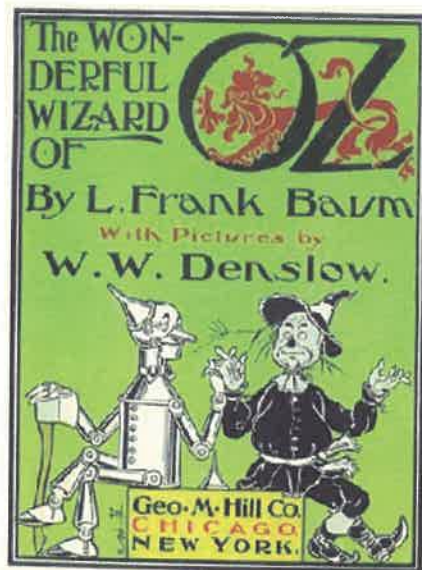
I promised you a little Montreux film festival. You may not realise, but The Wizard of Oz is actually based on an allegorical satire attacking the gold standard. The yellow brick road is an illusory road that ultimately leads Dorothy and her companions to the fraudulent Wizard of Oz, who turns out to be a little man behind a curtain and not the powerful wizard he is said to be. There is a lesson to be learned from The Wizard of Oz in our own time. Tempting though the yellow brick road may seem at this time of relative dollar weakness, it is nevertheless a dangerous road to go down. There is still a very strong case to be made for good old paper money, fiat money, and for floating rates.

Firstly, the possibility of paper money and floating rates solves the problem of the trilemma: you can have free capital movements, but also an independent monetary policy, provided rates are allowed to float. Floating rates are probably better – Keynes's central point – as a way of creating economic equilibrium by offsetting differentials between national economies in inflation or productivity than the alternative, which is to drive down nominal wages and prices (in cases of diminishing competitiveness). Secondly, and this is a critical point that we are only just



Also popular during the election of 1896 were political cartoons. Above: Uncle Sam looking on gold quicksand, from "Critic's Financial School"





beginning to understand, it is possible to have long-term price stability with paper money, provided central banks do not abuse the privilege of being able to print the stuff. Inflation targeting – increasingly fashionable amongst monetary authorities around the world – is a kind of surrogate gold standard in itself, a paper standard in which the rules are explicit inflation targets rather than targets in terms of gold standards or gold reserves.

### Over the Rainbow No Pot of Gold

In conclusion, here are some brief reflections on why a gold standard could never work in the 21st century. Think for a moment about the differences between then and now.

In the 19th century, money was scarce but energy was plentiful. That was one of the characteristics of a monetary system based on rare precious metals, but energy systems based on coal that was ludicrously abundant. The 19th century was a time of long-term consumer price stability, but lower and more volatile growth. It was also a time of much lower social mobility. The social orders of the 19th century world were dominated by quite exclusive elites of rentiers who could collect their gold-denominated interest payments on their gold-denominated bonds without doing a stroke of work in their lives. Finally, the 19th century was a time when the great English-speaking empire was a creditor.

Our world is diametrically opposite to that world. Our world is a world where money is plentiful because it is made of paper – or to be precise, cloth, or nothing at all if it is electronic money – whereas energy is becoming increasingly scarce as the age of hydrocarbons draws painfully to a close. In our world, we have become used to long-term currency depreciation. The fact that the dollar is worth 6% in gold terms of what it was worth in 1966 does not really upset us as much as it should. Why? The payoff to us comes in the form of relatively high and not very volatile growth. Perhaps even more importantly, psychologically, we quite like this world of inflating paper money because it makes it so much easier to become a millionaire. There is something terribly gratifying about a world of low but persistent inflation, particularly if we are the owners of real estate and can fantasise about how much more it is worth each year without our

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each year without our ever  
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except maintain the  
roof.

Money illusion is alive and well in the 21st century, and the truth of the matter is that we do not want that illusion to be shattered. What Keynes called our 'animal spirits' as investors may have actually come to depend on it; we are, in truth, addicted to inflation. All we have done lately is relocate it from commodity markets to asset markets and that, of course, is crucial for the way the world economy grows. The debtor empire, the United States, could not function in a gold standard world. Long ago, time would have been called on the growth spurt of the last decade and a half, because time would have been called on the American empire's ability to borrow.

For all these reasons, I believe there is no going back down the yellow brick road. Much as we may love gold – and much as the central bankers may deprecate inflation in their speeches – in truth we are addicted to paper money illusion. ■



**Niall Ferguson, MA, D.Phil.,** is Laurence A. Tisch Professor of History at Harvard University. He is also a Senior Research Fellow at Jesus College, Oxford University, and a Senior Fellow at the Hoover Institution, Stanford University.

A prolific commentator on contemporary politics and economics, Niall Ferguson writes and reviews regularly for the *British and American press*. He is a weekly columnist for the *LA Times*. In 2004 *Time* magazine named him as one of the world's hundred most influential people.

His first books include *The Pity of War: Explaining World War One* and *The World's Banker: The History of the House of Rothschild*, which won the *Wadsworth Prize for Business History*. In 2001 he published *The Cash Nexus: Money and Power in the Modern World, 1700-2000*.

He is a regular contributor to television and radio on both sides of the Atlantic. In 2003 he wrote and presented a history of the *British Empire* for Channel 4 in the UK. The accompanying book, *Empire: The Rise and Demise of the British World Order and the Lessons for Global Power*, was a bestseller in both Britain and the US. The sequel, *Colossus: The Rise and Fall of the American Empire*, was published in 2004. His latest book is *The War of the World, a global history of the Second World War*, published in September 2006.

# Precious metals recycling isn't always about profits

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# Bull Session in Montreux

## Optimism Prevails at Seventh Annual LBMA Conference

by Susanne M Capano



**As investor interest in the precious metals market has grown, so too has the market's interest in investors.**

While presentations covered a variety of topics – from future silver production in China to industrial uses for pgms – investment was a recurring theme throughout. When polled via remote control voting machines,

This year's speakers received the highest ever overall rating from delegates on the feedback forms, and four of the most popular speeches form the basis for articles in this issue. In the favourite speech – one of the two keynote addresses – Professor Niall Ferguson of Harvard University added up the pluses and minuses of having a currency based on the gold standard. His arguments and conclusions can be found in the article beginning on page 3.

Silver's usefulness as a biocide – in everything from bandages to socks to door pulls – was covered by Michael DiRienzo, Executive Director of the Silver Institute. His article is on pages 16 to 18.

In the Mining Session, Pierre Lassonde, the President of Newmont Mining, gave a realistic assessment of the process needed bring a gold mine on stream – a process that has changed dramatically over the past two decades, as detailed on pages 12 to 14.

The delegates' preferred session was the last, which featured a speech from Anthony Fell, Chairman of RBC Capital Markets, who addressed gold's role as a commodity, currency and store of value. His thoughts begin on page 20.

### In Your Considered Opinions – The Poll Results

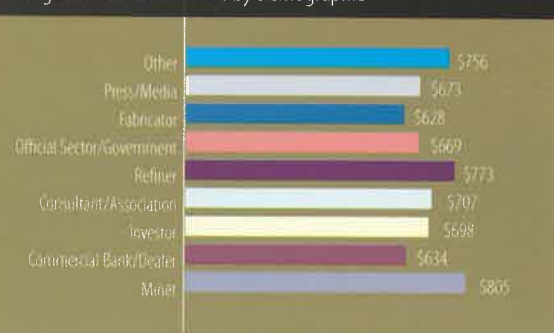
Delegates were polled for their views during the conference summary given by Kamal Naqvi of Barclays Capital. As they had already provided information about what type of company they worked for, it was possible to have demographic breakdowns of some of the responses – for example, which market sector was the most bullish for a given metal.

As was the case last year, it was the consensus views for the direction of precious

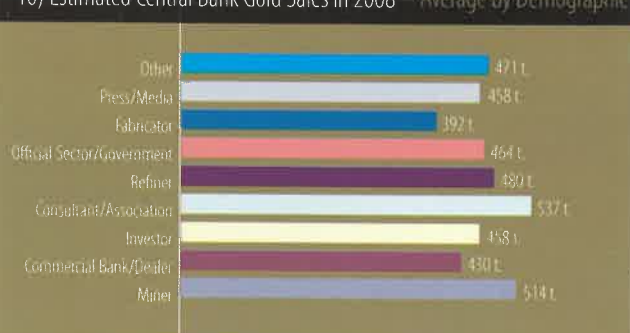
nearly three-quarters of the delegates chose 'investment' as the most significant supply/demand factor for gold (Chart 1), with the US dollar given as the primary factor affecting investment (Chart 2).

The varied forms of investment in precious metals were the focus of Session 2, and at the close of the first day's sessions, the relative importance of investment or jewellery demand to the prosperity of the gold market was debated. Prior to the debate, most delegates felt jewellery had greater importance, but once the arguments had been put forward, the tables had turned: 57% voted in favour of investment (Chart 3).

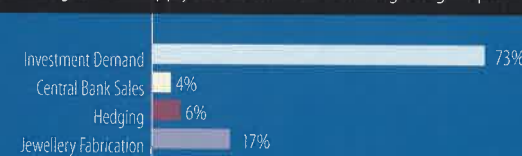
8) Average Estimated Gold Price by Demographic



10) Estimated Central Bank Gold Sales in 2008 – Average by Demographic



1) Most significant supply/demand factor affecting the gold price

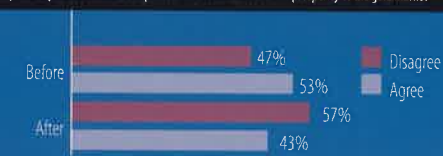


2) Most significant macro factor affecting precious metal investment



3) The Motion

This house believes that jewellery demand is more important than investment to the prosperity of the gold market



9) Growth in demand for precious metals

Which metal will show the fastest growth in demand from 2006 to 2008?



metal prices that attracted the most attention. Last year's delegates saw the greatest potential for gold to rise: when asked whether the price would be nearest to \$350, \$450 or \$550 by

where the price would be in November 2007 – the time of the next LBMA Conference – the average of all responses came to \$684. But when the same question was posed at the end,

the time of this year's event, half went for the highest option. Their optimistic prediction became reality: within a month, the price had rallied \$70 and the fixing on the morning of the conference was \$586.25.

