



LBMA

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Why Regulate Precious Metals

By Joel Cook, Global Head of Commodities Compliance, Standard Chartered Bank

Regulation in financial markets is in focus now more than ever. The succession of crises that has plagued global financial markets from 2007 right up to the present has placed pressure on governments and regulators to impose stricter controls on participants in financial markets.

In such a climate increased regulatory burdens may seem inevitable. But it is still worth taking a step back to consider whether regulation, and in particular regulation of precious metals markets, is a good thing.

Why do we choose to regulate financial markets at all? The basic driver is a perception that financial market forces, if left completely unchecked, would not always operate in a fair and equitable manner. The assumption therefore is that some sort of framework of rules is required to guide and restrict the activities of the various participants in those markets, so as to prevent any undesirable forms of conduct and promote both certainty and fairness.

In most financial markets there are imbalances in the level of information, skill or sophistication of the various participants in a market. This is particularly the case where there are both wholesale and retail participants. Regulations create levels of investor 'protection' so that less sophisticated participants can access the market safe in the knowledge that their lack of knowledge and experience will not be exploited. This is seen in the form of disclosure obligations, rules that require products or services to meet suitability and appropriateness standards, requirements on firms to manage internal conflicts of interest, etc.

Regulations may also increase certainty for participants operating in a market. For example, bullion market participants want to know that in a Loco London gold transaction the bullion they can expect to receive in settlement of a purchase will conform to certain minimum standards as to weight and fineness. The London Bullion

Market Association (LBMA) Good Delivery Rules set out minimum specifications for Good Delivery Bars, and these rules help provide participants with certainty in their bullion transactions.

Similarly participants on a futures exchange want to be able to rely on the fact that all other participants are bound by rules of conduct that for example prohibit behaviour which may distort the market price for the futures contracts traded on that exchange. This helps to create certainty that the price 'discovered' through the exchange trading mechanism is reasonably reflective of prevailing market conditions and can be seen as a true market price.

Recent enforcement action in relation to NYMEX precious metals derivatives contracts highlights the importance placed on regulations to ensure that markets are free from manipulation. In April 2010 the US Commodity Futures Trading Commission (CFTC) ordered a US hedge fund manager to pay a fine of USD 25mn for attempting to manipulate the settlement prices of NYMEX platinum and palladium derivatives contracts, by engaging in a behaviour known as 'banging the close'. The CFTC also imposed restrictions on the hedge fund manager's trading around the closing period of the NYMEX platinum and palladium contracts. (<http://www.cftc.gov/PressRoom/PressReleases/pr5815-10.html>)

It is worth noting that although rules are typically imposed through legislation or directives (such as statutes or regulations which a firm must comply with) or through some sort of contractual arrangement (such as the rules of a trading exchange, platform or industry association, which a member firm contractually agrees to be bound by), rules may also be imposed through some sort of voluntary self-regulatory framework.

The London Code of Conduct for Non-Investment Products (NIPs) code is an example of such a voluntary framework. The NIPs code was drawn up by industry bodies representing the foreign-exchange, money and bullion markets, in conjunction with the Bank of England and with input from the FSA. It sets out the standards of conduct, and professionalism expected of participants in terms of their interaction with each other and with their clients.

Most rules, particularly those imposed through legislation, are backed by a threat of sanctions. In the event of improper conduct

regulatory bodies may take enforcement action and impose censures, fines or other penalties. In recent times, possibly as a result of political pressure on regulators, fines imposed by regulatory bodies have become considerably more penal, with both the amount of fines and the number of disciplinary actions increasing.

In self-regulatory regimes the mutual self interest of the parties involved and simply the desire to avoid negative publicity and damage to reputation can be enough to ensure compliance with the regulations. Compliance with the NIPs code for example is essentially on a voluntary basis. It relies on the professional and wholesale nature of the market and the broadly similar levels of knowledge and sophistication of its participants, to ensure that market conduct conforms to the required parameters. Allegations of breaches of rules or improper conduct are bilateral matters to be decided between the two participants and there is no body that will impose sanctions for breaches of NIPs code provisions, although arbitration may be sought for dispute resolution.

The simple fact of having regulations does not in itself create complete certainty for market participants. While a regulatory regime can offer a degree of certainty as regards the quality of a commodity being delivered under a contract or the acceptability of various forms of conduct, markets also appreciate longer-term certainty. Participants will want to be comfortable that regulations will not be subject to frequent or arbitrary change so they can make long-term plans accordingly. Concern over whether current regulations will still be in force in a year, or perhaps whether a change in government will lead to the introduction of new regulations, can impact strategic planning within firms.

It is also beneficial that any changes to regulations will be subject to some sort of industry consultation process so that market practitioners have the opportunity to make comments on regulatory proposals and contribute to the process of forming regulations. Furthermore it is preferable that proposed regulations are subject to some sort of cost/benefit analysis to ensure that regulations are not unduly restrictive and allow financial markets the scope to develop new products and risk management solutions.

Some regulatory regimes seek to address these issues and the broader question of why regulation is a good thing, through terms of

reference and operating principles. The UK for example has five statutory objectives set out in the Financial Services and Markets Act 2000 (FSMA), which its regulator, the Financial Services Authority (FSA), must seek to achieve. These are: to maintain confidence in the financial system; to promote public understanding of the financial system; to secure the appropriate degree of protection for consumers; to reduce financial crime and to contribute to the protection and enhancement of the UK financial system. This last objective concerning financial stability in the UK is a very recent addition and a direct response to the recent financial crisis.

In addition the UK FSA also has principles of good regulation which include the requirement that any restrictions imposed on financial markets must be proportionate to the benefits resulting from those restrictions, and the need to minimise adverse effects on competition that may arise from regulations.

There is also a political dimension to the drive to regulate. Regulations may be influenced by popular viewpoints or reactions to contemporary market events. This is particularly the case recently where in many western jurisdictions, there has been a public perception that existing regulatory regimes failed and that this failure was a material contributor in the global financial crisis. In both the US and the EU, considerable amounts of new regulation have been proposed and are at various stages of implementation.

Such regulatory 'knee-jerk' reactions may even fail to achieve the desired objectives. The CFTC's proposals to introduce position limits in energy contracts and potentially even metals contracts in order to curb supposedly harmful speculation have attracted much criticism, both for their argued negative impacts such as increasing uncertainty and driving trading on to less transparent venues such as the OTC market, but also for being too large and potentially ineffectual.

The direct benefits of new regulations to the actual market participants may not always be completely clear. The various regulatory proposals in the US and EU calling for increased transparency in OTC derivatives markets for example, are arguably more

beneficial to the regulators themselves and the wider public to whom governments and regulators are ultimately responsible, than to those transacting in OTC derivatives where the desire for contractual flexibility or confidentiality may have driven the decision to utilise the OTC market in the first place.

In some developing financial markets, regulations are used to restrict access to certain types of market participants and to allow domestic markets to develop in a controlled and sustainable manner. Such limitations may be in the form of restrictions on memberships of domestic exchanges or trading platforms, foreign exchange controls or import / export licence requirements. This can frustrate the attempts of international firms to get involved in these markets.

Regulation is therefore generally a good thing, adding certainty as well as 'levelling the playing field' for market participants, by addressing imbalances in the relative sophistication of the various participants in a market.

Why though is this relevant to precious metals markets? Although the majority of gold production is used for jewellery, retail investment in precious metals has typically been confined to a consumer market, with a distinct wholesale market in which banks, central banks and industrial producers and consumers make up the bulk of the participants.

Recent concerns over the stability of traditional forms of investment such as shares, bonds and currencies have however led to increased retail participation in the wholesale precious metals markets. Over the last 8 years a considerable number of precious metals Exchange Traded Funds (ETF) or Exchange Traded Commodities (ETC) products have been set up. Since 2004 the total value of the assets under management for physically backed gold ETFs has increased from zero to around USD 50 billion (see Figure 1). As well as ETFs or ETCs in gold and silver which have traditionally been attractive to retail participants, more industrial metals such as platinum have recently become the subject of ETFs. In addition new forms of access product which allow retail investors to gain exposure to precious metals prices such as dual currency deposits where gold is the second 'currency', have also been developed.

Some have argued that increased financial activity in commodity markets has resulted in increased commodity prices and the amplification of commodity price volatility. Investment demand for gold for example has increased dramatically with the demand coming from ETFs representing a larger proportion of overall annual demand. Between 2004 and 2010 annual gold demand contribution from ETFs increased from around 150 tonnes to around 600 tonnes

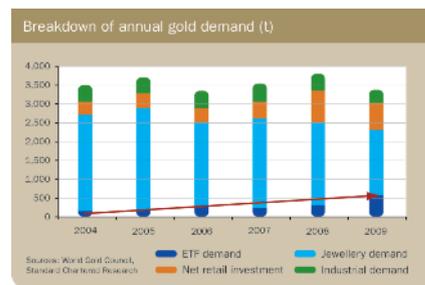


Figure 2

while overall annual demand has remained relatively unchanged (see Figure 2). At the same time there has been significant correlation between this increased demand for gold from investment sources, with the underlying price of gold (see Figure 3).



