LBMA

Alchemist 100

Contents

March 2021

Alchemist

LONDON BULLION MARKET ASSOCIATION

ISSUE 1

Reaching out

An introduction by Alan Baker, chairman of the LBMA

Welcome to The Alchemist, the new quarterly newsletter of the London Bullion Market Association.

In the middle ages, the alchemist devoted his life to the search for the philosoper's stone, by which he hoped to turn base metals into gold. We hope that this new publication will prove to be the catalyst through which any or all of us may turn informed opinion into gain!

Since the formation of the LBMA in 1987, the Association's newsletter has grown in popularity as a vehicle whose function was the dissemination of information on regulatory and administrative matters, combined with market social news, often laced with humour, from the London Market.

It has become evident, through the interest shown in our newsletter by non-members, that there is potentially a much wider audience. London has contributed, and continues to contribute, much to the world of bullion, from the clearing system for loco London gold and silver and the administration of the associated London Good Delivery lists for both metals, to its recent work with some help from our colleagues in New York, in the creation of the International Bullion Master Agreement. London also has an abundance (some would say a surfeit) of market commentators, and it is in that direction that we look to source the informed opinions and freely expressed views - still, we trust, laced with humour - which will now enhance our publication to give even wider appeal and interest; these views and opinions are, of course, those of their respective authors, and not necessarily those of the Association.

Combined with this we shall continue to keep abreast of developments in the areas of tax, European initiatives and regulation insofar as they impact the market.

As a complement to The Alchemist we will also produce statistics and charts based on market data on the London Fixings on a quarterly basis. Together we feel these will provide a combined publication which will develop into an appreciated international forum, a forum which we trust you enjoy and perhaps will even be persuaded to contribute to.

In this issue:

- Rhona O'Connell of T Hoare & Co looks at the growing faith in gold as a safe haven
- Andrew Smith of Union Bank of Switzerland comments on different influences affecting the bullion market
- Tom Griffo of Cargill Investor Services Inc in New York gives a US perspective
- A brief update on the LBMA including an introduction to new chief executive Chris Elston, new members and a look at who is behind the Association
- Diary dates and the latest gold and silver supply and demand figures

Alchemist 1 Editorial - scanned original

EDITORIAL

100 Editions of the *Alchemist* and Counting

BY EDEL TULLY, HEAD OF COMMUNICATIONS, LBMA AND AELRED CONNELLY, PR OFFICER, LBMA

Welcome to the 100th edition of the *Alchemist*, LBMA's quarterly flagship publication. To commemorate this centenary edition, we've set out to produce a bumper souvenir version which celebrates the life of the *Alchemist* since it was first published in 1995 (there is some dispute regarding the exact date of publication because it was not officially dated, but we believe it was June).

WE PAY HOMAGE TO THE *ALCHEMIST* THROUGH THE LENS OF SOME OF THE KEY SECTORS OF THE BULLION MARKET

On the opposite page, we've reproduced the editorial from the first *Alchemist*, by the then Chairman, Alan Baker, which in the early editions also doubled as the front cover. It's interesting to note that Alan entitles his editorial 'Reaching Out' – something that remains central to the role of LBMA to this day. He talks about the *Alchemist* featuring market commentators and explains *"that is where we look to source the informed opinions and freely expressed views... which will enhance our publication"*. 99 editions later, I hope we are true to his word in that we continue to deliver interesting market commentary on a wide range of topical articles impacting the world of precious metals.

What we have attempted to do with this souvenir edition is to pay homage to the *Alchemist* through the lens of some of the key sectors of the bullion market. We've recruited experts in their fields and instructed them to write about their area of expertise with specific reference to past *Alchemist* articles and features (with hyperlinks to these so that you can re-read them if you would like to take a trip back down memory lane). Our contributors have highlighted not only what has changed (or not changed) over the last 25 years in their respective sectors, but more importantly, they've also fleshed out why it changed (or didn't). To round things off, we've also asked them to give a nod to the future to see what they think might change going forward.

WE TELL THE STORY OF THE *ALCHEMIST* THROUGH THE EYES OF THOSE WHO HAVE BEEN CLOSELY ASSOCIATED WITH IT DURING THE LAST 25 YEARS

We've also tried to tell the story of the *Alchemist* through the eyes of those who have been closely associated with it during the last 25 years. In this respect, we have contributions from all LBMA Chairmen whose tenure spanned the lifetime of the *Alchemist*. That's eight past and one present. We've also invited former CEO, Stewart Murray, and the current CEO, Ruth Crowell, to tell us what the *Alchemist* meant to them during their tenure.

There are also some light-hearted pieces, for example, a review of some of the key events, stories and articles that have featured, including the stories that lie behind the front cover photos. We've also reproduced in several features some of the cartoons that appeared in the early editions.

WE'D LIKE TO THANK YOU OUR LOYAL READERS FOR YOUR CONTINUED SUPPORT

We hope that this helps bring to life the past editions of the *Alchemist* and reminds readers about some of the stories they either didn't know or had perhaps forgotten about.

We'd also like to give mention to those closely associated with the *Alchemist* but who have not contributed to this edition, including Chris Elston, who was CEO at the time of the launch of the *Alchemist* until 1999. All of the editors require a special mention. First on the scene was Jeff Rhodes who juggled his day-time job at Standard Bank with the part-time editor role, followed by Susanne Capano, the second editor, who took on the position in a full-time capacity and, in doing so, did so much to develop the quality and professional content of the *Alchemist*.

The third editor was a youthful Ruth Crowell, who took over as editor after the golden anniversary edition and remained at the helm until *Alchemist 66*, when she handed the baton to the current editor, Aelred Connelly.

Finally, we'd like to thank you, our loyal readers, for your continued support. We hope that this special bumper edition sprinkles a little enjoyment for you all during the difficulties and challenging impact of the ongoing pandemic. And let's look forward to the next 100 editions.

Edel Tully

Aelred Connelly

All of our CEOs together, left to right, the first CEO, Chris Elston, Stella Thompson, LBMA secretary (under Chris and subsequently Stewart), the current CEO, Ruth Crowell and the second CEO, Stewart Murray.

BACK TO THE FUTURE WITH OUR CEOs

In this article, we feature the recollections of two CEOs who were at the helm for the vast majority of the lifetime of the *Alchemist* – Stewart Murray and the current CEO, Ruth Crowell. Here, they recall their favourite memories of the *Alchemist* and the memorable articles and events that featured during their respective tenures.

STEWART MURRAY

LBMA CEO

September 1999 to December 2013

Every single edition of the *Alchemist* published during my 13 years as LBMA Chief Executive brings back memories. Very little of what happened at LBMA did not finally get into the *Alchemist* in one form or another.

I HAVE A COMPLETE SERIES OF *ALCHEMISTS* NEXT TO MY DESK, BEGINNING WITH THE FIRST EDITION IN 1995, THEY FORM A WONDERFUL HISTORY NOT ONLY OF THE ASSOCIATION BUT ALSO ITS MEMBERS, THEIR REPRESENTATIVES AND THE WHOLE PRECIOUS METALS BUSINESS IN ALL ITS MYRIAD FORMS.

Extract from Alchemist 17, October 1999.

LBMA Appoints New Chief Executive

The LBMA's new Chief Executive, Dr. Stewart Murray, has spent much of the past month learning the ropes from Chris Elston, who retires at the end of October. Stewart is best known in the gold and silver market from his nine years at the helm of Gold Fields Mineral Services Limited, which he left in the middle of 1998. During the past year he has been working as an independent consultant. He is no stranger to trade association work, having been the Secretary General of the International Wrought Copper Council in the early 1980s.

One month into his new job, Stewart is now coming up to speed and looks forward with increasing relish to the challenges that lie ahead. As he indicated "There is a very full programme, in part resulting from the new constitution that the LBMA adopted in July. The opportunity for foreign companies to apply for associate status means that the international profile of the LBMA will be raised – something that will be greatly facilitated by the success which Suzanne Cipano has had in expanding the role of the Alchemist in recent years."

Also on the agenda for next year – adapting to the regulatory environment associated with the new Financial Services and Market Act. More immediately, much of the Association's current efforts are being spent on organising the Precious Metals Conference that will take place in Dubai next February. But the ongoing broad-and better activities of the Association, in particular its responsibility for maintaining the Good Delivery Lists, are at least as important, not only to the members but to the world market.

Stewart is approaching his new tasks with a great deal of enthusiasm. But he sees one small difficulty: "My only problem is that I am not going to have enough time to get my swing up to a standard where I can give a respectable account of myself at the LBMA's golf day next May."

Photograph taken from Alchemist 20, July 2000, Page 24
Three former Chairmen 'belly dancing' at the very first LBMA conference in Dubai in 2000, from left to right, Bob Guy, Peter Fava and Martin Stokes (excluding the person nearest the camera!)

The reason that I have a complete series of *Alchemists* next to my desk, beginning with the first edition in 1995, is that they form a wonderful history, not only of the Association but also its members, their representatives and, indeed, the whole precious metals business in all its myriad forms.

Brilliant covers, perceptive contributed articles, Market Moves, the Events Calendar and even the adverts, which started to appear in November 1998, all combine to paint a vivid picture of the London bullion market and the industry that it serves.

When, in September 1999, I arrived at the elegant offices in 'Fred's Place' (or to give its full address, 6 Frederick's Place) which we shared with the London Investment Banking Association, it was made clear to me that my first and most important task was to ensure the success of our first Conference – to be held just five months later in Dubai.

ALL THESE DEVELOPMENTS FEATURED PROMINENTLY IN THE *ALCHEMIST,* WHICH WAS THE IDEAL WAY OF INFORMING THE MARKET ABOUT THEM.

Dubai was a place I knew well from my GFMS days and I was delighted with the choice of venue that had already been made by Martin Stokes and the Management Committee.

But the tiny LBMA Executive had no experience of organising events on this scale and time was very short. After a quick reconnaissance trip to Dubai, I made one of the best decisions during my time with LBMA, namely to appoint Maggie Nash as our Conference organiser. Maggie, who had just retired from the events team at J.P. Morgan, took over all aspects of the Conference apart from the actual speakers' programme. Perhaps not surprisingly, many of the speakers' names had been found in my GFMS address book.

Dubai was a success, perhaps most memorably on the final evening, when before catching midnight flights to get back to their offices, many members of the London market had the pleasure of witnessing a display of belly dancing by three LBMA Chairmen (two former, one present, see photograph above) at the Desert Barbecue (see *Alchemist 20,* July 2000*, 'Looking forward – Three days in the city where all that glisters is gold'*).

Our team learnt a lot from Maggie Nash during the next four years and we were particularly indebted to her in 2003 for finding a great venue in Lisbon at very short notice when we had to cancel (or in fact postpone) our event in Shanghai because of SARS.

My second major task (announced in *Alchemist 18*, February 2000, *'LBMA News'*) was to implement the decision to allow companies outside the UK to join LBMA as International Associates.

Here again, my GFMS address book proved to be very useful. The admission of the first four Associates – three refiners and a bank (from Dubai, Japan, Poland and South Africa) – was announced in the *Alchemist* (see *Alchemist 20*, July 2000, *'Welcome – First International Associates Join the Field'*).

Making fundamental changes to the Good Delivery List was not part of the plan when I arrived at LBMA, but this is just what happened thanks to two unconnected developments.

The first was the decision by Engelhard-Clal to cease acting as one of LBMA's two independent referees. The second took the form of a letter received in 2001 from the Austrian Mint complaining about the fineness of some 999.9 gold bars. I well remember the discussion about this in the Physical Committee and the suggestion made by Neal Johnson that we should introduce some form of checking the technical competence of Good Delivery refiners.

This marked the start of a process that led more than two years later to the announcement of Proactive Monitoring for all refiners on the Good Delivery List (see *Alchemist 26*, April 2002, *'LBMA Good Delivery Lists – A Proactive Approach'*).

To understand the revolutionary nature of this change, we have to remember that, in 2001, the role of the LBMA Executive in the assessment of Good Delivery applicants was merely to apply the rubber-stamp of accreditation after all the work had been done by the referees and the 'vaults', the latter being the market-making banks represented on the Physical Committee. But by December 2003, when I announced how the new Proactive Monitoring system would work (see *Alchemist 33*, December 2003, *'Refereeing the Good Delivery System'*), the Executive was fully in charge of all aspects of the system. The various Good Delivery initiatives in the following years all stemmed from this change. These included the first Assaying and Refining Seminar (later Conference) in 2005, the Visual Guide to Good Delivery Bar Quality in 2008, the Reference Materials in 2009, Proficiency Testing in 2012 and (though I cannot claim credit for it) the Responsible Sourcing Guidance in 2013. All these developments featured prominently in the *Alchemist*, which was the ideal way of informing the market about them.

As a bit of a dinosaur, I am saddened that my collection of printed *Alchemists* will not contain editions 97 to 99, as the LBMA moves to more digital publications, so I am delighted that LBMA has decided that *Alchemist 100* will be sent to the printers as well as available electronically on the website.

The Tanaka Reference Materials Project Team with Stewart, Mike Hinds and Hitoshi Kosai outside the company's clean room at the Shonan plant in 2008.

Alchemist 54 featured substantial pieces from two major Russian producers.

> *"For my first editorial I would like to concentrate on regulation which is affecting all commodity markets and taking up an increasing amount of the Executive's time."*

Extract from Ruth's first Editorial in Alchemist 73.

RUTH CROWELL

LBMA CEO

January 2014 to present

In 2021, I will celebrate 15 years since having the right audio typing skills to take me through LBMA's doors at 13/14 Basinghall Street. Over that time, I have had almost every job in the office, from receptionist to CEO, including *Alchemist* editor from 2008 until 2012.

My direct involvement in the *Alchemist* arrived with the departure of the second editor, Susanne Capano, following the golden anniversary edition, *Alchemist 50*, April 2008 (see front cover across).

I was responsible for content creation for *Alchemist* editions 51 to 66. Proving myself capable of producing quality *Alchemists* was an important factor in my promotion to Commercial Director in 2009. Some of my favourite editions were our annual country focuses.

I HAVE HAD ALMOST EVERY JOB IN THE OFFICE, FROM RECEPTIONIST TO CEO INCLUDING *ALCHEMIST* EDITOR FROM 2008 UNTIL 2012

Russia in *Alchemist 54*, April 2009 was a particularly special one, having managed to get two major Russian producers to provide substantial pieces. The articles focused on both the production and the investment side of the Russian bullion market.

I'm grateful for the support of Alice Toulmin who took the publication to new levels.

Aelred Connelly came on the scene in 2012. It was in edition 67 that he was officially recognised as *Alchemist* editor, with his name appearing in lights in the black box at the back of the magazine.

PROVING MYSELF CAPABLE OF PRODUCING QUALITY *ALCHEMISTS* WAS AN IMPORTANT FACTOR IN MY PROMOTION TO COMMERCIAL DIRECTOR IN 2009

As Commercial Director, and later Deputy CEO, I stayed involved with the curation of the content as part of the evolution of LBMA's communication strategy. When I took over as CEO in 2014, I wrote my first Editorial, in *Alchemist 73*, March 2014, which focused on the challenges stemming from recent rafts of regulation: Dodd-Frank, Basel III and, most importantly, the IOSCO Benchmark Principles.

At that point, there were still many in the market who were in denial that regulation was here to stay. Many market participants saw Responsible Sourcing as a nice to have, not a business requirement. Little did I know when writing that editorial how Deutsche Bank's January announcement that it was selling its seats in the Gold and Silver Fixings would cause such seismic changes in the Loco London market. These seismic changes also meant my attentions were needed elsewhere, leaving the *Alchemist* firmly in Aelred's capable editorial hands.

Ruth Crowell observes the first auction of the new LBMA Gold Price on 20 March 2015.

We celebrated 100 years of the London Gold Price in 2019, with some wonderful features in the *Alchemist* of course, and now we are celebrating another 100 in the form of the centenary edition of the *Alchemist*.

On 29 April, Deutsche Bank announced that it intended to withdraw from the daily Silver Auction, providing just three months' notice. On 15 May, I volunteered LBMA to take the lead in supporting the market by identifying, building and implementing a new silver benchmark, all by the strict deadline of 15 August. This rapid turnaround was needed as having just two participants in the Silver Auction was unsustainable. I remain grateful for and inspired by the wonderful people from the industry who came together to avoid serious market disruption – in particular, the late Jon Spall, who supported the transition of all four price benchmarks to independent administration. Jon documented these tumultuous times and called for further market evolution in his piece *'No More Fixings'*, *Alchemist 75*, October 2014.

Despite these turbulent years, we celebrated 100 years of the London Gold Price in 2019 (see photograph above of the reception at N.M Rothschilds offices held on 12 September 2019), with some wonderful features in the *Alchemist* of course, and now we are celebrating another 100 in the form of the centenary edition of the *Alchemist*.

As we head into a second year of pandemic, I am grateful to have recently shared those Gold Price celebrations with so many of our *Alchemist* readers. I look forward to when we can meet again as an industry and the celebrations that will surely follow.


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A JOURNEY THROUGH 25 YEARS OF THE GOLD REFINING INDUSTRY & THE SHIFT TO THE EAST

BY GRANT ANGWIN, PRESIDENT, ANGWIN PRECIOUS METALS ADVISORY SERVICES

When the first edition of the *Alchemist* was published back in 1995, the gold industry was dominated by both producers and refiners located in the West, using west of the Urals as the dividing line. Furthermore, these sectors were also dominated by a small group of companies and producing countries.

THERE WERE TWO TRULY GLOBAL GIANTS IN THE PRECIOUS METALS REFINING SPACE – ENGELHARD AND JOHNSON MATTHEY

As I wander through the archives of the *Alchemist*, various articles jump out at me and resonate in a way that, perhaps, they didn't back then. Some of these articles were clearly visionary, with others providing salutary lessons that the gold refining industry overlooked for various inexplicable reasons. We will cover some of this as we journey through the *Alchemist's* archive.

The first deep insight into what was to be the shift to the East appeared in an article by Dr. Graham Birch (*Alchemist 4*, June 1996, *"Gold Shares: The Growing Importance of Far Eastern Investors"*).

It contained two sentences that at the time would have been seen as visionary or plain speculative:

"The strange thing is that most investors and mining companies in the 'Western World' are completely unable to see the long-term ramifications of the Far Eastern involvement in the gold share market."

"This new group of regional buyers is unique in that they are or have been large buyers of physical gold. They are buying gold because they like it and gold shares for gearing. Woe betide any gold companies that take that gearing away from them."

Back in 1995, there were 56 accredited Good Delivery List (GDL) gold refiners, of which 42 (73%) were based in the West. There were good reasons for this, as some 62% (1,435 tonnes) of mined gold was produced in the West[1] and this was topped up by some 631 tonnes of global recycled gold. Over half of this mined production came from six countries and the refineries were, on the whole, strategically located in three of the top four producing countries.

1. Source: GFMS – Gold Survey 1996

There were two truly global giants in the precious metals refining space – Engelhard and Johnson Matthey, operated seven and six GDL refineries respectively. Interestingly, neither company had any refineries in Asia; however, they both had one each in Australia. Following closely in their footsteps was Degussa, which had four GDL refineries and was the first Western company to open a refinery in Asia with its Singapore operation, as well as the only commercial company with a refinery in South America, in Brazil. The single largest refinery at that time was the Rand Refinery in South Africa, which had a 'captive supply' from the worlds' largest producing country. A year later, the US refinery Handy and Harmen was acquired by Golden West of Australia to create the Handy and Harmen Refining Group (HHRG). This was the era of 'big is beautiful', but not necessarily sustainable.

WITH LIMITED GOOD DELIVERY REFINERIES IN THE REGION, AND ABSOLUTELY NO DEMAND FOR GOLD, GOLD FLOWED TO THE ONLY MARKET CAPABLE OF ABSORBING SUCH QUANTITIES – LONDON.

Barry Wayne, the then President and CEO of HHRG wrote an *Alchemist* feature (*Alchemist 8*, June 1997, *"The Art and Science of Silver Refining"*). In its final paragraph, he referenced the company's near ten-fold increase in capacity in gold and silver refining over a 20-year span. At that time, HHRG was the company that most closely matched Engelhard's and Johnson Matthey's global reach.

Two and half years later, HHRG went bankrupt, and both Johnson Matthey and Engelhard began their strategy of closing or divesting their gold businesses. Big isn't always beautiful!

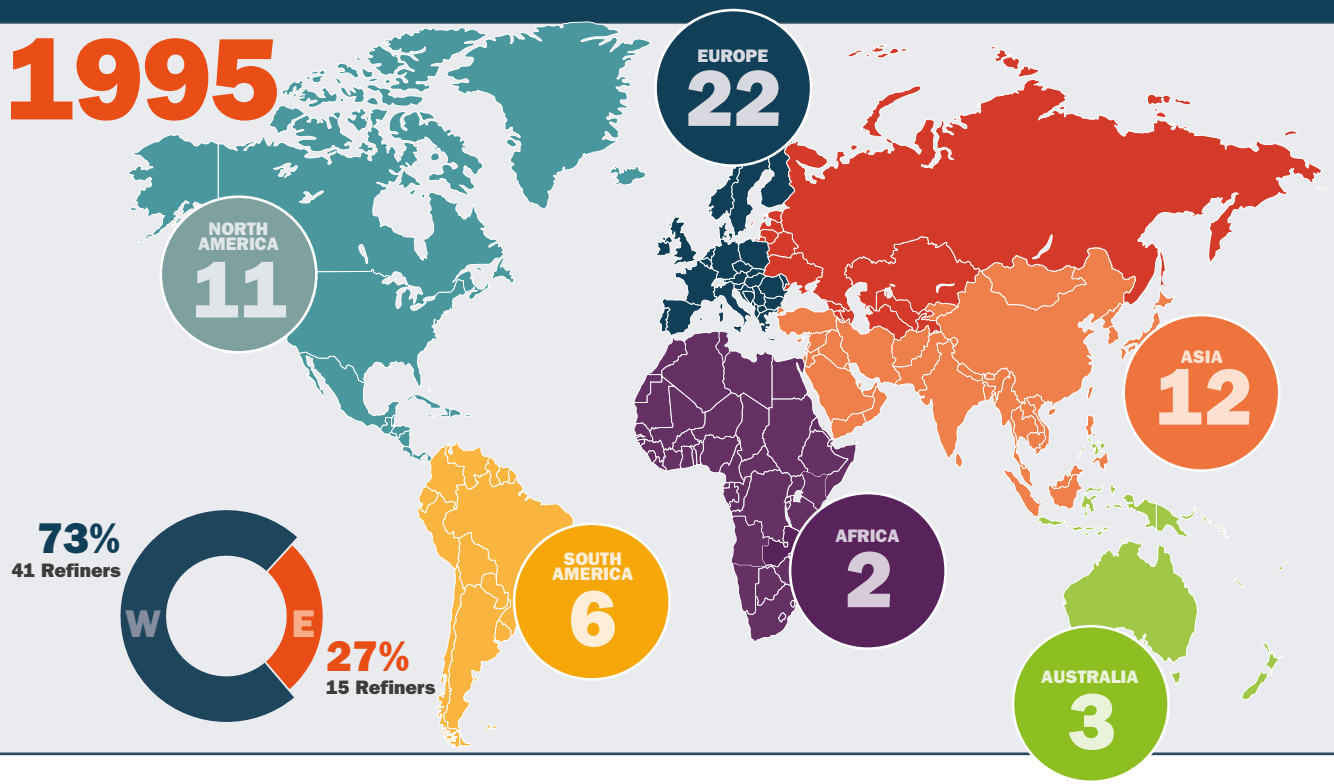
In the same edition, two articles were scribed that continued to echo the words of Dr. Birch. In the first article, George Milling-Stanley, then the Manager, Gold Market Analysis, at the World Gold Council, wrote: *"The first quarter of 1997 showed a much more dramatic rate of growth as overall demand jumped 22% … India, South East Asia, South Korea, Turkey, Saudi Arabia and the Gulf States all posted strong gains."*.

The second article was entitled 'Letter from Dubai' by Jeff Rhodes, then General Manager, Standard Bank London Limited, Dubai, in which he summarised the first Dubai Gold Conference, as well inviting the market to join him for a round at the Emirates Golf Course!

In the same year, an article by Fernando J.R. Borge, Director, Comphania Real de Metais, caught my attention (*Alchemist 9*, October 1997, *"Casting Brazil's Gold Rules"*). Brazil has been a prolific gold producing country for decades. During the 1980s and 1990s, considerable amounts of this production came from "the country's rich garimpos (alluvial deposits)".

"The discovery of "Serra Paelada", the world's largest garimpo, raised the excitement level and, by the beginning of the early 1980s, these unofficial miners, or garamperios, were accounting for up to 91% of the total Brazilian gold production." As you would expect, to service all this gold, a whole new gold refining industry was created, with Brazil hosting five Good Delivery refineries.

LOCATION OF LBMA GOOD DELIVERY GOLD REFINERS



WORLD GOLD MINE PRODUCTION – 1995

COUNTRY		TONS (mt)
1	South Africa	554
2	USA	319
3	Australia	254
4	Canada	150
5	China	133
6	Russian Fed.	132
7	Indonesia	74
8	Brazil	67
9	Peru	57
10	Ghana	53
	Others	506
	Total	2,299

WORLD GOLD MINE PRODUCTION – 2019

COUNTRY		TONS (mt)
1	China	383
2	Russian Fed.	330
3	Australia	325
4	USA	200
5	Canada	183
6	Peru	143
7	Ghana	142
8	South Africa	118
9	Mexico	111
10	Brazil	111
	Others	1,488
	Total	3,534

In contrast to all the attention on the East was an excellent article, in the same edition, by Andrea Debnam, Camden Council, and Judy Head, the Hatton Garden Association, entitled 'The Golden Age', in which the history and importance of both Hatton Garden and London to the global gold market was explained. One sentence seems to sum up the position of London then and now: *"By the seventeenth century, the area's transformation into one of the world's major centres for goldsmithing, diamond trading and jewellery making had begun."*

It was also around this time that Johnson Matthey was formed and the gold from the 1851 California gold rush were flowing into London.

An article by Gold Fields Mineral Services (*Alchemist 15*, April 1999, *"Asian Update – Long Scrap, Short Miracles"*), describes how all the gold that the East had been sucking up began to flow the other way as the Asian Tigers turned into Asian Pussycats.

The near catastrophic collapse of the Thai, Korean and Indonesian currencies, and to a lesser degree those of China and Hong Kong, resulted in inflows from this region that the market had never experienced before nor may never experience again.

With limited Good Delivery refineries in the region, and absolutely no demand for gold, gold flowed to the only market capable of absorbing such quantities – London. Scrap was partially refined in Asia to near pure gold and converted to London Good Delivery bars, primarily in the UK, as the Johnson Matthey refinery was considered Loco London and was only 30 miles from the London vaults.

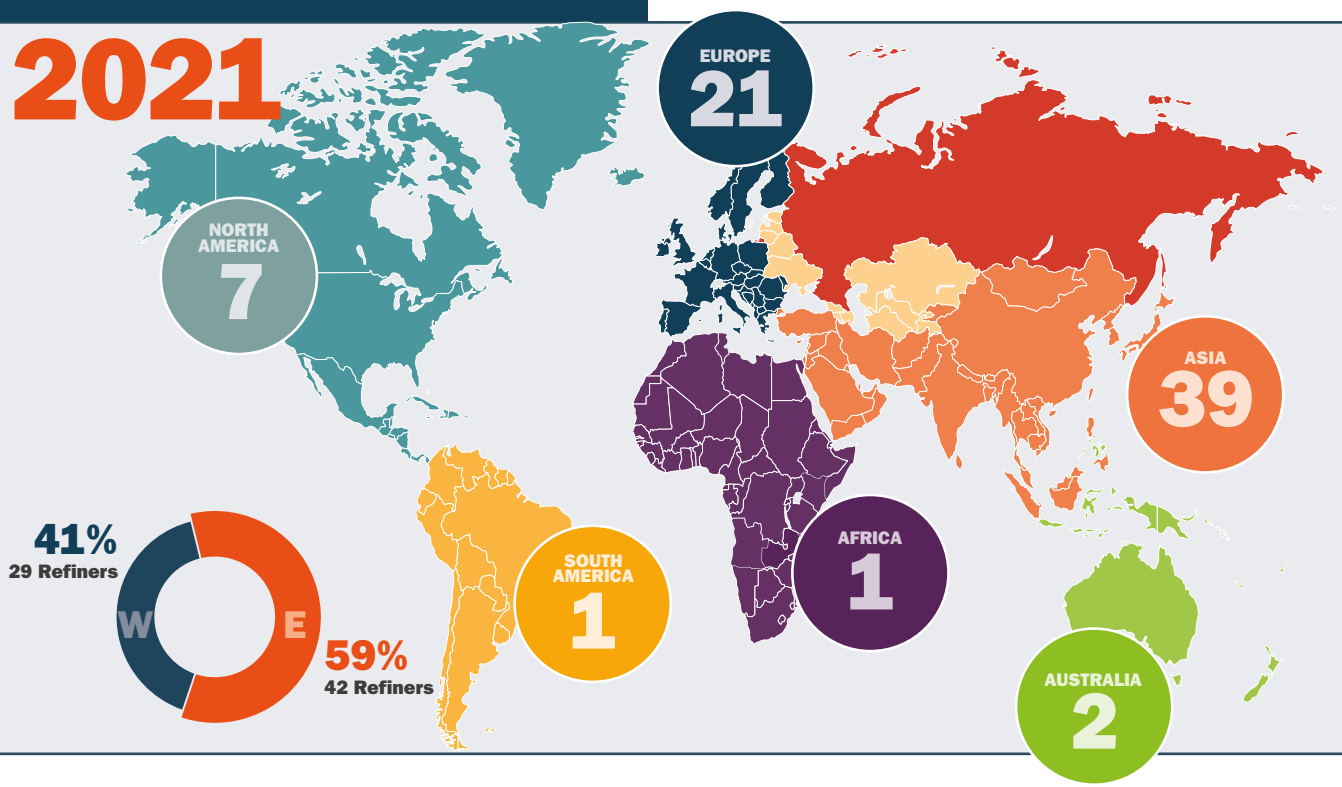
It was not unusual during this period for the JM refinery in the provincial town of Royston to process 20 tons of gold in a week from this distressed region.

