

# Alchemist

ISSUE 99

November 2020



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# EDITORIAL

BY ISABELLE STRAUSS-KAHN, LBMA NON-EXECUTIVE DIRECTOR



About two years ago, I quoted Stefan Zweig in the *Alchemist* (Edition 91 – ‘Removing the Cloak from Central Bank Gold Operations’). In 1932, he visited the gold storage of the Banque de France (BDF), poetically calling it “the epicentre of invisible waves that shake stock exchanges and banks”. Thinking about invisible waves, I didn’t imagine an undetectable virus would later shake the world economy in a stronger way than the subprime virus hidden in securitised assets did during the Global Financial Crisis.

True, finance was part of the problem after 2008, while it is expected to be part of the solution now. Yet, in both cases, gold has played its role of a safe haven, peaking at \$1,895 on 6 September, 2011 and again at \$2,067 on 6 August 2020.

On a more personal note, I was delighted and honoured to be appointed as LBMA’s third Independent Non-Executive Director from 1 July 2020. My only regret has been the need to hold all meetings virtually, including my first Board meeting on 3 July. Nevertheless, even if I have not been able to physically meet with the LBMA team, I’ve been very impressed by the sheer amount of work they are undertaking across the precious metals space.

I’m excited to be part of an organisation that is striving to make a real difference, particularly to improve standards and transparency. In recent years, LBMA has also engaged closely with central banks, a community that is close to my heart. My experience at the BDF, the Bank for International Settlements (BIS) and the World Bank leads me to focus on governance. To achieve an integrated, responsible and transparent market, governance is key, not only at the LBMA organisation level, but also at all levels within the gold market.

LBMA lies at the centre of the global over-the counter (OTC) market and its role is ever more important, particularly in terms of setting and enforcing standards and representing the interests not just of its members, but of all market participants.

Let me highlight three key initiatives:

**1** LBMA’s Responsible Sourcing Programme (RSP) demonstrates just how LBMA is committed to maintaining the highest due diligence standards for sourcing material in compliance with other international standards (i.e. OECD). A fundamental aspect of the Good Delivery List is that gold (and silver) processed through accredited refiners can be trusted to be responsibly sourced. This chain of integrity is vital to maintaining confidence in the global market and has been the foundation for the continuous development of the LBMA RSP.

**2** LBMA has just published a Call for Action for International Bullion Centres, after having developed recommendations compliant with the OECD Due Diligence Guidance framework. That initiative will further ensure a responsible supply chain. It also gives due attention to supporting and protecting Artisanal and Small-Scale Mining communities.

It concerns the whole responsible sourcing eco-system, governments, and local, regional and international institutions, as LBMA cannot improve governance alone.

**3** LBMA also developed the Global Precious Metals Code, a counterpart of the FX Code that was developed by central banks and the BIS. The Code’s purpose is to ensure that all trading counterparties in the gold market respect the highest standards and behaviours. While all LBMA members and the Bank of England have signed the Code, work continues to engage other central banks. In 2021, LBMA will be working with the Precious Metals Code Working Group, as well as the central banks, to update the Code and make sure it remains relevant, especially given how much the world has changed in 2020.

We have also seen LBMA take centre stage since March as global markets grapple with the fall-out of the COVID-19 pandemic, by actively communicating with key stakeholders and sectors of the market to ensure the market continues to operate efficiently.

So, a lot has been achieved but, as always, there remains more to be done. The 2021 agenda is full with our commitments to pursue all initiatives at stake and remain agile during what looks like being a prolonged time of uncertainty. I have been impressed by how LBMA has swiftly adapted to its working environment, particularly given it is such a small team. I also want to thank all those who have helped me take my first steps in the organisation.

Let me finish by saying that I look forward to working with the LBMA Executive and my fellow Board members to support the work of the Association. My deepest wish remains that we all meet in person at the next Annual Conference in Lisbon, meaning that we will have eventually emerged from this invisible wave.

## ISSUE HIGHLIGHTS

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Front cover – Golden Raft of the Muisca showing the investiture of a new king or 'zipa'. Museo d'Oro, Bogota, Colombia, featured in the article on page 17.

# DIGGING INTO THE LBMA PRECIOUS METALS TRADE DATA

BY DR. FERGAL O'CONNOR, LECTURER IN FINANCE, CORK UNIVERSITY BUSINESS SCHOOL

After almost two years of being able to see the daily turnover figures for trading in the four precious metals, it seems like a good time to look at what we know now and what it means for the market. A major reason for the collection of this data has been to demonstrate to regulators that the gold market is highly liquid relative to other comparable assets and, to me, the data has done this conclusively.

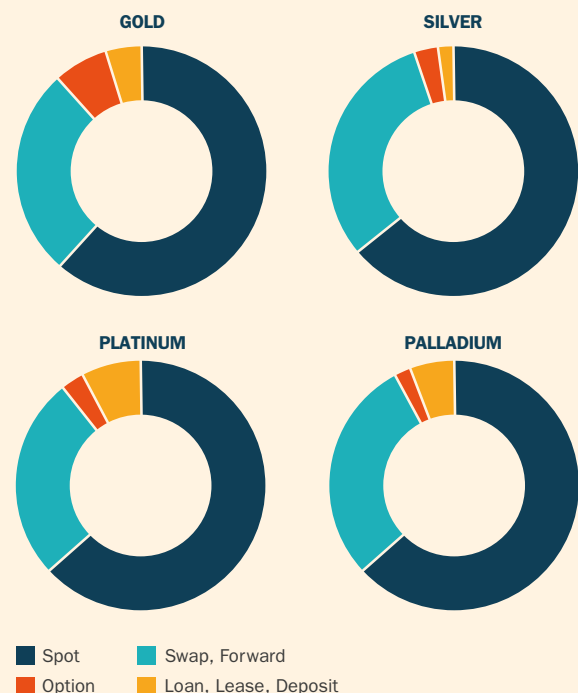
## SIZE OF THE MARKETS

The average daily volume in the gold spot market since November 2018 has been around \$32 billion, with a record of \$72 billion traded in one day in August 2020, and the total across the four gold categories has averaged \$51 billion. Silver spot trades a much larger weight on average per day than gold, but is only 15% as large in dollar terms, while platinum and palladium only trade about 2% of gold's dollar value per day on average. In all the markets, spot transactions dominate, accounting for about 60% of the US dollar volume, as seen here in Figure 1.

The total US dollar volume of gold being traded each day is large relative to other comparable assets, and this is the value that regulators are most interested in with respect to classifying an asset as a High-Quality Liquid Asset (HQLA). To put this in perspective, the total volume traded daily of all UK Gilts, as reported by the UK Debt Management Office, averaged £27 billion (\$34 billion approximately) over the same period that we have data for the gold market. And this total covers more than 100 different traded Gilts, with the £27 billion of liquidity divided between these. This means that even on a day with low volume, the spot gold market in London is still more liquid than individual UK Gilts. The total volume of gold traded daily across the four areas reported is roughly equal to the total trading in all government bonds of the EU28.<sup>1</sup>