Delegates did not see quite as much upside potential for the white metals between the two events. For silver, platinum and palladium, half of those present saw prices remaining close to where they were in November 2005. However, a reasonable minority were bullish and went for the highest option given: in silver, 35% chose \$9, in platinum, 30% saw \$1100 and in palladium, 44% chose \$300.

This year, the bears were in short supply once again. Although the optimism was generally a bit more tempered, the bullish outlook for gold actually strengthened over the course of the conference. When asked during the opening session to predict

the average rose to \$698.60 (Chart 4). Charts 5, 6 and 7 show predicted prices for white metals. Chart 8 shows the demographic breakdown for gold.

The strongest bullish sentiment for both gold and platinum came from miners, whereas in silver and palladium, the 'consultant or association' group proved the most optimistic. Fabricators were the most bearish for gold and silver. In platinum, dealers saw the least potential for gains; in palladium it was the refiners. Of the four metals, platinum was chosen as having the greatest potential for growth in demand over the next two years (Chart 9). When asked to estimate central bank gold sales in 2008 – given that there had been 656 tonnes in 2005 – the average chosen by all the delegates was 463.2 tonnes. Broken down by demographic, fabricators predicted the lowest level of sales, with an average of 392 tonnes. Consultants and representatives of associations had the highest average of 537 tonnes, whereas delegates from the official sector were nearly spot on the average with an estimate of 464 tonnes (Chart 10).

### The Polling will Continue, Next November, in Mumbai

In addition to the main sessions, delegates gathered together for two receptions and a dinner on Monday evening at the Chateau de Chillon, photos of which can be found on pages 10 and 11.

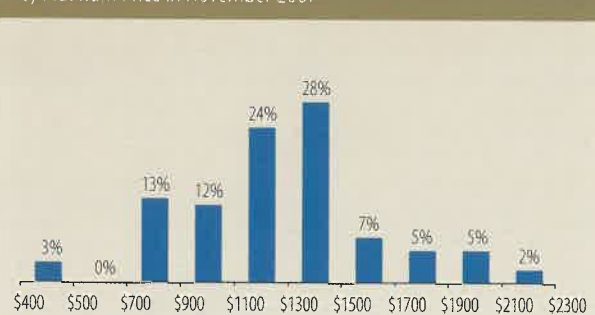
When asked on the feedback forms for general comments on the conference, one delegate responded simply 'Keep it up.' Preparations are already underway for the next event in Mumbai, India.

Watch this space – and the LBMA website – for further details. ■

4) Gold Price in November 2007



6) Platinum Price in November 2007



5) Silver Price in November 2007

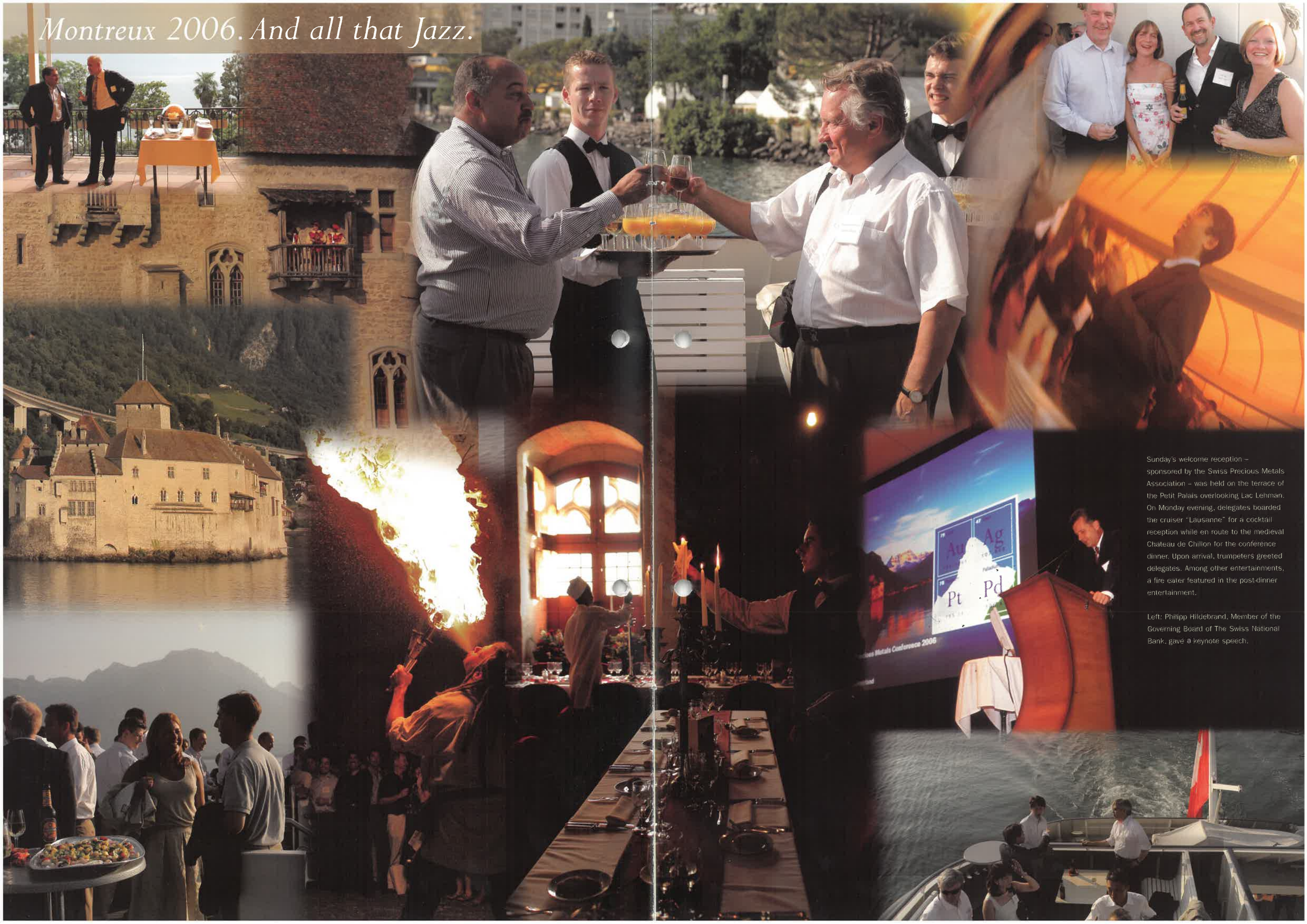


7) Palladium Price in November 2007





# Montreux 2006. And all that Jazz.



Sunday's welcome reception – sponsored by the Swiss Precious Metals Association – was held on the terrace of the Petit Palais overlooking Lac Léman. On Monday evening, delegates boarded the cruiser "Lausanne" for a cocktail reception while en route to the medieval Chateau de Chillon for the conference dinner. Upon arrival, trumpeters greeted delegates. Among other entertainments, a fire eater featured in the post-dinner entertainment.

Left: Philipp Hildebrand, Member of the Governing Board of The Swiss National Bank, gave a keynote speech.



# The Greening of the Gold Industry

## Key Social and Environmental Challenges to Mining in the 21st Century

By Pierre Lassonde, President, Newmont Mining Corporation

This article is adapted from a speech given at the 2006 LBMA Conference in Montreux, Switzerland.

*It was quite fitting that I addressed environmental and social issues in a place blessed with as much natural beauty as Montreux. Just take a moment to imagine the issues a mining company would face if they were to try and open a mine in Switzerland. But in fact, those are the issues we face on a global scale: there is much natural beauty throughout the world, and many regard their own environment in the same way as the Swiss.*

Environmental and social issues apply to all commodities. During the bull market in global commodities in the 1970s, the entire commodity complex went up 250%. In this cycle we are up about 100% so far, but it is very likely to continue to rise.

One way to illustrate this is by the highway system in China. The first time I went there in 1992, there were 200 kilometres of four-lane highway in the whole country. Think about this: the third largest landmass in the world had 200 kilometres of four-lane highway. Six years later, in 1998, they were up to just a bit over 400 kilometres. Last year they had 10,000 kilometres and, by the end of next year, they will be up to 60,000 kilometres.

This sort of growth is not limited to China: in Dubai right now there are 70 towers, each going up at the rate of one floor a week.

This infrastructure build-up will last. And as people in China get commensurately richer, they buy gold jewellery, which contributes to China's undeniable soaring gold demand. The world's largest gold market, India, is growing richer by the year. The natural resource industries – gold, copper, zinc – are all facing pressure to grow production. But how and where do you find new sites for mines?

### Location Location vs. NIMBY NIMBY

The first requirement for any venture is access to land – and that remains the biggest challenge to the natural resource industry in the 21st century: if you cannot explore, you have nothing, and this industry is destined to die if we cannot get access to land. (It is not a problem to find a reserve – the larger mining houses have done very well at replacing reserves.)

Since 1986, we at Newmont have replaced over 110 million ounces of gold, at a cost of

*Being in a triple-A-rated country does not guarantee that you are completely safe, but you are certainly a bit safer.*

about \$13 an ounce. The only reason we were able to do that is because of the land that we have – 32 million acres in some of the world's best gold districts: two million acres in the Carling gold trend in Nevada; about 500 square miles in the Yanacocha in Peru; in Ghana, about a million acres in the Obuasi-Ahafo region; and other acreage in Indonesia. Without that, we would be dead ducks.

The other issue that we face is political risk profile. How do you balance exploring and mining in triple-A-rated countries vis-à-vis developing countries, where the risks are totally different? At Newmont we try to be about 50/50. Right now, 60% of our production and reserve is from triple-A-rated countries – Canada, the US, Australia, and New Zealand – versus about 40% from developing countries. It's a profile that allows me to sleep very well at night.

But I would like to have more developing countries on board, so that no single country represents more than 10%, which is one way to diminish political risk. If we had 100% of our production in any one developing country, I would be a little worried, because we would not have the perspective in terms of judicial

concerns – for example, would contracts be respected? You do not know. Things change. Of course, they change in triple-A-rated countries too: in the 1970s, Canada was very nationalistic, and semi-nationalised the oil industry. Being in a triple-A-rated country does not guarantee that you are completely safe, but you are certainly a bit safer.

The amount of time that we need to put these projects into production has seriously lengthened. World population has more than doubled in the last 50 years, which takes more land. Also, given the increased use of the Internet and cell phones and faxes, the world seems a lot smaller than it used to be. Therefore you cannot go anywhere without having the locals know exactly what your track record is, whether you have polluted any rivers or in fact done anything untoward. The NGOs make sure that they know everything before you even show up.