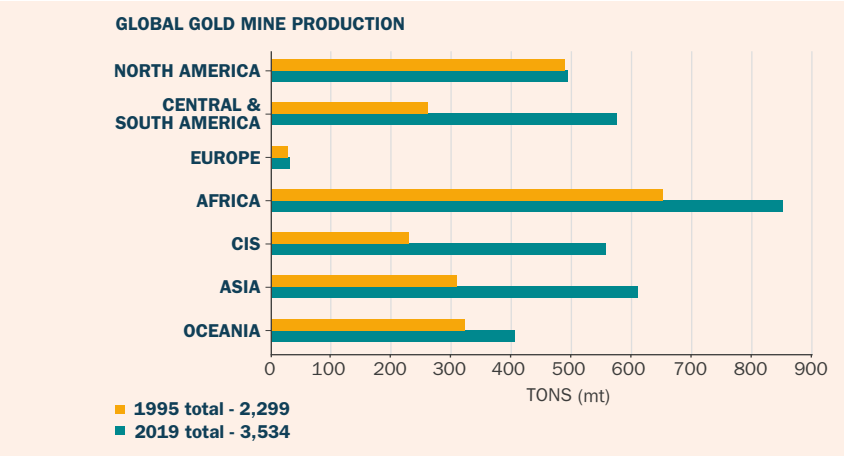
Fast forward to 2021 and we have a near **180° SWING** in both the locations of Good Delivery Refineries and gold mine production

However, the tide was already beginning to turn to the East, despite what had occurred during the Asian economic meltdown. After the crisis and once the economies began to grow again, demand resumed and the gold that flowed into London began to flow back to Asia.

SHIFTING WEST TO EAST

2021





The 'big is beautiful' strategy started to disappear as stalwarts like Johnson Matthey, Engelhard and Degussa either closed or sold gold refineries in the following decade.

Fast forward to 2021 and we have a near 180 degree swing in both the locations of Good Delivery Refineries and gold mine production.

Whilst the list of Good Delivery refineries has grown from 59 to 71, the growth has all come from the East.

CHANGING THEMES IN THE *ALCHEMIST* – THE EARLY EDITIONS CARRIED MANY ARTICLES REFLECTING THE GROWING IMPORTANCE OF THE ASIAN TIGER ECONOMIES

In 1995, the East accounted for 27% of the London Good Delivery refineries but today it accounts for 62%. This dramatic change has been led by one country in particular – China. Over a 25-year period, the number of Chinese GDL refineries has mushroomed from one to 12. Japan has added four more to the list to make 11, and Indonesia, Kazakhstan, Taiwan, South Korea and India have also added to the numbers. Furthermore, the last two remaining truly global gold refiners at the turn of the century – Johnson Matthey and Metalor – sold their businesses to Japanese companies, and Valcambi, Switzerland was sold to an Indian group. The East starts to move West.

Back in 1995, I doubt that any of the authors who wrote about the Asian Tigers foresaw the significant increase in gold mine production.

The East (including Australia) now accounts for nearly 1,600 tons of newly mined gold. In 1995, the East accounted for only about half this amount, at 864 tons. Overlaying this is a global recycling market that has grown from 631 tons to 1,403 tons[2], with Asia representing over 50% of this market and the West a mere fraction.

It is worthwhile commenting upon the changing themes in the *Alchemist*. The early editions carried many articles reflecting the growing importance of the Asian Tiger economies – what impact these would have on the traditional markets and companies in the West. The latter editions have seen the *Alchemist* turn its attention to the two very powerful and emotive topics of the 21st century, namely, recycling and responsible sourcing.

Articles on these topics started to appear around 2007, and below are a few extracts to show the shifting focus of both the *Alchemist* and LBMA.

Alchemist 49, February 2008, *"Of Elephants and Yams – Thoughts on PGM Liquidity and Recycling in India"* was written by Tom Kendall, then Precious Metals Strategist at Mitsubishi Corporation UK plc.

The title refers to the saying *'when discussing elephants, don't talk about yams'*, or for us Westerners, *'when discussing major issues, don't worry about the details'*. Whilst the article was not necessarily focused on gold, Tom Kendall was among the early commentators on 'recycling' and 'India'.

The recycling theme continued (*Alchemist 59*, July 2010, *"Sustainable Recycling of Electronic Scrap' by Chris Corti," COReGOLD Technology, and Christian Hagelüken, Umicore Precious Metal Refining*). No article today would be complete if it didn't reference the biggest change the refining industry has experienced, probably, since its inception – responsible sourcing, compliance, sustainability, ESG (environmental, social and corporate governance) to name but a few of the regulatory and other requirements that the industry now faces on a day-to-day basis.

One of the first articles to appear in the *Alchemist* on the subject of due diligence was by Gregory Mthembu-Salter, UN Group of Experts (*Alchemist 59*, July 2010, *"Gold Industry – Due Diligence and the DRC"*). The subject of Artisanal Small-Scale Mining (ASM) and how to operate in this sector remains an ongoing challenge for the industry and one that warrants an article on its own and not a small side note.

The last article I will mention was a truncated version of a speech given by Michael Mooiman, Associate Professor, Franklin Pierce University, at the 2019 LBMA Assaying and Refining Seminar (*Alchemist 93*, April 2019 *"Refining in the Precious Metal Sustainability Chain"*).

NO ARTICLE TODAY WOULD BE COMPLETE IF IT DIDN'T REFERENCE THE BIGGEST CHANGE THE REFINING INDUSTRY HAS EXPERIENCED, PROBABLY, SINCE ITS INCEPTION – RESPONSIBLE SOURCING, COMPLIANCE, SUSTAINABILITY.

Reflecting on the past 25 years, it is hard to see how the refining industry would manage a gold rush from California let alone Brazil – compliance would have a 'melt down'. Would another Asian crisis see flows to the West, or would all that gold be refined and delivered to local exchanges?

The shift to the East will no doubt continue, as markets develop to rival the West, backed by government support, as well as an insatiable desire to hold gold. There are 12 GLD refineries in China and 11 in Japan, yet the second-largest consuming market has but one – how much longer can that go on for? Will the next decade see the emergence of the Indian subcontinent? Hopefully, someone will pick that up by the time the *Alchemist* hits its 150th edition.

With special thanks to Neil Harby for all his support in pulling this article together.

Grant Angwin, worked for Johnson Matthey for over 30 years, holding various senior management positions, including President of the North American gold and silver business. He was President of Asahi Refining NA for 4 years.

He formed an independent advisory company in 2019. He has also held various roles at industry associations, including Chairman of the London Bullion Market Association. He is currently a Senior Advisor to several companies and Director of a major silver producer.

2. Source: Metals Focus Gold Survey 2020

GATEKEEPERS OF THE OTC MARKET

BY MARK WOOLLEY, MANAGING DIRECTOR, BRINK'S LIMITED

"Vaulting and logistics is the single most glamorous part of the London Market" said no one, ever. This is no doubt true, but the London vaulting operations, and the ability to transfer gold to and from the far reaches of the globe, form the bedrock of the London and global gold markets.

To understand the importance of the sector, one only has to look back to early 2020, and the impact of unfounded concerns that logistical bottlenecks would hamper the movement of gold to New York. This illustrates just how vital confidence in logistics and custody is to the gold community – and how the market has come to take as a given the quality and timeliness of the services provided by the LBMA's logistic partners.

The ability to trade metal freely in London is based upon the conviction that the underlying metal is both what it is supposed to be, and where it is supposed to be. If every trade had to be physically verified, every bar checked, it would not be long before the market ground to a halt.

THE ABILITY TO TRADE METAL FREELY IN LONDON IS BASED UPON THE CONVICTION THAT THE UNDERLYING METAL IS BOTH WHAT IT IS SUPPOSED TO BE AND WHERE IT IS SUPPOSED TO BE

The fact it does not demonstrates the level of trust which the London market has in its system of custody, a trust that is based on the dedication and knowledge of the unseen group of vault managers and operators who keep the London market moving.

Safe custody aside, the London vaults are the gatekeepers of the Good Delivery system. No bar can enter a London vault without a seasoned professional ensuring that it comes up to scratch – in terms of form, weight, finish and shape. It is the London vault master, not the refiner, who gives the final say so to admit the bar into the system. And the bar weight of record is not the weight stamped on the bar, it is the weight that is recorded by the London vault professional. This ensures that when a trader deals London Good Delivery she does so with the confidence that the weight and purity of the metal she is trading is correct down to 0.025 of a troy ounce.

A search through the back issues of the *Alchemist* reveals a distinct lack of articles on the murky world of vaulting and logistics. This is possibly reflective of the readership's interest in the topic, but also may be down to the fact that, as an industry, we tend to shun the limelight more than others. However, in the spirit of the best investigative journals, the *Alchemist* has occasionally managed to prise the lid on the London vaults to take a peek inside. Those waiting for some specific revelations are likely to find themselves disappointed, but a trawl through the archives does bring up some interesting stories.

Victoria Cleland and Ruth Crowell in the gold vaults at the Bank of England.

AT THE APEX OF THE VAULTING FOOD CHAIN SITS THE BANK OF ENGLAND, WITH OVER **65%** OF LONDON'S GOLD, STORED BEHIND ITS VENERABLE DOORS.

At the apex of the vaulting food chain sits the Bank of England, with over 65% of London's gold, stored behind its venerable doors. Due to its public role, the Bank is one of London's most transparent vaults (figuratively speaking), and in *Alchemist 95* our very own Ruth Crowell helped to unlock some of the Old Lady's secrets in her interview with Victoria Cleland, Executive Director for Banking, Payments and Innovation. Since opening the first 'Bullion Warehouse' in 1697 to cope with an influx of gold from Brazil, the Bank has been first choice for governments seeking a safe haven for their assets, with the Bank of England vault's team taking good care of 15% of global official gold reserves.

Pre 1987 the Bank of England was more actively involved in managing London's gold market but in 1987 it established the LBMA as an umbrella association for the London Bullion Market. The Bank remains a staunch supporter of good delivery and a keen participant in the LBMA's commitment to provide timely reporting of London's gold holdings, as well as backing the Precious Metals Code.

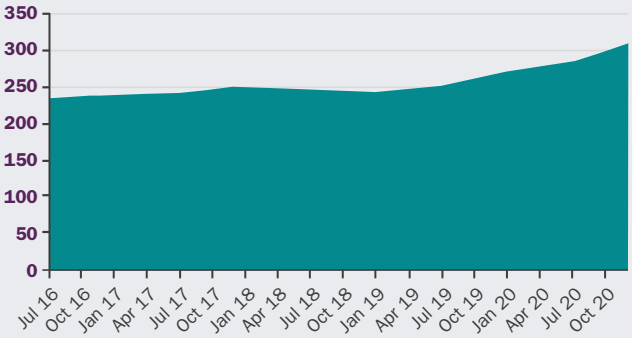
The Bank also holds the enviable record that no gold has ever been stolen from its vaults in 327 years and counting, an impressive feat, especially to those of us whose distant past may include less fortunate events.

Way back in 1999, Dougie Beadle reported on the new procedures for packing and weighing silver, most controversially announcing the implementation of electronic weighing replacing reliance on the old beam balance technology (*Alchemist 14*, February 1999 *"Electric Silver Balance Scales Introduced to Silver Weighing"*)

However, it was not until 2010 that he was able to report on the successful implementation of the Sartorius electronic gold scale into the London vaults - following a six-year technology search, and an accuracy testing process which involved weighing multiple 5 tonne lots on beam balances and scales in two London vaults. Though the beam balance has not yet been consigned to history; even today vault masters will go back to the old technology to confirm the market weight of a bar that is considered 'too tight' for the electronic scales.

Anyone who has had to move 640 silver bars by hand from the collapsed pallets of an incorrectly loaded container will attest how important it is that silver is packed correctly. In 2007 the *Alchemist* allowed one of our own, the ever youthful Tony 'Evergreen' Dean, to provide his insight into the do's and don'ts of packing silver (*Alchemist 46*, May 2009, *"Packing Standards for Bullion"*). Illustrated with photographs of dangerous packing, (which one can only assume to be courtesy of deliveries made by my competitors), the article demonstrates both the importance the LBMA places on continually improving standards across the Good Delivery system, helping to make London the pinnacle of vaulting expertise it is today.

STOCKS OF GOLD HELD IN LONDON VAULTS (mns oz)



MOST CONTROVERSIALLY ANNOUNCING THE IMPLEMENTATION OF ELECTRONIC WEIGHING REPLACING RELIANCE ON THE **OLD BEAM BALANCE TECHNOLOGY**

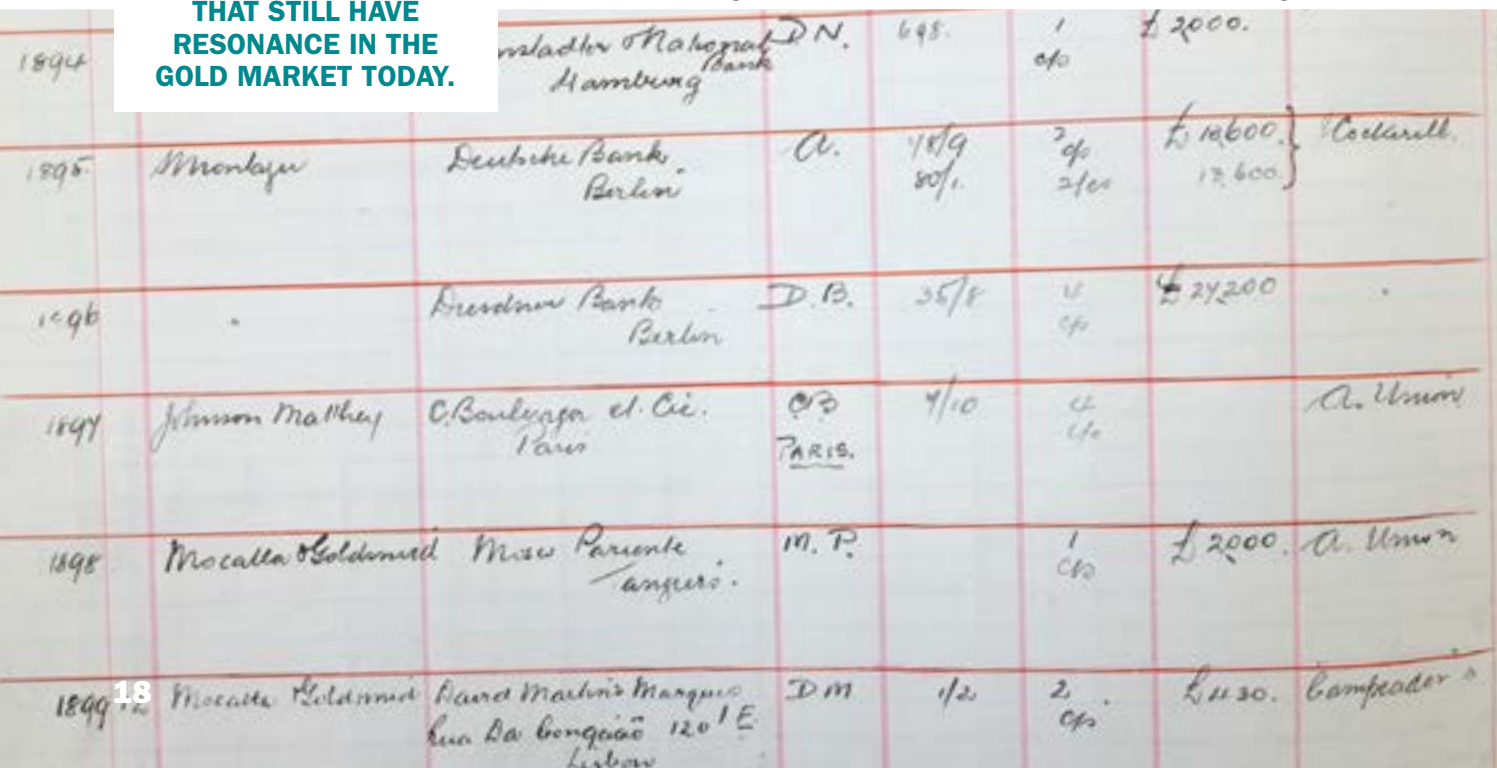
In 2014 Brink's decommissioned its old underground vault in Arnold House in the city of London – a clear out that yielded dusty handwritten ledgers dating back to 1927, containing many customer names that still have resonance in the gold market today; Mocatta & Goldsmid, Sharps and Wilkins, Samuel Montagu – even Johnson Matthey, sending to their smelting works in Brimsdown. The ledger provides not only ample evidence that Brink's shipping charges were as reasonable then as they are today, but also that shipments of small packages of gold across Europe were largely conducted by rail.

THE CLEAR OUT THAT YIELDED DUSTY HANDWRITTEN LEDGERS DATING BACK TO 1927, CONTAINING MANY CUSTOMER NAMES THAT STILL HAVE RESONANCE IN THE GOLD MARKET TODAY.

In contrast, today's vaults tend to be modern above ground facilities, located within easy reach of Heathrow, as was revealed by the *Alchemist* in 2012 with an article on Malca- Amit's new facility (*Alchemist 68*, October 2012, *"Visit to Malca-Amit's Vault"*).

Though whether Mr. Connelly's visit was driven by a hunger for knowledge, or for Mr. Finn's legendary hospitality over the riverside lunch that followed, we shall never know. The article provides an interesting insight into the modern world of vaulting, as well as pointing out that the LBMA do not approve or accredit vaults.

Hand written vault ledgers books from Brink's decommissioned vault in Arnold House dating back to 1927.



Mark Woolley is the Managing Director of Brink's UK. He has over 25 years' experience in the international secure logistics industry in Asia, the Americas and EMEA. He is a member of the LBMA Vault Managers Committee.

This is a commonly held misconception, though the LBMA does provide vaulting guidelines, and within the last 12 months has launched its accredited vault operator training which seeks to upskill vault operators around the world using London standards.

Of course gold can only trade on the London or New York market once it has made the perilous journey from the mine to refinery, before being transported to the vault from which it will be traded.

Gold mining and easy market access rarely go hand in hand, so whether it is from the frozen tundra of Siberia or the jungles of Papua New Guinea, the brave souls of the secure logistics industry must take on the risks and physical challenges which ensure that the mine is paid for the efforts, and the product arrives at a refinery in timely fashion. How do we manage this logistical magic, what flights and vehicles do we use? Of that, dear Reader, I can reveal nothing at all.

THE ARTICLE PROVIDES AN INTERESTING INSIGHT INTO THE MODERN WORLD OF VAULTING, AS WELL AS POINTING OUT THAT THE LBMA DO NOT APPROVE OR ACCREDIT VAULTS.

Lifting the Lid on the Birth of the Gold ETF

BY GRAHAM TUCKWELL, CHAIRMAN, ETFS CAPITAL

As one of the key pioneers of the gold ETF industry, the *Alchemist* invited Graham Tuckwell to write this article. In the 25 years since the *Alchemist* started, it is gold ETFs that have had one of the biggest impacts on the industry.

Up until now, there have been only five major articles[1] in the *Alchemist* that have discussed gold ETFs. Three of them (see *Alchemist 48*, *51* and *70*) were written by colleagues who worked for me and two of them (see *Alchemist 64* (in part) and *98*) were written by people I had discussions with when developing the gold ETF. All of those articles have either educated readers on what gold ETFs are or have done, but none of them has ever revealed the story behind how and why the gold ETF came about and the obstacles that had to be overcome to get there. This article reveals what really happened.

THE GOLD PRICE TURNED

Back in 1995, when the *Alchemist* was first published, the gold price was in steady decline from its peak in 1980, so investors who wanted exposure to the gold price bought shares in gold miners rather than physical gold. This gave them 'leverage' to the gold price, so shares were viewed as attractive and traded at high price to earnings multiples. In contrast, physical gold had a bad name – it had previously been confiscated by governments, attracted sales tax or was a prohibited investment for most fund managers. Also, the gold price was being weakened by central bank selling and producer hedging. There was little investor interest in physical gold.

THERE WAS LITTLE INVESTOR INTEREST IN PHYSICAL GOLD

The outlook for gold investment began to improve in the new decade, when central bank selling stopped, gold producer hedging stopped/was unwound and VAT was removed on physical gold purchases.

The gold price began to rise in February 2001, from a low of just over $250, and the conditions were ripe for a long-term upward trend in gold.

Stock exchanges were set up to trade equities and bonds, and gold was neither, so we had to come up with an idea that allowed **GOLD TO FIT WITHIN THE EXISTING LISTING RULES.**

AN INTRIGUING IDEA

I became intrigued by the idea of listing gold on the stock exchange in August 2002, when I was at a meeting with the Australian Gold Council and the Australian Stock Exchange, where the idea was first raised. It was a great idea, but no one was willing to fund it – so I offered to on the basis that I would be the one to build and own the product. But the build was fraught with complexity.

Stock exchanges were set up to trade equities and bonds, and gold was neither, so we had to come up with an idea that allowed gold to fit within the existing listing rules. With the help of a great lawyer, Bill Fuggle, we came up with the idea of listing a nominal value share which had attached to it an interest in physical gold. One hurdle overcome.

1. *Alchemist 48*, October 2007, Nik Bienkowski, 'Led by Gold, ETCs Opened the World of Commodities to Investors'
Alchemist 51, August 2008, Nicholas Brooks, 'Commodity Investing goes Mainstream'
Alchemist 64, November 2011, Pierre Lassonde, 'What a Difference 10 Years Can Make'
Alchemist 70, April 2013, Nik Bienkowski, '"10 years on. The Gold ETF that Spawned a $200 billion Industry'
Alchemist 98, August 2020, John Reade, 'The Extraordinary Rise of ETF Holdings in 2020'

Next, we needed access to the London inter-bank gold market, as investors knew that is where most of the world's physical gold bars were traded and held. We were keen, of course, to adopt the LBMA standards. There were only two banks that had their own gold vaults in London and one of them was HSBC. That is when I was introduced to Jeremy Charles, who ran HSBC's gold business, and fortunately we hit it off from the outset. To make the product work, we needed to link trades in equities in Australia with trades in the London gold market, and those two systems were a world apart, literally. Jeremy and his colleague Tony Dean were patient with us as we created a way of joining the two markets together, as well as the first blue-print for the mechanics of a gold ETF using LBMA gold. That blue-print was subsequently used to launch the first London gold ETF (GBS) and the first US gold ETF (GLD).

THE MARKET-MAKING INVOLVED ME BUYING A GOLD BAR AND GIVING IT TO A GUY WHO TRADED GOLD FUTURES AND EQUITIES

BUILDING SUPPORT

But there were still more hurdles to overcome. The Australian Gold Council refused to support the product launch, but when I asked the World Gold Council, it agreed to – the WGC's new CEO, Jim Burton, was keen on the idea of a gold ETF and wanted to help out.

I discovered later that the WGC had been thinking of the idea of a gold ETF for some time, instigated by the brilliant Pierre Lassonde, who was very modest when he said in *Alchemist 64* that he "had a bit of a hand in its [the GLD] creation". I believe within the WGC, it was his idea and his vision that enabled the WGC to own what has become the world's most successful gold ETF.

When the first gold ETF became available in March 2003, it was a good time to start marketing gold as it had risen steadily from $250 to $350 and we said it could go a lot higher – and luckily we were so right, with gold going all the way up to $1,900 over the next eight years. Issuers and investors jumped on the gold ETF bandwagon.

At launch, one could say that the product was only half built, as we had no market-makers and no marketing. I had not heard of those things! The market-making involved me buying a gold bar and giving it to a guy who traded gold futures and equities, who in turn used that gold bar as inventory to create new securities and used futures to hedge this inventory. Once we sold the first 400 ounces of securities, we had to go buy another gold bar and so on, until we recruited a bank to be a proper market-maker!

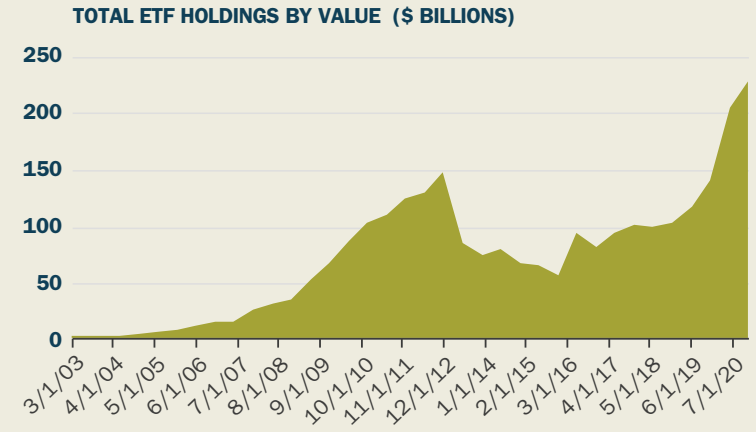
The final hurdle was getting the product accepted and growing, and that required marketing. We had only $3 million in AUM when Graham Birch (who ran the world's leading gold fund) agreed to support the idea of a gold ETF, as he said it would be good for the gold industry, and he generously put in an order for $20 million of GOLD. That changed everything and, with that, the first gold ETF was off and running.

THE LAUNCH OF GBS AND GLD

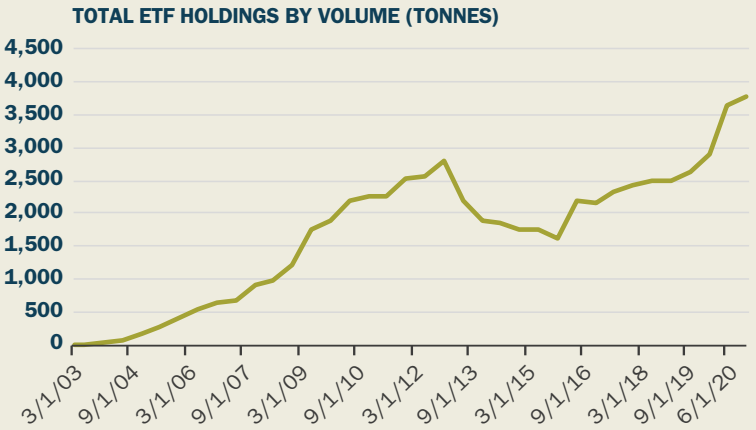
Gold ETFs still needed to be launched in the world's main markets, so the WGC asked me to work with it to get one listed in London. I also offered to help in the US (the GLD), but they said the expenses were going to be large and it would take a long time. As Pierre Lassonde said (see *Alchemist 64*, November 2011, 'What a Difference 10 Years Can Make'), it took two and a half years and $15 million, which was way out of my league! So I worked with the WGC on getting GBS in London launched and we managed to do that in pretty quick time, copying most of the documentation used for GOLD. We listed on the LSE in December 2003 and soon had $500 million in AUM, so all was looking good until something happened.

Some *Alchemist* readers might remember that the original GBS was pulled within a few months of being launched and replaced by the existing product, which shows a launch date of March 2003. Here is what happened. The London Stock Exchange rules did not permit nominal value shares to be listed (the structure used for the ASX product), but it did permit nominal value bonds to be listed, so that was the change we made for the GBS. The structure was approved by the legal team at the LSE, but the head of that team was away when the approval was granted. When he came back to work in early 2003, his opinion was that our structure was illegal! Thankfully, he suggested that we work together to sort out a new structure and that is what we did. The final hurdle was having to redeem all the exiting GBS but not being allowed to market the new GBS to exiting investors – they had to find out about it themselves! Most of them did and all's well that ends well.

WE LISTED ON THE LSE IN DECEMBER 2003 AND SOON HAD $500 MILLION IN AUM SO ALL WAS LOOKING GOOD UNTIL SOMETHING HAPPENED



Reproduced with the kind permission of the World Gold Council.



Source: Bloomberg, Company Filings, ICE Benchmark Administration, World Gold Council

Reproduced with the kind permission of the World Gold Council.

Note: For a listing of the Exchange Traded Funds and similar products, please see https://www.gold.org/goldhub/data/global-gold-backed-etf-holdings-and-flows

Left to right, Graham with Graham Birch and Evy Hambros.

As for the hurdles that had to be overcome in getting GLD listed, I will leave that story to Jim Burton and Stewart Thomas, who worked tirelessly for the WGC for years to get it done, noting that GOLD and GBS were already up and running. My suspicion is that without the help of Pierre Lassonde and Jim Burton at the WGC, it could have been some time before gold ETFs became available to investors and that would have been a lost opportunity. Gold ETFs are now well known and understood, and are a major holder of gold, as John Reade explained in a recent *Alchemist* article (see *Alchemist 98*, August 2020, 'The Extraordinary Rise of ETF Holdings in 2020').

LOOKING BACK

Looking back, gold ETFs have received little coverage in the *Alchemist*. The first article did not appear until 2007, by which time gold had risen to $750 and there was already $20 billion invested in gold ETFs. At ETF Securities, we felt that many people still had not heard of gold ETFs, so we had Nik Bienkowski write an article introducing gold ETFs (see *Alchemist 48*, October 2007, 'Led by Gold, ETCs Opened the World of Commodities to Investors') as a good way of getting the news out to LBMA members.

It was followed up by an article the following year by another of my colleagues at ETF Securities, Nicholas Brooks, explaining that gold ETFs had gone mainstream (see *Alchemist 51*, August 2008, 'Commodity Investing goes Mainstream').

People only invest in gold ETFs if they know about them, understand how they work and understand the benefits of them compared to other ways of investing in gold. This required the ETF industry (and the WGC) to educate the market from the ground up and to cover a broad range of market and industry players. That education process has been ongoing since the first gold ETF was launched and continues to this day. More and more people have now heard about gold ETFs and more people now invest in them, and it is probably fair to say that the industry has reached some sort of steady state where most of the market now knows about them.