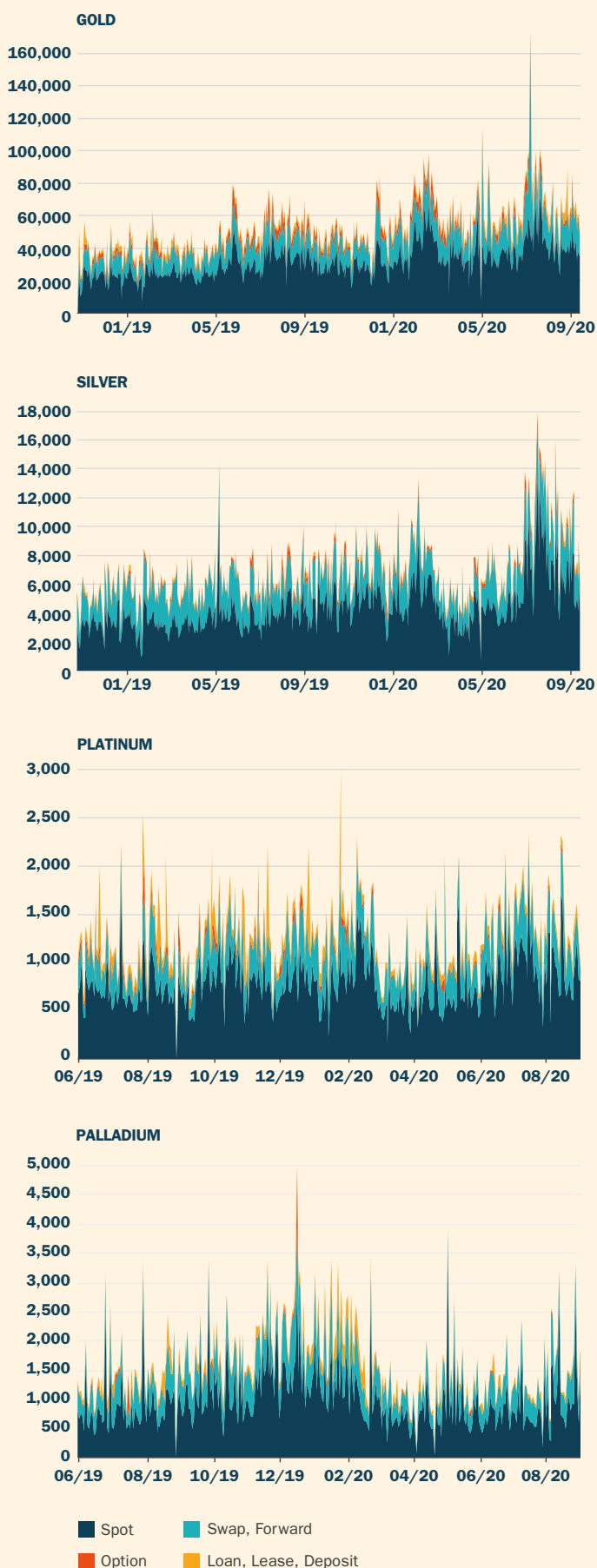
THE TOTAL US DOLLAR VOLUME OF GOLD BEING TRADED EACH DAY IS LARGE RELATIVE TO OTHER COMPARABLE ASSETS AND THIS IS THE VALUE THAT REGULATORS ARE MOST INTERESTED IN

FIGURE 1: BREAKDOWN OF VOLUME BY ASSET CLASS FOR THE FOUR PRECIOUS METALS



1. <https://www.afme.eu/portals/0/globalassets/downloads/data/government-bonds/afme-prd-govt-bond-data-report-q2-2018.pdf>

FIGURE 2: MARKET VOLUMES IN \$ MILLION BY ASSET CLASS



## LIQUIDITY AND COVID-19

The LBMA Annual Review of 2019 argued that the Loco London and Loco Zurich gold markets were more liquid than government bonds based on the European Bank Authority 2013 report data, especially using the Amihud Illiquidity ratio for spot gold. The Amihud Illiquidity ratio measures the price change caused by each dollar of trading volume – the smaller it is, the more liquid the market is seen as. And this ratio for gold is smaller than for any other market for which I have seen data.

This result is driven by the high concentration of gold trading in one contract – spot gold. The various bonds traded in the government bond markets fracture those markets' liquidity, even though the total volume can be quite similar to spot gold for larger countries. Calculating the Amihud ratio for the other categories of gold trading would give a much larger number, meaning less liquidity, as the volume would be divided, for example, between forwards of different maturities.

The daily turnover in millions of US dollars for the four markets is shown here in Figure 2, broken down into the four categories that are reported. We can see a rising volume for gold and silver over the period, while the PGM volumes are more volatile.

Liquidity is normally defined as something like the impact on the price of making a trade, sometimes trying to include the non-linear component of this where large trades have a bigger than proportionate impact on price. The Amihud ratio used by the European Banking Authority assumes that liquidity is defined as the price change relative to the volume traded. But the best definition of liquidity I've heard is that it's something you have until you need it most. So the Covid-19 induced stock market turmoil that began in late February 2020 gave an opportunity for the first time to see how gold market liquidity would hold up under a period of significant stress – liquidity is no good if it's not there when you really need it.

And the gold spot market worked well through the whole period, as would be expected from an asset that has been shown to be a safe haven numerous times over the years.

**THE BEST DEFINITION OF LIQUIDITY I'VE HEARD IS THAT IT'S SOMETHING YOU HAVE UNTIL YOU NEED IT MOST**

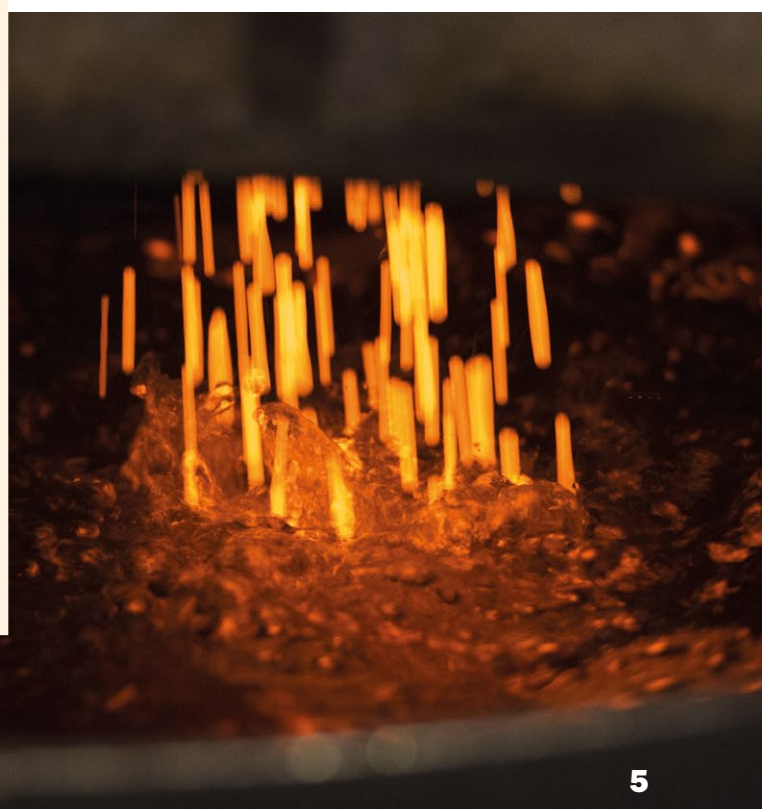
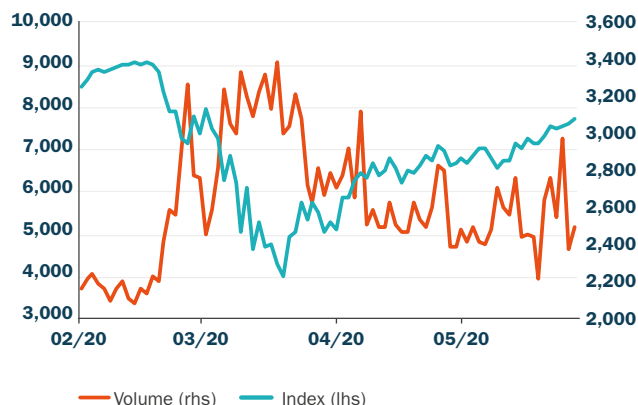


FIGURE 3: GOLD AND THE S&amp;P500: FEB – APRIL 2020

## S&amp;P INDEX LEVEL AND VOLUME



## LBMA SPOT GOLD: PRICE AND VOLUME

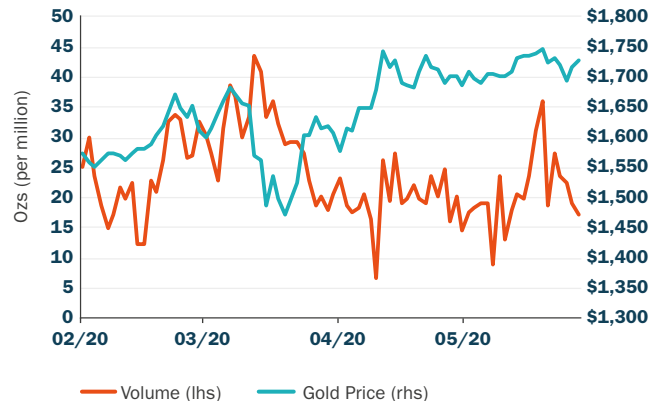


Figure 3 shows the price and volume of the S&P500 index, with the same for spot gold from February to April.