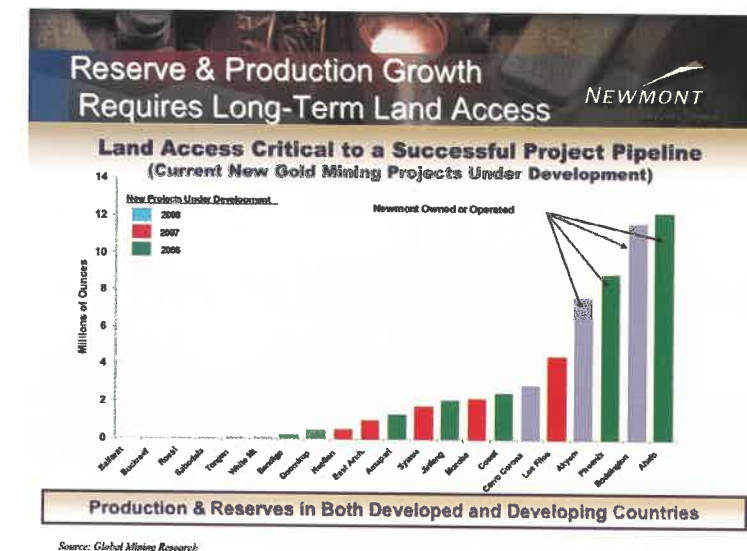
### Issues, Answers, Questions

As an industry, we face a scarcity of fresh water. When you are operating in Mali, in Tanzania, in the desert of Nevada – or the desert anywhere – there is little or no water. And the perception is that if you take the water, the local population will not get it. So then, key questions arise. How are they going to raise their animals or grow their crops? How are they going to live?

In addition, the use of cyanide immediately raises the issue of trust. Can the local population trust you to use cyanide properly – and not put it in the streams and rivers and poison the people downstream?

In terms of reclamation, once you are done, are you going to leave a big, barren, dangerous hole? What is going to happen to the environment that you disturbed? Are there any pollutants that are going to be there for a long time – or forever? Are the rocks that you are moving acid generating? And if there is any sulphur in that ground in any form, the water and the air will leach it out and will create a stream of sulphuric acid that may last for 1,000 years.

In the 50s and 60s, these issues were not only unknown – nobody cared or ever studied them. What happened, of course, is that environmental groups started to put pressure on the mining companies, and a body of environmental legislation was created during the 1980s and 1990s. Today we know what the rules are. We know what the bogeys are in terms of having to meet so many hundreds of PPB per hundred litres on this and that chemical and, happily, we know how to deal with them.



### Social Issues: 20 Years Behind the Times

Social pressures are a different story: we are now there where we were 20 years ago with the environment. It simply does not exist. It all has to be invented.

For example: when you move people, how much do you pay them? Do you give them a job? What is the crop compensation? When you buy a farm, do you give the farmer another piece of land, or do you give him money? If you give him money and he spends it, he can come back next year and say you took his land and now he wants a job. Do you owe him one? Some countries do not have a body of legislation in place that tells the farmer, as would be the case in the US, that if he sells his property, he is done. So they can come back every year. If the land has gone up in value, the farmer says 'Pay me again. I sold it to you for 100, but now you bought the piece next door for 150. You owe me 50'. That is the way they think. You have to deal with that.

I have heard the projections about all the mine production that is going to come in over the next two to three years, and all I can say is good luck. Everything is taking far longer. In the 1980s it would take about nine months to a year to permit anything anywhere. Back then, you simply put together the flow sheets: here's our mine, there's the approval, and that was it. A public comment did not exist, and there were no legal challenges. You never went to court.

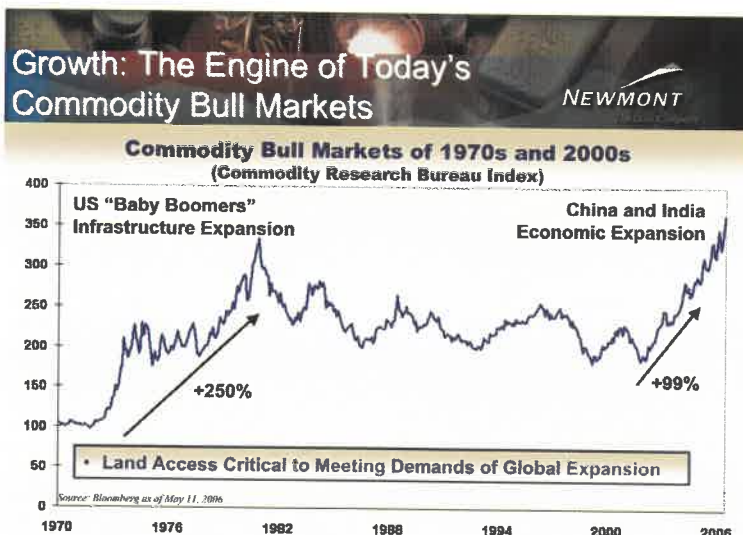
Today's realities are different. If you want to put any product into production, there is a

minimum of one year of baseline studies. You have to collect water samples, rock samples, bird-dropping samples. You have to create a book describing exactly the way it was when you first stepped onto that piece of land. It can take up to two years or even longer before you have a complete baseline study, especially on the social issues. What are the diseases that exist in the community? How many fish do you eat? How much mercury have you got? In some states, it could take three to five permits to get there. Environmental impact statements are now required in every country.

### Grudgingly, a Greener, Golden Future

NGOs have forced most every country where the industry exists to create multiple comment periods – not just one. So, after you develop an environmental impact statement, there is a period when anyone can come in and comment: 'No, I do not like this. We do not like how much water you are using, so you have to cut it off. Those rock piles do not look good here; you should look at where else you can put them.' The probability of challenges is 95 to 100% today. Wherever you are, you are going to court; I can assure you. That will take another six months to a year.

You only achieve access to land by partnering with all stakeholders. You have to look at the host government, the communities in which you operate and the NGOs – all of them as stakeholders. You have to consider their return and contribution, what they do for you and what you do to help them. For example, in Peru, all the royalties had gone to the federal government until we pressured them to give some back to the local community. This happened in other countries too: the federal government received all the money, and the politicians loved it. The local communities worked in the mines but never





This is changing, which is very positive. The NGOs have given the local community the means to negotiate with a large company. Twenty or thirty years ago, a large company would come in and say, 'Here is a contract, sign on the bottom line.' Today, locals ask very good questions.

Ongoing land access is a multilateral effort. The

International Council on Mining and Minerals (ICMM) – which Wayne Murdy, our Chairman, also chairs – is one of the leading organisations trying to move the needle of the whole industry on how to deal with social and environmental issues. The World Gold Council

*The probability of challenges is 95 to 100% today. Wherever you are, you are going to court; I can assure you.*

is also very involved in these issues. Newmont also helped to found the International Cyanide Management Code, which details how to deal with cyanide in a manner that best preserves the safety of the environment.

\* \* \*

If you are American, I am sure you will have heard of the No Dirty Gold campaign launched by the NGOs. How do you certify green gold? How do you verify that the gold a jeweller uses did not come from a mercury operation in the Amazon basin or in Africa or Indonesia that is destroying the

environment? It is a crying shame to see literally hundreds of kilometres of rivers being totally destroyed by artisans working with mercury. How we deal with that as an industry is a very important question.

Our industry is challenged in many ways, but access to land is without question our key challenge in the 21st century. How we respond to it will determine whether or not all those ounces that are being projected will ever be produced. ■

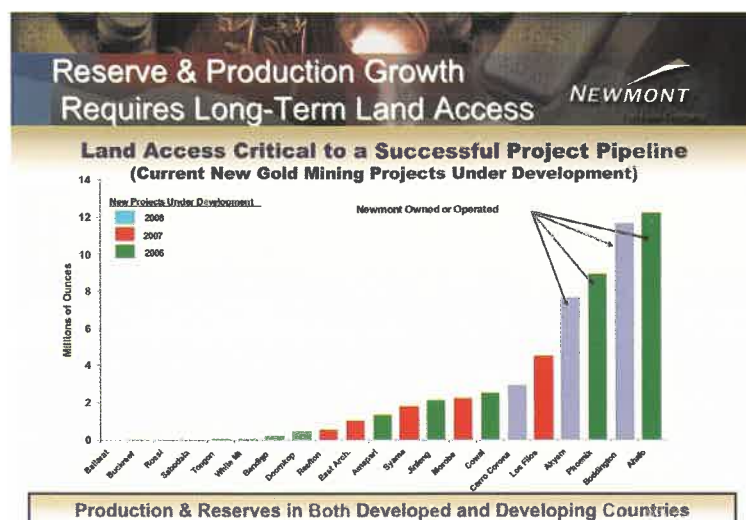


**Pierre Lassonde**  
was elected president of Newmont Mining Corporation in February 2002, and joined the Board of Directors one month later. He joined the company

following Newmont's acquisition of Franco-Nevada Mining Corporation Limited, which he co-founded, serving as president and co-CEO from 1982. Since March 2005, he has also served as chairman of the World Gold Council.

One of the leading authorities on the subject of gold, he is the author of *The Gold Book*, the Complete Investment Guide to Precious Metals.

Pierre is a member of the Order of Canada, an honour he received in 2002 for his philanthropic and business activities.



## MARKET MOVES

### Mark Augustynak to Natexis

With effect from 1 September, Mark Augustynak has joined Natexis Commodity Markets. He will be responsible for platinum group metals trading and sales.

Prior to joining Natexis, Mark was vice president and deputy head of the precious metals department at Commerzbank, Luxembourg. He started at Commerzbank as deputy head of local markets treasuries.

### Jeffrey Klein to Commerzbank

Jeffrey Klein has joined Commerzbank's New York branch, where he will work with Sandy Gellis and Paul McLeod on the precious metals desk.

Jeff has over twenty years of experience in the metals markets. He began his career at

UBS, where he worked for eight years. He has also worked at Credit Suisse and was most recently a member of the Comex division of the New York Mercantile Exchange.

### Vishal Patel to Commerzbank

Vishal Patel has joined Commerzbank International SA Limited (CISAL) in Luxembourg from Commerzbank Corporate Markets in London. He will focus on servicing the bullion needs of Indian and Middle Eastern clients.