Figure 3:

These new forms of retail participation in wholesale precious metals markets add to overall liquidity, but at the same time bring a greater responsibility to ensure fairness and certainty for all market participants. Those investing in precious metals ETFs must be comfortable that the price of the underlying metal is not subject to manipulation. Regulations are critical in giving all participants, including retail investors, that level of comfort.

So despite being restrictive and often complex, regulation is generally a positive force. The challenge however is to ensure that regulatory frameworks are equitable, proportionate, consistent, tied to clear objectives and promote a stable environment in which to conduct long-term business. In an ideal world, regulations would be consistent across all jurisdictions. While the harmonisation of financial regulations across the European Union and the recent attempts by the G20 nations, to promote consistent regulations are certainly positive developments, this is a long way off. There will always be a political dimension to regulation and while there are still multiple independent nations there will always be separate national agendas and priorities.

Prior to the global financial crisis, some regulatory regimes had begun moving towards what is known as 'principles-based regulation'



Figure 1: Source: ETF Securities - 'Setting the Gold Standard - An investor's guide to the gold market and gold ETFs/ETCs'.

whereby a set of broad outline principles forms the foundation of the regulatory regime, with specific regulations and guidance supplementing and expanding upon the basic principles. Greater focus is placed on qualitative values, desired outcomes for customers and modifying participants' behaviour, rather than quantitative prescriptions and the imposition of punitive sanctions for breaches.

Because they are less prescriptive, these regulatory regimes also tend to be less adversarial in nature. The UK FSA is perhaps the most well-known exponent of such an approach. A possible consequence of the global financial crisis and the FSA's perceived failure to anticipate and prevent the crisis in the UK, is that this will be seen in part as a failure of less prescriptive and less adversarial principles-based regulatory systems. This may in turn lead to a move toward more detailed regulations, a more adversarial approach and more stringent sanctions for breaches. ■



Joel Cook

is Global Head of Commodities Compliance, Wholesale Bank Compliance at Standard Chartered Bank (SCB). Prior to joining SCB, Joel was Compliance Officer for the Equities and Futures businesses at UBS AG, Singapore Branch. Joel was previously a Compliance Officer at JPMorgan in London where he provided Compliance coverage for JPMorgan's European commodities division and helped to build out the physical commodities business in several asset classes including European power and gas trading and international oil trading, as well as being a member of Futures & Options Association Metals Working Group. Prior to this Joel was a Compliance Officer at Morgan Stanley where he provided compliance support and coverage for various businesses including the Commodities, Futures and Fixed Income businesses.

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A Day in the Life of a Site Operations Manager

By Keith Davies, Site Operations Manager, JBR Recovery Ltd

08.00

Arrive, log in to security, review overnight activities with security, check status of security cameras, change clothing and proceed into the production plant.

JBR, based in West Bromwich, UK, is a leading smelter and Good Delivery refiner of 999 silver, but also processes some Au and PGM metals.

The materials processed are from secondary waste sent for recycling and can be anything from low-grade paper, wet sludges, ashes, liquids and metallics, including Non Good Delivery bars and fine silver grain for recasting. Some of the materials can be quite difficult to cope with and can cause a few issues with housekeeping. I will need to check this out later because we have a routine Environment Agency (EA) inspection later this morning.

Grab a cup of coffee, check overnight and early morning emails, respond to the most important, delete the spam and file the rest for later. Check today's planned production schedule and the expected material receipts booked in for today.

Most important job of the day – the site tour – goods inwards, sampling, incineration, smelting, cupellation, refining and bullion areas. Housekeeping looks good – at least the shift operators are doing their bit! During the site tour have stand-up briefings with the Shift Supervisor and Refinery Supervisor – review overnight/weekend production activities and incidents. Discuss today's production requirements, changes to procedures and let the supervisors know about site visitors. Obtain feedback on proposed and recent changes for discussion later with the Operations Director and other managers.

Refinery – it's a bullion despatch day – ensure the Refinery Supervisor and Production Controller are ready to check bar weights, issue weight lists and assay certificates.

We're due to start recasting a recent delivery of another refiners' NGD bars today, but we haven't yet received the assay reports from the Lab for deleterious elements. I'd heard a rumour that the ICP had broken down yesterday!

Laboratory – chase the Lab Manager for assays from trial samples from overnight smelter production. The Inductively Couple Plasma-Atomic Emission Spectrometer (ICP-AES) is out of action, engineer is due tomorrow; what is it with these machines? At least the old Atomic Absorption Spectrophotometers (AAS) are still churning out some results.

Engineering Manager – discuss what repairs are scheduled/ongoing and if any plant is out for preventative maintenance? The annual summer shutdown is only a couple of months away; how are preparations going for the annual maintenance repairs and plant modifications?

Discuss any issues with the Production Manager, particularly incineration and sampling (any witnesses in today, what plant and operators will be required, is any material likely to cause any deviation from our routine sampling procedures). Touch base with the Operations Director.

09.30

Time for a coffee. The last one is still on my desk – cold! Got to get silver production plan spreadsheet prepared for issue to Commercial

department in readiness for discussion at the lunch-time senior management meeting.

10.00

Scheduled visit by an EA inspector - meeting with the Safety, Health and Environment (SHE) Manager, Operations Director and self.

SHE Manager accompanies the EA inspector on a routine site inspection. But I'm on standby to respond if any issues are raised by the EA inspector during the tour.

11.00

We're making changes to the smelter operating parameters – brief meeting with the Operations Director to discuss results to date and the proposed next stage.

Follow-up meeting before the EA inspector leaves. The inspector has requested more information on a proposed new process we have been working on that is a departure from our normal line of business. Trying to diversify our processes under PPC (Pollution Prevention and Control) can be very slow – all changes and trials have to be agreed and authorised in advance.

12.00

Despatch of 999 GD bars – check weights and strapping, and oversee security operation.

13.00

Senior management meeting – review latest news about customers, (Commercial department wants to change production priorities yet again), new material, production



plan, HR issues, update from the morning's meeting with the EA inspector, discuss the latest increases in the cost of furnace coke.

Usual outcome of this meeting – another six jobs to add to my 'To do list!' – along with the sandwiches and indigestion!

14.30

Unexpected visit from a key supplier of raw materials. He is advising significant price increases, which are not acceptable, so this is going to lead to more work to try and find an alternative supplier.

15.00

Prepare for an internal audit, ISO 14001. An external audit is scheduled for next month.

16.00

A training session is planned for tomorrow for several shift operators. Liaise with the SHE

Manager, who is running the session, about timetable and content.

17.30

Discuss plant status with the Engineering Manager; is all set for the night shift? Discuss contingency plans and back-up if any plant is only temporarily fixed.

Discuss furnace (smelting) operation with the Shift Supervisor and confirm what we want the night shift to do.

17.00

Prepare shift log book – leave instructions for the night shift.

17.30

Notify security of scheduled visitors and vehicles for tomorrow. Set security alarm systems, change, shower, set off for home. It's been a busy, but interesting, day!

Kettle's on and the dog's waiting to go for a walk. The night Shift Supervisor calls to say that a smelter operator has phoned in sick.

Discuss contingency options and make note to discuss the attendance record of this operator with his manager in the morning. ■



Keith Davies
joined John Betts Refiners (as it was then) in May 1984 as an analytical chemist for several years for Foseco. Promoted to Laboratory

Manager in October 1985, Keith eventually transferred to a production operational role in April 1991, and in September 1996, was appointed Site Operations Manager.

If you are interested in taking part in the "Day in the Life of..." series, please contact: amy.berman@lbma.org.uk

Electronic Weighing of Gold

A Success Story

By Douglas Beadle

In mid-May, a demonstration of a new electronic scale suitable for weighing large gold bars took place at one of J.P. Morgan's vaults. The participants included representatives of all the London vaults. By the end of the demonstration, all were convinced that the new scale, which had been developed by Sartorius AG, could match the accuracy and precision of the beam balance, which until now, has been the only way that these bars could be weighed in the London vaults.

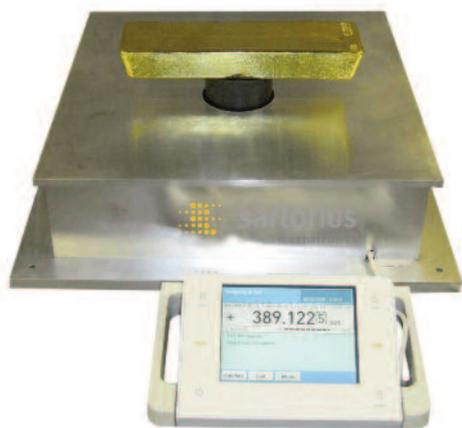
This marked the culmination of a six-year project to find an electronic scale for gold that might be acceptable to the London market.