PEOPLE ONLY INVEST IN GOLD ETFs IF THEY KNOW ABOUT THEM, UNDERSTAND HOW THEY WORK AND UNDERSTAND THE BENEFITS OF THEM COMPARED TO OTHER WAYS OF INVESTING IN GOLD.

LOOKING FORWARD

Part of my brief was to opine on what lies ahead. I can only answer that by reflecting on responses I have received from gold ETF investors over the years and feedback I have received on possible Bitcoin ETFs (which I have been involved in). So here goes:

ARE GOLD AND BITCOIN SIMILAR?

Yes, in some ways. They have a near fixed supply, earn no return, are cheap to hold and are not fiat currencies.

WILL GOLD GO MORE ELECTRONIC AND BITCOIN MORE MAINSTREAM?

Yes. They are coming from opposite ends of the spectrum and there will be some convergence and overlapping.

WILL BITCOIN REPLACE GOLD AS A SAFE-HAVEN INVESTMENT?

No. Institutional investors have always wanted allocated gold in their ETFs as it is more secure and they want to be able to see it is there in the vault. It cannot just be wiped out on a computer screen.

WILL BOTH GOLD AND BITCOIN BE SOUGHT AFTER?

Yes, whilst yields remain low to negative and, better still, if interest rates rise and bond prices fall. Maybe a bet on both gold and Bitcoin will work, but for security, a gold ETF for me please.

Graham Tuckwell is an ETF industry pioneer who invented Exchange Traded Commodities, starting with the world's first gold ETF in 2003. He founded ETF Securities Limited with zero assets and built it into a US$35 billion global firm, selling the businesses in 2018. The company was renamed ETFS Capital and now invests the proceeds in start-ups in the ETF-ecosphere. He began his career in investment banking before starting his own corporate advisory firm specialising in the resources industry. He has degrees in Economics/Econometrics and Law from the Australian National University.

TRADING & SETTLEMENT – THEN AND NOW

BY DAVID GORNALL, LBMA SENIOR CONSULTANT AND STEPHEN PENDER, SENIOR DEALER – CCM, ENGELHARD MATERIALS SERVICES, BASF

The dealing room at Sharps Pixley circa 1982.

David Gornall, Senior Consultant, LBMA, who at the time of the publication of the first *Alchemist* was working for Sogemin Metals Ltd recalls what it was like trading in the dealing rooms from 1995 through to 2002. Stephen Pender then picks up the story when his trading career began at J.P. Morgan.

DAVID GORNALL
The dealing rooms from 1995 to early 2000

At the time of the very first *Alchemist* in 1995, I worked for Sogemin Metals Ltd, part of the London Good Delivery refiner Umicore. Trading precious metals in the late 1990s at a refiner highlighted stark differences to today's world, especially when comparing it to life within a bank.

For example, we never mentioned the words 'balance sheet', 'liquidity' or 'tier one capital' as much as we do today. This was common in all refinery owned London Metal Exchange (LME) member trading companies, where the early days saw the refinery members outnumber the banks.

The chosen method of client communication was by phone and the preferred business continuity plan didn't involve a disaster recovery site, but would normally mean taking temporary office space in a hotel! How times have changed.

LANGUAGE BARRIERS

Verbal orders caused confusion. The German office would often place orders in German. Kauf (buy) and Verkauf (sell) were often easily confused in a noisy dealing room. Even a foreign accent could cause issues. When a client told his sales contact, "if you cannot buy it, you can sell it", the sales person was rightly confused until he understood that the intention from the client was to cancel the order – the client had not realised he had to place the stress on the first syllable of **cancel** and not the last!

RUDIMENTARY TECHNOLOGY

Electronic trading had only just started and, at the time, was considered a fad by many smaller houses as they tried in vain to access systems that required more credit than they were able to furnish. That all changed when they discovered prime brokerage.

Excel may have been around in the late 1990s, but analytical traders much preferred to record price history on their hand-written charts, which were often several metres long!

THE GERMAN OFFICE WOULD OFTEN PLACE ORDERS IN GERMAN. KAUF (BUY) AND VERKAUF (SELL) WERE OFTEN EASILY CONFUSED IN A NOISY DEALING ROOM.

From the metals desk to other branch offices, added to that the external brokers' commentaries, it was a cacophony of noise.

They all possessed a strange tool known as a parallel ruler, which was basically two rulers joined together on hinges, designed this way to capture trading channels and extend ranges.

Most dealing rooms were loud places with constant verbal inter-office communications. There would be 'hoot-n-holler' boxes everywhere for every purpose.

You weren't expected to put your cigarette down and walk over to another desk to speak to someone; instead, you could simply shout directly at another desk or you could use the speaker systems. From the softs desk to the metals desk, from the metals desk to other branch offices, added to that the external brokers' commentaries, it was a cacophony of noise.

From a price perspective, 1995 started with producer hedge buy-backs that saw gold move above $400 for the first time since 1991. That kept all the brokers very busy, with five-year forwards being asked for on as many occasions as the rest of the curve.

CENTRAL BANK GOLD SALES

In 1996, the IMF decided that it would sell a portion of the gold that it held (see *Alchemist 5*, October 1996, *'Howard Davies focuses on EMU issues'*). This started a domino effect of reviews by various governments which led to Switzerland, the Netherlands, Germany and Belgium announcing central bank gold sales (see *Alchemist 8*, June 1997, *'Gold and Central Banks – A Change in Attitude'* and *'LBMA Seminar – Dealers Dream or Dealers Nightmare'*). The UK duly followed suit in 1999 (see *Alchemist 16*, June 1999, *'Gold Auctions – The Way Forward'*).

It was during that year that the euro was launched and the European Central Bank was created, with 15% of its reserves held in gold. But gold will be remembered better in 1999 for the creation of the CBGA (Central Bank Gold Agreement). This would limit signatory states to sales of gold to a maximum of 400 tonnes a year.

Although gold may not have provided too much in the way of interesting material for the press that year, the whole period saw the metal create a solid price base from which it could rally two years later.

Y2K

We worried about different things in the late 1990s – mainly the internet. The late 1990s witnessed the dot-com bubble, described by the US Federal Reserve Chairman at the time, Alan Greenspan, as "irrational exuberance". Towards the end of the period, we were faced with a question that some believed could have serious negative implications for the market.

In 1999, we were instructed by management when completing due diligence on new clients and counterparties to find out if that company had created a Y2K policy (see *Alchemist 17*, October 1999). That was our main fear in those days. It feels like a lifetime ago now.

STEPHEN PENDER

Reflects on his trading career from 2002 to the present day

EARLY CAREER

My career in trading began in 2002, when after three years in the middle office, I joined the trading desk at J.P. Morgan (JPM). One of my earliest memories of trading is from those middle office days, when every two months or so, I would be dispatched to the Bank of England to submit bids into the gold auctions that it was running at the time. I was packed off with a wad of tickets, a few pens and one of the trader's mobile phone (that's right in those days some adults didn't have mobiles!). My job was to wait in the bank foyer for the auction bids to be relayed from the trading desk. Once received, the tickets needed to be completed and submitted to the cashier before the window was, quite literally, slammed shut. The format of the ticket was similar to that of a cheque, with both the amount and price needing to be completed in both numbers and letters. Of course, the traders tended to leave the orders to the very last moment and, with seconds to go, I would usually be frantically scrambling to complete all of this information onto five or six tickets, whilst at the same time desperately trying to keep my writing legible.

EVERY TWO MONTHS OR SO, I WOULD BE DISPATCHED TO THE BANK OF ENGLAND TO SUBMIT BIDS INTO **THE GOLD AUCTIONS THAT IT WAS RUNNING AT THE TIME.**

The pressure was intense as I knew any mistake or delay would leave the desk on the hook for the position, but the buzz was amazing, and buoyed by the confidence the traders had shown by giving me this responsibility, I quickly knew this was a career path I wanted to follow.

Below: Johnson Matthey trading floor circa 1983.

A typical precious metals trading desk circa 2012, with Reuters and EBS terminals to the left.

Alchemist 16, June 1999, *' Auctions – The Way Forward'* provides a fascinating insight into the furore surrounding the UK's decision to sell a large proportion of its gold reserves.

It includes the Bank of England making the case for the sales, the World Gold Council making clear its arguments against and a number of letters to the editor. Alternatively, tell any London cabbie that you work in the bullion market and they will gladly to tell you all about Gordon Brown and how he sold 'our' gold on the lows!

As a postscript to this story, I later found out that the Bank also accepted orders by SWIFT, which would have been far simpler and safer; however, the JPM traders didn't trust technology – luckily for me, you might say.

GOLD PRICE AUCTIONS

When I think back to those early days, sitting second from the left on a semi-circular bank of desks, I quickly realise that whilst the structure of the market (from then to now) appears unchanged, it is actually very different. The fixes still exist (auctions in today's parlance), but they barely resemble the ones I knew and none more so than the Gold Fix. I vividly recall when I began trading that the representatives of the five member banks would head off twice a day to the offices of the chairman, NM Rothschild. It's still twice a day, but it's independently administered (by IBA) with up to 15 participants from a wide spectrum of sectors other than just banks gathering online with an algorithm for a chairman!

MARKET MAKERS

The market was and remains an OTC market, but when I began, it was the Market Makers who provided the majority of the liquidity.

They would make prices in almost any size of transaction to customers and in transactions of up to 10k ounces of gold and 200k ounces of silver to other Market Makers. Additional OTC liquidity could be sourced through EBS, with futures, for the most part, only available in the afternoon. Fast forward to today and direct bank-to-bank transactions are rare, EBS has almost disappeared from trading desks (although I understand it may be making a comeback) and futures are now the dominant source of liquidity. Market Making still takes place, but this is typically through e-platforms or price aggregators, and trading on a price from more than one person (system) at a time will likely get you a ticking off.

Alchemist 21, November 2000, *'Going for Broking Systems'* evaluates the 'new wave' of electronic broking systems entering the market, suggesting they may kill 'voice' brokering within 18 months. Twenty-one years later, the voice brokers are still very much part of the market, but the systems listed, for the most part, are not.

TWENTY-ONE YEARS LATER, THE VOICE BROKERS ARE STILL VERY MUCH PART OF THE MARKET, BUT THE SYSTEMS LISTED, FOR THE MOST PART, ARE NOT.

THE RISE OF THE EFPS

With the switch to futures/e-trading has come the rise (and fall?) of the Exchange Of Futures for Physical (EFP). For the first six or so years of my career, the EFP moved, without fail, 5 cents lower each day except on Thursday when it moved 15 cents to allow for the weekend.

The most sophisticated EFP trading we did was calling around on a Thursday hoping to catch someone who (through being either off guard or hungover!) had forgotten about the weekend and only adjusted their price 5 cents lower!

TECHNOLOGY HAS OF COURSE BEEN THE BIGGEST CHANGE

Now that the EFP has volatility, which at times is comparable to the outright price, it has gone from a sideline to a PnL generator in its own right.

FROM TELEX MACHINES TO MODERN TERMINALS

Technology has, of course, been the biggest change. I speak to young traders about Reuters dealers in the way I was told about telex machines, receiving puzzled looks as I recall the regular changing of the paper and the need to archive the carbon copy. Bloomberg is now the dominant supplier of both messaging and market data. I started with a system called Market Sheet, which has long since disappeared but seemed space age to me at the time.

Access to market pricing outside of the office has moved a long way since the days of Reuters pagers (technology so old I can't find a single image or reference to them on Google!) via Blackberries to smart phones.

This is probably one of the most positive developments from my perspective – the amount of information now available to me in the morning has afforded me a good hour or so of extra sleep and I am more than happy to leave the 6.30 am starts in the past!

All of that said, this is not supposed to be a lament about how much better things were in the past.

I do look back fondly on the 'old days' because the experiences were so new, but also because of the many talented people I had the opportunity to work alongside, including some real legends of the market. However, I am in no doubt that the market and us as participants are better off for the developments that have taken place over the past 20 years and we have LBMA to thank for many of those.

I AM IN NO DOUBT THAT THE MARKET AND US AS PARTICIPANTS ARE BETTER OFF FOR THE DEVELOPMENTS THAT HAVE TAKEN PLACE OVER THE PAST 20 YEARS AND WE HAVE LBMA TO THANK FOR MANY OF THOSE

COMPLIANCE TO THE FORE

There are, however, a couple of areas where I believe that the changes over the past 20 years have not necessarily been for the best. The first of those goes back to my own journey – it is now very difficult to make the jump from middle office to trading desk. Whether that is due to compliance concerns or because of the academic qualifications that are now demanded, many potentially talented traders are not getting the chance to prove themselves and advance their careers (in the way that I and many others once did).

Secondly, with technology, we have lost that personal touch and, with that, some of the 'community' feel that was so apparent when I was starting out. Gone are the days of knowing your rival trader's family by name and of having beers in the evening after battling during the day (compliance again).

WHAT THE FUTURE HOLDS

Looking to the future, I think it will continue to be a case of same, but different. I can see a market where technology companies become bigger players and compete side by side with financial institutions. Ultimately though, whoever the players are, I believe the market will always need people at its heart. As the pandemic has shown, when disruption comes and markets move fast, liquidity can quickly dry up, leaving the machines with nowhere to go and requiring humans to step forward.

David Gornall started his career in 1979, trading silver at Lonconex Limited, part of the Primary Industries/Golodetz commodity trading group. After a spell at Morgan Guaranty Trust of New York, he moved to Sogemin, trading in the LME ring and heading the bullion and FX desk. In 1992 he joined NM Rothschild to start their LME base metals operation, before returning to Sogemin's successor, Natixis Commodity Markets – where he was a main board director until 2009. He became Global Head of Metals Trading at the French Investment Bank, Natixis. He was a member of the LBMA Management Committee from August 2005 and Chairman of LBMA from June 2011 to July 2014. He currently acts as a Consultant Advisor for LBMA.

Stephen Pender has over 20 years' experience trading precious metals. Since 2016 he has been at BASF Metals Ltd in the role of Senior Dealer, he previously held senior roles at Credit Agricole, INTL and Fortis Bank and before this he began his career at JPMorgan in the role of precious metals spot dealer. He is a member of the LBMA's Public Affairs Committee.

"NEVER Knowingly Undersold!"

BY ADRIAN ASH, DIRECTOR OF RESEARCH, BULLIONVAULT

Adrian takes a peak under the covers at some of the more controversial and colourful articles or features that have appeared in the *Alchemist* over the last 25 years. Far from a parish magazine, these pages have hosted argument and controversy, both from within and outside LBMA's membership.

"They even call their magazine the '*Alchemist*'. Brazen!" joked one self-declared goldbug on social media back in 2018 of the Association's long-running quarterly.

But the idea that bullion banking and finance might not always be an unalloyed good for our market was hardly new to LBMA readers. The *Alchemist* has also since its launch offered "a forum for diverse views" as then Chairman Alan Baker said in his review of its very earliest editions (*Alchemist 4*, June 1996, *'One Year On'*).

Over a decade later, for instance, Albert Cheng (then Managing Director, Far East at the World Gold Council) and the late D.R. Pendse (then writing from Mumbai's Centre for Economic Policy Advice) both wrote in to take issue with Philip Klapwijk's forecast that China was on the verge of overtaking India in both domestic gold demand and jewellery fabrication (*Alchemist 58*, April 2010, *'Letters to the Editor'*).

FOR THOSE OF YOU WHO CAME TO SEE 'A MARKET SHOWING ITS UNDERWEAR IN PUBLIC' AS ONE ANALYST SUGGESTED I'M AFRAID I HAVE TO DISAPPOINT YOU

STOP TALKING, ACT!

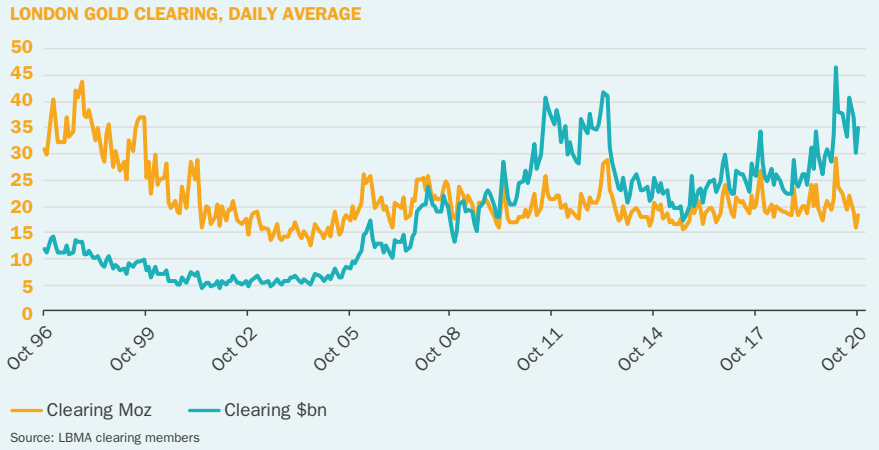
Whoever was right (GFMS's forecast was three years early), "Let us not just discuss the [Asian] opportunity once again, agree about the lucrative prospects and then choose to do nothing," sighed Tim Wilson of J.P. Morgan about whether or how to engage with gold's emerging giants (*Alchemist 59*, July 2010, *'Once More unto the Breach, Dear Friends'*). "An Asia initiative should be an agenda item on every LBMA committee," he urged, "to ensure we capitalise on our position, and derive maximum value for our members as well as [for] the growing number of participants in the global bullion market."

It took almost another decade to get Jeremy East as LBMA's dedicated Far East consultant (*Alchemist 90*, July 2018, *'Our Man in Hong Kong'*), but the intervening years delivered a host of initiatives, plus forums and also an increasing focus in the *Alchemist* on the Asian bullion markets, not least the vexed question of China's "true" size in gold. "It is important that we understand what is going on in China," wrote Jeremy East not too long after Tim Wilson's call (*Alchemist 75*, October 2014, *'Precious Metals International Context'*) "because it is having an impact" worldwide. Put another way, as analysis from Neil Meader of Metals Focus then found (*Alchemist 83*, October 2016, *'Links between the Chinese and International Gold Prices'*), "US monetary policy and nagging tail risks continue to take centre stage, [but] gold's fundamentals, among them Chinese demand, [are far from] irrelevant to gold price moves."

PSST! YOUR PETTICOAT'S SHOWING

The mystery of China's true pull on global gold supplies was resolved (or very nearly) with the release "at last" of official LBMA trade data, crunched by Matthew Turner against his own previous analysis (*Alchemist 93*, April 2019, *'China's Golden Appetite'*). Contrary to what the bug-o-sphere of amateur Sinologists might have wished, the new data did "not mean a radical shift in how we view the [Chinese] market". Yet, despite London's clear and continued lead in global bullion flows, the *Alchemist* has stayed shy if not embarrassed about its dominance, rarely noting let alone stressing it – a hangover, perhaps, from the magazine's earliest disclosures.

"For those of you who came to see 'a market showing its underwear in public' as one analyst suggested, I'm afraid I have to disappoint you," said Alan Baker, on revealing clearing statistics to the media for the first time almost a quarter of a century ago (see photograph on page 29 and also *Alchemist 7*, April 1997 *'London is the Gold Capital of the World'*). That now unnamed analyst's accusation stung because "The bullion market is often criticised by observers for being secretive and lacking in information and data...[but] discretion and integrity will always be bywords in the London bullion market," as he had explained to the 35 assembled journalists, not least because so many of the market's central bank clients were then eager to sell part of their gold reserves on the quiet, "contributing so much to the instability of the price of gold" as N M Rothschild's Robert Guy would say the following year (quoted in *Alchemist 10*, February 1998).



Nevertheless, "the LBMA [was] conscious of the general call for greater transparency" and that journey continues here in 2021, a direction of travel rather than a destination, as neatly summed up by the front-page headline of that edition dedicated 24 years ago to the Association's first great revelations (*Alchemist 6*, January 1997, *'Towards Transparency'*).

"Many people will be very startled to discover that the global bullion market is very big indeed," said the *Financial Times* of those figures, and "London is gold capital of the world," said *The Guardian*.

Such surprise still makes headlines today, despite nearly a quarter century of ever greater transparency.

The physical flows alone startled Sky News in 2017, for instance, because the monthly tonnage into and out of London can influence the UK's headline import and export data as a whole, a controversy *The Times* then picked up again in late 2019, prompting a detailed explanation in LBMA's quarterly magazine from the Office for National Statistics (*Alchemist 97*, May 2020, *'The Treatment of Gold in Official UK Trade Statistics'*).

THE PHYSICAL FLOWS INTO LONDON **STARTLED SKY NEWS**

The real shocker, however, remains the trading volumes, now separated from the clearing data and reported alongside the latest London vault holdings data in each quarterly edition of the magazine, as well as monthly online.

JUST A LINK IN THE CHAIN

"Surely the number of times the same metal trades or spawns other trading in different forms must have increased tenfold at a bare minimum." said John Coley over two decades ago, then recently moved from dealing to logistics, in pointed comments to his friends and colleagues across the industry (*Alchemist 14*, February 1999, *'Letters to the Editor'*). "The role of the dealer was traditionally justified as a facilitator, someone who could iron out bumps in the supply chain. By contrast, today it is dealers and non-industrial clients like funds who create bumps [for] end-users."

How to smooth those bumps? "Acquire some first-hand experience," John Coley advised, urging dealers to go down a gold mine or visit a refinery to see "where difficulties arise in interfacing" with other points on the supply chain, because "dealing", he concluded, "is still just another link", a point he would stress again almost 20 years later in his interview with Dr. Michele Blagg for her wonderful 'Voices of the London bullion market' project (*Alchemist 79*, October 2015, *'From the Rock in the Ground to the Ring on Your Finger'*).

Although produced primarily for its membership around the world, the *Alchemist* has always opened up its pages to external voices and views, whether from speculative traders (see, for instance, asset manager Trevor Steel's advance notice in *Alchemist 31*, June 2003, about *'The Advent of Hedge Funds in the Gold Sector'*) through to other global locations promoting their services (*Alchemist 91*, October 2018, *'Banque de France and Gold'*) or even clients declaring their exit from London (*Alchemist 97*, May 2020, *'Central Bank of Hungary: New Golden Age'*).

Below: LBMA Press Conference on 29 January, 1997 at which Alan Baker announced the publication of Clearing data. Martin Frankel on the rostrum, to the left Alan Baker partially obscured by the camera with Chris Elston, the first CEO of LBMA in the middle.

"Wow! The wizard really did well at the Bank of England auction!"

BACK THEN AS NOW, THE *ALCHEMIST* PROVIDED A VITAL RESOURCE FOR EVERYONE WORKING **IN OR USING OUR MARKET TO STAY ABREAST OF SUCH NEWS,** THE BETTER TO ENSURE IT CAN CONTINUE SERVING ITS CUSTOMERS INTO THE FUTURE.

Most bluntly, *"Wholesale physical markets are broken,"* declared an article in *Alchemist 80*, January 2016, telling the wholesale market that "the tide of technology can't be rolled back", sadly, the technology company providing that article shut up shop just eight months later (another article in the same edition looked at three companies "bringing the blockchain to the bullion market", one of which had already been dissolved, with the other two soon following), but the other tide it warned *Alchemist* readers about has only continued to roll in – regulation.

ALTHOUGH PRODUCED PRIMARILY FOR ITS MEMBERSHIP AROUND THE WORLD, THE *ALCHEMIST* HAS ALWAYS OPENED UP ITS PAGES TO EXTERNAL VOICES AND VIEWS.

READY OR NOT

"Increased regulatory burdens may seem inevitable," warned Joel Cook, then Global Head of Commodities Compliance at Standard Chartered Bank, following the 2008 global banking crisis (*Alchemist 59*, July 2010, *'Why Regulate Precious Metals'*)."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." Such thinking may seem heretical today, but the UK regulator's "perceived failure to anticipate and prevent the crisis...will be seen in part as a failure of less prescriptive, principles-based regulatory systems," he predicted. "This may in turn lead to a move toward a more adversarial approach."

Battle was joined in the *Alchemist* by Peter Fertig of QCR Quantitative Commodity Research bravely championing the market's integrity against "a flawed academic research paper" (*Alchemist 73*, March 2014, *'Has There Been a Decade of London PM Gold Fixing Manipulation?'*).

Yet, if regulators must represent an enemy rather than a partner, then the phrase 'passive-aggressive' seems a better description than 'adversarial' of their alphabet soup, one which came to the boil long before the BCBS and EBA's current CRR imposed NSFR on bullion-dealing banks (first explained in *Alchemist 75*, October 2014), over 20 years ago in fact, when Credit Suisse's Julian Cathrew unpicked the NGR from net MTM for FIs (*Alchemist 18*, February 2000).

Back then, as now, the *Alchemist* provided a vital resource for everyone working in or using our market to stay abreast of such news, the better to ensure it can continue serving its customers into the future. As for attracting and retaining those customers, however, the friendlier arguments in these pages reflect the friendly competition between companies and colleagues across every part of our supply chain. We are each, after all, like the Bank of England in *Alchemist 18*'s pointed cartoon (February 2000), not long after the UK's "shock" gold auction news, "Never knowingly undersold".

Adrian Ash has been studying and writing daily on gold and silver for nearly 20 years. He is Director of Research at **BullionVault**, the precious-metals market for private investors online and by smartphone.

GOLD PRODUCTION OVER THE PAST & NEXT 25 YEARS[1]

BY ADAM WEBB, DIRECTOR OF MINE SUPPLY, METALS FOCUS

Courtesy of Agnico Eagle Mines.

Historically, global gold mine production was dominated by South Africa, the United States, Australia and Canada. In 1995, these four countries accounted for 56% of annual gold production (GFMS – Gold Survey). However, over the past 25 years, there has been a significant geographical diversification of mined gold supply, with the contribution of these four countries dropping to 24% in 2020.

THE PAST 25 YEARS OF GOLD PRODUCTION

Alongside this diversification of supply, there has been substantial growth in global output over the same 25-year period. In 1995, global mined gold production was 2,299 tonnes (GFMS – Gold Survey). By 2018, this had increased by 55% to a new all-time high of 3,556 tonnes. This increase largely took place from the late 2000s, driven by a relentlessly rising gold price, which peaked in 2011 to levels that were not surpassed until August last year. A significant proportion of this production growth has come from China and Russia. China surpassed South Africa in 2007 to become the largest gold producer globally and has remained in that position since. Meanwhile, Russia surpassed Australia to become the second-biggest producer in 2019. Last year, China and Russia are estimated to have produced 364 tonnes and 341 tonnes respectively, which will see them maintain their positions as the top two gold-producing countries.

CHINA AND RUSSIA ARE ESTIMATED TO MAINTAIN THEIR POSITIONS AS THE TOP TWO GOLD-PRODUCING COUNTRIES

Alongside the incentive from higher prices, developing nations have opened up to foreign investment, leading to a significant increase in gold production from Africa, South East Asia, and Central and South America. Conversely, output from South Africa has been in perpetual decline over the last 25 years, with gold production in 2020 estimated to be 107 tonnes, down from 554 tonnes in 1995. This substantial decline is a result of the diminishing economic viability of South African mines. Average grades have declined over the years, while extracting ore from these deep and narrow deposits is both labour and energy intensive, leading to high fixed costs. These challenges have been well known for some time and have been written about several times in the *Alchemist* over the last 25 years. For example, Kelvin Williams, then Executive Director of Marketing at Anglogold Limited, wrote in detail about the challenges faced by gold miners in South Africa (see *Alchemist 11, October 1998, 'South Africa's Gold Mining Challenge'*)This decline now means that South Africa is no longer the biggest producer in Africa, with Ghana becoming the largest gold producer on the continent in 2018.

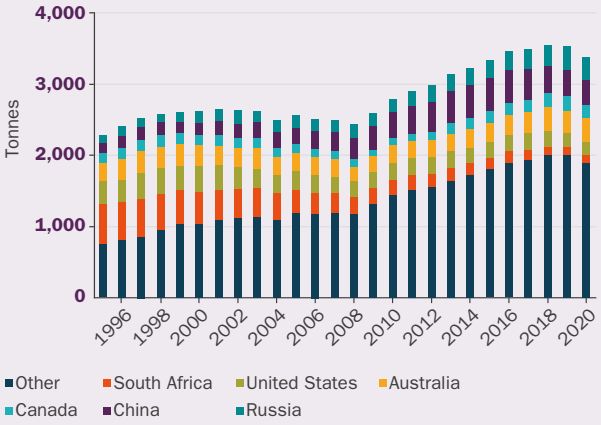
2020 was a challenging year for gold miners as the COVID-19 pandemic led to multiple countries introducing lockdown policies that required mining to be temporarily halted. This impacted output from several major producing countries such as Canada, China, South Africa, Peru and Mexico.

As a result, global gold production is estimated to have declined by 4% year-on-year. Despite the ongoing pandemic, disruption to miners has eased as they have been able to implement policies and procedures to monitor and halt the spread of the virus at their operations. This disruption will ease further as vaccines are rolled out globally and, as a result, we can expect a return to production growth this year. But what is the outlook further ahead, are current production levels sustainable over the next 25 years?

1. This article is an update to Metals Focus's contribution to the World Gold Council's May 2018 report, ***Gold 2048: The next 30 years for gold.***

To assess this, a number of factors need to be considered, including reserves and resources, price-cost dynamics, exploration expenditure and ESG/carbon footprint considerations.

GLOBAL GOLD PRODUCTION 1995-2020



Source: Metals Focus, GFMS

IN-GROUND RESERVES OF GOLD

At the end of 2019, in-ground gold mineral reserves totalled 55,460 tonnes of contained gold. Assuming an average recovery rate of 90%, this would be enough to sustain global production for 14 years at current rates. In addition to these reserves, there is also a further 183,240 tonnes of contained gold in resources. This would be sufficient to sustain production levels for a further 46 years. However, not all of this material will be successfully converted into reserves and ultimately extracted, as some of it will be deemed uneconomic to mine. Approximately 70% of these resources are found at operating mines. This portion is more likely to be converted to reserves and extracted.