Vishal started his financial career at Merrill Lynch London as a trader's assistant covering the US equity market. He then moved to SG London, acting as a head of the Fixed Income middle office, rising to the position of Junior ABS trader. He joined Commerzbank London in April 2002.

### Michael Widmer to Calyon Corporate and Investment Bank

Michael Widmer has joined Calyon to head the metals research team. He will be responsible for both precious and base metals. Before joining Calyon, Michael, who has been working as an economist for several years, was a strategist at Macquarie Bank and Royal Bank of Scotland.

Michael's move comes as Calyon expands its capabilities in commodities, adding staff to various teams, including research and trading.

# A Golden Opportunity



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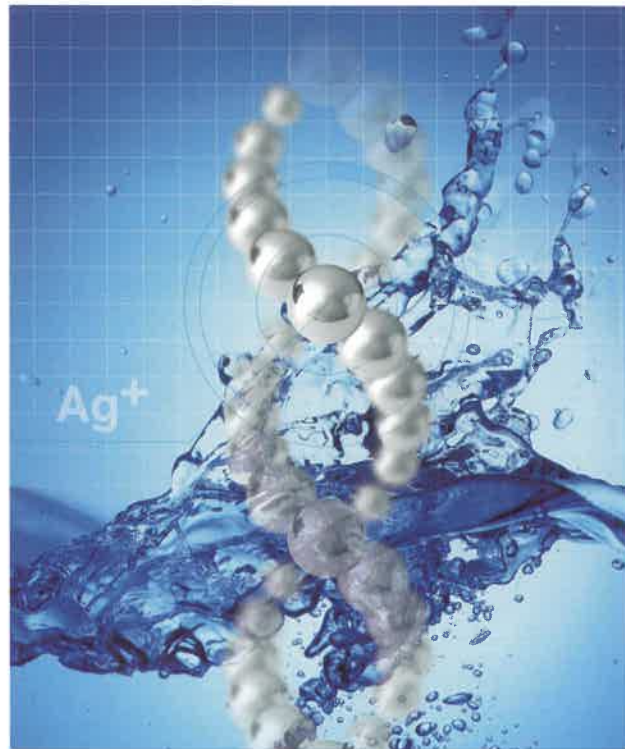


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# The Future is Now. The Future is Silver.

By Michael DiRienzo, Executive Director, The Silver Institute



That silver controls bacteria is nothing new. Thousands of years ago, and with no understanding of 'germs' in the current sense, Romans and Phoenicians lined their drinking vessels with silver to better preserve liquids. American pioneers heading westward dropped silver and copper coins into their barrels of water to keep them safe for drinking.

What continued to remain a mystery until fairly recently was why silver was harmful to bacteria – but not to humans. The answer, in brief, is twofold: silver interrupts the ability of bacteria cells to form certain

chemical bonds that are essential to their survival, while cells in humans and other animals have thicker walls, and so are undisturbed.

## Taking Aim with Silver Bullets

Making most of its germ-quashing properties, silver has more recently been clinically tested, proving effective against a growing list of bacterial threats, including legionnaire's disease, E. coli, streptococcus and MSRA – microbes that account for 95% of all the germs we encounter on a regular basis.

It should therefore come as no surprise that medical professionals and manufacturers of consumer products are increasingly incorporating silver into a wide array of applications, including wound and burn care, consumer appliances, textiles and clothing, wood preservation, water purification, commercial food and beverage preparation, furniture, building materials and more.



While it is known that biocide uses for silver are increasing – based on the large number of new products being introduced – exact data are difficult to come by because, except for water treatment, the applications are new. Looking to the future, the silver biocide segment is poised for further growth for multiple reasons: general economic growth; wider acceptance of silver as a biocide, which has been backed by scientific research and testing; and the outright banning of some chemical biocides, which is driving a search for alternatives.

As the table shows, Europe and North America use more silver in biocide applications than Japan, but Japan uses more per capita. Japan has had a cultural tradition of fighting bacteria, in part because of its dense



Silver ions 'attack' the walls of a bacteria cell.

## Silver-Based Biocides

Estimated Sales for 2004 by Geographic Region (in troy ounces)

	Water Treatment	Other Applications
Japan	740,000	440,000
Europe	1,200,000	360,000
North America	1,150,000	570,000
Rest of World	210,000	230,000
TOTALS	3,360,000	1,600,000

## A growing range of products is taking aim against bacteria with literal silver bullets that leave rival technologies in the dust.

This article is adapted from a speech given at the 2006 LBMA Conference in Montreux, Switzerland.

Bandages that help wounds heal faster. Washing machines that suppress bacteria while cleaning your clothes. Pens that prevent the transmission of bacteria from user to user. Wood that resists mould and mildew. Socks that control smelly feet.

From the battlefields of Afghanistan and Iraq to fighting infection in the home, when it comes to antibacterial fashion, silver is the new black.

All of the above miraculous-sounding products have one element in common: silver, which has been shown to have broad effect against bacteria, fungus and mildew. In a world concerned with the spreading of disease, silver is increasingly being tapped for its bactericidal properties and used in treatments for conditions ranging from severe burns to legionnaire's disease.

population, and it has always been at the forefront of new consumer applications for silver, such as refrigerators, metal doorknobs, handles and cell phones.

## Bandages and Battlefields

Because many patients have compromised immune systems, hospitals in the US have become major users of silver biocides for their water systems, instruments, catheters,



Major manufacturers offer bandages incorporating silver in the wound pad, where it reduces the growth of hundreds of types of bacteria responsible for wound infection.



furniture and almost any service in the operating rooms. And health departments in New York and Maryland have approved silver-copper ionisation as a primary treatment for long-term control of legionella.

Silver-embedded bandages find their greatest use in hospitals: the use of silver in wound dressings was first tried on burn victims, who were highly susceptible to infection without the protection of skin. Doctors found that not only did silver inhibit the growth of bacteria, but also helped the wounds heal more quickly. Some research has suggested that the reason is because the body is using resources for repairing cells and not to fight off infection. More recently, silver bandages have spread from the hospital to the local pharmacy, as the public has gained better

access to silver's ability to kill bacteria.

This infection-fighting ability has not gone unnoticed by the pharmaceutical sector. Innovative Medical Services (IMS) recently announced results showing that its silver-based product, Axenol, is 99% effective against acne-causing bacteria, adding that the product was the company's most successful retail introduction in its 11-year history. Axenol is currently undergoing FDA approval in the US. And for cyclists, who are often plagued by skin wounds and other injuries, Silverlon, a dressing containing silver ions, has proved so excellent for wrapping skin wounds that the US cycling team keeps the product on hand for application to abrasions and road burns common in bicycle racing.

Perhaps no group is more prone to injury than the military. In the United States, the Defense Department uses QuikClot, a clotting powder that was successful in reducing the number of soldiers who bled to death on the battlefield – so successful, in fact, that it's been given to every Marine in Iraq and Afghanistan.

However, in addition to clotting, the powder heats up upon contact with blood, and so its usage off the battlefield was limited, until university researchers added silver ions – which not only helped disperse the heat produced, but had the added benefit of anti-bacterial action. The change allowed the technology to be modified for civilian life, for use by paramedics and other first responders.

## Food Technology: The Dish on that Silver Spoon

That untarnished truism – 'Born with a silver spoon in one's mouth' – was originally a reference to health: babies fed with silver spoons tended to be healthier than those fed with spoons of other metals.

For today's consumers of the food industry's products, silver's main advantages over other "complicated processes" (like chemicals or constant cleaning) are its low toxicity, ease of use – because the silver is imbedded in the

equipment – and its ability to handle a wider range of bacteria than many individual bacteria-fighting chemicals.

For decades, restaurant ice making, food shipping and more involved industrial processes were plagued by bacteria forming in hoses and fittings.

Today, manufacturers of



In Samsung's Silver Wash machines, laundry is exposed to a silver colloidal solution that penetrates the fabric and coats it with positive silver ions, killing bacteria.

commercial ice machines are using silver-embedded hoses, clamps, pipefittings, and other hardware in places that harbour bacteria. Meat processors are starting to use silver-embedded tables, grinders, tools, refrigerators and hooks. For the dairy industry, the Netherlands-based Eriks group is introducing sealing rings containing a silver-based biocide to provide protection against the bacteria that can build up on processing equipment.

The food industry's silver lining extends from occupational clothing to floor-to-ceiling prevention of pathogen build-up in food processing and storage facilities. The latest specialty packaging uses silver to keep fruit, vegetables and cut flowers fresh whilst in transit, and citrus researchers are seeking funding to see if silver could be useful in combating the citrus canker, a bacterium-caused affliction that threatens many of the citrus crops produced in Florida.

As part of the NEEMO programme, groups of NASA employees and contractors spend up to three weeks at a time in Aquarius, an underwater laboratory off the coast of Florida where conditions in the International Space Station are simulated. Silver-based clothing has been used to cut down on bacteria and odour.







Ahead of flu season, Hong Kong's MTR Corporation spray surfaces passengers often touch – such as grab poles inside the trains, escalator handrails and buttons on ticket machines – with a nano silver-titanium dioxide coating.

### Wood and Paper, Termites and Toxins

Wood preservation shows great potential use for silver biocides, given impetus by the fact that chromated copper arsenate (CCA) was phased out by the US government in 2003. Protective coating maker EnviroCare has teamed up with PRIMETech, which produces machine-coated products, to manufacture DOA, silver-ion-embedded lumber that resists mildew and mould.

Research conducted at the Department of Agriculture's Forest Product laboratory in Madison, Wisconsin, shows that silver-embedded treatments are effective in improving the resistance of wood to termites. And research sponsored by the Silver Research Consortium, and at Florida International University and Mississippi State University,

indicates that wood treated with silver-based liquid preservatives can withstand both the South Florida soil environment and exposure to aggressive



Sport socks incorporating fibres coated with silver are a sports enthusiast's dream: they are anti-odour, anti-static and thermodynamic.

brown-rot fungus.

British papermaker James Cropper has introduced a line of silver-based paper products called DocuGuard. Early applications will include protecting hospital case notes and medical files against the proliferation of bacteria, and there's the promise of widespread future applications, such as business stationary, envelopes, brochures, book-binding materials, and food packaging.

### Smell-Free: From Socks to Space

The secret to smelly feet is bacteria: eliminate them, and the odour disappears. This has been achieved by knitting silver-coated nylon into the socks, addressing the problem from the ground up. One popular silver-based fabric is X-Static, now used in many garments and footwear, and especially useful in hiking and camping clothing.