The majority of weighing practitioners will concede that, ultimately, the most accurate method of weighing gold to the exacting standards of the London bullion market is a traditional well-maintained beam balance – as long as this is combined with the necessary experience on the part of the operator. Beam balance weighing is, however, a time-consuming process and, in addition, the regular servicing of such beam balances is a very specialist job that can be undertaken by very few highly skilled technicians.

For these reasons, the LBMA Management Committee decided in June 2004 to set up a working party, reporting to the Physical Committee, to look at the possibility of permitting gold to be weighed in the London market not only on traditional beam balances but also on electronic scales. The intention was not to eliminate traditional beam balance weighing but to provide an alternative, thereby helping to maintain London's status as the prime physical gold clearing centre in the world. The desire to investigate electronic weighing also reflected the fact that most gold refiners and many

other trading centres already use electronic scales without problems (even if they may be weighing to less exacting standards than apply in London).

At the outset, it was not envisaged that it would take six years to reach this point. So why has it taken so long to find a scale with the appropriate performance? There were a number of reasons. Firstly, trialling a scale has to be fitted in with a vault's daily workload and, over the last few years, the London vaults have had to deal with an unprecedented volume of metal coming into, and sometimes going out of, London. Secondly, having identified what appeared to be the most suitable scale available at the time, exhaustive trials were conducted to establish the accuracy and suitability of the scale in a busy vault. During the trialling, a bar is initially weighed on a traditional beam balance and then on the electronic scale being tested (scale 1). If the results of the initial trial look promising, another identical scale (scale 2) is introduced and the vault weighs the bar on the beam balance against both scales 1 and 2. The final step in the process is for scale 2 to be moved to another London vault and for the first vault to weigh the bar on both the beam and scale 1; the bars are then shipped to the second



vault, which weighs beam balance against scale 2, following which all the results are compared. Each such trial typically involves weighing something in excess of five tonnes (approximately 400 bars), but often more. Throughout such trials, repeatability, particularly on very tight bars, is crucial and it was this factor that became a major problem. It was concluded that the first scale could not match the accuracy of the beam balance and as a more accurate scale was not then available, this led to the project being put on hold for about a year.

Some two years ago, the German scale manufacturer, Sartorius AG, offered to produce a prototype scale for testing that would be much more accurate than the scale previously trialled.

However, there was a further complication in that in order to comply with EU weighing regulations, the troy ounce indication would have to be expressed in display steps of 0.005 troy ounces before rounding, whereas metric indication would be permitted in display steps of 0.01g, equivalent to approximately 0.0003 troy ounces. Given that the LBMA weighing rules require bars to be traded in multiples of 0.025 troy ounces, the troy display steps would be too large to enable the correct rounding. It was not possible for the LBMA to consider changing its weighing rules to accommodate the metric requirements by abandoning the 0.025 troy ounce multiple.

Consequently, it was agreed that the Sartorius prototype would be type-approved as a metric scale, meaning that the legal weight would always be stored internally in metric, but the scale would have the facility to enable the operator to switch the display to show the troy ounce equivalent. The Sartorius scale incorporates an integrated Alibi memory for saving the date, time, legal-for-trade metric weight, scale serial number and transaction number so as to establish an automatic audit trail linking the troy ounce weight back to the initial legal metric weight. In this way, the EU weighing regulations are complied with and no change is required to the long-established LBMA weighing rules.

Following further extensive trialling, carried out by the two main London vaults, the results were analysed by the LBMA's weighing consultant, Jagger & Jagger, which concluded that the prototype scale did indeed meet the London market's requirements, leading to the demonstration mentioned above.

Obviously when using any beam balance or scale, it is essential that environmental conditions should be as constant as possible. For example, a draught could easily affect the accuracy of a scale. During the weighing trials, the vaults manufactured their own draught shields, but this was not without its problems as it was found that the material from which the shields were made gave rise to a build-up of static electricity. Also it was necessary to have a shield to protect the scale from damage if a bar were accidentally dropped on it. Therefore, as part of the overall package, Sartorius will also provide a specifically made draught excluder. By addressing such issues in a uniform way from the outset, it is hoped to maximise the repeatability of weighing results no matter where in the world the scale is used.

There are two further steps that must be completed before the LBMA can approve the use of electronic weighing in the London market as an additional method of weighing gold.

Firstly, Sartorius must obtain EU Type Approval in Germany (where the scale is manufactured). Given Sartorius's experience as a scale manufacturer, obtaining Type Approval is not expected to be a problem and should only take a few months. Sartorius has confirmed that it has received sufficient orders from the London vaults to justify the additional cost of submitting the new scale for type approval.

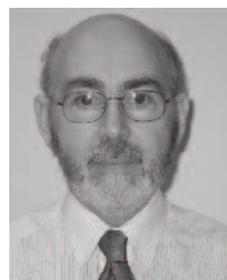
Secondly, the LBMA will wish to consult all the approved weighers in the London market that purchase the new scale once they have accumulated sufficient experience in using it.

Looking ahead, the LBMA does not intend to restrict electronic weighing to the new Sartorius scale, but its specifications will provide a benchmark that any alternative will have to equal or exceed. In addition, even when electronic weighing is approved, it is likely that the vaults will continue to make use of beam balances, particularly for weighing bars that only just pull their declared weight (commonly known as 'tight' bars).

It is hoped that the project will reach a satisfactory conclusion by the year end and that the additional approved method of weighing gold will assist vaults to weigh accurately, efficiently and more quickly than before, the huge quantities of gold that will inevitably continue flowing into the London market. ■

Douglas Beadle

acted as a consultant to the LBMA until March 2010 and was involved from the outset in the project to find a suitable scale for the electronic weighing of gold.

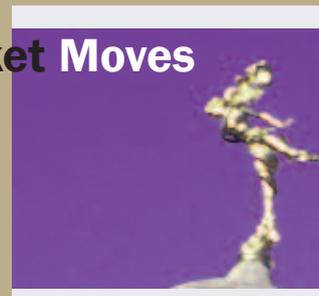


Prior to 2004 he was employed in the bullion department of NM Rothschild when he was the company's representative on the LBMA Physical Committee.

Tony Hill has joined **Mitsubishi's** London precious metals trading desk. Tony previously worked at Investec, Rabobank and Barclays.

Matthew Turner has joined **Mitsubishi** as precious metals strategist, based in London. Matthew was previously with VM Group and prior to that worked for the World Gold Council.

Market Moves

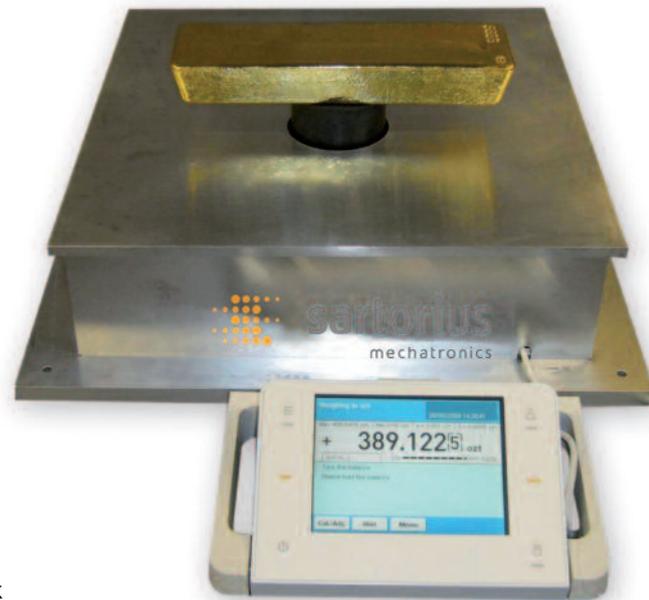


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Sustainable Recycling of Electronic Scrap

By Christopher W. Corti, COREGOLD Technology and Christian Hagelüken, Umicore Precious Metal Refining

Gold plays an increasingly important role in industrial applications, particularly in electronics, despite its larger use in jewellery and investment products. As the annual statistics show (Gold Survey 2010, GFMS Ltd, London), some 300t or more of gold are used annually in electronic components such as ICs, contacts and circuitry, the latter notably as gold bonding wire.