AT THE END OF 2019 IN-GROUND GOLD MINERAL RESERVES TOTALLED 55,460 TONNES OF CONTAINED GOLD

GLOBAL RESOURCES VERSUS MINE PRODUCTION IN 2019

Outer Ring:
Reserves & Resources*

Inner Ring:
Production

- CIS
- Central & South America
- North America
- Oceania
- Asia
- Europe
- Africa

*Reserves and resources are as at end-2019

Source: Metals Focus

It is often just a case of being more economic to incur the cost of converting resources to reserves closer to the time when the material will be needed for production. This is particularly the case for underground mines, where development work and production can provide better access to the deposit for the required additional exploration drilling, compared to the greater expense of drilling deep exploration holes from the surface.

The remaining 30% of resources, which can be attributed to development projects, is less likely to contribute to production. Some of the gold in this material will be marginal to extract and companies will often prefer to divert resources into discovering and developing more profitable deposits.

PRICE, COSTS AND CAPITAL EXPENDITURE

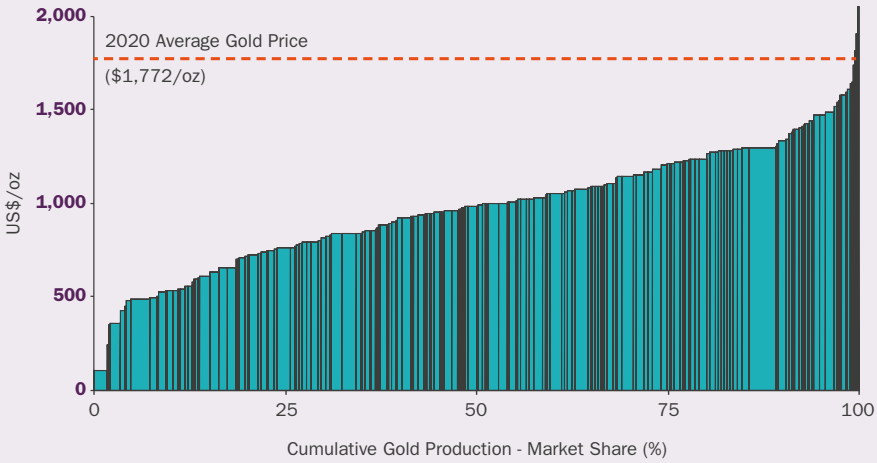
In order to sustain production at or above current levels, significant capital will need to be deployed by miners in order to develop projects or expand existing operations to offset declining production from aging mines. With current prices, which at time of writing are around $1,850/oz, well in excess of the 90th percentile of the all-in sustaining cost curve, which sits at $1,300/oz, the vast majority of gold mines are making very healthy profits. These margins should allow the industry to deploy capital to develop new projects, with the average capital cost to construct a new gold mine approximately $200/oz over the life of mine.

The vast majority of gold mines are making **VERY HEALTHY PROFITS.** These margins should allow the industry to deploy capital to develop new projects.

However, in recent years, major gold producers have been and largely continue to be cautious about capital expenditure. Their focus remains centred on maximising value from their assets and increasing returns to shareholders. Looking at 12 of the biggest gold miners, we can see that their combined capital expenditure levels in 2019 were less than half of what they were in 2012, when these numbers peaked at $35 billion. These levels are expected to remain relatively flat again in 2020, despite the dramatic gold price increase over the year, based on reported figures from Q1 to Q3. The capital and cost discipline employed by these companies has helped them strengthen their balance sheets and increase returns to shareholders. This approach looks set to remain in place moving forward, with investment in new projects limited to those that will maintain or improve profitability.

As a result, production growth will be constrained as the incentive from high prices to develop new projects and increase production will be offset to some extent by the business model in place at major producers.

ALL-IN SUSTAINING COST CURVE VERSUS GOLD PRICE



Source: Metals Focus Gold Mine Cost Service

Boddington Gold Mine, courtesy of Newmont Corporation.

MAJOR GOLD PRODUCERS' CAPITAL EXPENDITURE 2009-2019

Companies included: Agnico Eagle, AngloGold Ashanti, Barrick Gold, Gold Fields, Goldcorp, Harmony, Kinross, Newcrest, Newmont Goldcorp, Polymetal, Randgold and Sibanye Stillwater.

Source: Metals Focus Peer Group Analysis

EXPLORATION

To sustain production levels in the long term will also require new deposits to be discovered via exploration. Looking at historic gold discoveries highlights some concerns in this area. 278 major gold deposits were discovered between 1990-2019 (S&P Global Market Intelligence - 2020). However, only 25 of these discoveries were made in the last decade and none between 2017 and 2019.

This lack of new discoveries is a result of exploration expenditure being focused on expanding previously found deposits rather than trying to discover new greenfield deposits.

This is reflective of the higher risks involved with greenfield exploration, with most companies preferring to spend money on expanding existing resources, which is inherently less risky.

This lack of new discoveries means that there are relatively few undeveloped high-quality gold deposits to replace major gold mines that will deplete their reserves over the next 25 years. This poses a problem for sustaining current production levels in the long term and has been an issue for a number of years already. For example, it was mentioned by Jamie Sokalsky, then CEO of Barrick Gold (see *Alchemist 69*, January 2013, *'International Mine Production'*).

THIS LACK OF NEW DISCOVERIES MEANS THAT THERE ARE RELATIVELY FEW UNDEVELOPED HIGH-QUALITY GOLD DEPOSITS TO REPLACE MAJOR GOLD MINES THAT WILL DEPLETE THEIR RESERVES OVER THE NEXT 25 YEARS

THE WORLD'S BIGGEST GOLD MINER, NEWMONT, TARGETED ACHIEVING NET-ZERO CARBON EMISSIONS BY 2050 LATE LAST YEAR AND OTHER MAJOR MINERS HAVE MADE SIMILAR COMMITMENTS.

CLIMATE CHANGE AND NET-ZERO

The growing emphasis on ESG (environmental, social, corporate governance) for mining companies will continue moving forward, with a particular focus on greenhouse gas emissions.

Shareholders are increasingly demanding that miners take steps to curb emissions and most companies are now committing to doing this. The world's biggest gold miner, Newmont, targeted achieving net-zero carbon emissions by 2050 late last year and other major miners have made similar commitments.

To achieve these, companies will have to commit capital to initiatives such as developing renewable power generation, more efficient equipment and electrification of vehicle fleets. These initiatives will directly compete with project development and exploration for capital allocations, and the proportion of expenditure going in this direction will only increase moving forward. This will therefore reduce funds available for project development and exploration.

UNDERGROUND MINING TO BECOME MORE PREVALENT

Over the last 25 years, mined gold has been increasingly sourced from open-pit operations, while output from underground mines has declined. The main drivers of this change are declining production from South Africa, where output is almost exclusively from underground mines, the increased prevalence of heap leaching of low grade ore and the availability of bigger mining and processing equipment, allowing for economies of scale at open-pit operations. However, this trend has reversed in recent years, with the proportion of gold production coming from underground mines increasing from 33% in 2015 to 37% last year. This reversal is likely to continue moving forward for several reasons.

The average depth of gold deposits being discovered has been rising (MinEx Consulting – 2019), in turn, suggesting that a higher percentage of these will be better suited to underground, rather than open-pit, extraction.

Meanwhile, an increasing number of aging open pits will transition to underground mining in order to exploit deeper sections of their ore bodies.

In addition, technological improvements such as automation and remote operating will allow for more efficient and safer extraction from underground operations, which will reduce operating costs and improve the economics of underground mining. The smaller surface footprint of underground mines is also likely to be seen as increasingly beneficial from an ESG perspective when compared with open-pit mining. This could provide a headwind to production growth as underground mines often take longer to develop and ramp up to full production rates compared to open-pit operations.

The average depth of gold deposits being discovered has been rising, suggesting that a higher percentage of these will be better suited to underground, rather than **OPEN-PIT EXTRACTION.**

THE NEXT 25 YEARS

So taking all this into account, what should we expect for gold production over the next 25 years? Existing reserves are sufficient to maintain current production levels for 14 years.

This time period allows ample time for resources to be converted into reserves, in order to replace mined ounces, and also time for exploration to succeed in finding new deposits to sustain output in the longer term. However, to grow or even sustain current production levels over the next 25 years, companies will need to invest capital in existing mines, development projects and greenfield exploration. The ability of companies to do this will largely be dictated by the gold price. If it remains high and margins are strong, miners will be able to divert a portion of their profits to developing their project pipelines, in order to sustain or grow production levels, and vice versa.

In addition to all this, technological advances will also influence gold production moving forward. Seafloor mining has been an area of discussion in recent years, with multiple organisations assessing its potential in producing several metals, including gold. However, it seems unlikely that this will become a significant source of gold production within the next 25 years, due to the availability of terrestrial sources and the technological, environmental and economic hurdles involved with seafloor mining.

A more meaningful impact will likely come from improvements to existing mining and processing methods utilising technology such as automation and artificial intelligence, which will be used to increase efficiencies.

As well as increasing production, new technology will also certainly be targeted at reducing emissions over the next 25 years to improve the environmental credentials of gold mining.

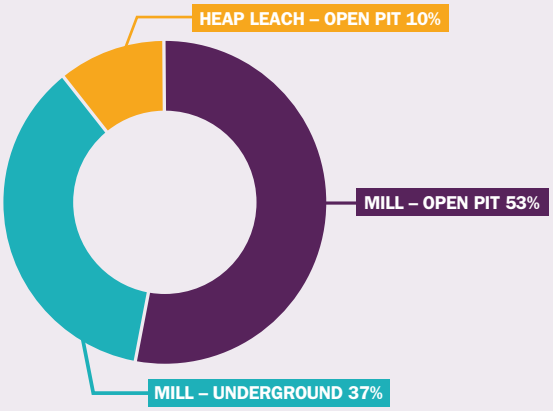
Our view is that gold prices will remain strong over the next two years, followed by a decline to 2025. The near-term high prices will incentivise greater investment in exploration and new projects; however, this will dissipate as prices decline in the longer term.

Meanwhile, we expect the majors will remain focused on maximising value from their assets and increasing returns to shareholders, alongside committing more capital expenditure to initiatives aimed at reducing emissions. Capital expenditure for new projects will target a limited number of high-quality deposits that will maintain or increase profitability.

THESE FACTORS WILL LEAD TO RISING GLOBAL GOLD PRODUCTION OVER THE NEXT FEW YEARS

These factors will lead to rising global gold production over the next few years. However, in the longer term, a lack of investment in exploration and new projects, alongside an increased prevalence of long lead-time underground projects, will result in a flat to declining profile for global gold mine production. Although declines will be mitigated to some degree by increased efficiencies coming from new technologies.

GOLD PRODUCTION BY MINE TYPE IN 2020*



*Excludes production from the ASM (Artisanal and Small-Scale Mining) sector

Source: Metals Focus

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Unless cited otherwise, content is from Metals Focus

Adam Webb is Director of Mine Supply at Metals Focus. He is responsible for research and analysis of supply and operating costs across gold, silver and platinum group metals and manages a team of analysts focused on these areas.

Prior to joining Metals Focus he was Head of Mine Economics at S&P Global Market Intelligence where he lead research into supply and costs across 15 different commodities. Earlier in his career he worked as a geologist on mines sites and exploration properties in Western Australia. He has a BSc in Earth Science from the University of Wales Aberystwyth and an MSc in Geochemistry from the University of Leeds.

MONEY NOW FOR METAL THEN – THE TREND IS YOUR FRIEND UNTIL IT ENDS

BY SEAN RUSSO, PRINCIPAL AND JOINT MANAGING DIRECTOR, NOAH'S RULE

The trend is your friend. Not strictly true if that trend is going against you, but if you take the broader interpretation – to respect the prevailing trend – it's generally very good advice. At Noah's Rule, we prefer the slightly extended version. The trend is your friend – until it ends. No BFFs in financial markets.

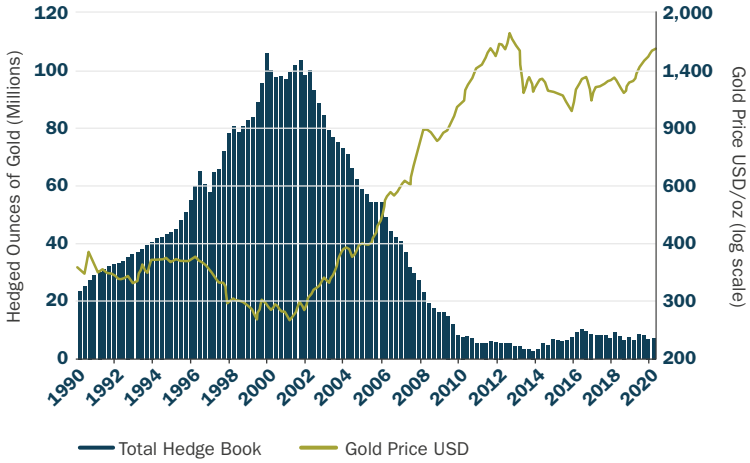
IN THE DYING YEARS OF THAT NEARLY **20-YEAR GOLD BEAR MARKET,** THERE WERE FEW MARKET PARTICIPANTS THAT REMEMBERED A TIME WHEN HEDGING WASN'T A MAJOR PART OF THE GAME.

TOO MUCH IS NEVER ENOUGH!

Trends are clearly not limited to markets, but often the prevailing trend in one market will drive associated trends in financing/funding in that market. The longer the underlying trend goes on, the more deeply entrenched processes and behaviours become. So it was with gold producers and hedging in the 17 years from 1985 to 2002. The trend was not their friend, but hedging clearly was. Until, in the following decade, the messiah became the pariah!

It must be noted that in the dying years of that nearly 20-year gold bear market, there were few market participants that remembered a time when hedging wasn't a major part of the game. The largest ever addition to the global hedge book was in the quarter when we saw the lowest price of the down move. At its peak, the industry's observable commitment to hedges was equivalent to one year's global production. What was not understood widely at that time was that undeclared and/or poorly understood derivative obligations made it larger still. Looking back, we know well that the tail began to wag the dog! That's what deeply entrenched trends do to behaviours. It's instructive to read Randall Oliphant's article "The Hedging Advantage" (see *Alchemist 12*, June 1998), which hasn't aged as well as the fine wine he compared Barrick's hedge book to.

By the mid 2000s, as gold prices were finally rising after two decades in the financial wilderness, it was very easy, and indeed very fashionable, to criticise gold miners, many of which had built substantial business despite falling gold prices, but now had large loss-making hedge books. However, for most of the previous two decades and indeed even well into the early 2000s boom, if you wanted to borrow money to build a mine, you had to talk to banks and banks required clients to hedge. Just like banks prefer to provide home loans to people with steady jobs (oh, except for those NINJA loans in the 2000s), they generally like to know a mine has some prospect of achieving the future prices that are being plugged into the spreadsheet today. Hedging provides that.



Source: GFMS, Refinitiv, VM Data, Bloomberg, Noah's Rule

To remind yourself how capital hungry the industry was in the late 1990s, Michael Simon's article "Financing Mining Projects" also in *Alchemist 12* is a great read. The last few paragraphs are awesome!

"The debate (on hedging) will doubtless continue for some time" and "...it should be noted that the use of derivative instruments has enabled a number of projects that were marginal or unprofitable to obtain financing." And the conclusion. "The intricacies of mine financing are formidable, and can easily be, misunderstood. As a consequence, they are often misused"
Gold Michael, gold!

As we moved deeper into the noughties and gold consolidated its new uptrend, investors came back but they didn't like the vestiges of the dark days of the 90s. Fresh equity was raised by the tens of billions. Instead of delivering mined gold into hedges, gold miners mined the equity markets, raising cash to buy gold bars in the spot market to meet forward sales. A vicious (for some) circle was created. Large time-sensitive hedge buy-backs helped to push the gold price higher. Many investors seeing gold prices rise and observing gold producers buying gold decided that they were better off buying gold than gold shares and the newly created gold ETFs facilitated that. (Nik Bienkowski's article in *Alchemist 48*, October 2007, is a good read on those early days). The higher the gold price went, the more costly the next hedge book buy-back became – requiring even more new shares to be issued. The fewer the miners that still held hedging, the greater the urgency was to join the new 'unhedged' crowd, creating more and more shares backed by no more in-ground gold than had been there at the start. As a consequence, many gold stocks underperformed gold, and hedging became a dirtier and dirtier word.

Gold of course was in a fully fledged bull market. Exploration increased, higher gold prices begat new mines and allowed old mines to be dusted off, all requiring finance. But with hedging pushed to the corner, a new form of debt was required. Banks, displaying their characteristic conservatism, still needed hedging and were marginalised. Mining entrepreneurs and equity investors still wanted leverage and that required debt. It should be noted some of the up and coming mining houses of today owe their tight capital structures to the benefits of debt and hedging taken on in 2010-12 when they were starting out.

ANYTHING BUT HEDGING!

Enter the streamers. A line of business that had started as a way of letting base metal miners with precious metal credits tap into the premium that precious metals equities had previously enjoyed, before they so solidly soiled their own nest, became mainstream. Streaming moved from cash for by-product stream to cash against primary product. Aspiring gold miners could stream their gold. Instead of borrowing money and locking in a certain gold price to ensure they could repay their loans, aspiring producers could give away the right to a share of future gold production for enough money now to finance construction. One big difference was that, whereas hedging was locked in for the period of the loan, streams were for the life of the mine. Annual percentages of commitments were generally smaller, but obligations were in some cases only limited by the miner's capacity to not keep producing.

Some investors scratched their heads and wondered what the difference was (and the smarter ones bought shares in streamers). But all that seemed to matter, certainly in North America, was that streaming wasn't hedging and it was the new normal – the solution du jour. One emerging streamer even started its presentations with a coffin on the first slide, announcing the death of conventional debt and hedge finance. Bankers, fearing it might be true, loosened standards. Debt without hedging (or hedge-lite) became a thing and gold prices looked rosy in any event.

STREAMING MOVED FROM CASH FOR BY-PRODUCT STREAM TO CASH AGAINST PRIMARY PRODUCT. ASPIRING GOLD MINERS COULD STREAM THEIR GOLD.

Somewhere in all of this in about 2011/12, over a decade after the first (and to our recollection only profitable hedge buy-back), the gold price stopped rising. But not so debt levels, which kept rising along with a steadily increasing obligation across a growing band of producers to surrender a not-insignificant share of future production for either no future payment (royalties) or a payment that was a fraction of what gold was now costing to produce.

NOT ALL OUNCE COMMITMENTS ARE EQUAL

Today, the top five royalty/streaming companies report annual gold and gold equivalent sales of approximately 1.1 million and 1.5 million ounces per annum respectively. Those numbers are forecast to grow in coming years. That's about 1% to 1.5% of global production. There are only about ten major mining companies that produce more than that in a year.

YES HEDGES GIVE UP PRICE UPSIDE, BUT STREAMS AND ROYALTIES GIVE UP REVENUE AND **FOR MUCH LONGER.**

To the extent that royalty/streaming is often done to avoid dollar-based debt and associated hedging, it is interesting to contrast the streamer outputs with the hedge obligations of those that have still taken the debt/hedge path.

In 2019, the total outstanding hedge obligations were estimated to be in the order of 7 million ounces and are estimated to have dropped towards 5.1 million ounces by the end of 2020.

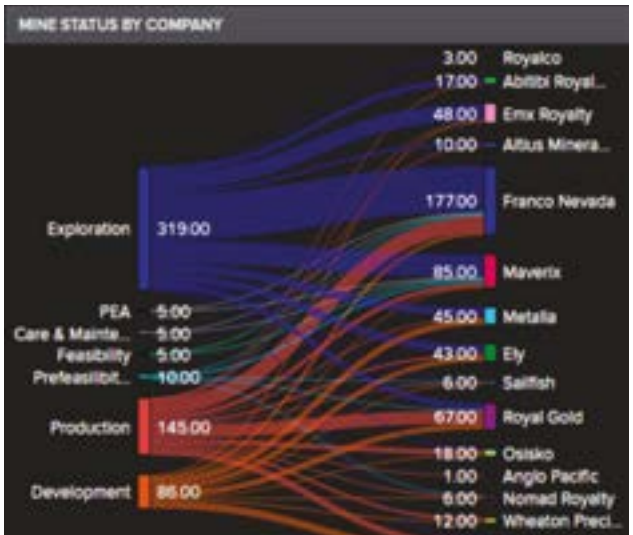
If hedged producers have an average hedge price of around $1,500/oz, the revenue forgone at current spot ($1,850), the hedge loss, is in the order of $1.8 billion, but they will still receive $7.6 billion for that gold when delivered. Using standard metrics – we generally observe that debt service might be assumed to be a third to a quarter of hedged revenue in the same period. That suggests that $1.9 to $2.5 billion of hedge-associated debt service, with $5.1 to $5.7 billion net sales proceeds, still hitting the bank account of the hedged gold producers, mostly over the next two years.

It's hard to get a breakdown by ounces between commitments to royalties versus streams. There are certainly less streaming transactions by number, but the volumes are much greater.

If we look only at gold streams and assume the future ounce commitments were 75% to streams and 25% to royalties, and take a stab at the average future stream payments for delivered metal being 25% of spot price, then those miners who granted streams/royalties will deliver in the order of $2billion of gold for cash $380 million; implying equivalent "debt service" of $1.6 billion per annum for the foreseeable future. (The 75/25 split is a guess. If the royalties percentage is larger the cash back would be lower).

It's worth reading those last two paragraphs again. Yes, hedges give up price upside, but streams and royalties give up revenue and for much longer.

Whereas hedging is designed to support debt that helps to reduce equity dilution, streaming by its very nature dilutes shareholders exposure to the gold price but at the asset level. One is not better than the other. Each has its advantages and disadvantages, but the long term impact of dilution early in the life of any mine or company should never be underestimated.



Reproduced with kind permission of Refinitiv

It also worth noting that there is an important distinction, in my mind at least, between royalties when used to fund pre-production activities like exploration and feasibility studies and streams used as an alternative to dollar-based debt to build mines. The wonderful graphic from Refinitiv (see above) showing the number of the companies at various stages that have royalty or streaming deals, which gives a very interesting view of just how entrenched these products are across the spectrum of the industry. The number of smaller providers that have appeared in that space in recent years speaks volumes with regard to the observed returns in the sector.

Royalty/streaming companies are loved by those who invest in them but viewed more warily by many of those who seek to invest in emerging producers. There is no doubt streamers remain an important part of the ecosystem, as do bankers, but we can't help thinking that before this next gold price cycle has run its course, future obligation to streaming transactions done some time before, will be as disliked by gold-mining investors, and miners with streams, as hedging and bankers who provided it, were in the noughties. We will not be surprised to see deals done to unwind streams and equity investors will again carry the can!

THERE'S (ANOTHER) NEW KID IN TOWN

Enter 'the funds'. The idea of large endowments and pension funds investing in vehicles directly lending to emerging miners was almost unheard of, even when the streamers were really gearing up. Fixed obligations and ZIRP (zero interest policies) going global created fertile ground for savvy entrepreneurs to tap this huge source of interest-income hungry investors.


Open Pit Gold Mine – Castle Mountain Mine, near Searchlight, Nevada.

The funds saw a niche. They recognised miners (and more importantly, their key investors) had now figured out that giving away a share of your production for the life of the mine to streamers could be troublesome in both rising markets (investor backlash) and falling markets (the operating cost burden on the remaining ounces when operating margins shrink).

THE IDEA OF LARGE ENDOWMENTS AND PENSION FUNDS INVESTING IN VEHICLES DIRECTLY LENDING TO EMERGING MINERS WAS ALMOST UNHEARD OF, EVEN WHEN THE STREAMERS WERE REALLY GEARING UP.

They also saw that while banks were still active, they were more credit-sensitive than ever and only a hardy band of Aussies and Russians (with a few notable exceptions) understood how to make hedging work for them and their lenders. They crafted the new 'new normal' – debt at a higher rate of interest than banks were seeking, but without the protection of hedging for lender or borrower. Life-of-mine 'kickers' linked to production, but much more modest than streamers, added some additional return to meet the lenders'/investors' risk-reward hurdle. Being able to move smoothly over the capital structure, they make a promise to invest directly into the companies they fund, putting 'skin in the game', making them a 'partner'. They have totally changed the landscape.

Ironically, it's hard not to imagine that this is how gold mines were financed in Roman times. Everything that is old is new again.

Low interest rates are said to be good for gold. Money printing is surely good for gold prices. Those whose assets suffer badly in a low interest rate/money printing environment would be wise to own gold, but their biggest problem is that it still pays no yield. Lending money to miners does. Lending money to aspirant miners pays more still. And if as part of the deal, you can get ownership of gold in the ground at a fraction of the spot price, we should probably all hope our pension funds have at least a modest allocation.

THOSE WHOSE ASSETS SUFFER BADLY IN **A LOW INTEREST RATE/MONEY PRINTING ENVIRONMENT WOULD BE WISE TO OWN GOLD,** BUT THEIR BIGGEST PROBLEM IS THAT IT STILL PAYS NO YIELD. LENDING MONEY TO MINERS DOES.

SPOILED FOR CHOICE – WHAT MIGHT YOU DO?

When we are engaged to help a company formulate a funding plan for a new mining development, we always start with the three same questions: What might we do? What can we do? What must we do?

We also remind clients that while the basic questions around risk management and funding approaches remain the same, the answers keep changing – sometimes more than once in the timeframe between finding the ore body and producing the first ounce. Some of those changes might relate to the risk profile of the particular project and/or where the product price is in its own cycle. The state of the currency of the country of domicile can also have a big impact, but usually the biggest question is: Where will the money come from?

What we can do and what we might do alter considerably depending on whether the sources of funds are tight or money is plentiful.

Today, aspirant gold miners are spoilt for choice. The range of answers to 'what can you do?' has never been broader. But answering 'what might you do?' is no easier. The cost and availability of money has not made building and running a gold mine any easier. The multiple potential physical, technical and financial contributors to the potential 'risk of ruin' remain the same. Good management will continue to make a silk purse out of a potential sow's ear and poor managers will continue to cripple all but the most foolproof of assets.

None of the funding approaches are better than the other. All can and have been used successfully at different times, against different trends, in different ways to create enormous shareholder wealth and to the benefit of all stakeholders. All remain relevant, and competition is clearly a good thing for borrowers.

As for 'what must you do?', most of that will be set out by the lenders' lawyers. We would only add that, in our experience, what you must do is remember that as you debate the 'what might you dos', those at the table who are so convinced of where the gold price will go next are possibly the most dangerous people in the process. Whatever funding is chosen, never forget the journey risk.

Today, you can see the trend, but no one can tell you when it will end.

Sean Russo, Principal and Joint Managing Director, Noah's Rule. Sean is passionate about helping companies manage market risk to build strength and sustainability in their businesses. He has a fierce commitment to delivering responsible and innovative risk solutions to all Noah's Rule clients. Since founding Noah's Rule in 2004, he and the team have been a hands-on, strategic advisors, helping many juniors successfully finance their first mine and then gone on to assist in the management of financial and commodity market risk and negotiations and oversight for hedging execution. He has a strong track record in delivering excellent strategic risk advice to CEOs, company boards and senior management. His success at Noah's Rule comes from formidable industry knowledge gained over more than 35 years in financial markets. His former roles included Managing Director of Treasury at NM Rothschild and Sons (Australia).

Behind the front Covers

BY AELRED CONNELLY, PR OFFICER, LBMA

Here we focus on some of the iconic *Alchemist* front covers and explain the stories behind them.

ISSUE 19

April 2000

Ten tola bars – the preferred gold sold in Dubai – marking the first ever LBMA Conference, which was held in Dubai (19-21 February 2000), interestingly with a cocktail reception on Saturday followed by two days of plenary sessions on Sunday and Monday. Read the article by Susanne Capano, 'Dubai 2000', on page 6.

"...the limited usage of some perhaps ill-advised products has tended to give hedging in general a bad name. This is not fair and we should collectively try and avoid the mistake of making sweeping generalisations." – Jessica Cross

"We should never forget that central banks have been net sellers over the last 35 years and, through this new century, that trend will continue, like it or not." – Tim Green

Extracts from Alchemist 19 page 7.

ISSUE 5

October 1996

Howard Davies, Deputy Governor of the Bank of England, highlights two issues. First of all IMF gold sales but secondly, and of relevance to today, the implications for the gold market/LBMA members if the UK joined EMU. Wind the clock on 25 years and now we're wondering about the implications of exiting the EU.

The first colour photograph appeared on the cover of Alchemist 13.

ISSUE 13

November 1998

From the moment you wake up until you fall asleep, silver plays an essential role in your everyday life.

The cast of pure 9999 silver above, destined for fuse wire, will be drawn down to less than the thickness of a human hair, as explained in the article by Susanne Capano on page 16.

ISSUE 31

June 2003

Philip Klapwijk looks back at the impact of the first Central Bank Gold Agreement of 1999. Not only did the CBGA head off a likely plunge below $250, but the shock it provided also triggered important structural changes – the two key being reduced short selling by funds (sound familiar?) and, above all, an about turn by producer hedgers. Read the article by Sean Russo on page 36.

ISSUE 12

June 1998

The new LBMA logo was launched, reflecting the early chemical symbols for gold (the sun) and silver (the crescent moon).

ISSUE 16

June 1999

A thin layer of gold on his visor protects the fireman from intense heat, as explained in an article by John Lutley, 'Industrial Strength Metal', on page 12.

ISSUE 49

February 2008

'Of Elephants and Yams – Thoughts on PGM Liquidity, Demand and Recycling in India' by Tom Kendall, on page 8. The inspiration for the title comes from a Malayalam saying from Kerala: *"When you are discussing elephants... don't talk about yams."*

ISSUE 56

October 2009

'Fireworks over Edinburgh' – gold prices sky rocket as LBMA heads for its tenth Annual Conference in the Scottish capital. Originally planned to take place in Lima, the Conference was switched following the ongoing fallout from the 2008 financial crisis. Edel Tully previews the Conference proceedings on page 10.