When it comes to washing clothes, silver again has a role to play. Samsung Electronics has developed a washing machine that uses the antibiotic properties of silver to disinfect clothing. When the AG Plus washing machine is set on 'silver sterilisation', the system generates silver nano-particles that kill off most of the bacteria and mould in the laundry load – even with cold water.

Silver finds use in other appliances as well. Samsung and BSH include silver antimicrobials in refrigerators, and BSH goes a step farther, using silver coatings in all its new refrigerator and air purifier product lines. Asia is the major market for such appliances, followed by Europe, the Middle East and North America. And though the current level of silver used as a biocide in appliances is small – about 50,000 troy ounces – it's set to grow rapidly if current trends continue.

Outside the home, silver is finding use in recreational areas, such as playgrounds, where its low toxicity makes it ideal for use in composite plastic equipment. On a larger scale, silver ions in swimming pools reduce the need for harsh chemicals. One example of such an in-pool solution is Floatron, a small solar-powered ioniser that disperses silver and copper ions to purify and soften the water. Farther outside the home – 1,000 feet under the sea off the coast of Florida – the US space agency NASA is operating an ongoing programme called NEEMO, which simulates life in the confines of the International Space Station. On a

recent mission, all members of the grateful crew wore silver-based clothing to cut down on bacteria and odour.

### The Ultimate Safe House

Many of the above-described products and technologies, along with others, have been incorporated into what is perhaps the ultimate safe house – an 11,000-square-foot property called Camino de Robles (Spanish for 'Path of Oaks') built just outside of Los Angeles, California, by specialists in silver-embedded technology, AK Steel and AgION.

From frame to roof, the house was constructed of steel for fire and earthquake resistance. Inside, all areas that are considered 'high touch' – those that could harbour disease, such as hand rails, faucets, switch plates, kitchen surfaces and door knobs – have been embedded with silver.

Heating, ventilation and air conditioning ducts were made of AgION-coated steel, and AgION was also used in some non-steel products, such as refrigerator trays and counter tops, where the slow release of silver ions will inhibit the growth of bacteria on the



A computer-generated drawing of Camino de Robles, an 11,000-square-foot house in California. The house makes extensive use of silver ion technology.

surfaces. The AgION finish remains effective for the useful life of the product and does not cause any discolouration.

From the seafloor to the Space Station, the growing benefit – and promise – for industrial and consumer uses of silver are undeniable. ■

*Since 1999, Michael DiRienzo has been executive director of the Silver Institute, responsible for the Institute's daily activities, budget, implementation of the annual plan, media affairs and government-related activities. From 1999 to 2002, he was also vice president of the Gold Institute, managing the association's government and public relations activities.*

*The Silver Institute's members are leading silver mining houses, bullion banks, refineries, end users, and wholesalers of silver investment products. Its mandate is to stimulate silver demand and provide accurate information to members, the media, the public and government officials.*

# Second LBMA Bursary Awarded to Wits University

By Susanne M Capano

*The LBMA has awarded an £18,000 bursary for a second year to the University of Witwatersrand, South Africa, a world-renowned centre of educational excellence and research. Having graduated more than 100,000 scholars over its 83-year history, the school has made its mark both nationally and internationally: to date it has produced 88 Rhodes Scholars and four Nobel Prize Laureates.*



**Mr Thabang Kgarume**, an academically gifted and financially deserving student, was awarded an AfricaArray NRF bursary in addition to a share of the LBMA bursary. *HP: Enhancing ground penetrating radar data to allow easy identification of dome structures in the hanging walls of the Bushveld platinum mines.*



**Mr Luke Longridge** was the top BSc student in 2005. A motivated student in need of financial assistance, he was awarded a Wits Merit Bursary in addition to a share of the LBMA bursary. *HP: An investigation into the structure and metamorphism of the Bushveld Complex metamorphic aureole in the area of the Schwerin Fold, eastern Bushveld.*



**Mr Felix Mafu** is an extremely enthusiastic student and was committed to completing a BSc honours programme despite financial difficulties. The money from the bursary has been used towards his registration fees, food and accommodation. *HP: Petrology and Cu-Ni-PGE mineralization of the ultramafic-mafic\* intrusion 111 at Lengshuiqing, Panzhihua, SW China.*



**Mr Thuto Makgato** comes from a poor background in the Limpopo Province and, though his family was supportive of his education, they had many other commitments. In addition to a share of the LBMA bursary, he was awarded an AfricaArray NRF bursary. *HP: A semi-automatic procedure for the interpretation of geophysical data.*



**Mr Sibusiso Mkhwanazi** aspires to be a professional geologist, and has persisted in continuing his education despite extreme financial difficulty. He was third year class rep and has well recognised leadership skills.



**Mr Joel Mutatavikwa**, a Zimbabwean who had worked as a professional geophysicist, wanted to upgrade his skills, despite extreme financial need. *HP: Processing of aeromagnetic data from Polokwane, South Africa.*



**Mr Kanda Mutombo**, from the Democratic Republic of the Congo, studied physics in 2005 and graduated with a BSc degree. *HP: The demagnetization effect and its influence on magnetic modelling in the Bushveld Complex and the Witwatersrand Basin.*



**Ms Salina Sibanda** holds an upper second BSc in geology and geophysics from the University of Zimbabwe. The money has been used towards her registration fees, food and accommodation. *HP: Petrology and Cu-Ni-PGE mineralization of the ultramafic-mafic\* intrusion 101 at Lengshuiqing, Panzhihua, SW China.*



An ambitious student with real financial need, **Ms Zanele Sithole** transferred to Wits for the honours programme from the University of KwaZulu-Natal, where she had excelled in her studies. *HP: Petrology and geochemistry of PGE-bearing ultramafic-mafic\* intrusion (ZH401) at Gaojiacun, Panzhihua, Sichuan Province, SW China.* ■



\* Ultramafic-mafic: Areas of the earth's crust containing a high percentage of heavier elements, including ore bodies of platinum group elements. The Bushveld Igneous Complex in South Africa is one example.



# Giving Gold Currency

By Anthony S Fell, Chairman, RBC Capital Markets

*It's a commodity, to be sure.*

*But the recently more-precious*

*metal is better suited to a*

*brighter future as a currency*

*and store of value.*

*This article is adapted from a speech given at the 2006 LBMA Conference in Montreux, Switzerland.*

Is gold a commodity, a currency or a store of value? Though the correct answer is all three, it is primarily a currency and a store of value and is a hedge against paper money and inflation: as a currency and a store of value, gold has stood the test of many centuries. As a commodity, gold has little intrinsic worth because of limited industrial use.

At Royal Bank of Canada, we trade gold bullion off our foreign exchange desks rather than our commodity desks because that's what it is – a global currency, the only one that is freely tradable and unencumbered by vast quantities of sovereign debt and prior obligations. It is also the one investment and long-term store of value that cannot be adversely impacted by corrupt corporate management or incompetent politicians – each of which is in ample supply on a global basis. Don't measure the dollar against the euro, or the euro against the yen, but measure all paper currencies against gold, because that's the ultimate test.

When reflecting on the long-term outlook for gold, it is important to fully appreciate that we now live in a world of fiat paper money. Since the US moved to fiat money in 1971, the dollar has lost 80% of its purchasing power. Since the Federal Reserve was established 93 years ago, the dollar has lost 98% of its purchasing power.

How much confidence do you have in politicians and central bankers to maintain the purchasing power of their currencies? In the United States, the Democrats tax and spend and the Republicans reduce taxes and spend. President Bush has not vetoed one spending

bill during his time in office. In recent years there has been absolutely no fiscal or monetary discipline in the US. When the crunch comes, unless you have a Paul Volcker, the record clearly shows that politicians will always opt for inflation over deflation.

Looking ahead, the pyramid of consumer and government debt that has accumulated in the US will force the Fed to respond very aggressively to any economic slowdown – or the slightest whiff of deflation. The watchword is, “a little inflation is a good thing.” The problem is, as politicians come and go, you can't control it.

## A Fistful of Troubles

I learned long ago that you couldn't forecast gold prices on a short-term basis. The important thing is to keep the big picture in mind.

So where are we now in the big picture? At the current level of about \$590, gold has risen 230% over the last five years. It is my view that gold is now in the very early stages of a long-term secular bull market that, due to several fundamentals, will carry it to much higher levels over the coming decade.

Notwithstanding a modest rally last year, the trade-weighted US dollar has been in a downtrend since February 2002, and the overall loss is now about 28%. After a decade of fiscal and monetary excess, I believe the broad sweep of the US dollar will be significantly lower for the coming five to ten years. The next stage of the decline could be gradual, like the last four years, or it could be precipitous – like the mid-1980s, when it fell 47% in the less than three years.

It is my view that the US economy is headed for a slowdown later this year, and there is better than a 50/50 chance of a recession, led by a housing slowdown, in 2007. A year from now the Fed will be reducing rates rather than increasing them. In a declining US rate environment, there is a real risk of a broad move out of dollar-based assets.

In the four years ended 2005, consumer spending in the US grew at about twice the rate of per capita income. This consumer boom has not been driven by rising incomes.

I believe it has been artificially stimulated by:

- The Bush tax cuts of 2001 and 2002
- Massive spending on two wars
- A prolonged period of record low interest rates in the US
- Two trillion dollars-plus of home equity financing
- A declining US personal savings rate from 6% to 8% of disposable income to less than zero last year
- A major build-up of fiscal deficits in the US, which now range between a quarter and half a trillion dollars
- An ongoing trade deficit exceeding three-quarters of a trillion dollars annually.

In aggregate, these factors spell big trouble for the dollar – though, in the face of them, the markets are in denial.

Over the past decade there has been significant debasement of the US currency, so that now there is a vast global surplus of dollars and liquidity. What has caused this? Apart from an escalating trade deficit, most of the credit must be given to the Fed, with the Bank of Japan in a strong supporting role.

For the past 15 years, every time there has been a financial or economic crisis around the world, the Fed – rather than let the disciplines of the market work and wring out excesses – has chosen both to inject large quantities of liquidity and credit and lower interest rates to bail out the system. This pattern began with the stock market crash in October 1987 and ended, most recently, with the breaking of the stock market bubble in 2001. At that point, the Fed reduced its funds rate 13 times – to a new record low of 1%.