Sales growth of electronic devices continues to boom and their in-built features continue to become 'smarter and quicker' each year, which has led to a substantial net increase in gold demand over recent years, even though specific gold content is being driven down due to thrifting and miniaturisation. At the end of their use, electronic and other electrical product scrap offer an important recycling potential for the secondary supply of gold into the market. With gold concentrations reaching 300-350 g/t for mobile phone handsets and 200-250 g/t for computer circuit boards, this scrap is an 'urban mine' that is significantly richer in gold than the sources of the primary ores today. However, as a forthcoming paper points out (C. Hagelüken and C. W. Corti, Gold Bulletin, vol 43 (3), 2010), the 'mineralogy'

of such scrap products is very different to those of primary ores. Such scrap contains up to 60 different chemical elements that are intimately interlinked in complex assemblies and sub-assemblies. They are usually associated with organic materials that often incorporate halogenated flame retardants. Thus, specialised metallurgical processes with extensive offgas treatments are required to recover the gold and a wide range of other valuable metals in a cost-effective and environmentally sound way. Equally importantly, the collection of such scrap from millions of households and businesses requires organised logistics to collect and bring the scrap to the recovery and refining facilities; this is undoubtedly a bigger challenge than the primary ore supply chain.

Gold's importance to the economics of recovery

Recovery of gold and other valuable metals from such scrap involves a complex metallurgical flowsheet and requires state-of-the-art recovery technologies that are available in large-scale, integrated smelter-refinery operations. At the Umicore plant in Belgium, for example, pure gold and 16 other metals are recovered with high yields.

Perhaps what is not adequately appreciated is that the recovery of gold is important to the economics of recycling electronic scrap. It is the gold that makes the recovery of all the valuable metals economically worthwhile. Thus a 'design for recycling' approach to the use of gold in electronic equipment assumes an importance when material choices are being made by OEMs; simply seeking use of cheaper alternative materials as substitutes for gold can damage the economics of recycling devices at the end of their life. One needs to take the complete life cycle costs into account at the design stage.

This is about sustainability of resources. However, in Europe and elsewhere, there are currently severe deficits in the recycling chain that hinder the achievement of a high overall recovery rate of gold and other metals. This is due in part to substandard processing of scrap in many 'backyard' recycling operations, often through the illegal and dubious export of end-of-life electronics to many developing/transition countries around the world. There is also an environmental impact, as discussed below. We should also note that recycling of WEEE in the EU and elsewhere has become a legal requirement.

The composition of electronic equipment

The materials contained in scrap electronic equipment are large in number and value; some are valuable and some are toxic or hazardous. Typical chemical elements found include:

- Precious metals such as gold, silver and palladium, and to a lesser extent, platinum and ruthenium

 1. Base and special metals such as iron, copper, aluminium, nickel, zinc, tin, cobalt, indium, gallium and selenium
 2. Hazardous metals such as mercury, beryllium, cadmium, arsenic and antimony
 3. Halogens – bromine, fluorine and chlorine
 4. Other substances such as organics/plastics, glass and ceramics.

If such scrap is landfilled or not treated in an environmentally sound way, then it poses a high risk of environmental damage. The valuable materials that it contains are not recovered and reused, and so this increases the need to mine new metals from primary resources.

Typical compositions of a number of electronic items are shown in the upper part of Table 1. We should note that these figures are indicative; actual content can vary significantly but the magnitude is correct. In terms of weight, plastics and steel tend to dominate, but in terms of value, the lower part of Table 1, gold and the other precious metals dominate. Gold and other precious metals makes up more than 80% of the value in PC boards, cell phones and calculators, and around 50% of the value in TV boards and DVDs. We note copper is next in value terms.

The European Directive on Waste Electronic and Electrical Equipment (WEEE) aims to provide a 'closed loop' economy, that is, to foster environmentally sound reuse and recycling, and to preserve natural

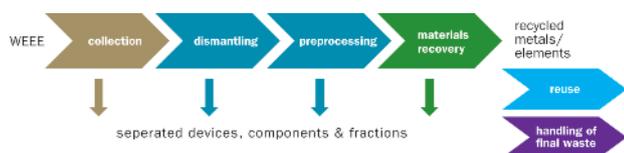


Figure 1: Recycling chain for End-of-Life electronics

Hence, it is very evident that any net decrease in precious metal content substantially reduces the net recoverable value from the electronic scrap and, thus, the motivation to recycle scrap. It is worth noting that the complete recycling chain needs to be remunerated, as Hagelüken and Corti discuss in their paper. The recycling requirements – technical processes and emission controls – depend on the composition of the scrap, and taking the various values between types of scrap into account, means that the mixing of different types of scrap in the collection and pre-processing stages can influence the recycling returns in a negative manner.

Gold: The potential market supply from recycling

The electronic use of gold at around 300tpa amounts to about 12% of the total annual mine production of gold. Its efficient recovery from electronic scrap (WEEE) therefore represents a substantial potential recycling resource. If we take the case of mobile phones, for example, global sales of 1,300 million in 2008 equates to about 31 tonnes of gold, 325t of silver, 12t of palladium and 12,000t of copper. With batteries, an additional 4,600t of cobalt can be added. Taking cumulative sales of mobiles up to 2008, this increases to 170t of gold, 1,800t of silver and 70t of palladium.

If we add the sales of PCs and laptops, these potential supplies of precious metals equate to a significant proportion of total mine production: 4% for gold, 3% for silver, 16% for palladium, 20% for cobalt and <1% for copper. For the broader electronics market, the market supply is more substantial.

The 'green' credentials of recycling WEEE

Being a rich source of gold compared to primary ores, the urban mine of WEEE is economically attractive. If we factor in the high CO₂ impact of primary gold production, the recycling of scrap becomes more attractive from a sustainable standpoint. Recycling has a much lower carbon footprint if state-of-the-art technologies are used. Clearly, WEEE scrap cannot replace all primary gold production; it is complementary in the drive

for a more sustainable use of gold.

The challenges in recycling precious metals from WEEE

There are several stages involved in the recycling of WEEE (see Figure 1), and the overall recovery rate will depend on the efficiency and effectiveness of each stage. The high precious metal yields achieved in the recovery stage, if state-of-the-art technologies are used, are insignificant if only a low proportion of WEE is collected or there is a large loss of gold in the dismantling and pre-processing stages. Today, less than 20% of the gold recycling potential is being realised from European WEEE due to the inefficiencies of the initial stages of the process chain. The collection stage is the weakest part of the chain. There is still a long way to go in Europe, and in many other countries, in organising efficient collection. Governments have a major part to play here and must take this aspect seriously.

The biggest loss factor currently is that much WEEE is exported to countries in Asia and Africa, for example, for treatment or just for discarding. Such scrap is usually treated by low-tech 'backyard' recycling methods that have dramatic environment and health impacts on workers and local communities (see paper by Hagelüken and Corti for further discussion on this aspect). Moreover, treatments are highly inefficient in terms of metals recovery, often focusing on 'cherry-picking' a few valuable metals; even for gold, yields are often lower than 25%.

Concluding remarks

This article has shown that the recycling of gold and other valuable metals from electronic devices at the end of life (WEEE) has a significant potential impact on the sustainable supply of gold and other metals to meet the needs of our modern society. In addition, gold has a vital role to play in the economics of recycling such scrap. Thus, a 'design for recycling' approach is needed in specifying materials used in new equipment manufacture by OEMs, especially gold. Thus, gold is the 'paying metal' that triggers recovery of other scarce precious and special metals that otherwise would not be economic to recover. Such an approach needs to be combined with innovative business models that encourage a more comprehensive collection of consumer goods at their end of life.

There are legal requirements in Europe for a 'closed loop' recycling system under the EU WEEE Directive, but currently this is far from the reality. Too much scrap is exported and poorly recycled, with a consequential damaging impact on environment and local communities. This loophole needs to be closed. Governments and manufacturers of electronic products have a major role to play

here in encouraging efficient collection systems and in enforcing existing legislation. ■

Acknowledgements

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Christian has 20 years experience in precious metals recycling. He has made numerous contributions to professional books, journals and conferences on topics related to recycling and sustainable resource management. He is among others a contributor to the UNEP-OECD Resource Panel, and to the Raw Materials Initiative of the European Commission. Christian holds university degrees in mining engineering and industrial engineering from RWTH Aachen, Germany, where he also received his Ph.D. in 1991.

weight share	Fe	Al	Ca	plastics	Pb	Au	Pd
monitor/board	30%	15%	10%	28%	260	20	10
PC/board	7%	5%	15%	23%	300	200	60
mobile phone	7%	3%	13%	43%	3000	320	120
portable audio	23%	1%	21%	47%	150	10	4
DVD player	62%	2%	5%	24%	115	15	4
calculator	4%	5%	3%	61%	260	90	5

value share	Fe	Al	Ca	plastics	Pb	Au	Pd
monitor/board	4%	14%	35%	47%	7%	33%	7%
PC/board	0%	1%	13%	86%	5%	69%	12%
mobile phone	0%	0%	6%	93%	11%	71%	11%
portable audio	3%	1%	73%	23%	4%	16%	3%
DVD player	15%	3%	30%	52%	3%	42%	5%
calculator	1%	4%	10%	85%	0%	70%	3%