As the stock market began to fall in late February, gold spot volumes rose and remained above average all through March. The average daily volume is about 20 million ounces per day and, in March, the spot market averaged 30 million per day, showing that the market was able to provide lots of liquidity when needed. The day of lowest liquidity, seen early in April, was the Thursday before Easter, which explains the lower amount transacted with the market closed the following day.

## LOTS DONE, MORE TO DO

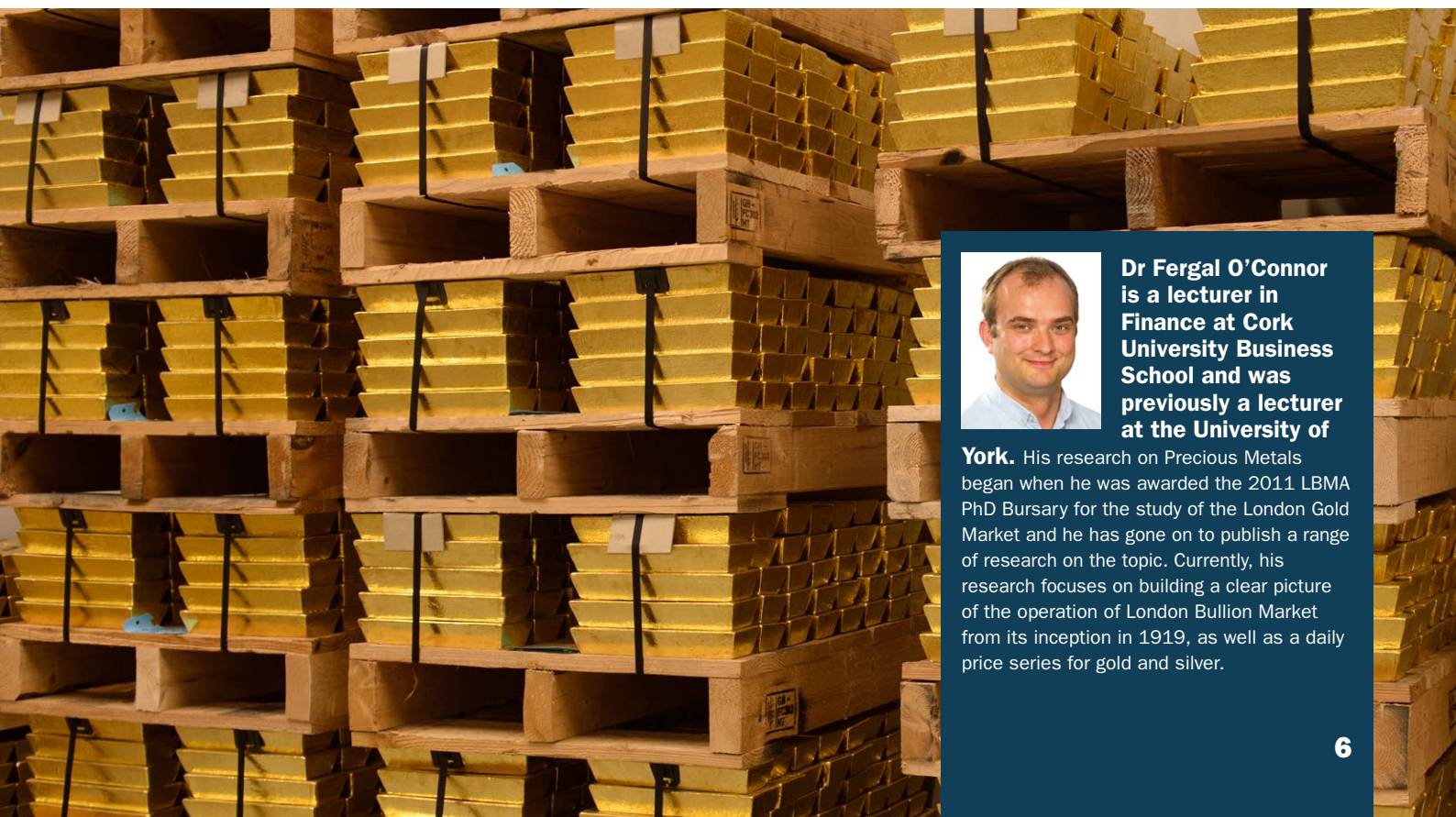
The increasing level of transparency in the gold market will allow much more research to be undertaken in future on this market's liquidity by anyone interested in doing so, which should further increase the confidence of investors and regulators in the gold market going forward.

For example, now that data is being published on the gold and silver vault holdings in London, as well as the volume traded, we can calculate the Turnover Ratio for London, another measure used by the EBA to assess the liquidity of assets.

**IN SEPTEMBER 2020 BASED ON VAULTING DATA THIS RATIO WAS 0.07 THE SAME MEASURE AS WAS FOUND FOR EQUITIES UNDER THE EBA REVIEW**

In September 2020, based on vaulting data, this ratio was 0.07, the same measure as was found for equities under

the EBA review. This translates as 7% of the stock of gold in London being traded daily. Coupling these datasets with the Volume in Price Tranche (VIPT) data that is now also available will allow regulators and researchers to assess what the spread of prices was during the days of real market stress in the over-the-counter (OTC) gold market and what that means for gold.



**Dr Fergal O'Connor** is a lecturer in Finance at Cork University Business School and was previously a lecturer at the University of

**York.** His research on Precious Metals began when he was awarded the 2011 LBMA PhD Bursary for the study of the London Gold Market and he has gone on to publish a range of research on the topic. Currently, his research focuses on building a clear picture of the operation of London Bullion Market from its inception in 1919, as well as a daily price series for gold and silver.



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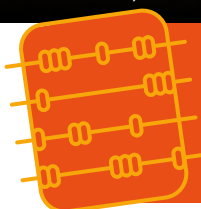
# WILL THE TRUE GOLD/SILVER RATIO PLEASE STAND UP?

BY ADRIAN ASH, DIRECTOR OF RESEARCH, BULLIONVAULT

This year's COVID pandemic crushed silver prices to a new record low against gold, spurring a surge of investment demand. March's buyers have now doubled their money, but might a long-term opportunity remain and does the gold/silver ratio have any value beyond giving a cue to bargain hunters once in a generation?

*"I can calculate the motions of the heavenly bodies, but not the madness of people,"* sighed Sir Isaac Newton, or so legend has it, after losing some £20,000 when the South Sea Bubble collapsed 300 years ago this autumn.

If the quote is genuine, Newton was in truth lamenting his own greed and folly. Now so old that he could run for US President today,



ANOTHER THING NEWTON COULDN'T CALCULATE OR SO POSTERITY CLAIMS WAS THE **gold/silver ratio**

"this shining emblem of Enlightenment rationality", as one recent historian calls him, had sold out of South Sea stock with a handsome profit in the spring of 1720, only to buy back in at much higher prices as the Company's directors fought and failed to keep their fraud alive during the summer's trading frenzy in London's Change Alley.

Another thing Newton couldn't calculate, or so posterity claims, was the gold/silver ratio. The diviner of light and gravity, the father of calculus and creator of modern astronomy got his sums wrong when – after leaving academia to run England's coinage as Master of the Mint at the Tower of London – he proposed a new price for gold Guineas in terms of silver shillings.