For its part, the Bank of Japan has contributed greatly to this euphoric environment and global liquidity with its five-year program of pumping extra cash into the economy, keeping its benchmark lending rate near 0% – while at the same time accumulating hundreds of billions of US dollars and facilitating the yen carry trade.

Excess liquidity flowed into commodities and emerging markets, driving credit spreads to record lows. The current global glut of US dollars is the cumulative impact of all of these stimulative events. These injections of liquidity and low interest rates have been short-term fixes for long-term fundamental problems, and in my view the whole exercise will have a distinctly unhappy ending.

The US is overextended militarily and financially, its consumers are tapped out and there is a growing lack of confidence in its leadership. The centre of gravity of global economic and financial power is shifting steadily to Asia, and to China in particular. Global central bank foreign-exchange reserves now total \$4.4 trillion, of which an incredible 63% are held by ten Asian central banks.

The US annual trade deficit – now running at a rate of more than three-quarters of a trillion annually, or 6.3% of GDP – is a huge concern: it's not prudent for the country to depend on foreign bond buyers to finance domestic consumption. As Asian countries produce low-cost goods to be shipped to the US, the US ships dollars back to Asia – and then the Asians purchase US treasuries. I do not think this model is viable or sustainable: Asian central banks will not want to accumulate US dollars at the current rate.

The US annual trade deficit – now running at a rate of more than three-quarters of a trillion annually, or 6.3% of GDP – is a huge concern: it's not prudent for the country to depend on foreign bond buyers to finance domestic consumption. As Asian countries produce low-cost goods to be shipped to the US, the US ships dollars back to Asia – and then the Asians purchase US treasuries. I do not think this model is viable or sustainable: Asian central banks will not want to accumulate US dollars at the current rate.

## The Dollar Option: Gold

For all these reasons, I believe the dollar's status as a store of value has been greatly diminished over the past decade. It will never regain the outstanding reputation it had 50 years ago. In light of this, gold bullion will gradually re-emerge as an accepted alternative asset and investment. It's worth noting that during the recent sell-off in the gold price, the seven exchange-traded funds have had net sales rather than net redemptions – quite extraordinary – and a portent of things to come.

There are now indications that some Asian central banks (and a few others as well, which have large reserves of US dollars) would like to diversify, but some of these holdings are so large that it is extremely difficult to do this in a meaningful way without causing major disruption. The only really viable paper currency alternative to the US dollar is the euro, and so I expect the euro, along with gold bullion, to play an increasingly important role in central bank reserve allocation.

Over the past five years some central banks have been selling bullion, and we should be grateful to them for affording us an opportunity to buy at bargain prices. At this time one wonders if some central banks wish they had not been sellers at less than half the current market price. As a result of sales over the past many years, the relative size of central bank holdings, which now stand at about one billion ounces worth \$590 billion, has declined dramatically over the decade. The

## Hedge funds

*are great, but we should*

*always remember the only*

*perfect hedge is in the back*

*garden of the Imperial*

*Palace in Tokyo.*

market cap of Exxon and General Electric is substantially larger than all the gold reserves held by central banks.

Another factor in gold's favour is that I believe that over the past decade there has been a substantial increase in systemic risk in the global financial system, which has benefited greatly from an extended period of incredibly low interest rates and easy credit. History shows that such an environment can, and usually does, foster a degree of complacency.

There are perhaps 7,000 unregulated hedge funds around the world, with assets of approximately \$1 trillion, and there are most assuredly some time bombs waiting – like the Long Term Capital debacle. Hedge funds are great, but we should always remember the only perfect hedge is in the back garden of the Imperial Palace in Tokyo.

## Supply – But is there Demand?

Supply statistics are compelling in favour of gold. Over the coming decade, while governments around the world continue to increase the money supply at a rapid rate, gold production will be static to declining. Annual gold production is now running at about 76 million ounces, which means that the aboveground stock of gold is increasing at about 1% per year. Major gold companies are not replacing reserves and new discoveries are extremely rare.

At most gold mines, you have to move 35 to 40 tonnes of dirt and rock just to get one ounce. On the other hand, fiat paper money can be, and usually is, printed at will by computer. Governments and central banks around the world are probably printing money and creating credit at the annual rate of 5 to 10% per annum. The Fed stopped publishing the M3 money supply numbers last February. At last report, M3 amounted to over \$10 trillion and was growing at an annualised rate of about 8%. Recently, China's money supply has been increasing at a rate of 18%.

Another point in gold's favour is that it acts as a hedge against inflation. I believe there is more inflation in the pipeline than is generally anticipated – perhaps quite a bit more – as a result of the excesses of the past 15 years. The reported inflation rate in the US is now in the range of 2.5 to 3%, but remember that the Consumer Price Index has been re-jigged many times over the past 30 years. Additions and deletions have been made and judgments with respect to the quality of products and services included in the index. A study recently estimated that if the CPI were calculated today exactly as it was in 1970, the rate of inflation would be running in the range of 8%.

There is a great deal of scepticism about the future of gold, which is another positive factor. The vast majority of investors are so short-term orientated that they just don't see the big picture unfolding.

When the price of crude oil bottomed out at \$10.70 a barrel on Christmas day in 1998 – and the front cover of the *Economist* was forecasting a glut and \$5.00 oil – you couldn't give oil or gas stocks away. Now – just six years later – with the price up by 700%, everyone loves oil at \$70.00 the barrel and you hear talk of \$100. As we celebrated the New Year in 1971, ten-year US Treasuries yielded 6%. Little did we know that a decade later they would yield 15.4%.

The markets just didn't see it coming – it happens all the time.

\*\*\*

It is my view that the past few years represent a major positive turning point in the fundamental long-term outlook for gold bullion. There is, at present, an unwarranted optimism that the business cycle is a thing of the past, that central bankers with infinite wisdom are in firm control and will be able to thread the needle between inflation and deflation, and that we will never again have another major global foreign exchange or financial crisis. Well, I don't believe it.

To some extent, I regret to say that all paper currencies are becoming somewhat suspect, and accordingly it is my view that gold bullion may well become the asset of choice for many investors over the coming decade. I have always been told to buy quality assets that are vastly undervalued and that have been ignored by the marketplace for a prolonged period. Notwithstanding the modest rise in gold prices over the past few years, that is where gold bullion is today and it represents a great opportunity. ■

**Anthony S. Fell** is chairman of RBC Capital Markets. He has been with the firm (and its predecessor, Dominion Securities) for 45 years, including 18 years as CEO. Previous roles include serving as deputy chairman of the Royal Bank of Canada, chairman of the Investment Dealers Association of Canada and governor of the Toronto Stock Exchange.

He currently holds several directorships – BCE Inc., Loblaw Companies and CAE Inc. – and is chairman of the Munich Reinsurance Company of Canada. In 2001 he was appointed an Officer of the Order of Canada.



# On Supply and Demand

By GFMS Limited

*GFMS have prepared their Gold Supply and Demand table for 37 years, including it in their annual Gold Survey as well as updating it for the two interim Gold Survey Updates. In this occasional column, GFMS have prepared a brief commentary highlighting the critical supply and demand elements at play in the second quarter of 2006. The statistics in this report are those supplied to the WGC in August for their Gold Demand Trends report.*

## The Supply Side

Looking at the supply side, Q2 global gold mine production provisionally registered a restrained 2% improvement against the same period a year earlier, to 625 tonnes. The anticipated increase can be attributed primarily to the positive impact of several new mines coming on stream, with much of the fresh supply originating from emerging gold-producing countries rather than the principal producing nations.

At the time of writing, the release of official statistics is anticipated to provide confirmation of strong growth in a number of Latin American countries, including Peru, as well as Mexico and Argentina. Along with support from stable, established production, these nations' year-on-year performances respectively benefited from contributions from the significant new operations of Lagunas Norte, El Sauzal and Veladero.

However, declines in several of the traditional leading gold producers are seen to have erased a large part of the growth, with further declines in South Africa (albeit less severe than has been the case in recent quarters) and dramatically lower output from Indonesia.

The second quarter of 2006 saw net official sector sales decline to 53 tonnes, a little more than half the figure seen in the first quarter of the year and down by 63% year-on-year. The decline was in large part driven by the dramatic fall in sales from within the Central Bank Gold Agreement signatories. The group offloaded a mere 53 tonnes from their gold reserves over the period, with the metal coming from France, Portugal, Germany, Austria and the Netherlands. Elsewhere, countries outside the Agreement were essentially net-neutral, as gross sales and purchases, amounting to a little less than nine tonnes, offset one another.

Scrap supply leapt a weighty 57% year-on-year to 310 tonnes in the second quarter, chiefly as a result of higher prices. The Middle East showed the greatest gain, with its scrap not far off doubling to almost 140 tonnes. Gains were not restricted to the price-sensitive world, as Europe too saw a substantial rise due to higher inventory remelt and supplies from pawnbrokers. In contrast, Indian volumes were flat (and even fell quarter-on-quarter) as expectations were for further price gains.

## The Demand Side

Investment activity remained busy throughout the second quarter of 2006. Over the first six weeks of the period, investors aggressively bought into positions in gold, driven primarily by expectations on the US dollar and the general understanding in the market that the metal was in a bull run. By 12 May, the gold

price peaked at \$725, 23.5% up from its level at the beginning of April. The peak was followed by heavy liquidations, which were mainly driven by movements in the greenback and which drove the price to its quarter-low of \$567. With much of the buying seen in the first part of the period being offset by these subsequent liquidations, implied net investment only reached a middling 80 tonnes in the second quarter.

The elevated level of producer de-hedging seen in Q1 continued through Q2, with provisional figures indicating that, in delta-adjusted terms, a net 157 tonnes was removed from the producer book. This represented a dramatic increase from the subdued levels recorded a year earlier. Forward sales and gold loans were the source of the vast majority of the decline in the outstanding producer book witnessed in Q2, with changes to the delta-adjusted net options position considerably more muted.