Table 1: Value versus weight distribution for typical electronic devices (March 2010 prices)

Insights Into Investing in Gold

By Kevin Feldman, Managing Director of U.S. Marketing for iShares, Blackrock

Overview of the gold market

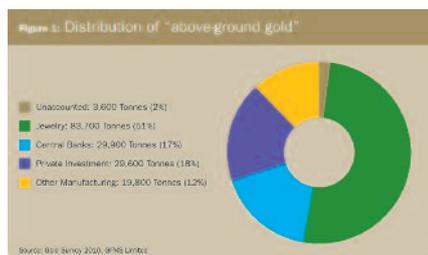
Rising market volatility, global economic uncertainty and geopolitical unrest have increased interest in gold as both a short- and long-term investment. In fact, during 2009, world investment in gold is estimated to have more than doubled from 2008 levels.ⁱ

The world gold market is active, with annual demand averaging 4,034 tonnesⁱⁱ over the 10 years ending December 31, 2009. Key market participants include:

- 1. Bullion banks, which may offer services such as physical gold purchases and sales, hedging and risk management, inventory management for industrial users and consumers, and gold deposit and loan instruments
- 2. Central banks, such as the US Treasury, which hold gold bullion as a reserve currency
- 3. Professional and private investors, such as large hedge and mutual funds, day traders on futures exchanges, and retail-level coin collectors, and
- 4. Commercial and industrial users, such as the jewellery, electronics and dental industries.

Virtually all the gold that has ever been mined still exists today in one form or another. It is estimated that existing 'above-ground' stocks of gold (gold that has already been mined) amounted to 165,000 tonnes at the end of 2009, spread across multiple sources as shown in Figure 1.

Jewellery and central banks have historically been the largest stores of gold. However, private investments, through physical bullion and investment products, have become increasingly important. Indeed, during 2009, investor demand exceeded jewellery demand for the first time since 1980.ⁱⁱⁱ



The price of gold

Many factors influence the price of gold. Central banks have historically held large positions in gold; as a result, announcements and activities by those banks have influenced the supply and demand of gold. Fluctuations in the value of the US dollar, political uncertainties and economic concerns around the world, hedging activities by gold producers, and trading activities of speculators also help drive the price of gold. Figure 2 illustrates how the price of gold has changed in response to global and economic events since the US dollar was decoupled from gold and the price of gold was allowed to free-float.

Gold is a physical asset that is accumulated, rather than consumed. This differentiates it from investment assets such as equities and fixed income instruments (which are claims on future cash flows), other commodities such as oil (which are consumed), and paper money (which can be more easily destroyed). These traits are among the reasons why gold may perform differently than other investments.

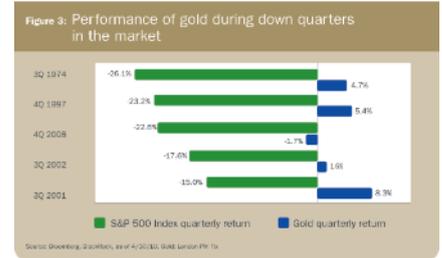
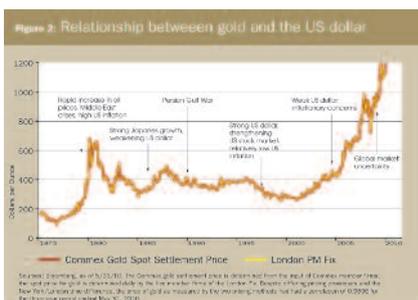
There are several ways that investors may use gold as part of a larger investment strategy.

Potential 'safe haven' during political or economic uncertainty

1. Portfolio diversifier over both long- and short-term horizons
2. Inflation hedge and store of value
3. Hedge against a devaluing dollar.

Potential 'safe haven'

Figure 2 illustrates how gold has historically maintained its value during times of economic or political uncertainty. Investors have also often retreated to gold when equity markets are struggling. As Figure 3 shows, gold exhibited positive performance during four of the five worst quarters of the S&P 500® Index's performance since 1973. In addition, gold exhibited positive performance during



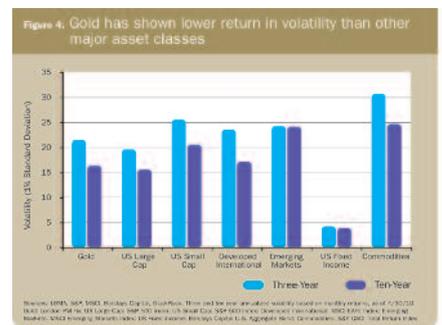
seven of the 10 worst quarters in the S&P 500® Index's performance since 1973.^{iv}

During these periods of market dislocation, gold has offered investors a safe haven and store of value.

Portfolio diversification

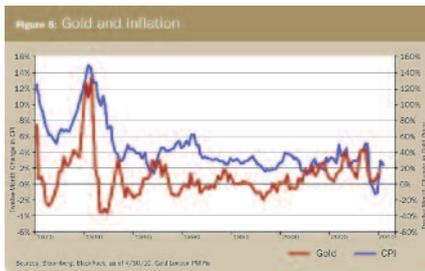
Many investors today already diversify their portfolios across styles, sectors and geographies. By including new asset classes that have low historical correlation to asset classes that are currently in their portfolio, investors can help further reduce portfolio volatility. Additional sources of diversification can be particularly helpful when equity correlations around the globe rise, as they did during the 2008 credit crises.

Gold has historically shown little to no correlation to major asset classes, including commodities. And while the price of gold is volatile, gold has historically displayed lower volatility than major asset classes over both long and short time periods (Figure 4). As a result, a small allocation to gold may help improve the risk/return trade-off of investment portfolios.



Potential hedge against rising inflation

Rising inflation can be a result of two drivers, both of which may have an effect on the price of gold. Inflation can be the result of economic prosperity, in which case, increased consumer wealth may drive an increased



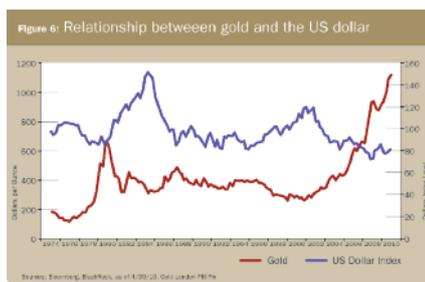
demand for luxury goods such as jewellery. In addition, inflation may be caused by relaxing monetary policy and increased money supply under times of economic distress. In this case, the price of gold may rise as investors seek to protect their wealth during economic uncertainty.

As Figure 5 shows, gold's price has generally moved as inflation has changed, making it a potential hedge against inflation concerns.

Potential hedge against devaluing dollar

The US dollar is widely viewed as the world's main trading currency. Gold has historically been regarded as a good hedge when the dollar weakens relative to other currencies.

Figure 6 shows the historical relationship between the price of gold and the US Dollar Index. The US Dollar Index is a measure of the value of the US dollar relative to a basket of foreign currencies. When the US Dollar Index is positive, it indicates a strengthening US dollar. As Figure 6 shows, a strengthening US dollar has historically been negatively correlated with gold.



Traditional ways to access gold

Historically, investors looking to add gold to their portfolios had three primary options to choose from.

Physical gold

Holding bullion, jewellery, coins and gold certificates provides pure access to gold. These forms of gold exposure, however, generally are not as liquid as holding a security (like a stock or futures contract) and may be impractical or costly to store, buy and/or secure.

Derivatives and futures contracts

Derivatives and future contracts have predominantly been limited to large institutional investors with the resources and experience to administer these positions themselves.

Investments in the equities of mining stocks or in precious metal mutual funds

Prior to the introduction of exchange traded products, mutual funds presented the most viable option for individual investors or small institutions seeking to invest in gold, because mutual funds provide convenient access to gold-linked investments at generally reasonable costs and low investment minimums. There are approximately 20 mutual funds, encompassing over \$29 billion in assets, providing exposure to gold.^v Investing in the equities of mining companies, however, provides imprecise exposure to gold given that mining companies may hedge their exposure to the price of gold. The five-year average correlation of precious metal mutual funds to the gold spot price is 0.75, while the five-year average correlation of previous metal mutual funds to the S&P 500® Index is 0.41.^{vi}

Exchange traded products

Exchange traded products represent a recent innovation for accessing the gold market. These investment vehicles typically offer the ability for investors to buy and sell their investment in gold through a brokerage account. Within exchange traded products, there are several approaches for delivering gold exposure.