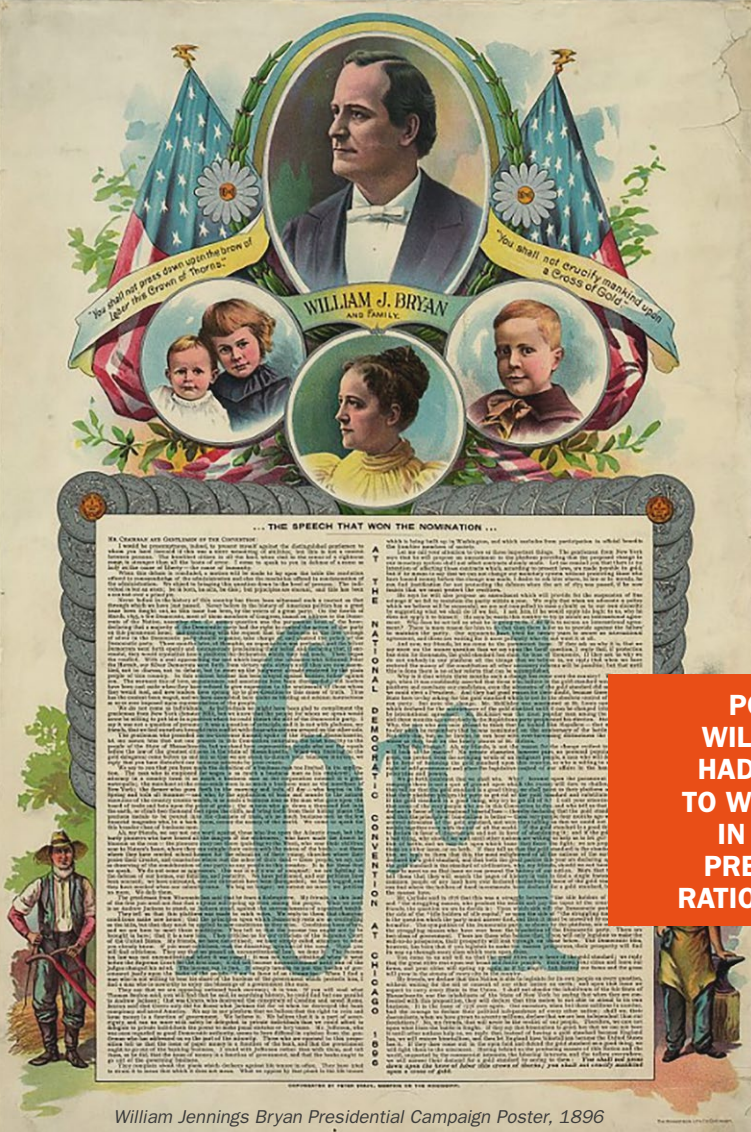
Newton's error "inadvertently" pushed silver coins out of circulation, or so the story goes, "putting Britain on a gold standard" (according to Wikipedia) and with it, the world.

Ratio forecasts today, half a century after gold and silver were finally and fully demonetised, have more in common with Newton's South Sea troubles of course, but many others have claimed to see the 'correct' price for gold divided by silver as a world-changing truth since the "well-known miscalculation of the foremost mathematician of the age", as *The Times* put it more than 200 years after Newton died.

150 YEARS OF GOLD/SILVER RATIO



Source: BullionVault via US Director of the Mint, LBMA, Fergal O'Connor



William Jennings Bryan Presidential Campaign Poster, 1896

In the newspaper's 12-page 'Silver Number' supplement of 21 February 1934, *The Times* reviewed whether silver should again have a role in the world's monetary system ('Bimetallism: A disastrous policy, international difficulties', said the headline over one contribution) because the United States – then on its way to challenging the global dominance of Britain's pound sterling – had begun buying domestic silver mine output at above-market prices to boost that Depression-hit industry. Formalised with the Silver Purchase Act that June, that "short-run subsidy to silver producers came at the cost of destroying any long-run monetary role for silver", as monetary economist Milton Friedman wrote in the early 1990s, because it pushed China, the last important silver standard nation, into such a deep monetary deflation and economic crisis that it abandoned the metal and accepted the part-annexation of eastern territory by Imperial Japan, with terrible consequences.

Also playing to the 'silver lobby' four decades earlier, political firebrand William Jennings Bryan had run for (and failed to win) the US presidency in 1896 by making his preferred gold/silver ratio his campaign slogan.

'16 to 1' appeared on posters, badges and banners, urging a valuation for silver versus gold not seen since the United States joined Germany in abandoning silver and embracing gold as its sole monetary benchmark in what politicians from US silver mine states called the "crime of '73".

At the time, Gold was worth twice that much in silver, fixed in law at \$20.67 per ounce, while the white metal fell to just 62 cents as silver bullion sales grew with the adoption of gold in all major nations except China.

Bryan claimed in his famous "Cross of gold" speech to the Democrat Convention in Chicago that returning to bimetallism, and fixing silver at its average ratio to gold of the previous century, would boost the money supply, raise agricultural prices and reduce the real value of debt for the farmers in his audience, aiding those "laboring interests and all the toiling masses" while reducing the wealth of "the few financial magnates who in a backroom [currently] corner the money of the world".

## POOR MAN'S GOLD AND THE RICHEST MAN IN THE WORLD

This case for silver as "the poor man's gold" was turned on its head 70 years later by oil tycoon and thoroughbred horse breeder Nelson Bunker Hunt. With gold in turn now abandoned as the world's monetary anchor in favour of Washington's free-floating paper dollar, the richest man in the world thought the yellow metal would soar, but silver was too cheap in terms of both cash and gold, and he saw the market's mispricing as a chance to grow richer still, telling newsletter tipster Jerome Smith (author of the highly successful *Silver Profits in the Seventies*, and also of the less prophetic *Silver Profits in the 80's*) that from 1973's level of 35, the ratio would sink to just 5 ounces of silver per one ounce of gold.

Close, but no cigar. As gold prices leapt but silver soared into New Year 1980, the ratio fell to touch 16 for the first

time since 1968, averaging just 17.2 that January before starting a relentless, if erratic, climb. It reached 74 on the day that Bunker and his brother Herbert Hunt filed for bankruptcy in December 1989, down to their last \$10 million thanks both to silver falling 90% from its \$50 peak (gold merely halved from \$850) and also to being sued, prosecuted, fined and banned from ever trading the metal again for trying to corner and manipulate the market a decade earlier, all while failing to pay the correct income tax.

While the Hunt brothers' avarice was so plainly their downfall (Stephen Fay's excellent history of their silver corner is entitled *Beyond Greed*), the temptation to trade the ratio has only spread since.

*The winner's circle following the running of the D.C. International Horse Race in Laurel, Maryland on November 6, 1976.*

*From left to right: Nelson Bunker Hunt, owner of the winning horse "Youth"; former U.S. Navy Secretary John Warner; Elizabeth Taylor; winning jockey Maurice Zilber; and Laurel Race Track president Joseph Shapiro.*



Indeed, “*There are only two places where the gold:silver ratio [now] has any significance,*” noted Rhona O’Connell (then at T.Hoare & Co, today at StoneX) in January 1997’s *Alchemist* No. 6, pointing to New York’s Comex futures market and the giant consumer nation of India, “*where if the two go out of kilter it is not unusual for holders to sell (relatively expensive) gold in order to buy (relatively cheap) silver.*” Transformed by demonetisation into a trading signal, the ratio has repeatedly been named as a prompt for traders, and not only when it peaked.

“Historically, silver is still cheap,” reckoned one bank trader to the *LA Times* in April 1987 after silver made its fastest average monthly gain since 1980, rising 32% from March in dollar terms on a sudden flood of investment buying. That cut the gold/silver ratio from an apparently irresistible 75 to below 55 as rumours spread that top mining nations Mexico and Peru would co-ordinate output cuts to try to boost prices. Four years later, however, the ratio would peak at 100.

April 2011’s level of 35 was, in contrast, “unsustainable”, according to several analysts (including David Jollie, then at Mitsui and now at Anglo American Platinum, whose 2016 article ‘Branding silver’ in *Alchemist* No. 80 is well worth rereading) – a forecast that soon came good. With silver nearing its record cash price of \$50 per ounce, gold showed its

cheapest valuation since 1983 in terms of its once monetary sister, dipping to 31 times the silver price before rising to 45 times by the time gold set its own financial crisis peak at \$1,920 four months later. The ratio has since averaged 72, marking a sustained derating of silver and culminating (so far) with gold jumping to a spectacular peak in relative value during this spring’s COVID crash, when the looming virus pandemic spurred panic across all finance and commodity markets.

Both rulers and subjects invariably chose to clip mint or forge debased alloy coins in silver but not gold



Ask anyone who bought silver in March 2020 (or who now tells you they did) and the

11-year low in nominal prices probably won’t lead their reply if it figures at all. Every bargain

buyer I have spoken to says they took the gold/silver ratio as their cue, because while gold’s worth versus silver was “the highest on record”, as Reuters reported on 19 March, investors and speculators looking through the other end of the telescope saw that silver had never been cheaper. Based on the LBMA benchmarks, gold peaked that morning at more than 123 times the price of silver, offering what has so far proved to be a truly historic opportunity, paying almost 150% gains at silver’s August top and still more than doubling the money of March’s bargain buyers at the time of writing.

Is that all the ratio is now good for, giving fast-fingered if not brave traders their cue?