ISSUE 61

January 2011

The Hoxne Hoard was discovered in Suffolk in 1992. This hoard of gold and silver coins, jewellery and tableware was buried during the collapse of Roman rule in Britain. Although we will never know exactly why, one of the theories advanced is that it was concealed as a bulwark against the uncertain times. Do physical buyers today have similar motivations?

ISSUE 67

July 2012

The London 2012 Olympic Gold, Silver and Bronze Medals, which were exclusively produced for the games by The Royal Mint.

ISSUE 68

October 2012

This special edition of the *Alchemist* celebrates LBMA's Silver Anniversary, 1987-2012. It features an article by the first Chairman of LBMA, Robert Guy, on page 16, who looks back at the inception of the Association.

ISSUE 70

April 2013

The highlight of this edition was the visit of the Queen and Duke of Edinburgh to the gold vaults at the Bank of England. Read the full story by Louise Lee on page 3.

ISSUE 72

December 2013

LBMA rings the NYSE closing bell on 20 September 2013. The photograph shows the view from the podium looking down onto the NYSE trading floor as the LBMA Executive and guests prepare to ring the closing bell. Read the full article on page 23.

ISSUE 79

October 2015

"O Richard! O my king! Thou art by all forgot, Through the wide world I sadly sing lamenting thy drear lot."

As the LBMA Annual Conference heads for Vienna, the coins, from the Austrian Mint collection, depict the legend behind the capture of Richard the Lionheart near Vienna. Read the preview of the Conference in the Editorial by David Jollie on page 26.

ISSUE 81

April 2016

On page 5, Adrian Ash explores the monetary and economic satire underlying the children's classic, *The Wonderful Wizard of Oz*, featuring the United States' 1896 political battle over following the Yellow Brick Road of a Gold Standard, plus the moral it offers US voters and gold investors.

ISSUE 86

August 2017

In this edition, LBMA publishes for the first time the amount of gold and silver held in the London vaults. As at 31 March 2017, there were 7,449 tonnes of gold, valued at $298 billion, and 32,078 tonnes of silver, valued at $19 billion. This equates to approximately 762,939 gold bars and 1,120,283 silver bars. Read the article by Neil Harby and Joni Teves on page 3.

The latest data for end December 2020 shows that there was an all-time record high of 9,537 tonnes of gold, valued at a record high of $578.8 billion. There were also 33,608 tonnes of silver, valued at $28.6 billion.

ISSUE 95

October 2019

Ruth Crowell, LBMA CEO, in the Bank of England gold vaults. The feature item of this edition was Ruth's interview with Victoria Cleland (pictured together in the vaults), Director of Banking & Payments at the Bank of England.

ISSUE 98

August 2020

The 'Value Supply Chain for Precious Metals' is reproduced on the front cover to herald the publication of LBMA's first Annual Responsible Sourcing Report.

The Federal Reserve Bank of New York.

The 'Alchemy' of Central Banks

BY JAMES STEEL, CHIEF PRECIOUS METALS ANALYST, HSBC SECURITIES (USA) INC.

Central banks and gold have a long history together. Gold was treated as money well before the creation of central banks, the modern-day stewards of monetary policy.

HISTORY TOGETHER

Indeed, many modern central banks were created to manage the gold standard, to which most nations adhered in the decades leading to World War I. The demise of Bretton Woods may also have spelt the end of gold as a central bank reserve asset. But that did not occur. Every existing central bank continues to carry gold on its books as part of its foreign exchange reserves, with some central banks carrying significant amounts of bullion. Almost five decades after the collapse of the Bretton Woods system, gold continues to form an important share of global foreign exchange reserves.

THE FIRST *ALCHEMIST* APPEARED IN THE SUMMER OF 1995, when European central banks were well on their way to liquidating substantial amounts of gold, selling 167 tonnes that year.

GOLD GETS A REMAKE

Gold remained sought after throughout the 1970s, both by central banks and the investing public, against a climate of rocketing inflation and economic stagnation. Official sector demand for gold contributed to record-setting prices in 1980. Then, after decades of acquiring gold, central banks turned sellers in 1989-90.

The first *Alchemist* appeared in the summer of 1995, when European central banks were well on their way to liquidating substantial amounts of gold, selling 167 tonnes that year.

Why? Gold has been described as 'war chest', i.e. useful in times of war if a nation's currency becomes non-redeemable. One argument for the massive gold sales that kicked off in 1989-90 was the official end of the Cold War and the greatly reduced threat of a war in Europe. This afforded gold-laden European central banks a chance to reduce heavy gold reserves. In an early edition of the *Alchemist* (*Alchemist 5, October 1996, "EMU Central Bank Holdings"*) then Deputy Governor of the Bank of England Howard Davies referenced the usefulness of gold and its utility as reserve for the then European Monetary Union, but also endorsed the sale of 10 million oz of International Monetary Fund gold to aid debt relief of poorer nations.

A NEW VIEW AND THE GENESIS OF A RALLY

The first Central Bank Gold Agreement (CBGA) in 1999 was a seminal event for the gold market and illustrated the power of the official sector to impact the market. The limit of 400 tonnes a year in sales for five years agreed by the signatories (which included almost every major of holder of gold at the time except the US and Japan) signposted the beginning of the end for a prolonged gold bear market. Central banks continued to sell – but their activities were monitored and regulated.

In *Central Banks and Gold Puzzles (2013)*, Joshua Aizenman and Kenta Inoue study the patterns of gold holdings and trading by central banks during 1979-2010. The pair find that central banks continued to hold massive amounts of passive gold stocks, independent of price. More importantly for price movement, they found a high synchronisation of gold sales by central banks, as most reduced their positions in tandem, and their tendency to report international reserves valuation excluding gold positions.

Bank of England exterior and gold vault (inset left).

The depth of the Sovereign Risk crisis that followed on from the Great Financial Crisis even raised the spectre of possible central bank sales from indebted European countries. The sales did not materialise, however, and central banks husbanded their bullion. This change in attitude was reflected in an article by Paul Mercier, then Deputy Director General of Market Operations, European Central Bank (*Alchemist 57*, January 2009, *'The Eternal Question of Gold in the Official Sector'*).

In an *Alchemist* article (*Alchemist 22*, March 2001, *'Gold Reserve Sales Under the Joint Accord'*), Susanne Capano provided an update on the CBGA, showing its orderly working and that signatories were within target of the sales quota of 400 tonnes a year over five years.

Central bank sales accelerated, however, increasing to more than 600 tonnes in 2005 and, while they continued for the next couple of years, this proved to be the high-water mark for central bank sales, as attitudes by the official sector began to change.

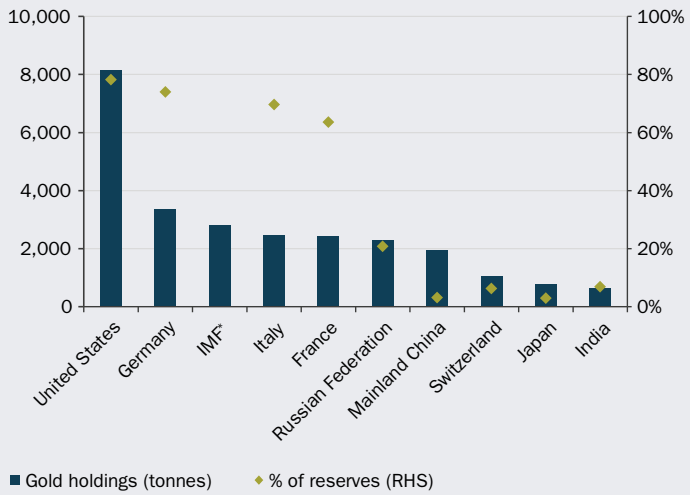
One of the most telling articles, regarding central banks and gold was by Matthew Keen (*Alchemist 47*, July 2007, *'Central Banks: Villains or Heroes'*), in which he pointed out that gold's role as a worthy reserve asset had been challenged several times in the previous decade, often because gold lacks a yield.

This included comments from the UK's Eddie George (Governor of the Bank of England, 1993-2003) justifying the decision to sell a large share of the UK's holdings. That said, Matthew Keen astutely pointed out that the no-yield argument is only employed in bear markets and that when gold rises, its lack-of-yield critics disappear. It turned out that 2007 was one of the last years of heavy central bank selling. Central banks were able to offload an unprecedented 4,000 tonnes in the previous ten years, with a good proportion of the selling going largely unnoticed.

The last year of any sizeable levels of central bank sales was 2008. The full onslaught of the global financial crisis and massive appreciation in gold killed off any further major gold sales.

Central bank sales accelerated increasing to more than 600 tonnes in 2005. This proved to be the high-water mark for central bank sales, **AS ATTITUDES BY THE OFFICIAL SECTOR BEGAN TO CHANGE.**

TOP TEN COUNTRY GOLD HOLDINGS AND AS A % OF RESERVES



*% reserves not available

Source: International Financial Statistics, World Gold Council

He pointed out that some of the largest reserve holders of foreign exchange, China and Japan, at the time had only 2% of their foreign exchange reserves invested in gold. Russia and Taiwan held just slightly more.

He posited correctly that those nations were unlikely to emerge as buyers. 2009 marked the last year of net sales of just a few tonnes. Mr. Mercier correctly forecast that gold would be valued by central banks for its diversification properties.

THE PENDULUM SWINGS

Since 2011, central banks have bought more than 5,000 tonnes of gold. The shift from selling to buying was picked up Pierre Lassonde, Chairman, Franco-Nevada Corporation, (*Alchemist 64*, November 2011, *'What a Difference 10 Years Makes'*) correctly forecast that the next 10 to 20 years would be defined by Asian central bank buying. India and especially China were appearing on the scene and European banks were essentially ceasing selling. This helped promote the long-running gold rally, which continues to the present day. More recently, Jagjit Chadha, Director, National Institute of Economic and Social Research, pointed out that excess liquidity from the quantitative easing policies used to combat the global financial crisis have also found its way into other markets and helped buoy gold prices (*Alchemist 88*, March 2018, *'Monetary Policy in an Era of Political Uncertainty'*). That is why he said he saw a new relationship between gold and the financial markets. This neatly explains the bull market we see today.

Gold's utility was reconfirmed by Sylvie Goulard, Deputy Governor of the Banque De France, who stated that since the 2008 global financial crisis, there has been renewed interest in gold from reserve managers (*Alchemist 91*, October 2018, *'Banque de France and Gold: Past and Future'*). Gold confirmed its status as a safe haven and also emerged as a very good asset for diversification, given its low correlation to other asset classes. Building on its long experience in managing its gold reserves, in 2012, the Banque de France began to extend its range of gold services to reserve managers. 2019 was a record year for central bank demand – fully half of the official sector buyers had not been active in the market for at least a generation. One of them was Hungary. In an another article (*Alchemist 97*, May 2020, *'New Golden Age – Building Up Gold Reserves'*), Dániel Palotai and István Veres, of the Hungarian Central Bank, described how the bank increased its gold reserves tenfold in 2018 and also repatriated all its reserves. This is a clear indication that gold is appealing to a new generation of central bankers.

THE *ALCHEMIST* AS BELL WEATHER

Articles in the *Alchemist* over the years have reflected the reasons for central bank gold sales and purchases. But just as importantly, shifts in central bank attitudes and the reasons for those shifts – be they geopolitical, changing economic power, portfolio diversification or safe haven – help explain multi-year moves in gold and are well worth monitoring.

Gold has proven to be an enduring asset throughout the post-Breton Wood decades. Even in periods of high interest rates, gold still has portfolio diversification properties that make it easier to justify sizeable gold holdings from a purely quantitative perspective.

In an era when 'plastic money' and 'electronic money' continue to gain in popularity, the case for holding, mostly passively, large piles of bullion may seem curious. But by revealed preferences, central banks keep viewing gold as a useful component of their portfolios.

INGOT WE TRUST

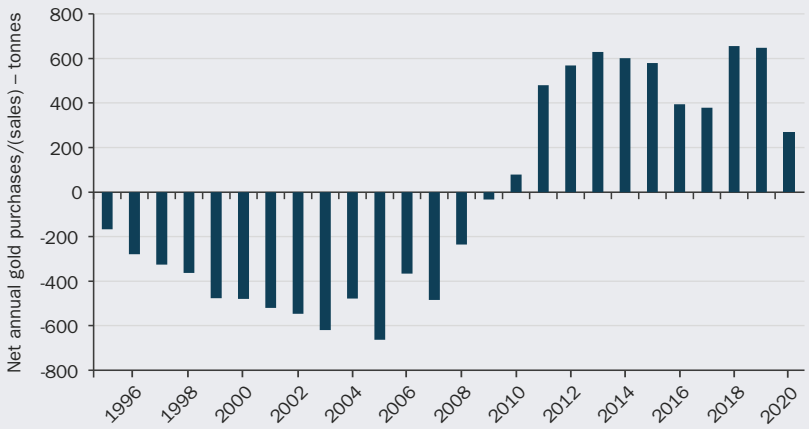
GOLD'S POSITION IN INTERNATIONAL FINANCE IS NOTHING SHORT OF UNIQUE

Gold is likely to continue to be favoured by central banks. Gold's position in international finance is nothing short of unique. It is relatively rare but also liquid. It is a commodity and a currency. It is also the only recognised liquid financial asset that is not subject to counterparty risk. Unlike currencies, the value of gold does not depend on a national sovereign. More than any other type of investment, gold serves to ensure the capacity to act in extreme crisis situations. Gold prices often move in the opposite direction to other financial assets, and usually opposite to the US dollar. The price for this 'insurance function' for a central bank to own gold is reflected in the fact that gold may be less profitable during periods when a positive yield can be made from bonds.

Banque de France gold vault.

Oesterreichische Nationalbank (OeNB), the Central Bank of Austria.

CENTRAL BANKS: NET GOLD PURCHASES/SALES



Source: Metals Focus, Refinitiv GFMS, World Gold Council

This latter factor is what makes gold more attractive in the current dynamic: massive monetary accommodation with zero or near-zero interest rates increases gold's attractiveness by eliminating the opportunity cost of owning gold. This provides the insurance function for free.

Every major geopolitical event tends to awaken an interest in gold, often with central banks playing a role. In more recent times, the regime changes in Eastern Europe ushered in the end of the Cold War.

This reassessment of the geopolitical landscape led to more than a decade of central bank gold sales. The level of sales, however, was modified and governed by the Central Bank Gold Agreement of 1999.

EVERY MAJOR GEOPOLITICAL EVENT TENDS TO **AWAKEN AN INTEREST IN GOLD** OFTEN WITH CENTRAL BANKS PLAYING A ROLE

The 1997-99 Asian Crisis saw the Central Bank of Korea mobilise gold reserves to stabilize its currency.

More recently, the global financial crisis renewed central bank interest in gold.

During the subsequent financial pressures in the eurozone and the sovereign debt crisis, gold reserves in hard-hit southern nations such as Italy, while not utilised, did provide some support as the gold held by the Bank of Italy and other central banks could be mobilised if needed.

For a variety of reasons it is likely that central banks that hold gold will tend to husband their reserves and that some with low levels of reserves will acquire more. Gold goes where the money is. After moving from the colonial world to Europe, to the United States, back to Europe it is now moving to the emerging economies of Asia. This is consistent with the view that central bank's gold position signals economic power and prestige.

James Steel is HSBC's Chief Precious Metals Analyst. He joined HSBC in May 2006. Previously Jim ran the New York research department for Refco, a large US commodities brokerage house, specializing in energy and metals. He also worked for *The Economist* in the *Economist Intelligence Unit* covering commodity producing nations and on the Middle East desk.

His primary duties at HSBC include the production of daily market reports, including long term outlooks for the precious metals markets. These include supply/demand and price forecasts, as well as qualitative analyses. He is a frequent speaker at commodities related conferences. He is often quoted in the financial media and frequently appears on Bloomberg and CNBC. He is an economist by training and studied economics at undergraduate and graduate levels in London and New York.

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The (EVER) Evolving Regulatory Landscape

BY SAKHILA MIRZA, LBMA GENERAL COUNSEL

We approach the 100th edition of the *Alchemist* in strange times. In the midst of a global pandemic, coupled with Brexit, regulatory change appears to be 'up for discussion' once again. Good or bad, regulatory reform is a ubiquitous topic in an ever-evolving landscape. We must stay agile to the changes around us.

Reflecting on the last 25 years since the *Alchemist* was first published, much has catalysed financial regulatory reform – be it direction from the central banks, government policy, financial crisis, European legislation or G20 calls for consistency – the list is endless. Each time, we learn something new about the markets within which we all operate.

OVERVIEW OF REGULATORY REFORM

The most notable and talked about period of reform followed the global financial crisis in 2007/08. This was the biggest shock to the markets since the 1930s. The financial institutions that were considered 'too big to fail' did simply that. The result was, alongside huge personal losses to many around the world, a trigger for regulatory reform. Regulators quickly rolled out controls aimed to protect the consumer and institutional investor. For the latter, this brought the introduction of capital requirements intended to restore confidence in the financial markets.

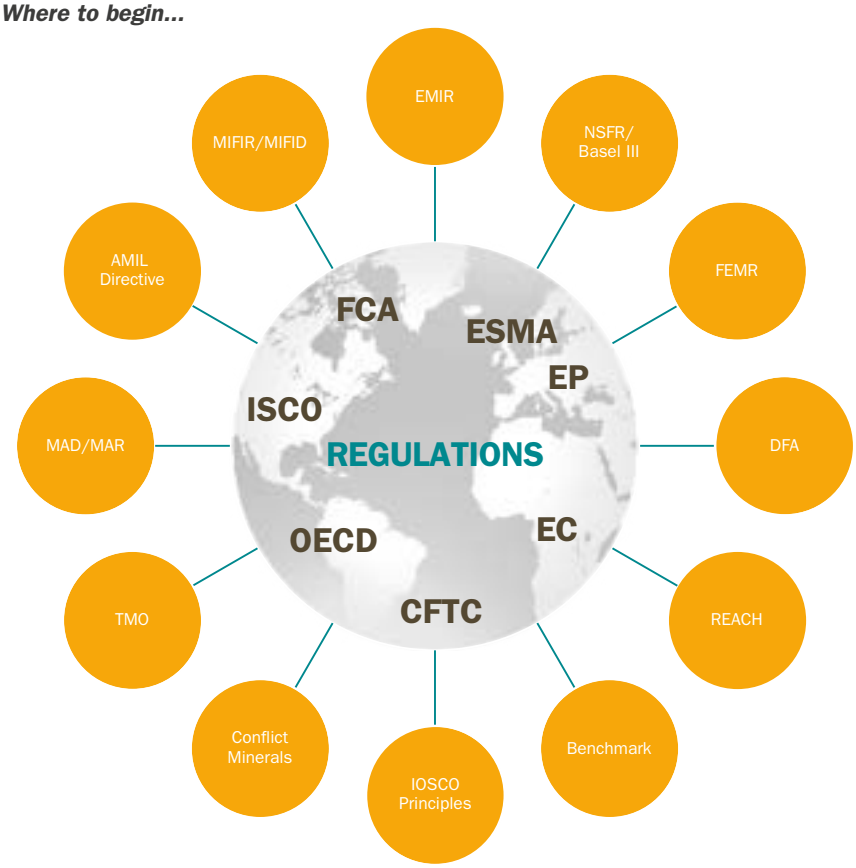
AT THE TIME OF THE FIRST *ALCHEMIST* IN 1995, A CAREER IN COMPLIANCE WAS ALMOST UNHEARD OF. FAST FORWARD TO 2021 AND IT IS NEAR IMPOSSIBLE TO DO BUSINESS WITHOUT YOUR COMPLIANCE COLLEAGUES' APPROVAL.

The European Regulation, MiFID[1], and perhaps the one that elevated the role of the compliance department, though in force from 2007, did little to prevent the crash later that year and the years that followed. It did however implement a standardised approach to European financial regulation. For example, it provided a consistent regulatory framework and determined what was considered a financial instrument.

1. Markets in Financial Instrument Directive I.

REGULATION - A WORLD OF ACRONYMS

Where to begin...



The development of MiFID emphasised the importance of the compliance department and its respective experts. At the time of the first *Alchemist* in 1995, a career in compliance was almost unheard of. Fast forward to 2021 and it is near impossible to do business without your compliance colleagues' approval. Under the watchful eye of the compliance department, firms responded to the spotlight through transparency measures, including good corporate governance. Yet, to mitigate the risk of a repeat crisis, more needed to be done.

Surveillance measures, designed to prevent the systematic failures experienced in the years leading up to 2007, were also introduced around the world. The G20 summit in 2009 sparked the implementation of EMIR[2] in 2012, on the back of the US Dodd-Frank Act in 2010. These regulations aimed to increase the transparency of the OTC derivatives markets by using central counterparties for clearing purposes. The number of regulatory acronyms was growing exponentially.

MiFID was later overshadowed by the implementation of MiFID II[3] and MiFIR[4]. MAR[5] was then implemented in 2016, seeking to manage market abuse behaviours, including insider trading and market manipulation.

BMR[6], aiming to address the risks of benchmark price manipulation, came in 2018. SFTR[7] followed in 2020.

The NSFR[8] requirements under Basel III have recently been implemented in Canada and Australia, with the EU, UK and US to follow. Lest we forget REACH[9] (admittedly, I had to Google this familiar acronym to remind myself of its true meaning and I am sure I am not alone).

Overall, the aim of these regulations has been to provide market stability and promote confidence from consumers and institutional investors.

Commodities, and more specifically precious metals, had historically been untouched by regulation. They were soon under the lens for transparency, reporting and behaviours around price discovery, which led to demands for firms to comply or face penalties.

There has also been an increased regulatory focus on supply chains, human rights, the environment and climate change – all directly impacting the commodities market.

For example, when section 1532 of the US Dodd-Frank Act on conflict minerals was introduced in 2010 *(Alchemist 59,* July 2010, *'International Regulation – Conflict Gold'),* governments co-operated to support the development of the OECD framework on due diligence. More recently, the EU implemented its Conflict Minerals Regulation. Together, these regulations meant that corporates, not just financial institutions, were encouraged to do the right thing and provide transparency over their business practices.

We also have seen the development of legislation to tackle bribery and corruption globally. All aspects of business now require strong controls to be in place to tackle such risks. In the UK, we saw the implementation of the Anti-Bribery and Corruption Act in 2010. Firms are expected to gather information on each counterparty, be it a small supplier or large institution, and also demonstrate that robust due diligence has been performed on each counterparty. KYC is now commonplace throughout all business types, and phrases such as PEPs are part of our daily vernacular. We have an expectation to help to stamp out bribery and corruption globally, and to conduct business responsibly.

PRECIOUS METALS AND REGULATORY REFORM

The LBMA Annual Conference in Vienna 2015 was the first conference that dedicated a whole session to regulation. My challenge was not how to fill the time, but rather how to encourage anyone to attend. Surprisingly, on the day, the conference room was bustling. It was clear that the regulatory change within the precious metals market was piquing the interests of many. Contrasting this with the first LBMA Annual Conference in Dubai (whilst I was studying law at university and not thinking about regulatory reform), I'm sure the market was oblivious to the tsunami of regulation that was to arrive the following decade.

THESE REGULATIONS MEANT THAT CORPORATES, NOT JUST FINANCIAL INSTITUTIONS, WERE ENCOURAGED TO DO THE RIGHT THING AND PROVIDE TRANSPARENCY OVER THEIR BUSINESS PRACTICES.

Perhaps one of the most notable dates for the global precious metals market was 2014, when faced with the potential risk of a market disruption without an international silver price. The market saw the transition of the silver benchmark from the former fix to the new auction platform.

2. European Market Infrastructure Regulation
3. Markets in Financial Instrument Directive II
4. Markets in Financial Instrument Regulation
5. Market Abuse Regulation
6. Benchmark Regulation
7. Securities Financing Transactions Reporting
8. Net Stable Funding Ratio
9. Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation

In 2012, LBMA's Responsible Sourcing Programme was launched. In the years that followed, this grew in both significance and scope, with its eighth update in 2018 introduced to continue to address the regulatory demands but also stakeholder expectation.

This was unprecedented change for the market. Yet, we managed to transition a 114-year-old benchmark onto an electronic platform within three months (not without many long nights – negotiating a legal contract at 3am was not much fun). However, despite the challenges, the market came together and LBMA greatly enhanced its standing in the market *(Alchemist 75,* October 2014, *'No More Fixings').*

While this may have seemed like the beginning of what was to come, the market was already reacting to what the US Dodd-Frank Act had established. In 2012, LBMA's Responsible Sourcing Programme was launched, making it a mandatory due diligence requirement for all Good Delivery gold refiners to undertake in order to maintain their LBMA accreditation *(Alchemist 68,* October 2012, *'Regulation Update').* In the years that followed, this grew in both significance and scope, with its eighth update in 2018 introduced to continue to address the regulatory demands but also stakeholder expectation.

LBMA HAS HELPED TO INFORM MEMBERS OF REGULATORY DEVELOPMENTS BUT HAS ALSO HELPED REGULATORS UNDERSTAND THE CONTROLS ALREADY IN PLACE IN THIS MARKET

The plethora of regulatory requirements can be a little daunting. Due to the very nature of the precious metals markets, where gold and silver are traded globally, with the UK at the heart of this, LBMA believes it is fundamental to work together to shape the consistent approach to regulation and ensure confidence in these markets.

The regulations referred to earlier have all impacted the precious metals market in some way. We made it our responsibility that the overarching objectives of the regulators were also met through self-regulation. This included LBMA taking the lead on drafting and implementing in May 2017 the Global Precious Metals Code, as well as improving market transparency by initiating the publication of trade reporting data in November 2018.

LBMA has helped to inform members of regulatory developments but has also helped regulators understand the controls already in place in this market. We have also seen a shift in our work on Responsible Sourcing requirements and ensuring the provenance of precious metals. Alongside rigid due diligence requirements and audit measures, LBMA holds member firms accountable for improving their reporting requirements.

Returning to the earlier points of this article, we should acknowledge that change and development are always present. The pandemic has rocked us all but, again, we will come through it having learnt something. We will be more adaptable to home working within the industry, particularly so for the financial services sector. New ways have been developed to ensure compliance, albeit remotely, with regulatory requirements. Furthermore, we are now in the post-Brexit UK and await the government's decision on which European rules to onshore.

Similarly, we have seen the ongoing debate over crypto-currency and how this will fare in comparison to gold, as well as gold-backed tokens. Is there a role for the regulators in this futuristic sphere? Innovation will certainly test the regulatory agenda, but also perhaps support it through new technologies and platforms that could help with greater transparency, more data and therefore more accountability. What the outcome will be, we shall wait to see. One thing for sure, the regulatory demands are not going away.

Sakhila Mirza, LBMA General Counsel and Executive Director of the LBMA Board works very closely with the CEO on the strategic development of the association, leading on a range of market development initiatives. She also takes responsibility for all the legal work affecting the Association, lobbying on matters affecting the market and building key relationships with governmental officials and regulators around the world.

She previously worked in the energy and commodities industry on compliance, legal and regulatory matters. She read law at the LSE and is a qualified solicitor.

Interview with a Legend of the Market

Peter Smith recently retired as Managing Director of JP Morgan where he had spent 50 years of his career since he first started working in the City of London back in 1967. To mark the momentous occasion, the *Alchemist* caught up with him and asked him to reflect back on his illustrious career. The word "legend" is often banded about too easily, but in Peter's case it is fully justified; he really is a legend of the bullion market.

FIRST OF ALL PETER, WE'D LIKE TO CONGRATULATE YOU ON YOUR GLITTERING CAREER IN THE FINANCIAL SERVICES SECTOR, PARTICULARLY OVER THE LAST 40 YEARS, WHICH YOU HAVE DEVOTED TO THE BULLION MARKET

Thank you, it has been an interesting 50 years at a major investment bank here in London and, whilst it has been with the one employer, it has involved ten different London offices on countless different floors and locations within them during those 50 years.

I was also privileged to have been given some very interesting roles, starting as the junior in the Credit Department in 1970 and being appointed head of that department in 1974, becoming one of the youngest heads of a mainstream department at JP Morgan (JPM) at that time.

IT HAS BEEN AN INTERESTING 50 YEARS AT A MAJOR INVESTMENT BANK HERE IN LONDON

From there, I branched out into a loan workout role trying to recover debts from clients facing difficulties – an area calling for rapid personal development to handle the prevailing economic events, which included a property crash, a banking crisis and union strikes, leading to the UK experiencing three-day weeks and periods of the working day with no electricity or heating, as well as uncertain supplies and train availability.

This led to becoming the Deputy Credit Officer for EMEA, with lending authority of up to US$500,000 on my own and US$5 million with my boss – smallish numbers today but reasonably significant back in the 1970s.

In 1979 came the offer to help set up the 'London Gold Department' as the New York office had started trading gold futures on the COMEX and wished to expand into mainstream Loco London OTC gold trading. The offer presented a very interesting challenge, but one with a degree of personal career risk, because in my lending officer role, I was a front office investment banker, while the Gold Department role on offer was to establish and run the mid and back offices, a less glamourous operational role. Nevertheless, the opportunity was too compelling to dismiss, so I readily accepted the leap into the unknown.

IF YOU WERE STARTING OFF IN THE BULLION MARKET NOW, WHICH PERSON (APART FROM YOUR WIFE CHERRY!) WOULD YOU WANT BY YOUR SIDE IN THE OFFICE?

This is a very interesting question. In my 50 years at JPM, I have worked with some truly exceptional people, such as Guy Field, who joined JPM as Global Head of the Bullion Department. Although few people may remember him nowadays, Guy was the founding Vice Chair and a strong supporter of LBMA, and both challenging and wonderful fun to work for.