Equities

These products typically gain exposure by investing in equities tied to the gold market, such as gold-mining companies. These products typically have less historical correlation to gold and higher historical correlation to the equity market than products holding physical gold or investing in gold futures.

Gold-based futures

These products hold gold futures contracts and typically roll those forward as necessary to avoid taking physical delivery of gold. While these products are more directly linked to the price of gold, they may diverge from the actual spot price of gold because of the roll costs associated with accessing gold via the futures market.

Physical gold

These exchange traded products, usually structured as trusts, offer investors participation in a trust that holds actual physical gold bullion. Because they hold physical gold, these products offer the most direct access to the current price of gold.

Conclusion

Investor demand for gold has been increasing amid global economic and political uncertainty. There are several options for investors interested in using gold as part of a short- or long-term investment strategy. Exchange traded products backed by physical gold offer investors an innovative way to access the price of physical gold. ■

ⁱ Source: GFMS, Gold Survey 2010. GFMS Limited is an independent precious metals research organisation based in London.

ⁱⁱ One 'tonne' is equivalent to one metric ton, which is equivalent to 1,000 kilograms or 32,150.7465 troy ounces.

ⁱⁱⁱ Source: Ibid.

^{iv} Sources: Bloomberg, BlackRock, as of April 30, 2010.

^v Source: Morningstar, as of April 30, 2010.

^{vi} Source: Morningstar, as of March 31, 2010.



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Prior to joining BlackRock, Kevin was the head of retail marketing at Vanguard, where he had responsibility for retail marketing strategy, programs and promotion to 6 million retail and 401(k) clients and prospects. Previous roles at Vanguard included leading the Client Insight function and leading sales and marketing strategy for Vanguard's high net worth business.

Before joining Vanguard, Kevin worked for Charles Schwab, where he held management positions in the retail, institutional and technology divisions.

Kevin received his M.P.A. from Harvard University and a B.A. from the University of California, Los Angeles. He holds various U.S. securities licenses and is a Certified Financial Planner™.

Gold Industry

Due Diligence and the DRC

By Gregory Mthembu-Salter, UN Group of Experts

The Group of Experts on the Democratic Republic of Congo (DRC) received its latest mandate from the UN Security Council in Resolution 1896, in December 2009. The Group for the past 10 years has investigated DRC armed groups, including whom their friends and allies are, how they obtain their weapons and how they pay for these.

One of the consistent findings of the reports of the Group over the decade is that an important source of funding for armed groups in the DRC is the minerals trade. Eastern DRC, where the conflict is mostly played out, is rich in gold, tin, tantalum and tungsten. The region is scattered with deposits of these metals, all worked by artisanal miners. The mineral ores then travel from the deposits along a variety of supply chains to the outside world, and armed groups enrich themselves by collecting rents from these supply chains.

It is a sanctionable activity for anyone to provide support, direct or indirect, to armed groups. Several companies, including two gold traders, have already been sanctioned by the UN Security Council for trading in minerals from which DRC armed groups had previously collected rents, resulting in the freezing of their assets and an international travel ban.

In Resolution 1896, the Council called on companies trading, processing or consuming DRC minerals to exercise due diligence to ensure they were not providing indirect support for armed groups. The Council also asked the Group to recommend to it

guidelines that it might issue to companies about how to practise this due diligence. The Group is currently engaged in drawing up these recommendations and will report to the Council with them in October 2010.

The Group's interim report S/2010/252 published in June this year outlines its work to date on this issue. In summary, the Group proposes a risk-based due diligence approach, in which companies ascertain the level of their exposure to the risk of supporting armed groups and then devise strategies to mitigate the risk. The Group further proposes that these strategies and their effectiveness should be evaluated by an independent third-party audit mechanism.

For companies to ascertain the risk of their supporting armed groups, they need to know:

1. Where exactly in the DRC their minerals came from
2. The details of the supply chain between themselves and the mine
3. Which armed groups got paid along the way and how much.

This represents a major challenge to the gold industry. An estimated 40 tonnes of gold was exported from the DRC last year, but almost all of it left the country unofficially. Traceability systems to track supply chains between DRC gold mines and refineries are weak to non-existent. There have to date been few significant efforts by the industry to improve traceability.

Yet this needs to change. The tin and tantalum industries are taking steps to introduce traceability systems. The gold

industry needs to follow suit. Increasing the pressure, legislation is working its way through the US Congress that could result in the ban on imports of Congolese 'conflict minerals'. Additionally, NGOs that have until recently largely focused on the tin and tantalum industries are now turning their attentions to the gold and jewellery sectors.

The gold industry, and gold refineries in particular, need now to develop traceability systems to find out where Congo's gold is travelling to and where it came from in the DRC. Work must also begin on tracking which armed groups got paid along the way. The Group is keen to engage with the gold sector on this issue. We await your inputs on this important issue. ■



Gregory Mthembu-Salter is a consultant to the UN Group of Experts on the Democratic Republic of Congo, tasked with bringing recommendations to the UN Security Council on due diligence guidelines for companies trading, processing and consuming Congolese minerals. He was formerly the finance expert for the Group, in 2007/08. He is also a long-standing author with the Economist Intelligence Unit about Central Africa, and a researcher for a variety of institutions, including the South African Institute for International Affairs and the Institute for Security Studies, focusing on African political economy.

International Regulation

Conflict Gold

By Ruth Crowell, Commercial Director, LBMA

The LBMA has been approached by and met with several groups regarding forthcoming US legislation and international regulations concerning conflict minerals including gold. These groups include the UN Working Group of Experts on the Democratic Republic of Congo (DRC), the OECD, ITRI (International Tin Research Institute) and the World Gold

Council. The various types of pending legislation are described below with the most important being the US Congo Conflict Minerals Act.

On July 15, 2010, after being passed in the House of Representatives, the US Senate passed the Dodd-Frank Wall Street Reform and Consumer Protection Act (also known as

the Financial Reform Act). A key provision that was added to the Bill will require US-listed companies to disclose whether they use minerals from the DRC or neighbouring countries. Companies will have to detail the measures they have taken to avoid sourcing tin, tungsten, tantalum and gold from armed groups in the DRC.

Assuming the Act is now signed by the President, it is expected that the SEC will set out guidelines in the next year regarding the required due diligence on mineral supply chains. These requirements would affect many participants in the gold supply chain including miners and refiners, commodities traders and banks, and even jewellers, fabricators and other users of gold.

US - Congo Conflict Minerals Act (Sen. Brownback)

This Act finds that armed groups that are abusing human rights and destabilising the Congo region are fighting over and profiting from the production and sale of certain minerals, termed 'conflict minerals'. The Bill was supported in its passage through Congress by Republicans and Democrats, and although initially aimed at tin, tantalum and tungsten, was amended to include gold. The Act will require US-listed companies to provide information on how they have carried out a due diligence on their supply chains. It also gives the SEC powers to require companies to report on this aspect. The Act will apply to companies for which gold is a necessary part of the products they make and sell. The Secretary of State will determine after five years whether the armed groups in the Congo continue to benefit from these minerals.

OECD due diligence guidance for responsible supply chain management of minerals from conflict-affected and high-risk areas.

This draft due diligence guidance puts forward a framework for companies to manage risks in the supply chain structured around the procedural steps that companies should take to:

identify the factual circumstances that companies should consider while trading, handling, refining, manufacturing or selling minerals originating from conflict-affected and high-risk areas;

1. detect actual, potential or perceived risks by assessing the factual circumstances against applicable standards;
2. devise sound risk management and mitigation strategies as appropriate, including the categorisation of such factual circumstances and related risks as acceptable, unacceptable or susceptible of improvement.

The draft guidance is based on the supply chain of cassiterite, tantalum and wolframite as a case study. It is expected that the principles, standards and procedural steps will be applicable to other minerals as well (e.g. gold) and to supply chain aspects of minerals from both artisanal and industrial origin as appropriate. This draft guidance is

also intended to pave the way for the development and implementation of comprehensive certification schemes of mineral resources, the implementation of which requires the performance of due diligence.

Responsible Jewellery Council

In April, the RJC announced that it is investigating the feasibility of developing a standard and process for independent, third party certification of chain-of-custody systems in the jewellery supply chain for both gold and diamonds. The stated aim is to assist RJC Members and other stakeholders who may wish to seek voluntary certification of chain-of-custody systems as a complementary element to the RJC certification of responsible business practices.

UN Group of Experts on the Democratic Republic of Congo

The Group is currently drawing up recommendations for the UN Security Council on due diligence guidelines for companies importing, processing or using minerals from the DRC. The primary aim of this due diligence is intended to enable companies to avoid providing indirect support to Congolese armed groups that are collecting rents from mineral supply chains in the country. ■



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Once more unto the breach, dear friends

Editorial Comment by Tim Wilson, Managing Director, JPMorgan

There comes a time in the evolution of most products when a bold step is taken, with vision and commitment, to foster and encourage their development. Traded markets are no exception. Success for the risk-takers may not always be guaranteed, but sometimes the environment presents a set of opportunities where success is a more predictable outcome. My view is that now is the time for the London Bullion Market to look to the traded gold market in Asia for its future development.