Jewellery fabrication suffered greatly in the second quarter, dropping 30% year-on-year to 541 tonnes, largely as a consequence of higher and more volatile prices. India saw the greatest decline, as offtake more than halved (a loss of over 130 tonnes), followed by the other main price-sensitive area, the Middle East, where demand fell around a quarter. Offtake was so poor in part because – even when prices had retreated to below \$600 in June – demand was slow to recover as nerves had yet to be soothed. Weak consumption in Western Europe and the United States, in part due to ongoing taste changes and signs of significant

distributor destocking, also undermined jewellery. A little surprisingly, jewellery offtake in comparison to the first quarter actually rose (up 2%), thanks in the main to quarter-on-quarter increases for both India and the Middle East (due to such factors as robust economic growth and expectations of yet higher prices). Other fabrication rose by 11% year-on-year to 163 tonnes, chiefly due to higher official coin minting. ■

*GFMS is a precious metals consultancy specialising in research into the global gold, silver, platinum and palladium markets. The company is based in London and has representation in Australia, India, China, Germany and Russia. The research team comprises eleven full-time analysts and two consultants.*

## World Gold Supply and Demand

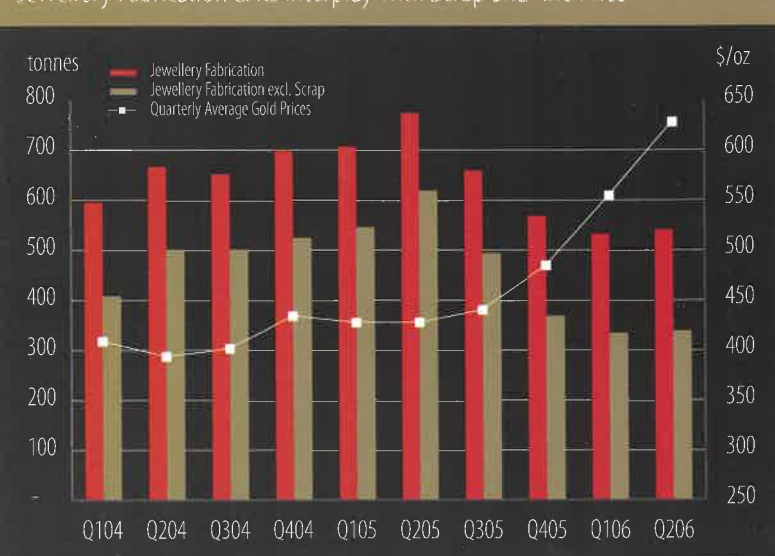
tonnes	06.Q1	06.Q2E	Q2 ch. yoy
<b>Supply</b>			
Mine production	582	625	2.4%
Official sector sales	98	53	-62.9%
Old gold scrap	—	—	—
Net producer hedging	271	310	56.8%
Implied net disinvestment	—	—	—
<b>Total Supply</b>	<b>952</b>	<b>989</b>	<b>-8.5%</b>
<b>Demand</b>			
<b>Fabrication</b>			
Jewellery	532	541	-30.1%
Other	154	163	10.6%
<b>Total Fabrication</b>	<b>686</b>	<b>704</b>	<b>-23.6%</b>
Bar hoarding	38	48	-42.7%
Net producer de-hedging	142	157	109.0%
Implied net investment	86	80	n/a
<b>Total Demand</b>	<b>952</b>	<b>989</b>	<b>-8.5%</b>
<b>Gold Price (London PM, US\$/oz)</b>	<b>554.07</b>	<b>627.71</b>	<b>46.9%</b>

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## Jewellery Fabrication & Its Interplay with Scrap and the Price



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# LBMA News

By Stewart Murray, Chief Executive, LBMA

## MEMBERSHIP Members

Standard Chartered Bank was accepted as an ordinary Member on 1 August 2006.

## GOOD DELIVERY LIST Silver

The Kolyma refinery of Russia was added to the Silver Good Delivery List on 1 September 2006.

## COMMITTEES Management

Following the AGM in June, in July the Committee met for the first time under the Chairmanship of Jeremy Charles. The Committee adopted the Chairman's suggestion of a number of targets for the Association. These included a review of the arrangements for market making in the light of the rapid changes that are now occurring in the market, the development by the Physical Committee of an electronic database of Good Delivery drawings and images, and maximising the benefits to Members from the various events organised by the Executive.

The Committee noted that a new version of the Non-Investment Products Code, including a revised Annex on the bullion market, would be published on the Bank of England's website – [www.bankofengland.co.uk/markets/forex/fxjsc/nipscode.pdf](http://www.bankofengland.co.uk/markets/forex/fxjsc/nipscode.pdf) – in October 2006.

The Committee considered a report produced by the Executive on the European Commission's proposals on the Registration and Authorisation of Chemicals (known as REACH). Given the potential impact of the proposals when implemented (probably towards the end of 2007), it was agreed that the Executive should circulate a note on the proposals to all Members and Associates. The note, which was prepared following a discussion with the

UK Department of Trade and Industry, was circulated on 22 August 2006; a copy of it can be found under the Regulation tab in the Trading section of the LBMA website.

The LBMA took part in an informal meeting of commodity organisations hosted by HM Revenue and Customs in July. The main subject under discussion was the future of the Terminal Markets Order (TMO), which defines the trading regime for bullion and other commodities in relation to value added tax. The TMO represents a vital basis for trading in the UK bullion market, and the Committee subsequently approved a submission from the LBMA to HMRC that stressed the need for these arrangements to continue to protect the viability of the bullion market in London.

A recommendation from the Public Affairs Committee that the LBMA's next Conference should take place during November 2007 in Mumbai was approved.

## Physical

Following the issue of a statement from the LBMA about the quality of bars re-appearing out of deep storage (see *Alchemist* 43), the Committee has agreed to visit the Bank of England to discuss the issues of bar acceptability in greater detail.

The Committee considered a report on the comparative trial of electronic and beam balances for weighing gold bars. The report identified a number of issues that would need to be resolved before the LBMA could recommend electronic weighing for gold bars.

The plans for the second Assaying and Refining Seminar (see below) were discussed within the Committee, and it was agreed that the seminar should be delayed until 20-21 March 2007 – rather than being held in November 2006, as had previously been planned. The processing of applications for the Good Delivery List and the

proactive monitoring of companies already on it represent a large part of the work overseen by the Committee. Currently three applications are going through the various technical stages of the assessment process. On the proactive monitoring front, around three-quarters of the companies on the Gold and Silver Lists have already been monitored. A small number of cases have been found where assaying standards required improvement. In all cases, following either the installation of new equipment or the retraining of staff, companies have been able to demonstrate the required level of assaying accuracy.

The Committee has begun a review of the specifications of gold and silver bars included in the Good Delivery Rules, concerning in particular the allowed weight range, the type and position of stampings, the method of casting and the size and shape of bars.

This subject will be described in detail in an article to be published in the January 2007 *Alchemist*, and will also be included on the agenda for the forthcoming Assaying and Refining seminar.

During the middle part of 2006, there have been huge inflows of silver into the London market, which may have led in some cases to a slippage of quality standards for bars and the way they are packed on pallets. The Committee agreed that an article (see page 27) on this subject should be prepared and that the Chief Executive should refer to it during his presentation at the 5th Chinese International Silver Conference (see below).

## Public Affairs

The Committee met in July to review the very successful Conference held in Montreux in June and to make plans for the 2007 Conference, to be held in Mumbai in November. The PAC

also reviewed the plans for other forthcoming LBMA events, including the Biennial Dinner and the Annual Party for Members.

## Membership

The Committee met in September to review a number of applications and enquiries for Membership, as well as the ongoing process of reviewing and updating the sponsorship for LBMA Associates. Two important issues have also been discussed. Firstly, the Committee reviewed the arrangements for sponsoring and evaluating applications for Membership and Associateship to ensure that only companies of the highest standing are accepted into the Membership. Secondly, the Committee agreed that exchanges and related associations could apply to join the LBMA as Associates. The Committee also discussed the requests that have been received to allow related companies (e.g., with a common parent) to become Members and agreed that as long as such companies apply in their own right and supply the necessary sponsors, it would be possible for them to hold individual memberships.

## Finance

The Finance Committee met in mid-October, as usual, to develop the budget for the coming year.

## BIENNIAL DINNER

The Dinner will take place in Goldsmiths' Hall on 2 November, with the chief guest being Kelvin Williams, formerly Executive Director of AngloGold Ashanti. Given the LBMA's healthy financial position, it was agreed this year that the initial allocation of tickets to Members and Associates would be free of charge. The dinner has been fully subscribed, so any Members wishing to attend now should contact the LBMA Executive in case there have been any cancellations.

## CHIEF EXECUTIVE'S SPEECHES

### Assocham 2nd International Gold Summit

The Chief Executive spoke at the Assocham Gold Summit, held in New Delhi on 1-2 September 2006. As well as providing an update on developments in the London Bullion Market, he presented his personal views on the development of the Indian bullion market. A copy of his presentation can be found on the LBMA website in the publications section.

### 5th Chinese International Silver Conference

The Chief Executive spoke on the subject of the Importance of Quality in the London Bullion Market at the 5th Chinese International Silver Conference,

which was held in Panyu, Guangzhou Province, on 27-30 September 2006. A copy of his presentation can be found on the LBMA website in the publications section.

## DATES FOR YOUR DIARY The Eighth LBMA Precious Metals Conference

The next Conference in scheduled to take place in Mumbai, India, on 18-20 November 2007.

## Seminar on Assaying and Refining

It has been decided to postpone the seminar until 20-21 March 2007 in order to give more time for Good Delivery refiners to consider the LBMA's proposals concerning bar specifications (to be published in the next *Alchemist*).

## Annual Party

The Annual party for the bullion market will be held on Thursday 15 February 2007. As with this year's event, there will be no charge for the staff of Member and Associate companies who attend. Details of the event will be circulated in due course.

## Members' Dinner

The third in a series of dinners hosted by the Chief Executive for representatives of Member and Associate companies was held on 12 September. Following a brief presentation of the work and plans of the LBMA, there was a free-flowing discussion about a number of aspects of the Association. These included the best ways of informing Members about the LBMA's activities, developing the international side of the LBMA, the future of the

OTC model of trading and the respective roles of Ordinary and Market Making Members in the organisation. The next dinner in the series will take place on 21 November 2006.