Another person was Martin Stokes who joined JPM as Head Bullion Trader in the early 1980s, following the collapse of Johnson Matthey Bankers, which was on life support from the Bank of England (BoE). Martin and I worked in partnership for many years, developing and growing the business until shortly after the merger between JPM and Chase in 2000.

Of course, I could go on about many valued long-term friends and talented colleagues with strong skill sets; even so, if I was starting in the bullion market today, I would ask Ross Norman to partner with me. Ross has enjoyed a very varied selection of roles within the world of bullion, from refining and recasting precious metals into London Good Delivery bars, trading and sales at a gold fixing member, establishing with two other entrepreneurs the first usable news website for the bullion market, and then recreating Sharps Pixley to provide high net worth individuals with a London West End shop for precious metals.

IN MY 50 YEARS AT JPM I HAVE WORKED WITH SOME TRULY EXCEPTIONAL PEOPLE, SUCH AS GUY FIELD WHO JOINED JPM AS GLOBAL HEAD OF THE BULLION DEPARTMENT.

Not only would I want to benefit from the diverse insights into so many facets of the precious metals business that Ross possesses, but he is also one of those people who are always interesting to listen to, invariably upbeat and on the money, and the sort of person who constantly sees the glass as half full and ready to be filled to the brim again with some well-focused effort.

IN A MOMENT OF PEACEFUL REFLECTION, WHAT WOULD BE YOUR MOST CHERISHED MEMORY FROM YOUR CAREER?

Again, a question with so many answers fighting for position to head the list, but ultimately the choice is very simple. I lost my first wife in early 2000 and suddenly my life was turned upside down. There was the merger with Chase, many friends and colleagues were no longer at JPM, and I had to miss the first LBMA bullion conference in Dubai (the only one I have not attended).

Following such disruption in my personal life, my work at JPM and chairing the LBMA Physical Committee became my anchor and the main focus of my energies, which eventually led to me meeting Cherry, when she worked at LBMA. Later, we gradually got together, initially meeting for the odd lunch-time drink and a snack, before we realised in 2010 that we should get married. So without LBMA, I would most likely have never met my wife Cherry!

WHAT WOULD BE YOUR GREATEST ACHIEVEMENT, AND CONVERSELY DISAPPOINTMENT, DURING YOUR TIME IN THE MARKET?

As one of the original members of the LBMA Physical Committee under the Chairmanship of Les Edgar, I consider that my greatest market achievement was taking over the Chairmanship when Les retired, then holding that position through 26 years of truly remarkable change in a field that I have always found to be incredibly interesting and under constant self-analysis to ensure that it not only keeps pace with the needs of its players but tries to keep one step ahead.

Maintaining the Gold and Silver London Good Delivery Lists is of daily necessity for the market to function efficiently in today's much more conscious and ethical world, with increasing emphasis on conduct and controls.

Hence, the Proactive Monitoring Programme and the Responsible Sourcing Programme, which continue to be bolstered and enhanced, are also great achievements.

THE GREATEST DISAPPOINTMENT FOR ME IN THE BULLION MARKET IS NOT ACTUALLY A PERSONAL ONE BUT THE METHOD CHOSEN WHEN THE UK DECIDED TO SELL THE MAJORITY OF THE COUNTRY'S GOLD RESERVES

Before I move onto any disappointments, there are a couple of other market-related achievements I would like to mention and they are, firstly, my Founder Chairmanship role in creating the London Precious Metals Clearing Limited, which established and sets out the rules for Loco London precious metals clearing. Secondly, suddenly becoming Chairman of the LPPM when Phil Clews-Garner was recovering from a major back operation, a stand-in role that eventually translated into almost five years as the Chair of LPPM.

SO WITHOUT LBMA I WOULD MOST LIKELY HAVE NEVER MET MY WIFE CHERRY!

Taken at the JP Morgan client event at LBMA's 2012 Conference in Hong Kong.
Front row left to right – Mike Camacho, Frederic Panizzutti, Cherry, Peter and Mehdi Barkhordar
Back row, left to right - Allan Finn, Kevin O'Connor and Grant Angwin.

The greatest disappointment for me in the bullion market is not actually a personal one but the method chosen when the UK decided to sell the majority of the country's gold reserves.

I vividly remember being asked to attend a market makers meeting at the BoE to learn how the sales were to be conducted. I was seated next to Martin Stokes, among our peer competitors, most of whom were good friends outside of our respective daytime trading rooms, with all of us trying to guess what, when, how and, most importantly, who was to be selected to handle the sale.

Expectations were that gold fixing members would be given sale orders on a rotational basis.

Unfortunately, such a method would not have helped JPM, which was never a gold fixing member, but we did have an outside hope that with our depth of capital and strong trading presence, we might be thrown a few bones.

Anticipation in the room was high when the Deputy Governor walked up to the lectern and stated that the BoE had decided that the most transparent method for the sales would be to hold 'auctions'.

There was total amazement in the room and virtually everyone present lost the power of speech (our lower jaws collectively being on the floor), as our thoughts raced. Transparent? Yes certainly, but hardly the method to achieve the best sale prices for UK Plc!

To this day, I believe and wish that if just one of our major market-making competitors had been granted sole selling rights with full market discretion, we would not have seen the gold price plunge to below US$300 per fine troy ounce, and while it would not have given JPM any revenue opportunities, it would have at least assisted the market and improved the total amount realised for UK Plc.

Taken at the commemorative dinner held by LBMA to mark Peter's 26 years service. Left to right Peter Drabwell, Neil Harby and Peter Smith.

The photograph reprises the famous class sketch from the 1960s Frost Report, which featured John Cleese, Ronnie Barker and Ronnie Corbett. The irony in the photograph, of course, is that we all look up to Peter.

SO I WILL BE TOTALLY SELF-CENTRED AND GO TO AN ISSUE OF THE LBMA NEWS BULLETIN NO.22 DATED SEPTEMBER 1992, ANNOUNCING MY APPOINTMENT AS PHYSICAL COMMITTEE CHAIRMAN, AND 'THE COVETED' *ALCHEMIST* ISSUE NO.6 OF JANUARY 1997 WITH MY ARTICLE ON '*CLEARING VOLUME ON THE LONDON BULLION MARKET*'!

AS YOU KNOW, THIS IS THE 100TH EDITION OF THE *ALCHEMIST*. COULD YOU SHARE WITH US WHAT WOULD BE YOUR FAVOURITE ARTICLE OR EDITION?

You will understand that I cannot really offend all the wonderful contributors by selecting the odd one or two, so I will be totally self-centred and go to an issue of the LBMA News Bulletin, No. 22 dated September 1992, announcing my appointment as Physical Committee Chairman, and 'the coveted' *Alchemist* issue No. 6 of January 1997 with my article on *'Clearing Volume on the London Bullion Market'*!

Issue 70 with its front cover photograph of the Queen visiting the BoE gold vault represented some true flag waving for our market, and thus probably justifies 'best *Alchemist*' status.

THE MANAGER SIR ROBERT LINDSAY WOULD ARRIVE EACH MORNING IN TOP HAT AND TAILS

HOW WOULD YOU LIKE TO SEE IT DEVELOP IN THE FUTURE? FOR EXAMPLE, WHAT SECTORS OR REGULAR FEATURES YOU WOULD LIKE TO SEE COVERED?

On the whole, the *Alchemist* is well balanced and unlikely to need any extensive make-over other than keeping itself relevant to the ever-changing market and technology advances.

I think the features should come regularly from each segment of the industry – from the miners right through the value chain to the investors and end users of the physical – as each has constant new challenges and perspectives. There are also a vast number of analysts and commentators, who even if you do not agree with their views, nevertheless help create a diversity of opinion to stimulate thought and debate to constantly review our practices.

WHAT WOULD BE THE BIGGEST DEVELOPMENT OR SIGNIFICANT EVENT IN THE BULLION MARKET

(i) since 1995, when the *Alchemist* was first published?

There are many, but the BoE gold auctions (discussed previously) were very significant in 1999. The creation of precious metals ETFs in the early 2000s was another big development, boosting investor choice and in turn leading to very significant values being traded and held in such funds, and in many ways cementing the role of precious metals as important and relevant assets to hold, alongside long-established ones such as equities, bonds and property.

(ii) during your career in the market?

Undoubtedly, the LBMA Proactive Monitoring Programme coupled with the Responsible Sourcing Programme. These have, in my opinion, provided the framework to ensure the integrity of the London Good Delivery bars and are now so key to the physical market globally that they will continue to become stricter and more transparent.

COULD YOU TELL US ABOUT THE CULTURE OF THE CITY WHEN YOU FIRST STARTED BACK IN THE 60S?

You bring back to me images of John Cleese, Ronnie Barker and Ronnie Corbett, and the television sketch 'I look up to him, but I look down on him'! See photograph on page 53.

But seriously, I joined Westminster Bank in Threadneedle Street, just a few doors down from the BoE, in 1967. The branch was the third-largest at the time (with the overseas branch above us). The Manager, Sir Robert Lindsay, would arrive each morning in top hat and tails, while the Chief Clerk (effectively the branch CEO) would arrive in a bowler hat.

Start time was 9am, but if you had not signed in by 9.05am, the Chief Clerk would place a ruler line in the book and you had no choice but to explain your late arrival – with unpleasant consequences if you were unlucky to repeat the infringement too soon afterwards.

I also recall Sir Robert, who was well over 6 feet tall, looking down on the shorter Chief Clerk and saying in a hushed voice as I walked past, "I see the bank is employing some riff-raff from the grammars rather than public schools now."

As the branch was open to the public from 10am to 3pm, all male staff had to wear a suit and tie, and you were not allowed to remove your jacket until after 3pm, but only if you were not wearing braces to hold your trousers up. Unfortunately, several of the more elderly men did wear braces rather than belts, and so on very hot days, they would go along to the mail room and ask for a suitable length of sisal string with which to hold up their trousers. The fact that the sisal looked far worse than braces apparently bypassed the Chief Clerk and Branch Manager – in those days, it was the letter rather than the spirit of the rules that mattered.

Being a very busy City branch, we had a small army of messengers who would walk bearer bonds, bills, cheques, shipping documents and so on around the City to other banks and our customers – clearly thirsty work for the messengers, because on the way back to the branch they would stop by the Cock and Woolpack pub for a 'swift half'. On an average day, that resulted in quite a lot of refreshments and some messengers becoming slightly unsteady on their feet. Then most of the young staff would join them in propping up the bar after 5pm.

Amongst the grammar school "riff-raff" at the time, both at Westminster Bank and JPM, there were colleagues from titled families and, when out walking along Lombard street, for instance during lunchtime, top-hatted and tailed discount brokers would lift their top hats to them in deference and recognition of their status in society.

Peter delivering the Physical Committee report at the AGM in 2013.

I STILL SEE INVESTMENT BEING THE NUMBER ONE PRODUCT, BE THAT INVESTING IN ETFS OR BUYING GOLD COINS OR JEWELLERY TO STORE VALUE.

AND PERHAPS GIVE US AN INSIGHT INTO HOW THE CULTURE HAS CHANGED OVER THE YEARS?

Many of the habits have changed over the last 50 odd years, certainly the two or more hour liquid lunches have gone the way of the dodo, but in the main, the culture is still very friendly, with strong support from colleagues, certainly within JPM and even the bullion market, and a host of competing entities ultimately all pulling in the same direction for the good of the market.

In fact, while JPM has been an exceptional employer, at least for me, the bullion market is in many ways a stand-out industry collective where each segment understands its role in providing a cohesive structure for users and investors of precious metals, and I would say that understanding and maintenance of the culture is as strong today as it was in 1979.

WHAT IS THE NEXT BIG CHALLENGE IN THE FUTURE FOR LBMA?

Maintaining relevance in a global market where much of the demand and interest has moved to Asia from the United States and Europe. Accordingly, I think LBMA should consider some strategic alliances in the near future, quite possibly as a stepping stone towards an office in the region within five years. The landscape is constantly changing, and while London remains very important for the bullion market, with some implicit support from the BoE and UK Plc, it is clear to me that Asia is becoming increasingly important.

Without positive action from LBMA to demonstrate acknowledgement of the market shift eastwards, it would not only allow others to circumvent the Association's 'crown' but also risk the 'Crown Jewells' in terms of the London Good Delivery standard being taken from it.

While the jury is out for now, it is clear that crypto coins continue to develop wider interest and there are constant references to bitcoins and similar as being a 21st century replacement for that barbaric relic gold. But frankly, I still struggle with the concept of crypto coins and their values, and how those values are consistently established. In theory, both crypto coins and gold could drop to zero or thereabouts, but if you have gold, you can at least still wear it as jewellery, provide electrical contacts or, if nothing else, use a bar as a door stop. So gold has some useful features, but bitcoins are ultimately just a computer algorithm and, as reported in the news recently, forget your password and you may lose the lot. Although, if you lost your bitcoins because you forgot your password, who gains unfairly from your misfortune? An interesting question arises in my mind – you can insure for the loss or theft of gold, but can you insure for the loss of bitcoins because you forgot your password?

I THINK LBMA SHOULD CONSIDER SOME STRATEGIC ALLIANCES IN THE NEAR FUTURE

HOW DO YOU SEE THE MARKET DEVELOPING OVER THE NEXT 25 YEARS?

For gold, and in the absence of any new industrial applications being found in those 25 years, I still see investment being the number one product, be that investing in ETFs or buying gold coins or jewellery to store value or demonstrate wealth in society.

However, the pandemic may be changing people's views about ornamentation in the future, as many people are working from home. Not only are men not buying many suits, ties or watches, and instead wearing casual clothes, women also have less opportunity to display gold jewellery.

And while the vaccines will ease the effects of the pandemic, I believe people are rapidly understanding the changes they have undergone and will be more selective about their personal needs, possibly reducing spending across the board on personal dress and accessories.

With silver, platinum and palladium, these metals all have much more relevance in industrial applications and will perhaps move gradually away from the investor space towards industrial applications, which essentially means they will move like base metals, depending on their supply and demand characteristics, in much the same way as copper and aluminium.

From a detailed market perspective, I see most market makers trading predominantly on electronic platforms, which will only require minimal actual trader presence, and settlements moving to safe and stable block-chain solutions.

For both miners and for those end investors in precious metal ETF products, I see continued movement towards ethically sourced extraction methods and a desire to prove that the physical bar assets held are free of any molecules from unknown sources or that have not been obtained via conflict or illegal activity. Again, the market will need to address this complex subject and determine the most comprehensive methods to demonstrate compliance with these goals.

IN RECENT YEARS, THE MARKET HAS BEEN DOMINATED BY REGULATION, INCLUDING RESPONSIBLE SOURCING, WHAT DO YOU SEE ARE THE NEXT BIG CHANGES?

In all probability, more of the same, but also standards will continue to rise, so I only see it becoming increasingly difficult and more complex. There will certainly be no easing off – controls are here to stay and, as I have said before, the market needs not only to keep pace, but also to become the driver of that pace to ensure the market remains relevant in tomorrow's financial markets.

WHAT CHALLENGES DO YOU THINK THE MARKET WILL FACE IN THE FUTURE? FOR EXAMPLE, BREXIT. AND IS THE MARKET EQUIPPED TO OVERCOME THEM?

As above, the controls will only tighten, and the market will always face unexpected challenges straight out of left field, but one thing the London bullion market has displayed in over 300 years is a constant ability to adapt and thrive. And while miners dig out these precious metals, refiners and transporters process and move the metal, investment banks and traders wheel and deal, and investors and end users buy or sell, all of these institutions and people adjust rapidly to change and will benefit when matters are positive and pull back when in negative territory, as has been the case over the last 40+ years, with new entrants joining as others shut their doors.

ULTIMATELY IT'S ABOUT APPRECIATING THAT WE ARE ALL EQUAL AND NEED TO RESPECT THE OTHER'S POINT OF VIEW

TELL US SOMETHING THAT WE DON'T KNOW ABOUT PETER SMITH?

Many people in the bullion market know quite a lot about me because I am fairly transparent. I had the benefit of working for JPM for 50 years, which has enabled me to travel the world and meet so many people with senior roles, and the simple reality is that when you want to visit a new prospective client, competitor or supplier, the JPM business card gets you through the door, and that is a major benefit in a competitive market, so it is always who you work for and not who you are that is the key element.

I consider that it has been my understanding of my being in a privileged position, coupled with a general leaning towards responding to a difficult request with, "yes, I am sure we can find a solution to that issue for you", that has helped drive my career forward and enabled me to effectively interface with so many in the bullion market.

Ultimately, it's about appreciating that we are all equal and need to respect the other's point of view. When I joined JPM and became an investment banker, the essential point was to realise that I could no longer have any prejudices, as I had to perform on the world stage with constantly changing audiences – irrespective of race, colour, religion, social background, etc. I learnt to treat everyone with the same respect as I would expect myself, and that is what I believe has enabled me to carry out an extremely interesting career at JPM and within the bullion market for such a length of time.

DO YOU HAVE ANY UNFINISHED BUSINESS?

Not in the sense of working on a project I still want to see through, but yes in the sense that I always have things that I want to achieve.

FINALLY, WHAT IS A WORKAHOLIC LIKE YOU GOING TO DO NOW THAT YOU HAVE RETIRED?

As above, while I am no longer employed by JPM, I have zero intention to embrace the concept of retirement and, with over 53 years in banking and over 40 years living and breathing precious metals, I will continue to maintain an active interest in both fields.

Lastly, while Cherry and I both still enjoy good health and mobility, we will continue to develop our personal business interests.

Aelred Connelly, PR Officer, LBMA Aelred joined the LBMA in September 2011. He provides support to the Chief Executive in the administration and organisation of the Association's Public Affairs. He is responsible for Press enquiries, is the editor of the *Alchemist* as well as contributing to other LBMA publications, provision of the website and support for LBMA events.

Prior to joining the LBMA, he worked at the Bank of England for more than twenty-five years, the last five as an analyst in the Bank's gold bullion department.

100 & counting

BY AELRED CONNELLY, PR OFFICER, LBMA

This article captures some of the key stories and events that have featured in *Alchemist* editions 1 to 99, but that we haven't covered elsewhere in this centenary edition. So, it won't read as a chronology of *Alchemists* 1 to 99, but it will help fill in the gaps.

As we reflect back on the history of the *Alchemist* we start with a prophetic quote:

> ***"Those who cannot learn from history are doomed to repeat it."***
> George Santayana

ALCHEMIST 1 — JUNE 1995

One of the main headlines in the first edition of the *Alchemist* was:


Going for gold?
Encouraging signs of life

At that time, the gold price was $386 per ounce. Wind the clock forward 25 years and the price is nearly five times as high. That certainly sounds pretty encouraging.

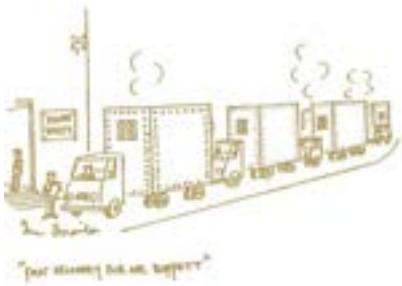
ALCHEMIST 4 — MAY 1996

This includes a review of LBMA's first Spring Seminar, which was held on 16 May 1996 at the Carpenters Hall in London. Timed to co-incide with the annual LPPM Platinum Week, Stewart Murray, then in his capacity as Chief Executive, not of LBMA, but of Gold Fields Mineral Services, spoke on the subject of 'Gold and Silver – an End-of Term-Report'. He was joined by Graham Birch of Mercury Asset Management, who spoke on 'Gold Shares – the Growing Importance of Far Eastern Investors'.

ALCHEMIST 11 — APRIL 1998

Lots of interesting material in this edition. Warren Buffet hits the headlines, with the spot silver price spiking sharply on 3 February 1998 following news that he had built up a substantial long position in silver and intended to take physical delivery of the metal. Transporting the 129 million ounces (129,000 bars) required 190 articulated trucks. It certainly helped keep London vault staff fit. Refer to the Editorial Comment on page 1 by Susanne Capano for further details.

We also see in this edition the launch of ISDA-based documentation for precious metals, helping to establish consistent market practice and conformity of approach across the industry. Read more in the article by Martin Stokes on page 3.



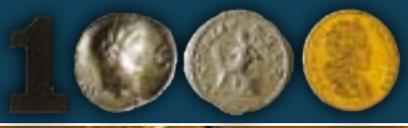
ALCHEMIST 13 — NOVEMBER 1998

Featuring in this edition is the announcement that, in 2000, VAT will be removed on investment gold throughout the (then) 15 member states of the European Union. See article on page 26 by Henry Kozlopage and Dougie Beadle.

TIM GREEN
A True Legend of the Market

It would be amiss not to mention Tim Green. Tim's footprint is stamped large over the market and he has over the years made many invaluable contributions not only to the *Alchemist*, but more widely to the bullion market, most notably through the many books he has written. Of particular significance is Tim's History of the Good Delivery List 1750-2010, which he wrote for LBMA and which featured in *Alchemist 60*, September 2010, *'London Good Delivery History – Making of a Masterpiece'* by Alice Toulmin.

Tim wrote many articles for the *Alchemist* over the years. Some of the highlights are summarised below:



In *Alchemist 17*, October 1999, as we approached a new millennia, Tim recalls the story of gold and silver over the previous 1,000 years.

In an article in *Alchemist 57*, January 2010, *'200th Anniversary of the 1810 Bullion Committee'*, Tim explains the landmark event in February 1810 when the House of Commons set up a Select Committee on the High Price of Gold Bullion to investigate why it had risen during the Napoleonic Wars.

Alchemist 65, January 2012, explores *'Building a Bibliography of Books on Gold and Silver'*.

In 2013, Tim kindly donated his impressive collection of books on gold and silver to LBMA.

In an article in *Alchemist 70*, April 2013, Stewart Murray writes an article of appreciation thanking 'Tim Green and his book collection'.

In an *Alchemist 83* article, in October 2016, *'50 Years on the Gold Trail'*, Tim looks back on his long career as a journalist and writer in the gold business.

ALCHEMIST 16 JUNE 1999

As the 20th century drew to a close, one of the more controversial events was the decision by the Treasury to sell off nearly half of the UK's Gold reserves in a series of auctions. In *Alchemist 16*, June 1999, Clifford Smout, Head of Foreign Exchange, Bank of England, explains the rationale behind in *'Gold Auctions – The Way Forward'*.

Two decades later and Adrian Ash revisits this topic in his article in *Alchemist 94*, July 2019, *'Gordon's Brown Bottom 20 Years On'*.

ALCHEMIST 17 OCTOBER 1999

Peter Smith outlines the plans in place for the precious metals market as the financial markets prepared their Y2K contingency plans as systems rolled over to a new millennia. For those of you too young to remember, the issue was that many computer programs and systems represented four-digit years with only the final two digits, potentially making the year 2000 indistinguishable from 1900, etc. For the precious metals market, this involved no physical metal movements between 2 December 1999 and 7 January 2000. In the end, an issue that had gripped financial systems across the world passed with little disruption.

ALCHEMIST 23 MAY 2001

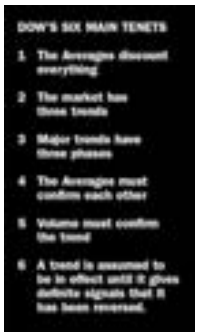
This edition is heavily focused on risk management, with a number of features including 'Trends in Risk Management for Gold Producers', 'Portfolio Risk Management – the Role of Gold', 'Success is Simple – Back to Basics with Risk Management' and 'Solid Gold Rate Cuts' (see extract from this article opposite). We tackled this 100th edition from the perspective of what's changed (and why), but conversely we can see here that some issues don't really change.

Alan Greenspan gets on a bus in a city he doesn't know. He recognizes another passenger - a government worker who collects economic statistics.

The Fed Chairman asks him: "Can you tell me which stop to get off for Policy Street?"

"Sure thing, Mister Greenspan," comes the reply. "Just watch me carefully and get off two stops before I do."

ALCHEMIST 30 APRIL 2003


DOW'S SIX MAIN TENETS

1. The Averages discount everything
2. The market has three trends
3. Major trends have three phases
4. The Averages must confirm each other
5. Volume must confirm the trend
6. A trend is assumed to be in effect until it gives definite signals that it has been reversed.

This edition features a fascinating article on *'Charles Dow's Six Secrets to Market Success'* (see opposite).

Charles found fame as editor of the Wall Street Journal, but is more famously known for establishing the Dow Jones Company, named after him and his business associate, Edward Jones. Charles' relevance to this modern day may be more obvious to those of you who follow the New York stock market.

ALCHEMIST 35 SEPTEMBER 2004

In this edition, we get an understanding of the growing influence that China was playing in the global gold market as we explore *'Entering the Hall of Mirrors - Illusion and Reality in China's Influence on Precious Metals Demand'*.

ALCHEMIST 40 NOVEMBER 2005

'An Introduction to the Elliott Wave Principle' is an article that will resonate with many of you traders out there.

ALCHEMIST 44 OCTOBER 2006

Moving on to another key sector of the market, we progress onto *Alchemist 44*, October 2006, in which Dougie Beadle, LBMA consultant, highlights the difference between acceptable and unacceptable stacking of silver bars in a vault. We'll let you decide from the photos below which is which.

ALCHEMIST 47 JULY 2007

Here comes *Alchemist 47*, July 2007 and a metal, rhodium, that is certainly talking itself up: *'200 Dollars per Gram – The Metal that Makes Truffles Seem a Bargain'*.

ALCHEMIST 52 DECEMBER 2008

The 2008 Annual Conference in Kyoto (covered in *Alchemist 52*, December 2008) was the first to be held jointly with the LPPM. In his speech at the Conference, Bob Takai provides an *'Overview of the Japanese Gold Market'*.

VOICES OF THE LONDON MARKET

Back in 2014, LBMA invited members of the Association past and present, as the generation of workers who shaped and experienced change, to tell their stories of their time in the market. Dr Michele Blagg (pictured), at the time a research associate at the Institute of Contemporary British History at King's College London, began interviewing more than 40 people who offered to tell their stories. *'The Voices of the London Bullion Market'* brilliantly captured and contextualised the changes in the bullion market through the eyes of those who worked in it.

Some of the great faces of the bullion market, many of whom participated in the Voices Project.

The collection of interviews with participants involved in historical events has long been a complement to written records, adding personal detail and enhancing the understanding of causes and contexts.

Michele immersed herself in the Association's archives, consulting past copies of committee meeting minutes, early newsletters and articles from the *Alchemist*, and locating a variety of literature and media reports from other sources.

A number of interviews were published in the *Alchemist* between 2015 and 2019, as listed below. LBMA will look to roll out some of the unpublished interviews in future editions of the *Alchemist*.

The jury is out, 12 "good men and true" of the London Bullion Market are (left to right) Chris Elston, Albert Helmig, David King, Philip Clewes-Garner, Tim Green, Colin Griffith, Howard Davies, Martin Stokes, Alan Baker, Stewart Murray, Peter Fava and Terry Smeeton.

***Alchemist 76*, Jan 2015**
'A Lifetime in the Bullion Market – Voices of the London Bullion Market'

Michelle Blagg explains the background to the project.

***Alchemist 77*, April 2015**
Michele Blagg interviews Neil Newitt, one of the original signatories of the memorandum incorporating the founding of LBMA in 1987.

'Neil Newitt : Another World'

***Alchemist 78*, July 2015**
'Simon Churchill: The Time Has Come'

***Alchemist 79*, October 2015**
'John Coley – From the Rock in the Ground to the Ring on Your Finger'

***Alchemist 80*, January 2016**
'Ross Norman Interview: Setting a New Gold Standard'

***Alchemist 81*, May 2016**
'Stewart Pixley, A Gentleman From a Bygone Era'

***Alchemist 82*, July 2016**
'Forty Just Men – John Wolff'

***Alchemist 85*, May 2017**
'Catch Them Young – The Career of Robert Stein'

***Alchemist 87*, October 2017**
'East Goes East, Memoir of a Global Head - Jeremy East'

***Alchemist 93*, April 2019**
'The Golden Thread: Jonathan Spall – Voices of the London Bullion Market'

Reproduced in this edition to commemorate the sad passing of Jon.

ALCHEMIST 61 JANUARY 2011

This issue includes a memorable speech by keynote speaker William White, formerly Chief Economist at the Bank of International Settlements, entitled 'Will This Crisis Never End?'. In it, William recalls a quote from Donald Rumsfied:

"There are things that we know we know; there are things that we know we don't know; but there are also things we do not know that we don't know."

It helped William come a close second as the best speaker at the 2010 LBMA Precious Metals Conference.

ALCHEMIST 62 MAY 2011

In *Alchemist 62*, May 2011, Dr Brian Lucey draws on his vast academic research to ask *'What do Academics Think They Know About Gold?'*. As it turns out, quite a lot. Both Brian and his protégé Fergal O'Connor have contributed further articles to the *Alchemist* since then (see section at the end on the centenary of the Gold Price Auction).

ALCHEMIST 65 JANUARY 2012

Another person who warrants special attention with her rich and fascinating research for the *Alchemist* is Rachel Harvey, Associate Research Scholar at the University of Colombia. The *'The Early Development of the London Gold Fixing'*, which appears in *Alchemist 65*, January 2012, provides a remarkable insight into the rituals of the fixing process, which was far from static and in fact evolved over a number of decades.

She also wrote a fascinating insight into the culture of the City in an article in *Alchemist 94*, July 2019, *'Genteel Fair Play – The Culture of the London Gold Market'*.

The Gold Fixing Room, N. M. Rothschild & Sons, New Court, St. Swithin's Lane. Reproduced with the permission of The Rothschild Archive.

ALCHEMIST 67 JULY 2012

In 2012, the most important development was clearly the launch of the Responsible Gold Guidance, when it became a mandatory requirement for all Good Delivery List refiners (this is covered in more detail in several articles elsewhere in this edition). The other development that year worth highlighting was the launch of the first Proficiency Testing Scheme as described by Stewart Murray in his article in *Alchemist 67*, July 2012.