### A VERY BRIEF HISTORY OF COIN

The gold/silver ratio exists as a concept today thanks to 2,500 years and more of monetary use. While paper notes began replacing gold in everyday commerce back in the 19<sup>th</sup> century, and while both metals had been used more as reference points for mental accounting than as hand-to-hand cash for extended stretches of time before then (Western Europe’s ‘bullion famine’ of the 15<sup>th</sup> century preceded and spurred Columbus’s accidental discovery of the Americas), the very first coins were either gold, silver or copper, wherever they were invented (sometime around the 7<sup>th</sup> century BCE in each of what is now western Turkey, northern India and north-eastern China).

These three metals, the same metals our grandparents and great-grandparents knew as coins in the early 20<sup>th</sup> century, differ so much from each other in appearance and scarcity that

they clearly carried different levels of purchasing power. So where more than one metal was minted (which was soon pretty much everywhere touched by the idea of coined money) and while copper was used to strike ‘token’ money worth far more than its market value in precious metal terms,

a ratio for gold to silver had to be chosen. The choice of a ratio “was inevitable”, says Glyn Davies’ *A History of Money*. Yet that ratio then immediately “came under pressure”.

Firstly, people might not accept the ratio the government set. Henry III of England, for example, introduced the country’s first gold coin, the oddly named ‘Gold Penny’, at a ratio of 10:1 in 1257. Worth 20 pence in silver at face value, it soon traded at 24 pence and disappeared from what little use it found, melted for profit (and leaving perhaps just eight examples today) after the resulting confusion saw the citizens of London force the King to announce that no one was obliged to take it in payment.

Secondly, some people couldn’t help stealing a little metal from the coins as they passed through their fingers, nor could the government be trusted to retain full weight or full fineness at its mints. Both rulers and subjects invariably chose to clip, mint or forge debased alloy coins in silver, but not gold. Even history’s greatest debasers – the Severan and then Tudor dynasties of ancient Rome and early modern England – didn’t mess with the yellow metal, perhaps discouraged by its divine and imperial associations if not their own self-interest.

Throughout history, silver was mainly the medium of retail and domestic trade, with gold used in wholesale and foreign trade, and also to store out-sized wealth.

Thirdly, and even with full-weight coins of the correct fineness, the local supply, demand and flow of bullion meant that the ratio in one country would differ from that of its neighbours. This arbitrage widened the further you went, so where late 7<sup>th</sup> century Byzantium (now Istanbul) priced gold at 18 times silver and the Islamic Empire to its east put it at 14 times, Western Europe priced it at twelve times, a gap keenly exploited by merchants and traders with the means to buy and ship gold from where it was valued less highly to kingdoms where the gold/silver ratio was higher. Rinse, repeat and slowly drain that precious metal from one place to another for profit.

The late 17<sup>th</sup> century found England facing a crisis from all three problems. Fifty years of civil and foreign wars under the Stuart dynasty’s failed but repeated attempts at absolute monarchy had left the Crown short of silver, leading it to mint ever lighter coins, while forgery and clipping ran wild. By 1695, the bullion content of coins in circulation was barely half what it should have been, risking monetary and economic collapse.

*Time to call in the magician.*

## HOW MANY OUNCES OF SILVER FOR EACH OUNCE OF GOLD?

In the earth’s crust	<b>42.3</b>
Mining reserves	<b>11.2</b>
Mine output (last five years)	<b>7.4</b>
Scrap supply	<b>4.4</b>
Fabricated demand	<b>8.7</b>
Industrial demand	<b>50.4</b>
Official-sector holdings (end-2018)	<b>0.1</b>
Metal-backed ETF holdings (Nov 2020)	<b>8.1</b>
London’s commercial vaults (Sept 2020)	<b>9.2</b>
BullionVault client holdings (Nov 2020)	<b>24.4</b>
US Eagle coin sales (last three years)	<b>51.9</b>
London trading volumes (last three mths)	<b>12.2</b>
Price set by Newton, 1717	<b>15.2</b>
Price since US adopted gold, 1873	<b>27.2</b>
Price since US abandoned gold, 1968	<b>56.8</b>
Price average last five years	<b>80.7</b>

Sources: BullionVault via Royal Society of Chemistry, US Geological Survey, Metals Focus, Refinitiv, World Gold Council, Silver Institute, US Mint, LBMA



Sir Isaac Newton, the famous mind in Enlightenment Europe

## NEWTON AT THE MINT

The fact that, in 1720, Sir Isaac Newton could be so philosophical about his South Sea misadventures shows how dramatically his fortunes had changed during the second act of his life. Now aged 78, and despite losing the equivalent of £1.4 million that September at today's silver prices, he would still die a very wealthy man seven years later. His pall bearers included two dukes, two earls and the Lord Chancellor.

Yet, Newton had been almost penniless when, already the most famous mind in Europe, he reached 50, hit burn-out and, following the death of his mother, suffered a mental breakdown lasting two years. Distressed by the despair and paranoia in his letters, Newton's friends rallied round – including the philosopher John Locke and senior civil servant (and secret diarist) Samuel Pepys – urging him to quit the monkish gloom of Trinity College, Cambridge and move to London to pick up £1,500 a year as Warden of the Mint.

The job, if you could call it that, would require “not more attendance than you can spare”, according to the man who arranged it, Newton's former student Charles Montagu, now Chancellor of the Exchequer and a founder of the Bank of England, the South Sea Company's bitter rival (and the Exchequer's eager saviour after that bubble collapsed). The six previous Wardens had barely turned up for work, delegating everything to their clerks while collecting a salary worth something today between that of the Prime Minister and a deputy governor at the UK central bank.

Newton certainly enjoyed his new income, taking a four-storey town house in West London's fashionable St. Martin's Street as his home. But unlike his predecessors, the mathematician and physicist threw himself into the task, no doubt relishing the work because he also happened to be a keen alchemist.

You wouldn't know this from Newton's marble monument in Westminster Abbey (the books supporting his statue's right elbow are titled 'Divinity, Chronology, Opticks', while the Latin inscription calls him 'Scientist, mathematician, astronomer') and it doesn't square with

the powdered-wig Member of Parliament, President of the Royal Society and all-round establishment gent he became during his second and vastly more profitable career in the City. But of the 10 million words Newton left in manuscript, according to historian Sarah Dry, roughly three million relate to science and maths, half are on religion and one million words are on alchemy – secret codes, arcane symbols, occult figures, the lot.

**NEWTON UNLIKE HIS PREDECESSORS THE MATHEMATICIAN AND PHYSICIST THREW HIMSELF INTO THE TASK NO DOUBT RELISHING THE WORK BECAUSE HE ALSO HAPPENED TO BE A KEEN **ALCHEMIST****



Scouring the Bible to decode God's plan was common enough, but calling the worship of Christ 'idolatry' (as Newton does in one paper) would have scandalised High Anglican London. Toying with magic on the other hand – albeit to distil alcohol, make pigments, dyes and medicines, and purify gold and silver – so horrified his heirs that they hid his alchemical works after his death in 1727, only to shock and dismay later admirers when they in turn discovered his invocations to Neptune's Trident, Mercury's Rod and the Green Lion.

“Whatever the ultimate purpose of Newton's alchemical investigations,” as the wonderful Chymistry of Isaac Newton site hosted by Indiana University in association with the University of Sussex's Newton Project says, “it is clear that we cannot erect a watertight dam separating them from his other scientific endeavors.”

Chief among them, his lifelong experiments in refining, assaying, cooling and weighing precious metals made Newton the ideal candidate for assisting with the Great Recoinage of 1696, when England's tattered and debased silver money was called in and cancelled before smelting, refining and re-minting at full weight and 925 sterling fineness.

## “VERY SCANDALOUSLY MERCENARY”

To protect England's newly restored coinage, Newton pursued and prosecuted forgers and coin clippers with a passion, ensuring that the notorious counterfeiter and gang leader William Chaloner was publicly hanged and disembowelled at Tyburn in March 1699. Such violent enforcement of the Crown's monopoly, plus the fear Newton instilled and the treachery he exploited among London's underworld – winking at bribery, entrapment and extortion by his “very scandalously mercenary” staff – seems to have worked. The number of executions for coinage crimes in London fell from 19 in 1696, the year that Newton joined the Mint, to zero in 1700.