Since the formation of the LBMA in 1987, itself a bold and noteworthy step in formalising and shaping the trading environment we all benefit from today, there have been constant discussions and efforts to refine and develop the market. The number of debates and articles about transforming the LBMA into the International BMA are too numerous to recount, but discussion has rarely been translated into action. Normally, the discussion gets sidelined by other priorities and a view that “if it ain’t broke, don’t fix it”. Well that is indeed so for the legacy business, but from my vantage point, there is a great opportunity for those bold enough to grasp it.

There are some rather well-known statistics that put this opportunity into perspective and they are worth recounting as a reminder of the direction of the market’s momentum.

Investment

- In 2009, Asia accounted for over 82% of gold bar hoarding (not just the latest craze for ETFs – but sustained personal investment in treasured assets held in personal accounts and storage facilities). India accounts for 9.5% of the world’s total gold holdings and in recent years has consumed around 25% of the world’s annual gold output, mostly for the manufacture of high-carat investment jewellery.

Production

- In 2009, gold production in Asia grew by 16%, or 91t, accounting for almost half of the global increase. Within this region, the two largest country gains were recorded in Indonesia and China. As is well known, in 2007, China took over from South Africa as the world’s biggest gold producer. It remained the largest producer in 2009 (13.3% of global production), followed by Australia (9.4% of global production). In 2009, China produced 314t of gold (up 11% on 2008). Production in China has increased by 80% in the past ten years.

Growth

- The population growth in the emerging markets is destined to have positive implications for gold demand, e.g., in Vietnam gold has a higher significance than in the Western world - the Vietnamese per capita demand is more or less on par with the German equivalent, although German per capita GDP is 40 times higher than that of Vietnam. And over 50% of the world’s population already lives in Asia, so that world economic growth are likely to be boosted by developments in Asia for generations to come.

But there is also the tangible awakening of a collective will to develop further many regional markets in Asia and there is a growing recognition that international markets should accommodate fully and meaningfully Asian time zones and practices.

“What’s the issue from an LBMA perspective?”, you may argue, after all, that London, with all its history and credibility, still sees most of the flows. After all, there is still only one true gold reference price (the London ‘fix’), while other markets trade at a differential to the fix based on grade, transport, tax and policy parameters. Again correct, but only to a point. It is no coincidence that the fastest-developing financial markets are in Asia and that most of the new commodity exchanges proposed globally are Asia-based. The operators and owners of these exchanges know, as the famous villain ‘Slick Willie Sutton’ knew, if you desire to access wealth immediately, stick close to where the money is.

JPMorgan has recently announced the opening of an LBMA-linked gold vault in Singapore – a first for the region in having a fully commercial gold vault, tied to a global trading platform, where markets will be made for loco Singapore delivery, allowing clients and the LBMA professional market full access to some of the most active financial markets in a rapidly growing region. Established in parallel with some of the great names of collectibles and valuables – amongst them Christies, whose clients continue to see compelling logic in domiciling their physical assets in havens safe from retrospective claims – we are extremely confident that our investment, although not without its challenges, will reap rewards.

Our research has shown us that investors and traders of gold (the great prudential asset) would really value trading a liquid gold market in their waking time zones, as well as having their asset safe and close to them. You just never know when you might need it... which after all, is exactly the point. Whilst the

current market has done an admirable job servicing the needs of the established investment community, there beckons a new community with a hunger and appetite for the unique investment characteristics that gold represents and presents.

At a recent investment bank flagship conference on China in Beijing, attended by some 2,000 of the world’s China active fund managers, investors and corporates, one of the keynote addresses was, for the first time, on gold. Not a coincidence. We were after all at the centre of one of the world’s great re-emerging economies, that over the past millennia has had a passion for gold and an appetite for trading it. Balancing a portfolio of sizzling Shanghai property with an investment in tradable gold, of ascertainable provenance, and complemented by access to a liquid global market for portfolio optimisation, doesn’t sound so maverick.

The LBMA has recently announced that it is negotiating with the LME in the commercialisation of its forward curve. But these Ls need not mean Limited to London. I am sure it has not gone unnoticed amongst the Asian trading community that the LME has made an unequivocal commitment to the region. “Ah, obvious for them”, you say. I would argue that it’s just as obvious for us and that some of the discussions, motivations and finally justifications that the LME used to support its decision are even more compelling for the bullion markets.

We as Market Makers and Members should be embracing the opportunity to cement our position as the pre-eminent gold trading platform, to expand and promote the benefits associated with the highly accredited, reliable and international LBMA Good Delivery List. This is no missionary zeal, this is hard-headed economics of proactively capitalising on a dominant market position. Let us not just discuss the opportunity once again, agree about the lucrative prospects and then choose to do nothing. Would it be appropriate to suggest that an Asia initiative should be one that is an agenda item on every LBMA committee, to ensure that we capitalise on our position, and derive maximum value for our members, as well as the growing number of participants in the global bullion market?

Let us try again, one more time. ■



LBMA News

By Stewart Murray, Chief Executive, LBMA

MEMBERSHIP

Members

ABN-AMRO N.V. Following its name change from Fortis Nederland, ABN-AMRO was admitted as a Full Member on 1 July, 2010.

The unconnected Member with a similar name - ABN-AMRO (Australian Branch) – has resigned following its merger into the Royal Bank of Scotland.

Associates

ETF Securities Ltd was admitted as an Associate on 14 April, 2010.

As a result of the Associate review process, two companies (Fastmarkets and Alfred H. Knight) were unable to obtain renewed sponsorship from existing members and, as a result, their Associate status was revoked. This does not prevent them from reapplying if they are able to provide the necessary three sponsor letters.

GOOD DELIVERY LIST

The gold refinery of Atasay Kuyumculuk Sanayi Ve Ticaret A.S. of Turkey was added to the Gold List on 7 May, 2010. At a ceremony organised by the company and held in Goldsmiths' Hall, the Good Delivery certificate was presented to its Chief Executive by the LBMA Chairman. Atasay is the first Turkish refinery to achieve Good Delivery accreditation.

The gold refinery of L'azurde Company for Jewelry of Saudia Arabia was added to the Gold List on 1 June, 2010. L'azurde is the first refinery in the Middle East to be accredited.

The silver refinery of Yunnan Chihong Zinc & Germanium Company of China

was added to the Silver List on 28 June, 2010.

The silver refinery of Yunnan Chihong Zinc & Germanium Company of China was added to the Silver List on 28 June, 2010.

There have been two name changes affecting Good Delivery List refiners recently:

Nippon Mining and Metals has merged with other group companies to form JX Nippon Mining and Metals Company Ltd.

Following the dissolution of the AGR Matthey Joint Venture in Perth, Australia, the Newburn refinery is now wholly owned by the Western Australian Mint and trades under the name of the Perth Mint.

During the past quarter, a number of refiners have registered changes to their bar marks:

- Tanaka Kikinzoku Kogyo KK (Silver)
- The Perth Mint (Gold and Silver)
- Argor Heraeus (Silver)
- Royal Canadian Mint (Gold)

COMMITTEES

Management

The Committee met in May and July. As usual, the Committee's work largely consists of reviewing the reports from the Subcommittees and making decisions based on their recommendations. The Committee also reviewed the operation of market making in the London market in relation to the requirements that must be satisfied by Ordinary Members who are applying to be reclassified as Market Makers.

Data commercialisation was again an important topic on the Committee's agenda. Good progress has been made in the project to publish a forward

curve for gold on the basis of the daily contributions of the LBMA's eight forward Market Makers, which is to be compiled and distributed with the assistance of the London Metal Exchange.

Noting that some companies within the membership and the Good Delivery List have been very slow to pay their annual subscriptions, the Committee approved a recommendation from the Membership Committee that, in future, a 20% premium will be charged for companies that have not paid within three months of the date of the relevant invoice. The Executive will ensure that the invoices have been sent to the correct address and that two reminders have been sent to the company concerned before applying this surcharge. In addition, companies whose subscriptions are still due after six months will have their membership revoked.

Physical

Apart from monitoring the Executive's processing of a large number of GD applications (the seven that have already been listed this year and another three that are in the pipeline), the Committee has focused on three major topics recently. The first is the introduction of the electronic weighing of gold as an alternative to the use of the traditional beam balance (see the article on page 7). The second, also of relevance to the vaults in London, is the development of a new formal procedure for the recognition of vaults used by the bullion market. Thirdly, a new draft Memorandum of Understanding on the application of VAT in the bullion market has been under development. Once reviewed and agreed with HMRC, it is intended that the Memorandum

of Understanding will be circulated to all members, to clarify any areas of doubt about the application of this sometimes complex tax within the bullion market.