The late, great Jon Spall recalls the background to the end of the historical fixings of the precious metals prices, a truly ground-breaking change that's worth highlighting even if it has been touched on other features in this edition, including 'Back to the Future with our CEOs', on page 6.

ALCHEMIST 79 OCTOBER 2015

Neil Harby explains how LBMA working closely with the Shanghai Gold Exchange (SGE) agrees a new 9999 gold kilobar specification.

ALCHEMIST 80 JANUARY 2016

This issue provides an assessment of new technologies in *'Gold Bitcoin and New Technologies'* by Elizabeth Ferry.

ALCHEMIST 87 OCTOBER 2017

James Steel provides an intriguing insight into the role that gold has played in conflicts around the globe over the centuries.

CENTENARY OF THE FIRST LONDON GOLD PRICE

100 GOLD PRICE CENTENARY

In 2019, the *Alchemist* celebrated 100 years of the London Gold Price with a series of feature articles.

Fergal O'Connor (pictured), Lecturer in Finance, Cork University Business School, drew on his research to explain what was happening in the gold market during the 100 years since the first Gold Auction took place on 12 September 1919.

Fergal's analysis was represented in four instalments in the *Alchemist* during 2019 as follows:

***Alchemist* 92, January 2019**
'The Formerly Missing Gold Price Data: 1919-1925'

***Alchemist* 93, April 2019**
'What Happened in the London Gold Market during the Gold Standard: 1925-1931'

***Alchemist* 94, July 2019**
'Gold Investing/Hoarding in the 1930s London Market: 1931-1939'

***Alchemist* 95, October 2019**
'After the War is Over – The London Market Reopens: 1954-1968' (this was a joint article with Dr Michele Blagg)

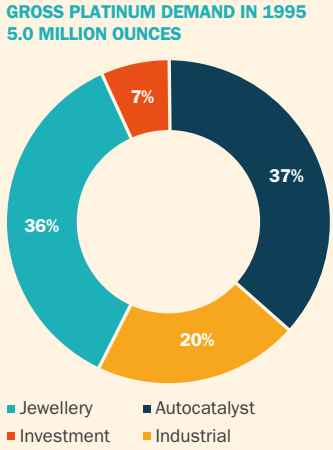
It's also worth highlighting Rachel Harvey's research on the history of the Gold Fixing, which featured in *Alchemist 95*, October 2019, *'A Price Benchmark for the Ages'*.

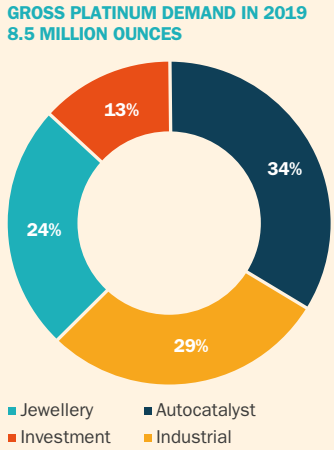
The highlight of the events held in 2019 to commemorate the centenary of the first London Gold Price was the reception held at the N.M. Rothschild offices on 12 September. The location is the current modern Rothschild building built on the site of the second New Court building (pictured right), where the Gold Auction took place for much of the last 100 years. See the review by Aelred Connelly which appeared in *Alchemist 95*, October 2019.

PLATINUM
Old and New Uses in Old and New Markets

BY MATTHEW TURNER, MARKET INTELLIGENCE MANAGER – PGMs, ANGLO-AMERICAN PLATINUM

The 25th anniversary of the *Alchemist* is a significant milestone, and a chance to look back at how platinum demand has evolved over the last 25 years and how platinum might evolve over the next 25 years.





Source: Johnson Matthey Platinum Reviews

At first glance, it might seem that there has been only gradual change for platinum demand since the *Alchemist* was first published in 1995. Overall demand is considerably higher, at 8.5 million ounces compared to 5.0 million ounces in 1995. But gross automotive demand in 2019 was still the largest sector, as it was in 1995, and with a relatively similar share of demand. Jewellery and industrial demand are the next two, though they have swapped around in relative size.

DIG A LITTLE DEEPER, HOWEVER, AND MORE DIFFERENCES BECOME APPARENT

In those two largest sectors in 1995, autocatalyst and jewellery demand, 25 years was long enough to see multiple cycles.

The first half of this period, up to 2007, saw a rapid rise in platinum demand from European autocatalysts and Chinese jewellery.

OVERALL DEMAND IS CONSIDERABLY HIGHER AT 8.5 MILLION OUNCES COMPARED TO 5.0 MILLION OUNCES IN 1995

The second half saw both fall back. Over this latter period, industrial demand and investment demand began to take a greater share.

Starting with automotive platinum demand, this more than doubled between 2000 and 2007, reaching 50% of gross platinum demand. Tighter global emissions standards helped, but the biggest impact came from the rapid adoption of diesel passenger vehicles in the European market, which required platinum-only catalysts (due to better low-temperature performance). Platinum's then high price relative to palladium, however, led increasingly to the use of the latter metal in gasoline autocatalysts, and that, together with a falling diesel share in Europe from around 2013, saw platinum automotive demand fall back (partly cushioned by an increase in heavy-duty diesel platinum automotive demand).

Chinese platinum jewellery demand saw astonishing growth around the turn of the millennium, taking it from almost nothing in 1995 to

20%

of all global platinum demand by 2000

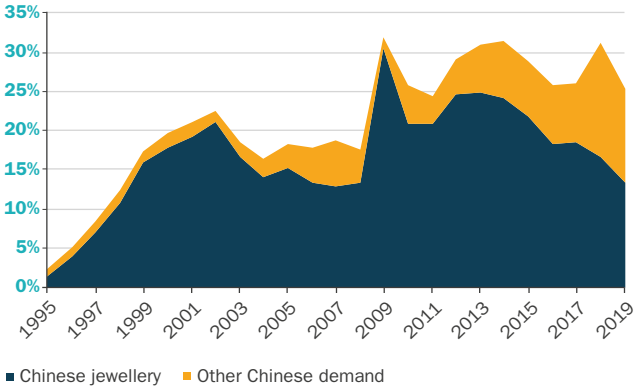
CHANGES IN DEMAND

Chinese platinum jewellery demand, aided by the market development work of the Platinum Guild International (PGI), saw astonishing growth around the turn of the millennium, taking it from almost nothing in 1995 to 20% of all global platinum demand by 2000. Unsurprisingly during this period, it was well covered in the *Alchemist*, such as in 2000, by Susanne Capano of LBMA, who highlighted this in *Alchemist 20,* July 2000, *"The Platinum Age"* and ten years later, when it had reached 2 million ounces a year, by my colleague David Jollie, then at Johnson

Matthey (see *Alchemist 58,* April 2010*, 'The Chinese Platinum Jewellery Market'*). More recently, while remaining a very large demand sector, volumes have fallen, especially if one considers recycling.

The fall in Chinese jewellery demand has not, however, had much of an impact on China's overall share of platinum demand, which in recent years has been as high as ever. This reflects a surge in 'industrial' demand.

CHINA'S SHARE OF GROSS WORLD PLATINUM DEMAND



Source: Johnson Matthey Platinum Reviews

OLD AND THE NEW

The industrial sector, or more accurately sectors, reflect a success story for platinum in the second half of the last 25 years. In 1995, gross global platinum industrial demand was around 1 million ounces, 20% of total gross demand and little changed in size compared to the mid-1970s. By 2018, it had reached a record 2.7 million ounces, 30% of total demand and larger in that year than gross jewellery demand and only slightly smaller than automotive demand. 2019 was similar.

This growth has been a mixture of the old and the new. First, platinum's long-established uses, such as in petroleum refining or nitric acid, benefitted from the huge expansion of industrial capacity seen over these years, particularly in China (where 60% of the increased platinum demand arose). Second, those traditional uses expanded into new sectors, most obviously the huge rise of platinum demand for LCD and LED glass. Third, there were also new industrial applications, both stimulated by the mining sector and growing organically, such as magnetic hard discs, a key growth sector in the early part of this period, and a range of sensors and medical devices later.

"Platinum chain styles becoming very popular in China" Alchemist 20, July 2000.

PLATINUM'S LONG-ESTABLISHED USES, SUCH AS IN PETROLEUM REFINING OR NITRIC ACID, BENEFITTED FROM THE HUGE EXPANSION OF INDUSTRIAL CAPACITY SEEN OVER THESE YEARS, PARTICULARLY IN CHINA.

FOR INDUSTRIAL PLATINUM DEMAND, ONE OF THE MOST IMPORTANT TRENDS OVER THE NEXT DECADE WILL BE FOR A GREENER, MORE SUSTAINABLE AND RICHER WORLD.

GROWTH OF PLATINUM ETFs

Finally, another success story in the last 25 years – indeed, arguably a new demand category – has been platinum investment. Of course, it is not brand new – platinum, in the form of bars and coins, has attracted investors for decades (as well as speculators, on futures markets in New York and Tokyo). In 1995, it accounted for 7% of demand. However, until recently, volumes were often erratic, often reflecting government coin issues. It was the launch of platinum exchange traded funds (ETFs) from the mid-2000s that galvanised the sector and, since then, demand has averaged nearly 0.5 million ounces a year, compared to less than 150,000 ounces before. In 2019, ETFs accounted for 13% of gross platinum demand.

The formation of the World Platinum Investment Council to provide market and product development in this sector in 2014 underscores the growing importance of this sector to platinum's demand base.

THE NEXT 25 YEARS

What, then, might the next 25 years bring?

Our historical look suggests platinum's demand tends to evolve as a mix of expanding old uses in existing sectors, the extension of old uses in new sectors, and new uses in both existing and new sectors. This is likely to continue.

Starting with the existing uses. The safest conclusion is that those uses for platinum that have played a role for many decades – jewellery and various industrial processes – will still play a role in decades to come, albeit as they have done in the past through existing and new sectors.

Jewellery has often seen new geographical focus, from Japan, China and most recently India, where the country's strong growth and campaigns by the PGI have had success in a creating a sizeable demand in recent years.

For industrial platinum demand, one of the most important trends over the next decade will be for a greener, more sustainable and richer world. The Paris Accord's targets for CO_2 emissions cuts, and the desire of a growing number of governments and businesses to go further towards 'net-zero' carbon emissions, are being complemented by a drive for more sustainable industrial processes. Many traditional uses of PGMs will benefit from this, for example, fibreglass, which uses platinum (and rhodium) in its production process and is set to undergo strong demand growth in the 2020s due to its use in both wind turbines and the important role it plays in the light-weighting of automotive body parts. We also expect, as the middle class expands globally, an increased demand for higher-value goods that contain PGMs, such as personal electronic devices, medical applications and products made from a wide range of chemicals.

GROWTH IN BEVs AND FCEVs

Automotive demand might even see the return of the old, with platinum being used in gasoline engine catalysts for the first time since the mid-2000s. The steady tightening of emissions legislation for internal combustion engine vehicles, next to be seen in Euro 7 and China 7, will require more PGM per vehicle by the mid-2020s. Given that palladium and rhodium are already relatively highly priced with tight fundamentals, some modest substitution by platinum (and potentially of palladium for rhodium) would help balance these sectors.

More fundamental changes, both positive and negative, look to be on their way for platinum automotive demand as electrification spreads.

Most commentators see an enduring role for some time to come for the internal combustion engine – diesel and gasoline – on its own, but increasingly in hybrid, electrified vehicles where PGM loadings will be as high as they are in conventional vehicles.

INCREASINGLY IT LOOKS LIKE THERE WILL BE A ROLE FOR **FUEL-CELL ELECTRIC VEHICLES**

Battery Electric Vehicles (BEVs), which don't have PGM catalysts, are taking a growing share, but an increasing volume of overall vehicle sales means that platinum and its sister metals will see significant demand from this sector for decades yet.

Matthew Turner is the Market Intelligence Manager, PGMs at Anglo American. He joined in January 2020 and has more than 20 years' experience in PGMs, having previously been a precious metals analyst and macro-economist at Macquarie Bank and strategist at Mitsubishi Corporation.

Electrification also offers new uses for platinum. Increasingly, it looks like there will be a role for fuel-cell electric vehicles (FCEVs).

These have already found use in smaller sectors such as forklift trucks and look particularly suited to the heavy-duty truck sector, where range and weight are key priorities. Development also continues in the personal vehicle space, with Toyota and Hyundai releasing well-reviewed models in the last few months, suggesting future demand here could be very substantial.

Fuel cells can also power trains, boats, stationary storage and other vehicles. At Anglo American Platinum, we're investing in developing the world's largest fuel cell mine haul truck. We expect trials to start this year at our Mogalakwena mine.

For platinum, this is a new use with great potential. Platinum loadings in fuel cells have fallen since 2006, when Wolfgang Wrzesniok-Rossbach, then at Heraeus, noted that a 40kw stack required four ounces of platinum (see *Alchemist 41,* January 2006*, '$1,000 for 31 Grams of Platinum'*).

Today, we think that would be less than half an ounce and, by the end of decade, a much more powerful 100kw stack might require little more than a third of an ounce. But this loading of metal would still be twice that of a current diesel vehicle, yet only a small part of the overall cost of such a vehicle.

THE AVAILABILITY OF CHEAP AND PLENTIFUL RENEWABLE ENERGY, SUCH AS SOLAR OR WIND, WHICH ALLOWS THE PRODUCTION OF 'GREEN' HYDROGEN MADE THROUGH ELECTROLYSIS FROM WATER.

RENEWABLE ENERGY

Related to fuel cells, but distinct, is the wider potential for hydrogen in helping meet the demands of 'net zero'.

The breakthrough technology here has been the availability of cheap and plentiful renewable energy, such as solar or wind, which allows the production of 'green' hydrogen made through electrolysis from water. This can, and will, help to enable fuel cell adoption, but it also means hydrogen can help decarbonise otherwise difficult to decarbonise sectors. For example, it can be burned for heating or cooking, or to replace coal in blast furnaces. PEM electrolysis, the preferred route to generate 'green' hydrogen from renewable energy, uses an iridium/platinum catalyst.

Finally, we should consider whether there will be platinum-using technologies that are currently embryonic or even not yet invented. It is sobering to think that while autocatalyst demand was the largest sector for platinum demand in 1995, when the *Alchemist* was first coming off the printing presses, 25 years earlier in 1970, it did not exist.

The US Clean Air Act, which ultimately led to every US vehicle being fitted with a platinum-bearing autocatalyst, was made law only in that year. Similarly, the 1970s' largest platinum demand source (at least in the US), as a catalyst for petroleum refining, did not exist 25 years before that. What 'unknown, unknowns' will we be talking about over the next 25 years and the next 100 issues of the *Alchemist*?

FACING FACTS

Gold ETFs Registered Record Net Inflows in 2020

BY SAIDA LITOSH, HEAD OF PRECIOUS METALS DEMAND RESEARCH FOR EUROPE & DEBAJIT SAHA, HEAD OF PRECIOUS METALS RESEARCH IN INDIAN SUB-CONTINENT, MIDDLE EAST REGION, REFINITIV METALS TEAM


facing facts

THE STORY BEHIND FACING FACTS

Facing Facts first appeared as a standing *Alchemist* feature in 1999 initially by the late Paul Burton (*Alchemist 92*, January 2019 *"Obituary"*) World Gold (extract above and in full in *Alchemist* 16, June 1999 "Facing Facts") to cover the key developments in the mining industry. Paul continued to write the column until 2012, after he merged World Gold into GFMS in mid-2008 and the takeover of GFMS by Thomson Reuters in 2011. Since 2013, the column has been written by a number of analysts at Thomson Reuters which, was rebranded as Refinitiv in 2018.

Investment in gold exchange traded funds (ETFs) surged to a new peak in 2020. After 12 consecutive months of net inflows from November 2019, and with investors adding more than 1,000 tonnes of gold between January and October 2020, global ETF holdings reached an all-time high of over 3,960 tonnes by the second week of November.

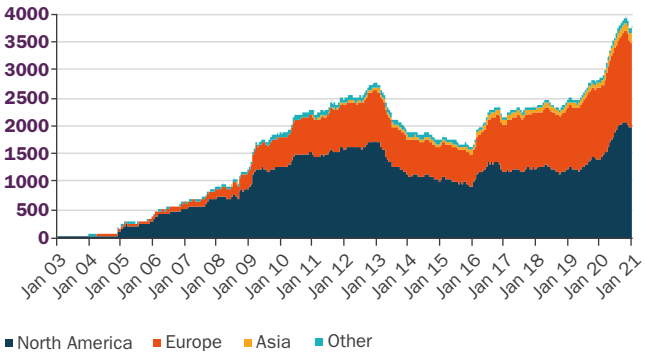
To put this into context, net inflows during the first ten months of 2020 were over 65% higher than the previous record in 2009, when annual buying reached 644 tonnes.

The largest increase was registered by North American-listed funds, with holdings rising by 45% or nearly 640 tonnes (US$36.4 billion) from the end of 2019 level, accounting for nearly two-thirds of global net inflows over that period. European funds added 346 tonnes (US$19.7 billion) over the ten-month period, representing a 27% increase from the level seen at the end of 2019. Holdings in Asia and other regions grew by 57 tonnes (US$3.2 billion) and 24 tonnes (US$1.4 billion), respectively.

GLOBAL ETF HOLDINGS REACHED AN ALL-TIME HIGH OF OVER 3,960 TONNES BY THE SECOND WEEK OF NOVEMBER

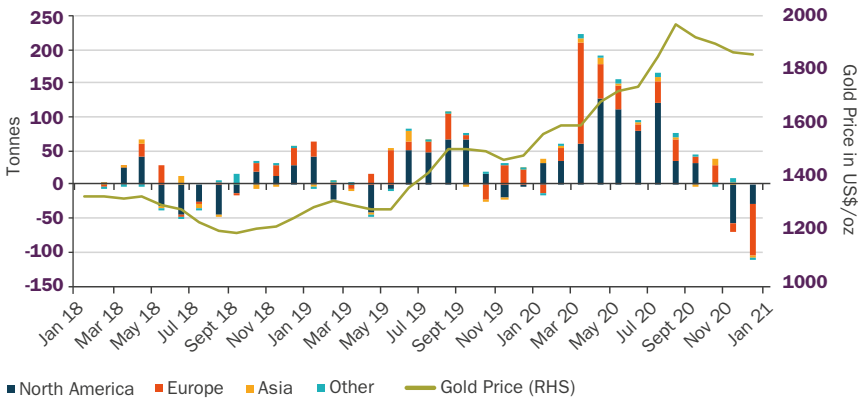
The surge was driven by the COVID-19 outbreak, which saw the global economy plunge into the worst downturn since the Great Depression. This prompted governments to announce unprecedented stimulus measures, pushing interest rates into more negative territories, all of which boosted gold's safe-haven appeal. Furthermore, the logistical issues, caused by the virus outbreak, triggered the disconnect between the COMEX gold futures market and the OTC market in London. This resulted in higher premiums on futures contracts compared to the OTC price and increased cost of ownership, thereby encouraging some investors to switch to OTC holdings and ETF buying.

GOLD ETF HOLDINGS - BY REGION



Source: Respective ETF sources; Refinitiv Metals Research

MONTHLY CHANGE IN GOLD ETF HOLDINGS



Source: Respective ETF sources; Refinitiv Metals Research

Having said that, the growing optimism around the approval of COVID-19 vaccines and the prospects for a long-awaited return to normal saw some investors reduce their gold exposure towards the end of the year.

After 12 months of uninterrupted gains, gold ETFs experienced selling in the final two months of 2020, equivalent to just under 170 tonnes of gold. Net outflows were driven primarily by selling in Europe and North America, where investors reduced their holdings by 90 tonnes and 86 tonnes, respectively, while holdings in other regions increased slightly, by just under seven tonnes.

Total net inflows for the year were estimated at under 900 tonnes and valued at **US$51 BILLION,** which represented the highest ever annual gain recorded since the inception of gold ETFs in 2003.

Total net inflows for the year were estimated at under 900 tonnes and valued at US$51 billion, which represented the highest ever annual gain recorded since the inception of gold ETFs in 2003 (see article by Graham Tuckwell on the story behind the birth of ETFs on page 21). They were also some 39% higher than the previous yearly record in 2009.

By the end of 2020, global ETF holdings stood at 3,740 tonnes, approximately US$213 billion in assets under management, and while down from the record level seen in November, they were still over 30% above the end of 2019 level.

Looking ahead, the underlying macroeconomic conditions remain favourable for gold. The ongoing battle with COVID-19 and the economic headwinds, low interest rate environment, increased debt levels and rising inflationary expectations should continue to support gold investment demand in 2021.

It is likely that strong inflows into gold ETFs will continue, particularly if the road to economic recovery and return to normality turn out to be bumpy.

While global ETF holdings are very likely to reach a fresh high at some point this year, we may not witness the same level of annual net inflows as last year.

CENTRAL BANKS' 2020 NET GOLD PURCHASES DROP TO LOWEST SINCE 2016

Gold buying activity by central banks slowed in 2020, with annual net purchases falling to an estimated 290 tonnes, half the level registered in the prior year and the lowest since 2016. This was not only a reflection of reduced gross purchases, which were estimated at 35% below the level seen in 2019, but also of a spike in gross sales by 45% year-on-year. It is also worth adding that central banks shifted to net sellers in the third quarter of 2020 for the first time in nearly a decade, having sold an estimated 13 tonnes of gold.

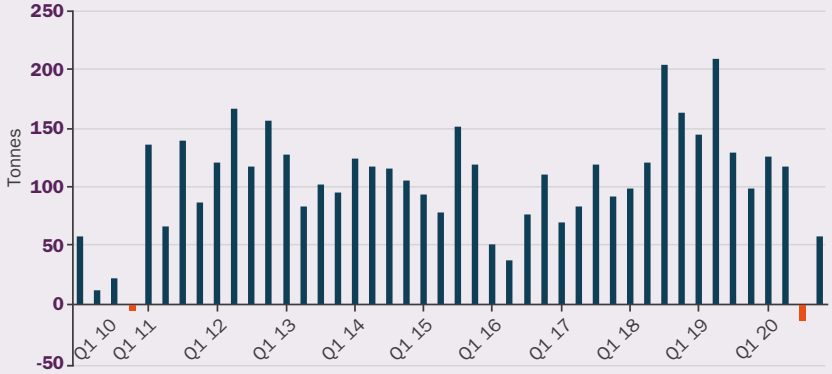
The increase in selling was driven partly by growing pressures to raise capital in order to mitigate the economic damage inflicted by COVID-19, with some countries also exploiting gold's astonishing price rally and the record highs seen last year.

Total gross sales in 2020 are estimated at 169 tonnes, representing an increase of 45% from a year ago. This was led by Sri Lanka, which reported a net reduction of 12.9 tonnes, a significant uptick from a minimal change in gold reserves recorded in the prior year, placing the country as the largest gold seller for 2020. Another meaningful reduction was recorded by Mongolia, which reported net sales for three consecutive quarters, totalling 12.5 tonnes for the full year. Uzbekistan secured third place, having sold over 11 tonnes of gold over the course of the year, with the bulk of the selling taking place in July and August, when the central bank sold over 40 tonnes of gold at the price peak to raise additional capital to counter the pandemic's economic impact. The selling was partly offset by purchases later in the year. Among other countries, Colombia reported a drop of 9.7 tonnes in its gold holdings, becoming the fourth-largest gold seller last year.

Meanwhile, gross purchases in 2020 declined by more than a third, to an estimated 458 tonnes. The decline was driven largely by the absence of reported buying activity from the two big players, Russia and China. The Central Bank of Russia suspended its gold purchases from April 2020, having bought 28 tonnes in the first quarter. This represented a marked drop from an annual average of over 200 tonnes acquired in the previous five years, pushing the country to fourth place last year, compared to second place in 2019 and top position in previous years.

In addition, last year witnessed a slowdown in the level of buying from some of the other traditional gold buyers such as Kazakhstan.

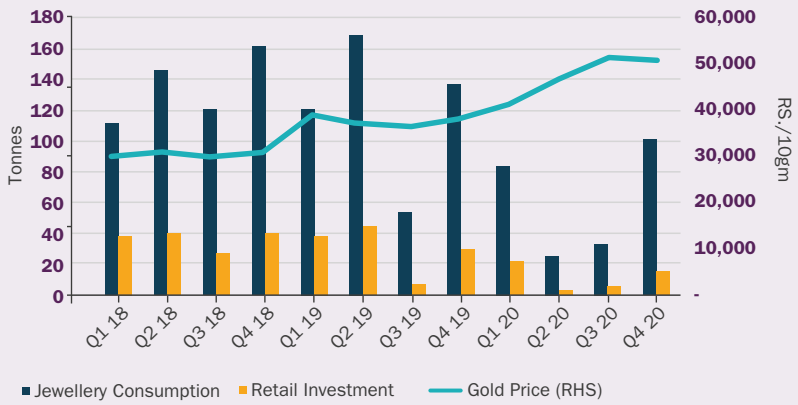
NET OFFICIAL SECTOR PURCHASES



Source: IMF; Refinitiv Metals Research

AS ECONOMIES CONTINUE TO RE-EMERGE FROM THE COVID-19 CRISIS WE EXPECT CENTRAL BANK GOLD PURCHASES TO REMAIN STRONG

INDIA'S QUARTERLY GOLD DEMAND



Source: Metals Research, Refinitiv, Ibja, Refinitiv India Gold

The country reported selling in the first half of 2020, which was offset largely by a pick-up in buying later in the year, resulting in an almost unchanged level of gold reserves by year-end, as opposed to a net increase of 35 tonnes reported in 2019.

Meanwhile, Turkey recorded net selling in the second half of 2020, although strong buying in the first six months resulted in a net annual increase of an estimated 142 tonnes, down by 11% year-on-year. Despite the annual drop, the country retained its status as the largest gold buyer for the second year in a row. India reported an increase of nearly 38 tonnes, making it the second-largest buyer of gold in 2020, followed by the United Arab Emirates (UAE), which added nearly 29 tonnes of gold, almost double the level of purchases declared in the prior year.

Looking ahead, we may see gross sales remain elevated in the coming months, particularly as nations continue the battle against COVID-19 and should the gold price embark upon a new rally to reach and move beyond previous highs. That said, as economies continue to re-emerge from the COVID-19 crisis, we expect central bank gold purchases to remain strong. The overall macroeconomic environment will remain supportive of gold, with economic and political uncertainties still heightened and interest rates staying depressed for the foreseeable future. Meanwhile, anticipated fiscal stimulus to revive the global economy will continue to support a strong case for central banks, particularly in emerging economies, to diversify their international reserves away from the US dollar, in favour of gold.

GOLD BUYING ACTIVITY BY CENTRAL BANKS SLOWED IN 2020, WITH ANNUAL NET PURCHASES FALLING TO AN ESTIMATED 290 TONNES, HALF THE LEVEL REGISTERED IN THE PRIOR YEAR AND THE LOWEST SINCE 2016.

INDIA'S GOLD DEMAND NOSEDIVED IN 2020 AS COVID-19 BROUGHT THE COUNTRY TO ITS KNEES

Indian gross gold demand contracted by a staggering 52% year-on-year in 2020, primarily due to the economic lockdown caused by the COVID-19 pandemic, but also aggravated by the record gold price in local currency terms. While jewellery demand contracted by 50%, investment demand recorded even larger losses, slumping by 64% on a year-on-year basis. On the supply side, imports contracted by 53% year-on-year. Scrap supply recovered in the last quarter, and we believe more scrap will flood the market in the coming quarters.

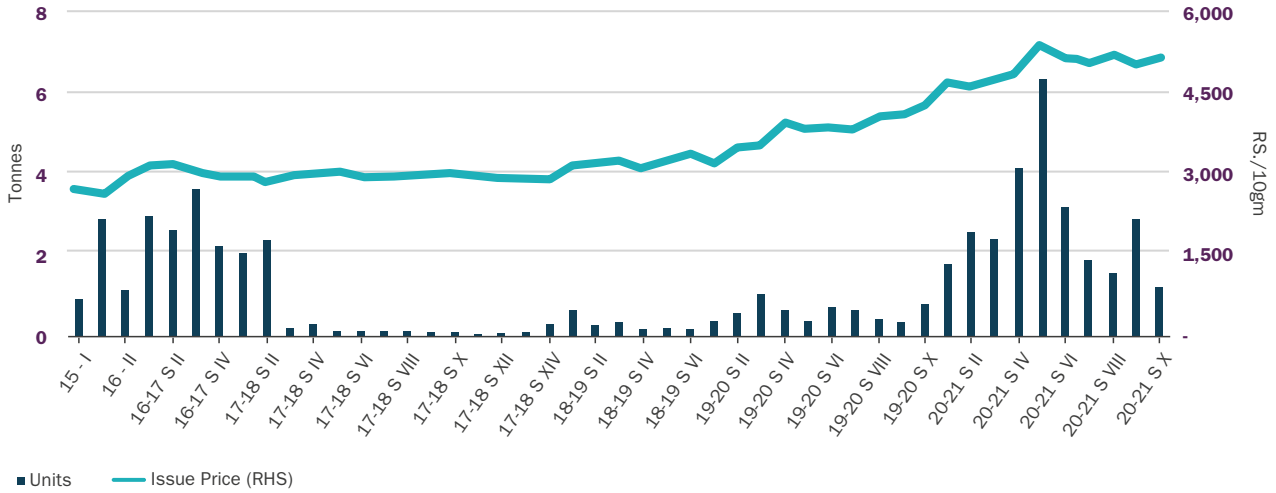
The Indian gold market witnessed its weakest year in decades. Gold imports slumped to their lowest point due to the pandemic-induced lockdown, which forced economic activities to halt completely. The all-time high price was another reason. The gold sector had already been struggling for several quarters due to the slowing economic activity and a shortage of liquidity for jewellers, while the pandemic added further woes. India imported 322 tonnes of gold in 2020, a drop of 53% year-on-year. Out of total imports, 189 tonnes remained available for domestic consumption.