What Newton's secret police tactics failed to stem, however, was the outflow of silver abroad. A proclamation under Charles II in 1670 had established a value in silver shillings and pences for the new gold Guinea coin (so-called because the ore came from what is now Ghana on Africa's western coast), but repeated meddling with the ratio still failed to find the right level to discourage these exports, and England's return in 1696 to full-weight shillings and pennies only made the arbitrage more profitable.

Looking to fix this problem, Newton wrote in his report on the state of the gold and silver coins of 21 September 1717 that while a Guinea was worth 21 shillings and 6 pence in England, the relative value of gold to silver would price it at about 20s 9d in Spain or Portugal, and lower again in France. Put another way, “Gold is in Spain and Portugal of sixteen times more value than silver of equal weight”, while an edict in France priced it at 15, “[and] in China and Japan one pound weight of fine gold is worth but nine or ten pounds weight of fine silver; and in East India it may be worth twelve.”



**Adrian Ash is Director of Research at BullionVault**, the precious-metals market for private investors online and by smartphone.

Adrian has been studying and writing daily on gold and silver for nearly 20 years. He's grateful to a friend of the LBMA's Fergal O'Connor, for pointing him to **source-data** for pre-1968 prices. Any errors are of course Adrian's.

"This low price of gold in proportion to silver carries away the silver from all Europe but most especially England," Newton explained, sucking it into Asia, where silver was more highly valued against the yellow metal. As a remedy, the alchemist's report led Parliament on 21 December 1717 to ask His Majesty George I to "forbid all persons" from offering or accepting "any of the Pieces of Gold called Guineas" at a rate above 21 shillings "and so proportionately for any greater or lesser piece of coined gold".

Now, it is true that this slightly lower valuation for gold – effectively a ratio of 15.2 – only slowed and didn't halt the outflow of silver. But note the capital letters on 'Gold' and 'Guinea' in the House of Commons' address, emphasised in the way that 'Silver' and 'Shillings' had been in previous orders. Note also that where earlier edicts said no one was "obliged" to accept the guinea above a certain price in silver, now it was forbidden. "Gold was henceforth tied to the money of account," as historian C.R. Fay, responding to *The Times'* Silver Number via the Cambridge Historical Journal, wrote in 1935, "and at once became the de facto standard."

Newton's infamous 'error' of 1717 didn't, therefore, put England and the world on gold "inadvertently" over the following century, or not as the common history believes. The shift was immediate and deliberate, if not fully understood at the time.

## GOLD WAS HENCEFORTH TIED TO THE MONEY OF ACCOUNT AND AT ONCE BECAME THE DE FACTO STANDARD

**Historian C.R. Fay wrote in 1935**



functioned as units of account or exchange for almost half a century (not outside the housing market in Vietnam at least, where part payment in gold is common). Where they do retain monetary use, however, is as a store of value. Hard to distinguish from investment in any other assets perhaps, this use is of course led by central banks for gold but is regularly cited for both metals by private bullion buyers and owners.

What then of the gold/silver ratio today? Where gold used to facilitate wholesale and international trade, and silver was for more local and everyday transactions, the yellow metal is now famously useless to industry (less than 10% of annual demand), while silver has become "the indispensable element" (as Washington's Silver Institute puts it), needed in a vast and growing range of technologies and processes which consistently account for more than 55% of end-user demand each year.

## USELESSNESS HITS A NEW RECORD

Fast forward to late 2020 and, despite recent attempts by some Bitcoin and other crypto asset promoters to revive the metal's monetary use, neither gold nor silver have

This explains why the gold/silver ratio shot to new all-time highs this spring, driven above its peaks of 1940 and 1991 as the COVID catastrophe almost shutdown global economic activity overnight, suddenly making useless, incorruptible gold supremely useful in a locked-down world. That peak however gave no real insight into our economic or financial future, not beyond predicting to eager traders that silver's value – both industrial and investment – was very likely to rally.

The pace of the ratio's dramatic retreat, now back down to the mid-70s, shows that the

cultural memory of both gold and silver as money is proving very persistent as quantitative easing and zero-to-negative interest rates, applied to try and revive inflation and growth, force savers to find alternatives to official currency. Anyone considering an investment in one or the other precious metal today should remember that, as historian Andrew Watson said of Western Europe's medieval coinage compared to that of the Eastern Mediterranean, "To study the monetary history of the one in isolation from the other is like watching a football match from a seat which overlooks only half the

**TO STUDY THE MONETARY HISTORY OF THE ONE IN ISOLATION FROM THE OTHER IS LIKE WATCHING A FOOTBALL MATCH FROM A SEAT WHICH OVERLOOKS ONLY HALF THE FIELD**

field." But for anyone seeking or believing in a consistently 'true' rate for an ounce of gold priced in ounces of silver, it is also worth noting that not even Isaac Newton – almost as devoted an alchemist as he was a passionate decoder of the Bible's hidden secrets – found anything mystical or eternal in the ratio.

# Alchemist 100

## YOUR IDEAS WELCOME

**THE ALCHEMIST CELEBRATES ITS 100<sup>TH</sup> EDITION IN FEBRUARY 2021.**

**TO MARK THE OCCASION WE'RE PLANNING A SOUVENIR (PRINTED) EDITION.**

- We'll be reviewing the extent to which the *Alchemist*, LBMA and key sectors of the market have evolved over the last twenty five years.
- We'd love to hear your ideas too, contact [aelred.connelly@lbma.org.uk](mailto:aelred.connelly@lbma.org.uk)



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# LBMA NEWS

BY RUTH CROWELL, CEO, LBMA

## LAUNCH OF LBMA'S 2020 ANNUAL REVIEW

We're excited to report that we will be shortly launching our 2020 Annual Review. It's slightly later than normal, for which we apologise, but it will highlight the work that we have been involved with, as the standard-setting organisation for the global precious metals market, since the last review was published in July 2019.



## LBMA MEMBERS



We currently have **147** Member Companies – consisting of **12** Market-Making Members, **78** Full Members and **57** Affiliate Members.

LBMA is delighted to announce Helvetecor AG as a new Full Member. Helvetecor AG is a Swiss-based valuables logistics company. Its core business activities relating to the bullion market include the transportation and storage of precious metals.

LBMA is also pleased to announce DRW Investments, LLC as a Full Member. DRW, which formed in 1996 and is headquartered in Chicago, is a global trading organisation focused on identifying and capturing opportunities by leveraging technology, research and risk management. DRW is an active participant in the bullion market and trades in both the physical and derivatives markets.

In mid-October, the voting Members of the LBMA approved changes to the Articles of Association. These changes include the creation of a new Affiliate Member category, replacing the former Associate and Exchange Affiliate classifications. Initially, the former Associate and Exchange Affiliate classifications will be reassigned as Affiliate Members. The changes to the Articles will introduce a range of exciting new benefits and opportunities for Affiliates, as well as enhancing the benefits afforded to Full and Market-Making Members.

The LBMA Executive Team is currently contacting Members to explain how the changes to the membership classifications will affect them.

If you are interested in applying for membership of LBMA, including the new Subscriber category, please email: [mail@lbma.org.uk](mailto:mail@lbma.org.uk).

## International Bullion Centres Initiative



LBMA is committed to advancing standards and ensuring that responsible supply chains are established and maintained. To further this objective, we have recently developed recommendations for International Bullion Centres to adopt and support the OECD Due Diligence Guidance framework and recognise the key findings from the Financial Action Task Force.

These recommendations focus on the following strategic priorities: (a) responsible sourcing of recycled gold, (b) eliminating cash transactions and (c) support for Artisanal and Small-Scale Mining (ASM). For further details and for information on how you can support our initiative, please refer to our [website](#).

## LATEST STAFF NEWS



### Introducing LBMA's New Head of Comms



LBMA is delighted to announce the appointment of Dr Edel Tully as Head of Communications.

Edel brings with her a wealth of precious metals market experience, as the former Global Head of Precious Metals Sales for UBS. Prior to that, she was Head of Precious Metals Strategy at UBS with

responsibility for forecasting and publishing research on the precious metals complex.

Prior to joining UBS in January 2010, Edel was Head of Precious Metals Research at Mitsui and Co. Precious Metals Inc., a role she held from 2006 to 2010. Edel has a PhD from Trinity College Dublin (2006), awarded for her thesis 'A Tripartite Investigation of the Gold Market: Pricing Influences, Intraday Patterns and Daily Seasonality', and a Bachelor's degree in Business Studies from the University of Limerick (2002).