## Market Making

A meeting of Market Makers' representatives was held on 2 October. The meeting discussed in depth the future of market making in the context of the competition in the market resulting from the establishment of a number of new exchanges trading gold and silver in recent years. ■

## DIARY OF EVENTS

### November 7 – 8

Silver Users Association  
Washington, DC  
T: +1 703 930 7790  
F: +1 703 359 7562  
[www.silverusersassociation.org](http://www.silverusersassociation.org)

### 9

The Silver Summit 2006 (UK)  
London  
[info@thesilversummit.co.uk](mailto:info@thesilversummit.co.uk)  
[www.thesilversummit.co.uk](http://www.thesilversummit.co.uk)

### 13 – 14

Deutsche Bank BRICS Metals & Mining Conference  
London  
T: +44 (0) 20 7545 4893  
F: +44 (0) 20 7547 1917  
[kim.martin@db.com](mailto:kim.martin@db.com)  
[www.conferences.db.com](http://www.conferences.db.com)

### 14

36th Minesite Mining Forum  
London  
T: +44 (0) 20 7395 1935  
F: +44 (0) 20 7395 1931  
[www.minesite.com](http://www.minesite.com)

### 20 – 22

Mines and Money  
London  
T: +44 (0) 20 7216 6060  
[pablo.martin@miningjournal.com](mailto:pablo.martin@miningjournal.com)  
[www.miningjournal.com](http://www.miningjournal.com)

### 26 – 27

Hard Assets Investment Conference  
San Francisco  
T: +1 314 824 5516  
[iiconf@iiconf.com](mailto:iiconf@iiconf.com)  
[www.iiconf.com](http://www.iiconf.com)

LBMA Assaying and Refining Seminar  
Note that this event has been rescheduled for March 2007.  
Details as below.

## December 4 – 5

China Gold and Precious Metals Summit  
Shanghai  
T: +86 21 5237 3066  
F: +86 21 6240 3840  
[info@igvision.com](mailto:info@igvision.com)  
[www.igvision.com](http://www.igvision.com)

### 12

37th Minesite Mining Forum  
London  
Details as above

### January 2007 14 – 21

Vicenzaoro I  
Vicenza, Italy  
T: +39 0444 969 111  
F: +39 0444 969 000  
[info@vicenzafiera.it](mailto:info@vicenzafiera.it)  
[www.vicenzafiera.it](http://www.vicenzafiera.it)

### 16

38th Minesite Mining Forum  
London  
Details as above

## February 6 – 8

Investing in African Mining – Indaba 2007  
Cape Town, South Africa  
T: +1 314 824 5516  
[iiconf@iiconf.com](mailto:iiconf@iiconf.com)  
[www.iiconf.com](http://www.iiconf.com)

### 15 – 16

CIS Precious Metals Summit  
Moscow  
T: +44 (0) 20 7490 3774  
[natalia@adamsmithconferences.com](mailto:natalia@adamsmithconferences.com)  
[www.adamsmithconferences.com](http://www.adamsmithconferences.com)

### 20

39th Minesite Mining Forum  
London  
Details as above

## March 2 – 5

Asia Mining Congress 2007  
Singapore  
T: +65 6322 2700  
F: +65 6223 3554  
[enquiry.sg@terrapinn.com](mailto:enquiry.sg@terrapinn.com)  
[www.terrapinn.com](http://www.terrapinn.com)

### 5 – 8

PDAC Mining Investment Conference  
Toronto, Canada  
T: +1 416 362 1969  
F: +1 416 362 0101  
[info@pdac.ca](mailto:info@pdac.ca)  
[www.pdac.ca](http://www.pdac.ca)

### 13

40th Minesite Mining Forum  
London  
Details as above

### 20 – 21

LBMA Assaying and Refining Seminar  
London  
T: +44 (0) 20 7796 3067  
F: +44 (0) 20 7796 2112  
[mail@lbma.org.uk](mailto:mail@lbma.org.uk)



# Is the Negative Correlation of Gold and the Dollar Returning?

Editorial comment by John Reade  
Precious Metals Strategist, UBS Investment Bank

After fixing at a two-year low of \$255.95/oz in April 2001, gold rallied to a high of just below \$460/oz in November 2004 – an impressive increase of nearly 80% in less than four years.

While there were many contributing factors to the move – such as producer de-hedging, recovering gold demand, static mine supply and periodic risk aversion – we believe the weakening dollar was the most important driver of the dollar-denominated gold price over this period. The performance of gold in other currency terms was far less impressive: only about 14% in euros, and 40% in yen. In fact, buying gold was less about being long the yellow metal and more about being short the greenback.

Examining the rolling three-month correlation of log daily returns of dollar-denominated gold and the trade-weighted US dollar shows that this measure peaked at 0.755 in March 2005, a level not seen since 1979. Due to the high volatility and low yields offered by gold, it was little wonder that the bullion market struggled to extend gold investment beyond metals specialists and traders restricted to the metals market. Gold may have been rallying, but only metals traders and gold bulls appeared to be paying attention.

The acceleration by dollar-denominated gold – and more importantly the increase in price in other currencies – that occurred from the middle of 2005 changed the nature of investment and speculation in the gold market. As Pierre Lassonde, President of Newmont Mining has put it, “The ultimate definition of a gold bull market is when gold is rising in all currencies,” and we certainly saw a widening of investor interest in gold. In line with other commodities, gold then traded sharply higher, peaking in May before correcting.

Although it is hard to be sure of the trigger for the sharp up-move in gold over the past year or so, we suspect it was helped by the general



strength in commodities. Certainly we have noted a strengthening of the cross correlation of many commodities over the past few years, hinting at the impact of institutional diversification into the commodity asset space, together with the strong fundamentals for the wider bull market in commodities sweeping gold along for the ride.

But after the recent synchronous interest rate increases by the world's major central banks, and with the global economy palpably slowing, there is a clear risk that the cyclical commodity bull market is about to come to an end. What now for gold if base metals and – perhaps – energy prices were to head lower in 2007? The answer to this question probably lies in the relationship between gold and the dollar and whether the metal can climb from current levels if the dollar continues the weakening that appears to have restarted this year. We believe gold can: already the correlation of log returns between the dollar and gold has increased, and is now around 0.45, a level higher than the mean since 1975 (0.31) and an indication that moves in the dollar are responsible for about half the moves in gold.

The other observation about gold and the dollar recently is that although their correlation appears to have weakened, gold is now moving much more for a given move in the dollar. Between 2001 and the end of 2004, gold moved about 1.5 times as much as the dollar index, i.e. a 5% fall in the dollar index saw gold increase by about 7.5%. But since the start of 2006, gold's sensitivity to moves in the US dollar appears to have doubled: gold is now moving by three times as much as the dollar, so that each 5% move in the dollar index is moving gold by 15%. We attribute these moves to greater investor and speculative participation in the metal market. We suspect that traders, now alert to the allure of gold, will not be quick to abandon the yellow metal and that significant dollar weakening, should it occur, will power gold to new rally highs and possibly a new all-time high. ■



Above: Improper or inadequate packing can cause pallets to break or collapse, sending tonnes of silver bars crashing onto vault floors.

Upper right: Bars with the correct packing are secured and stable

## Inadequate Packing = Dangerous Stacking

### The importance of proper packing

By Douglas Beadle, Consultant, LBMA

With recent high metal prices leading to a large influx of metal into the London Market, some of the vaults in London have noticed that, in some cases, refiners have been taking insufficient care in ensuring that the physical appearance of bars is up to standard and, just as importantly, that bars are being securely and safely packed. Although the comments in this article apply to both gold and silver, the problems experienced to date mainly relate to silver, no doubt because production, packing and transport costs as a percentage of the underlying metal value are much greater than for gold – and the pressure to cut costs is therefore that much greater.

In recent years, health and safety regulations have become increasingly strict as governments have sought to minimise risks to workers in all fields of human activity, including operations in the bullion market that involve shipment, handling and storage of bullion bars. As a consequence, vault managers are required to carefully examine shipments of bars arriving at their premises to ensure that they pose no significant risk of accident. In the event of a serious accident, it is quite possible that the business of their vault could be closed down (at least temporarily), with heavy fines being imposed.

It is important to appreciate that vault managers have the absolute right to refuse to take delivery of metal that, in their view:

- Does not comply with the LBMA Good Delivery specifications
- Where they consider the state of the packing to pose a potential safety hazard
- Where the method of transport may result in a breach of security.

In the event of bars being rejected, the producer, carrier or customer of the Market may not only be responsible for the cost of having the bullion repacked, but also for any funding costs incurred by the intended recipient if the bullion cannot be delivered on the due date.

#### What Makes for Dangerous Packing?

**Bar Finish** – The top surface of the bar should not have excessive shrinkage and the top and bottom surfaces should not have raised projections, as either of these factors can contribute to a stack of bars being unstable. It is important that bars are uniform in shape and not tapered either in their length or width. Sharp edges are also unacceptable, as this can result in injury to handlers when unpacking or moving the bars.

**Packing** – Bars should be packed on well constructed pallets made of sturdy wood that individually can carry one tonne (the recommended maximum per pallet) and be capable of being stacked up to six pallets high. Plastic pallets are not considered to be suitable. Bars of different dimensions generally should not be mixed on a single pallet. The bars should be adequately strapped such that, when being moved on a forklift or Collis truck that might be brought to a

sharp halt, the bars will not topple with the generated forward momentum.

It is not unknown for a stack of inferior-quality pallets to collapse suddenly, causing several tonnes of silver to crash to the vault floor. Fortunately, to date no one has been injured, but health and safety regulations mean that active steps have to be taken to prevent such accidents. Especially in the extremely high levels of physical movements that the market is experiencing at present, it is not possible for a vault to repack and re-strap inadequately packed pallets. The only option for a vault manager facing this problem is rejection of part or all of the shipment. Consequently producers and carriers need to be aware of the need for safe and secure packing and take appropriate preventive action. The adjacent photographs of bars that have been both correctly and poorly packed illustrate the issues discussed above.

**Transport** – Although only indirectly related to packing, it is essential that any party intending to deliver bullion in to a London vault discuss in detail the intended delivery arrangements with the vault manager concerned. Security is always a major concern, and whilst a vault manager will generally be prepared to accept a delivery from a security carrier, deliveries by ordinary hauliers may be more problematical or unacceptable.

As a general rule, a vault manager will require the name, address and contact details of the



carrier, identity details of the crew, the vehicle registration number, the type of vehicle (open trucks and canvas-covered trucks will normally not be acceptable), the quantity of metal to be delivered and the date and estimated time of delivery. Here again it is important to note that a vault manager has absolute discretion as to those admitted to his premises, as any breach of security or increased risk of attack may result in vault staff being injured.

#### Summary

As mentioned above, failure by a producer, shipper or customer of the London Market to observe these simple rules on production, packing and transport may result in the proposed delivery not only being rejected, but extra costs being incurred by the consignor. ■

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