Meanwhile, scrap supply remained muted for most of the year and even after the lockdown was lifted. It had been observed that people were reluctant to enter jewellery shops out of fear of infection.

INDIAN GOLD JEWELLERY CONSUMPTION IN 2020 IS ESTIMATED AT JUST 243 TONNES HALF OF THE LEVEL SEEN IN 2019

The Gateway of India, Mumbai

INDIA'S OUTSTANDING OF SOVEREIGN GOLD BOND TRANCHWISE



Note: The "S" in the labels along the horizontal axis stands for 'Series'.
Source: Reserve Bank of India

At the same time, the stimulus package given to the poor by the government provided some cushion, at least in the immediate term, mitigating the need to liquidate savings in the form of gold, suggesting that there was very minimal level of distress selling observed. That said, scrap supply increased in the last quarter of the year, especially in the form of old jewellery used to make new pieces.

On the other hand, the gold loan book of the banks and non-banking financial corporations (NBFCs) increased in 2020. With a mammoth gain in the gold price in local currency terms, the loan to value (LTV) ratio had increased for a person or entity intending to take a gold loan. Some NBFCs offer digital services to provide access to gold loans, making it fast and user friendly. India's large unorganised section of the economy cannot access formal credit channels and, therefore, faces tremendous liquidity problems, making gold loans the easiest way to boost liquidity and to inject much needed cashflow into the business.

India imported 322 tonnes of gold in 2020 a **drop of 53%** year-on-year

Indian gold jewellery consumption in 2020 is estimated at just 243 tonnes, half of the level seen in 2019.

The bulk of the damage took place in the second quarter as the country bunkered down in an effort to control the spread of COVID-19, putting enormous pressure on the jewellery sector.

While large fabrication houses in the organised part of the sector recorded a modest uptick in production (while working at a markedly reduced capacity) in the third quarter, manufacturing activities in the unorganised jewellery segment came to a near standstill. The large unorganised sector recovered some lost ground in the last quarter as the overall demand increased due to the marriage and festival season. However, this segment has continued to struggle and, in ourunderstanding, 2021 is expected be another difficult year.

The average gold price in local terms remained 26% higher year-on-year in 2020. The largest demand segment for gold jewellery is for the purpose of marriage. In normal conditions, jewellers get some floating customers who purchase little bits of jewellery for daily wear. This segment is very price sensitive, especially where the younger generation Indians are concerned. We believe the high price will continue to impact the demand.

WE BELIEVE THE HIGH PRICE WILL CONTINUE TO IMPACT THE DEMAND

On the investment side, demand for physical gold was hit hard last year, tumbling by 62% year-on-year, to an estimated 46 tonnes.

That said, there had been a shift away from physical gold investment in favour of paper products. As per the data published by the Reserve Bank of India (RBI), 28 tonnes of gold were added so far in the current fiscal year (2020-21) in the form of sovereign gold bonds (SGB), making it the highest addition in a single fiscal year since the scheme was first introduced in 2015, and bringing the total outstanding gold bonds to just under 59 tonnes.

Similarly, Indian ETFs added 15 tonnes of gold in 2020, double the level seen in the previous year, making it a fabulous year for paper gold products. We expect the trend to continue.

Saida Litosh has been covering the metals markets since she joined the GFMS precious metals research team in 2011, focusing on investment and fabrication demand in Europe and playing a key role in covering precious metals research in Russia. In 2016, She joined Thomson Reuters Oil Research team, where her primary focus was analysis of crude, fuel oil and key refined product flows for Europe, Russia and Africa. She re-joined Refinitiv Metals team in late 2017 to head up precious metals demand research for Europe, in addition to leading gold analysis and economic forecasts. Saida holds a Master's degree in Economics from the London School of Economics.

Debajit Saha is a Lead Analyst at Refinitiv, based in Mumbai. He is responsible for precious metals research in Indian Sub-continent, Middle East region.

He has a Bachelor's degree from the University of North Bengal, India.

Musical Chairs with all of Our Chairs

The *Alchemist* took the opportunity to catch up with all eight former (and current) LBMA Chairmen, whose tenures have covered the life cycle of the *Alchemist* from the first edition in June 1995 to the present. We invited them to tell us about the key market developments or their favourite stories from their time as Chair.

Alan Baker

Chairman to June 1997

What's in a Name?

Perhaps my biggest concern with the introduction of the *Alchemist* was its name. It was quirky and I was dubious. Its connotations to the medieval image of one seeking to turn base metals into gold didn't seem to fit with the image of LBMA. What impression would that give and what message did it present to the world? The name was suggested by Jeff Rhodes, Chair of the Public Affairs Committee, who was told by his boss at the time that "it'll never catch on". I was expected to introduce it in the Editorial of the first issue (*Reaching Out*, reproduced on page 4). I suggested it might be the catalyst through which we might turn informed information into gain, but I still wasn't happy. From 1987 to 1994, LBMA had published a quarterly Newsletter addressing mainly the London market, a kind of club newsletter that ran to all of four pages. By 1994, we were looking to extend membership to the global market and, as part of that effort, a change from the more parochial Newsletter to something more ambitious was called for.

Another concern I had was whether we could attract sufficient contributors, and of the right calibre, to fill an enlarged publication. When I look at what the *Alchemist* has become, it's good to see that was something I needn't have worried about. LBMA at the time was supported by just two staff, Chris Elston, who I had just introduced as our first Chief Executive, and Stella Thompson, the Secretary. That meant that much of the work of LBMA had to be done by the Committee members and, along with our day jobs, how would we manage it? When I look at the 17 members of staff today, what a lot has changed, and how much London and LBMA have achieved because of that.

BY 1994, WE WERE LOOKING TO EXTEND MEMBERSHIP TO THE GLOBAL MARKET AND, AS PART OF THAT EFFORT, A CHANGE FROM THE MORE PAROCHIAL NEWSLETTER TO SOMETHING MORE AMBITIOUS WAS CALLED FOR.

Looking back over old copies of the *Alchemist*, one sees that LBMA, then as now, was looking for ways to improve our marketplace.

Following work to introduce the International Bullion Master Agreement in 1994, we went on to produce the Bullion Definitions to link bullion transactions to the ISDA Master Agreement in 1997 (see my Editorial in *Alchemist 4*, June 1996) and so incorporate derivatives into netting – documents I was pleased to find are still in use today. They entailed a lot of work at the time but hopefully have saved a lot more work in conducting business since.

We made the first moves in lifting the veil towards greater transparency with work on the compilation and publication of bullion clearing statistics (see *Alchemist 6*, January 1997, 'Clearing Volume on the London Bullion Market' by Peter Smith) – work that I see continues to be refined to this day.

We had to work with Reuters to extend the gold forward offered (GOFO) rate page with LGLR for gold lending rates, when we had to rely on its platform before the days of websites to publish our statistics. Things have changed. Finally, we organised the first overseas event for LBMA with a debate in Johannesburg on the motion 'This house applauds the practice of hedging by producers' (see the article by Sean Russo on Hedging and Finance on page 36). The motion was passed by 66 to 16.

And, as for the name, I'm sure that in the global bullion market of today, the image conjured by the word 'alchemist' means only one thing. And I congratulate all of those who have made LBMA and the *Alchemist* what they have become, an organisation and a publication that bring the global bullion market together. Or perhaps a more recent definition of an alchemist, as someone who transforms things for the better, is more accurate in this case.

"I SUGGEST A GOLD HOLIDAY BEFORE THE MARKET TAKES OFF AGAIN"

Peter Fava

Chairman June 1997 to July 1999

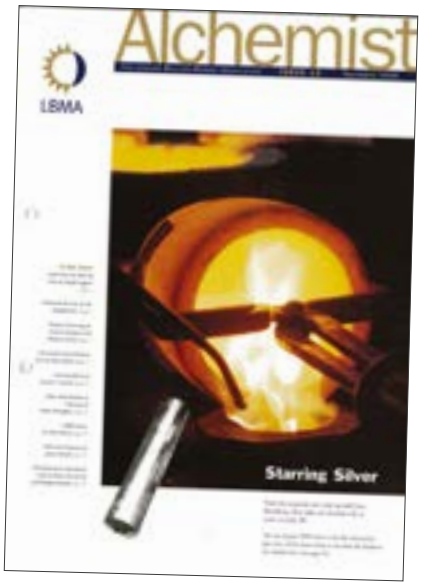
When I took over the Chairmanship of LBMA from my predecessor, Alan Baker, the *Alchemist* was a glossy magazine in three colours – gold, blue and black. Susanne Capano had been appointed our first full-time editor. She really started to make it look very professional.

LBMA decided to instigate a new class of member the 'International Associate' and it was decided that one of the things we could offer our new members was the *Alchemist*. Susanne asked me if she could improve the copy by using more colours. I agreed that she could, provided that she paid for it out of advertising.

SUSANNE ASKED ME IF SHE COULD IMPROVE THE COPY BY USING MORE COLOURS. I AGREED THAT SHE COULD PROVIDED THAT SHE PAID FOR IT OUT OF ADVERTISING.

In *Alchemist 13*, we offered the market the opportunity to advertise business-to-business products. We published *Alchemist 14* in February 1999 with five adverts and using multi-colour copy. The *Alchemist* is now the world-class publication on precious metals.

Advert placed in Alchemist 13 seeking advertisers for the very first time.



Front cover of Alchemist 13, the first edition to feature a full colour photograph.

Martin Stokes

Chairman July 1999 to June 2002

It amazes me now, but I sat on the LBMA Management Committee for all the years from 1989 to 2006, including as Chairman from 1999 to 2002. During those 17 years, the *Alchemist* evolved from a parish magazine for the London members to a quality publication with an international reach.

There were four major initiatives during my tenure as Chairman, all of which were closely covered by the *Alchemist*: the engaging of a full-time Chief Executive, standardised documentation, introduction of International Associates/Members and the establishment of the LBMA Conference.

We had several very high-class candidates for the post of Chief Executive, but after a series of interviews, it became clear that Stewart Murray was the person for the job (see page 19, *Alchemist 17*, October 1999). How fortunate we were to have engaged such a knowledgeable, loyal and hard-working man. Over the years, Stewart came to personify LBMA!

For many market participants, the words 'standardised documentation' bring on the need for a snooze – indeed, for some, it's the dullest of topics! However, this initiative was one of the important ingredients in the cement that bound the Association together. Much Committee work and significant input from Allen & Overy resulted in bilateral agreements between members being made virtually redundant, thereby saving significant lawyer time. The record shows that I wrote some prosaic, but important, *Alchemist* articles to explain the advantages.

The International Associate initiative was sparked by a visit to JP Morgan's office by an individual from an Australian counterparty. He complained to me, slightly tongue-in-cheek, that his firm had no representation at LBMA.

Over the following years, providing such access and support to counterparties from Ahmedabad to Zurich enabled LBMA to become truly international and to create an interdependence in the bullion market that gives significant support to local regulators.

Until 2000, the annual Gold Conference, run by the *Financial Times* in various European cities, was a professionally run and popular event. However, it was expensive and not always attuned either to the pulse of the market or to all of its aspects.

While I was on a family holiday in Dubai in 1999, I noticed the first-class conference facilities in the Jumeirah Beach Hotel and the rest is history. It was a courageous leap for our small Executive office, but our very first Annual Conference in 2000 was a great success (see review by Susanne Capano, *Alchemist 19*, April 2000) – opened by Sheikh Mohammad and featuring Clifford Smout of the Bank of England explaining the UK Gold Auction programme (see photograph below). Twenty Conferences later, it's clear that we made the right decision. As I recall, our outstanding *Alchemist* editor, Susanne Capano, wrote up the event with great brio, including a picture of a belly dancing demonstration by four LBMA Chairmen!

IT WAS A COURAGEOUS LEAP FOR OUR SMALL EXECUTIVE OFFICE, BUT OUR VERY FIRST ANNUAL CONFERENCE IN 2000 WAS A GREAT SUCCESS.

Julius Caesar and Winston Churchill knew that history would treat them well – for they wrote it! But no fake news here! Over the years, the *Alchemist* has provided a great forum for LBMA members and others to share their knowledge and to provide analysis of current and possible upcoming market activity. Perceptive and interesting articles have sprung from every facet of the precious metals business. I look forward to reading the next 100 editions!

Martin Stokes presenting a specially minted 10-tola gold bar to His Highness General Sheikh Mohammad Bin Al Rashid Al Maktoum, Crown Prince of Dubai and UAE Defense Minister. Photograph taken in Dubai at LBMA's first Annual Conference in 2000, Alchemist 19, April 2000.

Simon Weeks

Chairman June 2002 to July 2006

Evolution will always be a key theme for an organisation such as LBMA and it was clear to me during my tenure as Chairman that LBMA needed to evolve from being a London-based trade association into an international body that was at the core of the rapidly expanding global bullion markets. Hand in hand with this expansion came increased demand for international membership, something that LBMA was keen to promote as part of a fully encompassed offering to members.

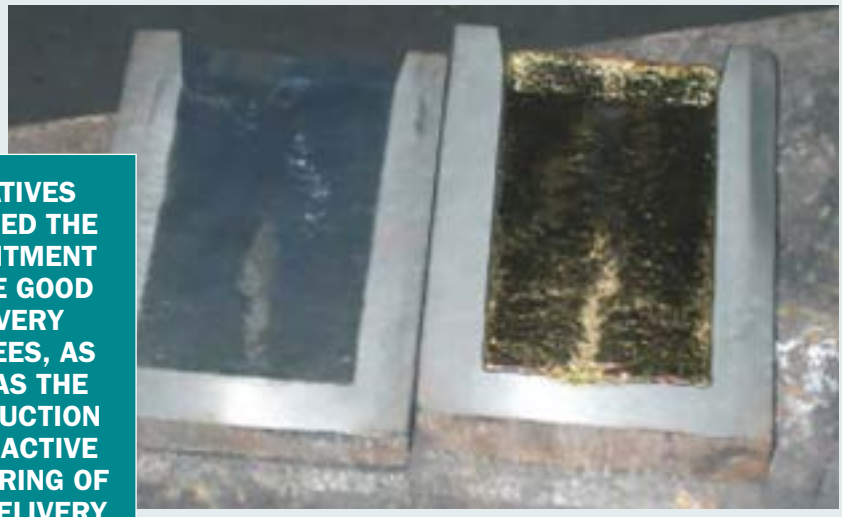
As the internationalisation of the markets continued, LBMA grew alongside, which meant not just a requirement for larger offices but also a requirement to keep step with good business practice to ensure that members, regardless of where they were based on the globe, were party to the highest of standards.

Initiatives included the appointment of five Good Delivery Referees as well as the introduction of Proactive Monitoring of Good Delivery List refiners (see *Alchemist 33*, December 2003, 'Refereeing the Good Delivery System' by Stewart Murray) – thus aiming to ensure that refining standards were both consistently high and universal.

INITIATIVES INCLUDED THE APPOINTMENT OF FIVE GOOD DELIVERY REFEREES, AS WELL AS THE INTRODUCTION OF PROACTIVE MONITORING OF GOOD DELIVERY LIST REFINERS.

One other area of change that required embracing was the increasingly fast-paced move away from traditional telephone-based trading to electronic platforms.

Given the large number of platforms that were keen to provide their services, there was a period when this meant that liquidity was somewhat diluted; however, the markets soon found the most efficient trading routes and we moved onto the next chapter supported by the efforts of the now truly international LBMA (just a shame we never got around to changing the name to reflect this!)



Trialing the dip sample mould - a two-part cast iron mould as featured in the article by Stewart Murray in Alchemist 33.

Jeremy Charles

Chairman July 2006 to June 2009

My three-term period as LBMA Chairman coincided with two significant events, both of which had an enormous impact on the bullion industry. The first was the financial crisis, which resulted in the bankruptcy of Lehman Brothers and created considerable difficulties for London market participants around the world. It was thanks to the combined efforts of LBMA, the Bank of England and the industry participants themselves that a secondary crisis was averted in the bullion markets.

However, it was the creation and development of the gold ETF in the early part of this century that significantly increased my personal profile across the bullion industry worldwide (see article by Graham Tuckwell on page 21).

My involvement in the development of these investment products was probably the reason that I was asked to become the LBMA Chairman in 2006.

This innovation connected LBMA to the world's major stock exchanges, provided a huge boost to the London bullion markets and created a considerable number of jobs in the process.

THE CREATION AND DEVELOPMENT OF THE GOLD ETF IN THE EARLY PART OF THIS CENTURY THAT SIGNIFICANTLY INCREASED MY PERSONAL PROFILE ACROSS THE BULLION INDUSTRY WORLDWIDE

Much has been written about these products in the *Alchemist* and there is no doubt in my mind that their creation changed the global bullion market landscape more than any other development over the last 50 years.

For a fuller account of Jeremy's time as Chair as well as his wider career in the market, see *Alchemist 67*, July 2012, *'A Golden Future for the Bullion Market'*, Editorial written to mark Jeremy's retirement.

Kevin Crisp

Chairman June 2009 to June 2011

What a pleasure to turn the clock back a decade and recall friends and colleagues and their contributions to LBMA and the *Alchemist*. Scrolling through so many editions and excellent articles, my takeaway from 2009 to 2011 was the explosive increase in workload for the Executive and Committees.

Our agendas grew, meetings lengthened and the LBMA Executive needed to expand. The Management Committee expanded too and moved to a two-year term, while our membership and Good Delivery List refiner base grew alongside. Our foundations were strengthened by enhancing the Proactive Monitoring and availability of Reference Materials as we embraced new technologies such as electronic weighing.

We were on the cusp of what became a regulatory tsunami. REACH is indelibly etched on my memory, but there was much more as financial market reforms, environmental issues, supply chain security, taxation and more required close attention. Many of these financial and regulatory changes were summarised by Barbara Ridpath in her speech 'Regulation: Financial Reform & the Gold Market' at LBMA's first ever Bullion Market Seminar (see the programme agenda opposite) in conjunction with the Biennial Dinner, on 25 November 2010.

WHAT WE SAW AS THE LBMA 'CROWN JEWEL' WAS CELEBRATED IN TIMOTHY GREEN'S *HISTORY OF THE GOLD GOOD DELIVERY LIST*

(You can read Barbara's speech in *Alchemist 61*, January 2011.)

What we saw as the LBMA 'Crown Jewel' was celebrated in Timothy Green's *History of the Gold Good Delivery List*.

Commercialisation entered our vocabulary as we looked at LBMA data sets and established our first business relationships. We created a Commercial Director role filled by Ruth Crowell.

Co-operation across the wider precious metals universe and outreach to a range of institutions East and West added to the workload. Conferences in Edinburgh and Berlin provided platforms for wider discussion and debate. All of this needed to be communicated and explained to our members. *Alchemist* was a critical tool in those efforts, and this remains true a decade later.

Bullion Market Seminar 2010

The LBMA held its first Bullion Market Seminar in conjunction with the Biennial Dinner. This Seminar took place at Goldsmiths' Hall, on the afternoon of Thursday 25th November.

Programme

Precious Metal Market Prospects and Challenges
Kevin Andrew Crisp, Chairman, LBMA

Developments in the London Market – Cleared Forwards
David Gornall, Global Head of Precious Metals Trading, Natixis Commodity Markets

Regulation
Barbara Ridpath, Chief Executive, International Centre for Financial Regulation

Prospects for Gold in 2011
Edel Tully, Precious Metals Strategist, UBS

The LBMA Good Delivery System
Stewart Murray, Chief Executive, LBMA

REACH Challenges outlined in an article by Violaine Verougstraete Alchemist 63 August 2011.

David Gornall

Chairman June 2011 to July 2014

Each year, Martin Stokes used to pay me a visit to ask for a signature of support to remain a member of LBMA's Management Committee. It was one of the few occasions that he ever bought a drink!!!

I didn't know too much about LBMA, apart from when I attended the inaugural Biennial Dinner with Bob Guy and guest speaker Robin Leigh Pemberton, BoE Governor. I was inquisitive that day I met with Martin and asked who, why and what was LBMA all about. He turned and said, "You should stand for election yourself." That day I secured the support required, and two weeks later I stood for election and lost!

David Gornall and the LBMA team at the 2011 Conference in Montreal.

The following year I had better luck having been co-opted, joining the Management Committee in 2005, subsequently becoming Vice Chair in 2010. I took the Chair in June 2011, following on from Kevin Crisp.

The first major change witnessed that year was the launch of Responsible Sourcing. Kevin and Ruth had built most of the foundation stones of the Responsible Sourcing project in the previous years and, in early 2012, the LBMA Responsible Gold Guidance was launched (see *Alchemist 65*, January 2012, 'Regulation Update' by Ruth Crowell). Later that year, the proficiency testing scheme for gold fire assayers became live.

When the CEO Stewart Murray decided to retire, the next task was to appoint a successor. Ruth Crowell was duly appointed at the end of 2013 and took office in January 2014.

Following Ruth's appointment, later that year, we welcomed our first in-house legal counsel, Sakhila Mirza.

As the responsibilities of the Management Committee changed along with the market, work began on drawing up the new governance system, which would result in the appointment of the first independent Non-Executive Directors.

With a new team came new ideas along with new initiatives. The interaction of the CEO directly at the OECD placed LBMA at the centre of the Responsible Sourcing initiative. Now in its ninth year, we will see the Responsible Gold Guidance version 9 launched in 2021.

THE TASK WAS LEFT TO RUTH, SAKHILA AND MY GOOD FRIEND, THE LATE, GREAT JON SPALL.

The final days of my tenure saw the introduction of the new LBMA Silver Auction. In late April 2014, I was sitting at home watching a film, it was around 11pm, and I was paying absolutely zero interest to emails or social media and so didn't realise what was about to unfold. My daughter was scanning her Facebook page and told me that Ruth had just instant messaged her asking if I could call the Vice Chairman as a matter of urgency.

The next day it was announced that Deutsche was giving notice to resign its Gold and Silver Fixing seats, such that from 15 August 2014, this would leave just two members of the London Silver Fixing. The following day, in late April 2014, we began the task of creating a new daily price mechanism to take effect in three months' time. As I had already decided to stand down by the next AGM in June, the task was left to Ruth, Sakhila and my good friend, the late, great Jon Spall (see obituary in *Alchemist 93*, April 2019, 'A Man for all Seasons'), to complete. To avoid a gap that could create market disruption, the whole process of creating the LBMA Auction could not overrun the 77 working day deadline. Sakhila penned a great *Alchemist* article covering this particular journey (see *Alchemist 77*, April 2015, 'London Precious Metal Prices: Raising the Benchmark').

Grant Angwin

Chairman July 2014 to September 2016

(and Co-Chair with Paul Fisher from September 2016 to January 2017)

At the LBMA Biennial Dinner at Goldsmiths' Hall in 2010, I was fortunate enough to sit next to an industry great – Steve Branton-Speak. Halfway through the event, he turned to me and said, "You should join the Management Committee." I will admit that I didn't think he was serious and neither did I take him seriously.

It wasn't until June 2011 at an IPMI meeting that Kevin Crisp (then Chairman) and Ruth Crowell (then Deputy CEO) repeated the same words. This time, I thought they had had one too many, but 24 hours later, at the AGM, I was scrambling to get a Proposer and Seconder in order to secure a place on the Management Committee, and to my surprise, Simon Churchill and David Gornall stepped forward. Little did I know that four years later, I would become the first and, probably, the last Chairman from the Full Membership and a non-financial/trading organisation.

STEVE BRANTON-SPEAK TURNED TO ME AND SAID "YOU SHOULD JOIN THE MANAGEMENT COMMITTEE". I WILL ADMIT THAT I DIDN'T THINK HE WAS SERIOUS AND NEITHER DID I TAKE HIM SERIOUSLY.

In my first Editorial for the *Alchemist* (see *Alchemist 76*, January 2015, 'A Baptism of Fire'), LBMA was in the thick of internal changes and precious metals were facing unprecedented regulatory scrutiny. Discussion had commenced to change the governance of LBMA. The move from the London Fixes to independently run auctions, initially with silver, and then followed by the remaining metals, was a work in progress. Work was also beginning on the Global Precious Metals Code, which was successfully launched after my period as Chair in May 2017.

The Management Committee became the Board, with an independent Non-Executive Director (NED) as Chair, as well as another NED joining the Board, with the option of adding a third NED. To ensure continued representation from the membership, there would be three members from the Market Marker category and three members from Full Membership category. The management team was further enhanced with the addition of Neil Harby and Ed Blight as Chief Technical Officer and Chief Financial Officer respectively. Further strengthening occurred, with the addition of support to all the Executive Committee members, thus ensuring that LBMA would maintain its pre-eminent position as the 'world's independent authority and standard setter'.

Grant Angwin is awarded the 2014 conference best speaker prize, a 1oz gold bar, from Mehdi Barkhordar, CEO of PAMP SA.

Throughout all these upheavals, we continued to press forward with improving the Responsible Gold Guidance and development of the Responsible Silver Guidance. Not necessarily the easiest of tasks as you need to balance external expectations with industry realities.

The biggest change in the governance of LBMA occurred in 2016; when the introduction of an Independent Chairman and Non-Executive Director occurred. This was the beginning of a journey and not the end point. This change was driven by the misadventures of financial institutions and the continuing push for a more transparent industry. I doubt LBMA will have to wait nearly 30 years to enact the next major change.

"To improve is to change; to be perfect is to change often" – Winston Churchill

Paul Fisher

Chairman September 2016 to present

(and Co-Chair with Grant Angwin from September 2016 to January 2017)

Since I became Chair of LBMA in 2016, the world of private business has changed. Increasingly, the pressure is on all organisations to justify their social licence to operate. That is being reflected in issues as varied as gender and racial diversity, environmental impact, including climate change, and taking care of employee mental health. One might have expected the 2020 pandemic to divert such attention elsewhere, but in some respects, it has become even more focused. In the past, businesses might have complained that this agenda simply threatened to add unnecessary costs to production, adversely affecting the economy. But, increasingly, these 'social' issues are being treated as pro-business. It turns out that the most successful companies have the most diverse boards and the most engaged employees, and that the companies that generate high ESG scores (environmental, social, corporate governance) generate higher returns over the medium run, not lower. The transition of the economy away from carbon emissions is creating huge business opportunities. These considerations have become as important to the precious metals industry as everyone else and, I am pleased to record, are increasingly being embodied in LBMA standards and codes. Back in 2016, sustainability was barely mentioned at our Annual Conference in Barcelona, by the 2019 Conference in Shenzhen, as well as at the Assay & Refining Conference, it had become a dominant theme, (see *Alchemist 93*, April 2019, 'Refining in the Precious Metals Sustainability Chain'). Perhaps the industry has not always had the best track record.

THAT IS BEING REFLECTED IN ISSUES AS VARIED AS GENDER AND RACIAL DIVERSITY, ENVIRONMENTAL IMPACT, INCLUDING CLIMATE CHANGE, AND TAKING CARE OF EMPLOYEE MENTAL HEALTH.

It is undeniably energy intensive; in the wrong hands, it can be highly polluting and exploitative; and its financial markets, at least, tend to be male-dominated. But, thinking constructively, that means a great opportunity for positive change, for example, through the potential for reduced energy costs, improved access to talent and important contributions to new sustainable technologies. We have a chance, collectively, to ensure that precious metals become part of the solution, rather than being seen as part of the problem, and I hope that's the direction we continue to follow.

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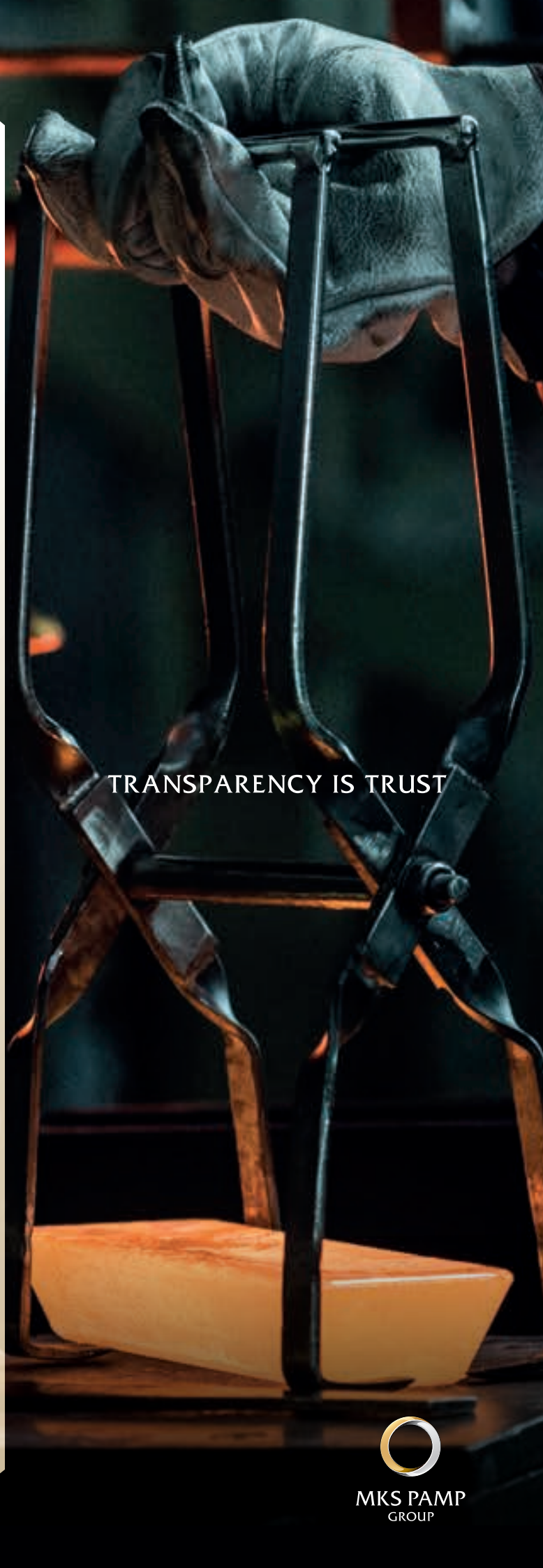

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