## 104 ACCREDITED REFINERS



We now have **104** refiners on the Good Delivery Lists, with **70** listed for gold, **83** listed for silver and **49** refiners on both lists.

There are currently three active Good Delivery applications.



# GOLD & SILVER

## HELD IN LONDON VAULTS

**Record Value of Gold Stocks – Over US \$550 billion of gold held in London Vaults**

On 1 September, LBMA, the Bank of England and the commercial vaults (Brink's, HSBC, ICBC Standard Bank, JP Morgan, Loomis and Malca Amit) announced that, in future, the gold and silver holdings of the vaults in London would be published with a one-month lag. These holdings provide an important insight into London's durability and reinforce the underlying strength of the physical over-the-counter (OTC) market.

As at the end of September 2020, there were a record **9,069** tonnes of gold, valued at **\$550.2** billion held in London vaults. This was the fifth consecutive monthly increase in the amount of gold held in London. There were also **33,508** tonnes of silver, valued at **\$25.6** billion held in London vaults. This equates to approximately **725,517** gold bars and **1,116,925** silver bars.



# Charitable Donations

LBMA would welcome suggestions for charities who could benefit from LBMA's annual charitable fund. In recent years, the fund has been split between several deserving causes.

# LBMA TRADE DATA

**LBMA Trade Data (provided by Nasdaq) is now available via the Bloomberg Terminal.**

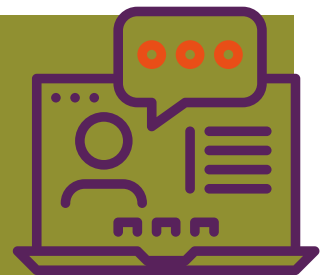
For more information on subscribing or contributing data, visit: [nasdaq.com/LBMA-Trade-Data](https://nasdaq.com/LBMA-Trade-Data)

# WEBINARS & EVENTS

We've been running a series of webinars every Thursday since the COVID-19 lockdown began earlier this year. They have been very well received and are proving invaluable in helping to keep the market informed on all the key developments across the precious metals industry. On 3 December, we will have an update on the Asian markets and, on 10 December, we will be lifting the lid on the latest developments with the Terminal Markets Order and Brexit. The webinar programme will then take a short break for Christmas before resuming again in the New Year.

Keep an eye on our weekly newsletters for further details and visit our website to view any webinars that you may have missed. If you haven't already registered for the weekly Members newsletter, or our Responsible Sourcing or Good Delivery newsletters, you can do so by updating your preferences in the MyLBMA portal. LBMA Members, Affiliates and Subscribers receive member-specific news, so it's a great way to stay updated on developments across the precious metals space.

Registration for LBMA's 2021 Assaying and Refining conference, 15-17 March, and early bird registration for our 2021 Annual Conference in Lisbon, 19-21 September, are now open. There are still some discounted passes for those of you who manage to catch this special offer in time. Visit [lbma.org.uk/events](https://lbma.org.uk/events) for further details.



# Digging for GOLD in Scotland

Scotland is preparing to open its first gold mine. The Cononish mine, near Tyndrum in the Loch Lomond & The Trossachs National Park, is due to start production before the end of November.

Scotgold Resources, is aiming to produce 23,500 troy ounces of gold on average per year and believes it can recover more than 176,000 ounces in total – worth £255 million at current prices.

The area sits on a rich geological belt containing gold, which runs all the way from Scandinavia to Canada, across Scotland and Northern Ireland. The mine and the processing plant have been designed to have a minimal impact on the national park in which they are located.



# LBMA ASSAYING AND REFINING CONFERENCE 2021



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# THE GOLDEN MAN

Sir Walter Raleigh and the Search for El Dorado

BY SIMON ROSTRON, LBMA PR CONSULTANT



*In sunshine and shadow, from darkness till noon.  
Over mountains that reach from the sky to the moon.  
A man with a dream that will never let go.  
Keeps searching to find El Dorado.*

*First verse of the title music to the film El Dorado, 1966  
– Gabriel and Riddle*



Looking for El Dorado? These days there are a multitude of choices. One of the easiest is via US Route 50, west from Carson City. Once you pass the south-east shore of Lake Tahoe, at the same time crossing the Nevada/California state line, you have arrived at El Dorado county, home to Sutter's Mill of California Gold Rush fame.

**THERES ONLY  
ONE EL DORADO IN  
SOUTH AMERICA  
IN SURINAME WHICH  
IS STRANGE**

Alaska has the Eldorado River and the New Eldorado Creek, both reminders of the Nome Gold Rush (*Alchemist 98*), and there's an Eldorado Creek in Canada's Klondike.

Latin America is stacked with villages, towns, cities, mountains, rivers and even one airport (Venezuela) called El Dorado or Eldorado. It's easier to list the countries that are not so favoured. There's only one El Dorado in South America, in Suriname, which is strange, because in the days when men "with a dream" searched for El Dorado, the Guiana Plains – today in the territories of Venezuela, Guyana and Suriname – was one of the places to go. And Sir Walter Raleigh (as he spelt his name in later years) was one of the earliest who went.

#### A MAN OR A KING, A CITY OR A LAKE

The original legends had nothing to do with Guiana, but were focused 1,000 miles west, in the Colombian Andes. Moreover, El Dorado ('The Golden One') as the Conquistadors called him, was not a place but a man – the king of the indigenous Muisca people, who were the founders of Bogotá.

Arguably, the first encounter between the Muisca and the Spanish took place in 1537, when Gonzalo Jiménez de Quesada came across Lake Guatavita in the Andes and the ceremonies associated with the investiture of a new zipa

or Muisca chief, which involved the man in question being coated in gold dust and jumping into the water accompanied by offerings of gold artefacts and emeralds.

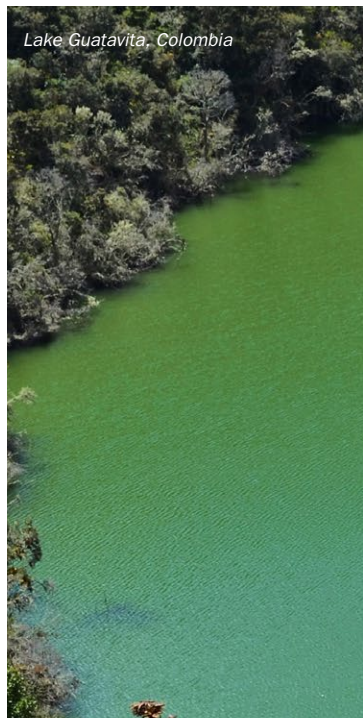
Quesada and his followers may not have witnessed such a coronation, but what is certain is that they found treasure around the water's edge. They became convinced, since the Muiscas were so casual with gold and precious stones, that the lake itself was the source of immeasurable wealth, so much so that several later and unsuccessful attempts were made to drain it.

Myths and legends spread and become exaggerated, and over the almost 60 years from Quesada's discovery to Sir Walter Raleigh's first expedition, the concept of El Dorado had changed location and structure. Hence, the title of his book: "The Discovery of the large, rich, and beautiful Empire of Guiana; with a Relation of the great and golden City of Manoa, which the Spaniards call El Dorado.... Performed in the year 1595 by Sir Walter Raleigh, Knight."



THEY BECAME  
CONVINCED SINCE THE  
MUISCAS WERE  
SO CASUAL  
WITH GOLD AND  
PRECIOUS STONES  
THAT THE LAKE ITSELF  
WAS THE SOURCE OF  
IMMEASURABLE WEALTH

Lake Guatavita, Colombia



Map of Guiana. Blaeu 1635



### DOINGS AT COURT

Walter Raleigh was in many ways a sixteenth century incarnation of Errol Flynn. Dashing good looking and always well dressed, he was an experienced sailor, an enthusiastic explorer, keen on a fight (usually against the Spanish) and a man with an eye for the ladies. It is arguable that this latter characteristic, an eye for one particular lady, led directly to his search for El Dorado.

Raleigh first came to the attention of the Royal Court as a result of his military actions during a campaign to suppress Ireland. By December 1581, he had become not only a courtier, but also a confidante, and some imply an intimate, of the Queen herself. Although if true, his later naming of the territory of Virginia for Elizabeth was hardly appropriate!