Public Affairs

As always at this point in the year, the Committee's work has been dominated by intensive discussions on the speaker programme for the forthcoming conference that will be held in Berlin in late September. The Committee has also been kept informed about the new revamp of the LBMA website, which has a number of new features and a completely redesigned user interface. We would be delighted to receive comments on the new website, including suggestions for content that might be included in the new Members Area.

Finance

The Committee completed its main task for the year in preparing the annual accounts for 2009, which were duly approved by the Management Committee and adopted by the AGM. In reviewing the aged debtors list, the Committee expressed some concern about the number of aged debts (see below for the response from the Membership Committee). Given the expansion of the LBMA's budget in recent years and the increased number of transactions to be processed, the Committee has also introduced a number of monthly bookkeeping checks, which will ensure that the accounts are always up to date.

Membership

As can be seen from the above, the Membership Committee has had a busy quarter. In addition,

it has discussed whether approaches might be made to other types of institutions that might be interested in Membership, such as research companies and central banks. However, the Committee concluded that although applications from such companies would be welcomed, the LBMA would not proactively encourage them to apply.

Reference Materials Project

Both the gold and silver phases of the project are now complete, and the materials have been sent to all those companies that had pre-ordered and paid for them. In addition, sales have been made to companies, including those that are interested in applying for Good Delivery accreditation. Details of the materials (both the technical specifications and the sales prices) can be found on the website.

Annual General Meeting

The LBMA Annual General Meeting was held in the Armourers Hall, in Coleman Street in the City of London, on 23 June. In addition to the formal business of approving the accounts and appointing the auditors, the meeting received reports from the Chairman and the chairs of the four Subcommittees. The following members were elected to the Management Committee:

Philip Aubertin (UBS)
Simon Churchill (Brinks)
Kevin Crisp (Mitsubishi)
David Gornall (Natixis)
Raymond Key (Deutsche Bank)
John Levin (HSBC)
Steven Lowe (Bank of Nova Scotia)
Martyn Whitehead (Barclays)

The new Committee then met and chose Kevin Crisp as Chairman and David Gornall as Vice Chairman. Interestingly, this is the first time in the LBMA's history that both these offices have been held by representatives of Ordinary Members.

The London Gold Market Fixing Limited has announced that there will be no afternoon gold fixings on Christmas Eve, Friday 24 December, and New Year's Eve Friday 31 December, 2010.

Biennial Dinner

The Biennial Dinner this year will be held on the evening of 25 November. The venue will again be the splendid Goldsmiths' Hall. Details of the event (including the price) will be circulated to all Members and Associates nearer the time.

On the afternoon of the same day, the LBMA is organising a seminar that will address a number of topical issues, including some that will be of interest to the many official sector representatives who are expected at the dinner as guests of the Association.

REACH

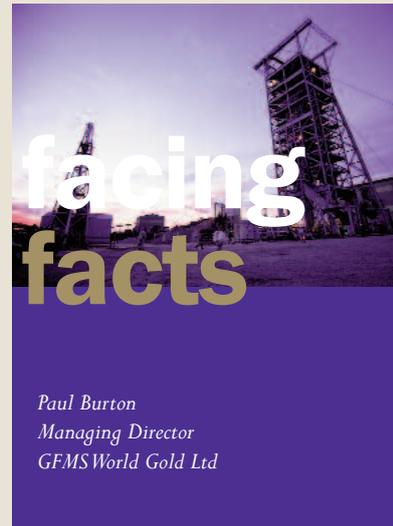
The LBMA's work on REACH is almost complete, at least for the moment. Pre-registered companies will shortly be contacted by the Brussels-based Precious Metals Consortium about how they can gain access to the necessary Registration Dossier to complete their registration (and importantly, the cost of obtaining it).

Chief Executive Presentations

The Chief Executive has made a number of presentations at industry events in the past quarter, mostly on the Good Delivery List and the role of the London Bullion Market, especially in relation to the burgeoning investment market for gold and silver:

1. SACHS Investment Conference in London
2. Dubai City of Gold Conference The Ninth Biennial Gold Symposium, Lima
3. The 7th Shanghai Futures Exchange Derivatives Market Forum
4. ETF Securities Conference Call.

He would like to thank all the organisations for their invitations. Copies of his presentations can be found on the website. ■



Juniors are risky investments, but essential players in the gold industry

Few Alchemist readers will be familiar with what we in the industry call the 'the junior mining sector'.

Individually, 'juniors' do not contribute much, if anything, to annual mine supply and, even collectively, their impact is hardly noticeable in an industry dominated by multimillion ounce producers.

But juniors, which include junior explorers, are vital components of the gold-mining industry and represent a compelling investment class for investors with a high propensity for risk.

Junior explorers are the exploration pioneers in lands where major gold companies may fear to tread. They act as the vanguard for their more conservative and larger contemporaries.

In recent years, it has been the juniors that are collectively spending over 50% of the global exploration budget and that are responsible for making the bulk of discoveries.

They comprise, in most cases, small geology-led outfits with a passion for exploration and boundless energy and enthusiasm. What they often lack, however, is money, and the need to refill the treasury can be a constant headache for management. Exploration companies, you see, don't generate any income, although they are very adept at spending it. They have no gold production; no sales revenue; only a long list of expenses and salaries to pay. Their only asset, apart from a right to explore a certain piece of ground, is the intellectual capital of the team.

Thus, exploration companies can be considered as performing the critical research and development function for the industry.

6D Model of Mining

High Risk	DETECTION	traces of gold in soils or geophysical anomalies on maps.
	DISCOVERY	drill results with grades & widths. Some idea of potential.
	DEFINITION	Resource, so idea of size. Pre-fees provides costs & revenues to within +/-30%. Initial valuations.
	DESIGN	definitive feasibility study. High confidence in all technical input figures. Capital committed.
	DEVELOPMENT	construction. Capital being spent.
Low Risk	DEPLETION	ultimate proof. Expect some technical teething problems.

As mentioned before, it is important to stress that exploration companies don't generate income – they consume it – and those investors that supply the necessary funds for the company's activities have no guarantee that they will ever see their money again, let alone get a decent return on their investment. Compounding the problem for would-be investors is the fact that, by definition, the explorers generally confine themselves to the earliest and highest risk phases of the industry life cycle – the Detection and Discovery stages, as described in the diagram above, which uses World Gold Analyst's 6D notation.

The diagram illustrates the levels of risk involved in the mining cycle as the process moves from Detection through to the Depleting phase.

How juniors can minimise the technical and geological risk associated with gold exploration is by gaining a thorough understanding of the deposit geology and its regional setting through a comprehensive programme of desk and field reconnaissance. Such a programme should involve a phased and systematic evaluation, using all methods available, and appropriate pauses to digest and assess the results of each stage and redirect their efforts, if necessary.

The company may, of course, be forced sometimes to suspend temporarily its activities if it runs out of money and new funds are not immediately forthcoming. Bearing in mind that the company relies on investors buying its shares as the sole source of funds, it must constantly promote its merits and the attractiveness of its projects in a competitive marketplace. This can often lead to unsophisticated investors being duped if they don't carry out sufficient due diligence before they stump up their savings.

Luckily, there are stock exchange rules and regulations that guide companies in appropriate behaviour so that situations as described by Mark Twain below seldom occur these days, but even so, the investor places a great deal of trust in the management of the company if he doesn't possess a considerable knowledge of geology himself.

"I little knew, then, that the custom was to hunt out the richest piece of rock and get it assayed. Very often, that piece... was the only fragment in a ton that had a particle of metal in it – and yet the assay made it pretend to represent the average value of the ton of rubbish it came from!" Samuel Clemens (*Mark Twain* 1872). And management is the key at the early project stage. The investor must ultimately trust that the geologists and directors have investigated the deposit correctly and that their interpretation is sound. The best way to do this is to check the credentials and track record of senior management. These days, through the internet, this is a relatively simple task. The investor should also meet with management and quiz them face-to-face about how investors' money is being spent.

Is it going into the ground or funding a director's lavish lifestyle? Management owning a substantial shareholding is also a positive sign as it generally means that the aims of insiders and outsiders are aligned.

Furthermore, an inexperienced investor should get professional help. Whereas, in the first instance, this may mean talking to World Gold Analyst, if their investing experience has proved to be too stressful, this may mean the professional concerned wears a white coat and has a couch in his office! ■

Junior explorers are the exploration pioneers in lands where major gold companies may fear to tread. They act as the vanguard for their more conservative and larger contemporaries.



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Historic Chart for CDN: ARU by Stockwatch.com



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