Walter was knighted in 1585 and during the late 1580s, backed by royal charter, organised two expeditions to colonise and exploit North America, although personally he never set foot there.

However, his popularity crashed in 1592 when the Queen came to learn of his affair and subsequent secret marriage to Elizabeth 'Bess' Throckmorton.

In some paintings, Bess looks like a younger version of Queen Elizabeth (who was twice her age) and this may have been part of the problem.

Bess Throckmorton was one of Elizabeth's ladies-in-waiting and was thus not allowed to marry without receiving formal royal permission. Such permission was never sought, possibly because Walter and Bess feared it would not be granted, which prompts a question about whether Elizabeth saw Bess as a rival for her knight's affections.

In any event, when the Queen heard of these doings, Walter and Bess were locked up in the Tower of London for a few months, but by the end of the year, the couple were to be found in Raleigh's estate in Sherborne, Dorset – out of direct contact with the Court and distinctly out of favour.

### UP THE ORINOQUE

Much of Raleigh's life from the 1590s until his execution in 1618 was focused on trying to regain the trust and favour of his sovereign, first Elizabeth then James I, and also as he says in his book, "...that thereby, if it were possible, I might recover but the moderation of excess, and the least taste of the greatest plenty formerly possessed".

On this first occasion, rather than begging for a Royal pardon, his thoughts turned to adventure, and thus with the help of a few friends, the Guiana expedition was launched in 1595.

What was Raleigh really trying to achieve in Guiana? Certainly, wealth for the Queen (and for himself) was a key driver, but the Caribbean and South America were in the Spanish sphere. England was envious of

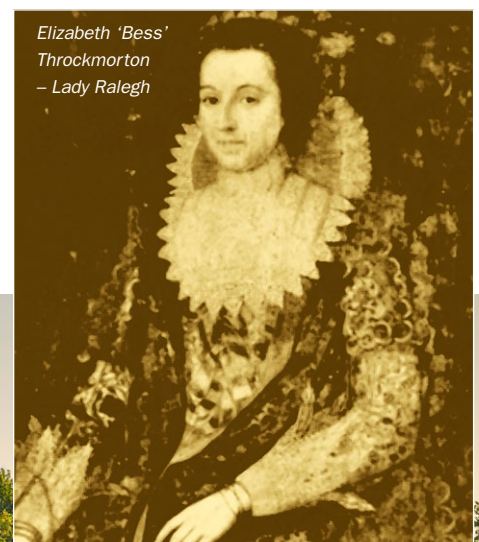
Spain's New World wealth and, moreover, only seven years before had had to deal with the invasion threat from the Spanish Armada.

Raleigh's book tells us that "Many years since I had knowledge, by relation, of that mighty, rich, and beautiful empire of Guiana, and of that

great and golden city, which the Spaniards call El Dorado, and the naturals Manoa...". Perhaps, but it is more likely that the original intention was to capture Spanish treasure ships, take or destroy a few ports and establish "a better Indies for her Majesty than the king of Spain hath any; which if it shall please her Highness to undertake, I shall most willingly end the rest of my days in following the same".

In any event, Raleigh's fleet arrived, and he wrote that "After I had displanted Don Antonio de Berreo [a Spanish governor in Trinidad], who was upon the same enterprise, leaving my ships at Trinidad, at the port called Curiapan, I wandered 400 miles into the said country by land and river...".

It didn't go well. Raleigh learned from Berreo, also an El Dorado seeker, that the only route was by river, but there were many choices, each too shallow for a sea-going ship.



Elizabeth 'Bess'  
Throckmorton  
– Lady Raleigh

WHEN THE  
QUEEN HEARD  
OF THESE  
DOINGS WALTER  
AND BESS  
WERE LOCKED  
UP IN THE  
TOWER OF  
LONDON



JOHN WAYNE ROBERT MITCHUM

## EL DORADO



*El Dorado*, 1966  
American Western film  
produced and directed  
by Howard Hawks

## Afterword

by Edgar Allen Poe

*Was the great Bostonian  
writer thinking of Raleigh?*

*But he grew old –  
This knight so bold –*

*And o'er his heart a shadow –*

*Fell as he found  
No spot of ground*

*That looked like Eldorado.*

*From the poem 'El Dorado', 1849.*

There were other discouragements, such as those encountered by one of his scouts, who sent to check out the river Amana, "found it as the rest, but stayed not to discover it thoroughly, because he was assured by an Indian, his guide, that the cannibals of Guanipa would assail them with many canoas, and that they shot poisoned arrows; so as if he hasted not back, they should all be lost".

THE DESTINATION  
THAT RALEGH AND HIS  
MEN WERE SEEKING  
WAS LAKE PARIME AND  
THE CITY OF MANOA  
OTHERWISE KNOWN AS  
**EL DORADO  
ITSELF**

Eventually, the explorers set off up the 'Orinoque' (Orinoco) in shallow-drafted boats. However, "The further we went on, our victual decreasing and the air breeding great faintness, we grew weaker and weaker, when we had most need of strength and ability. For hourly the river ran more violently than other against us... At the last we determined to hang the pilot; and if we had well known the way back again by night, he had surely gone."

The destination that Raleigh and his men were seeking was Lake Parime and the city of Manoa, otherwise known as El Dorado itself. But neither lake nor city existed, so despite Raleigh's long narrative harping on about silver mines, gold ore and precious stones, he was obliged "to conclude, Guiana is a country that hath yet her maidenhead, never sacked, turned, nor wrought..."

On his return to England, Raleigh's relations with Queen Elizabeth improved, but he never succeeded in gaining the approval of her successor James I. In the end, Guiana and the Spanish were his downfall. At the age of 65, following another stint in the Tower, he prevailed on the King to allow him a second attempt at El Dorado on the understanding that he would not prejudice England's new Spanish peace treaties.

Unfortunately, one detachment of his men attacked a Spanish outpost, and back in England, Raleigh was executed at the behest of the Spanish Ambassador. He received a post-mortem pardon in 1628.

Signature of Walter Raleigh



**Simon Rostron** has been Managing Director of Rostron Parry Ltd - media relations consultancy since 1991 and PR and media consultant to LBMA since 2014. In his earlier career he was a Stockjobber, London Stock Exchange and remains a legend in his own lunchtime.



# LBMA HIGH PURITY CERTIFIED GOLD AND SILVER REFERENCE MATERIALS (CRMs) ARE NOW AVAILABLE TO PURCHASE

The **LBMA Reference Materials Steering Committee** has produced the latest sets of gold and silver certified materials suitable for the validation of analytical methods, as well as for calibration of analytical instruments.

Gold is manufactured by **Gulidov Krasnoyarsk Non-Ferrous Metals Plant ("Kratsvetmet") Russia** and silver by **Tanaka Kikinzoku K.K. of Japan**. Both sets are certified with the support and cooperation of some of the world's leading precious metals laboratories.

These materials represent **an evolution of the first reference materials**, which proved to be immensely popular amongst quality laboratories around the world. The elemental concentrations have been selected based on feedback received from users of the previous materials.

CRMs are an essential component of GDL best practise; helping to ensure that existing GDL refineries maintain current LBMA standards and listing, and for prospective GDL refineries they provide a benchmark of the standards required.

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or visit us at [lbma.org.uk/reference-materials](https://lbma.org.uk/reference-materials)

# REGULATION UPDATE

BY RACHEL HART, LBMA LAWYER

## Sustainable Finance around the World

In boardrooms across the world this year, a record number of resolutions were passed to address Environmental, Social and Governance (ESG) issues. This has been paralleled by a boom in ESG investing: assets under management by ESG-oriented funds were valued at over \$1 trillion in August. While one hopes the momentum for ESG is as sustainable as the initiatives themselves, how has the legislation kept up? Without an agreed global standard for assessing ESG initiatives, what kinds of regulatory oversight are we seeing across the world's nations?

### Gold and ESG

Over the last decade, we have seen sustainable finance initiatives grow from green bonds to 'conservation premiums' on retail gold products. Gold represents a truly sustainable product thanks to its almost indestructible state. Once gold is mined or recycled, its life cycle might begin as a bullion bar and continue as a jewellery piece or part of a smartphone, only to be reprocessed and repurposed indefinitely.

This circular economy of gold as a commodity means that it ought to be a popular choice for ESG investing and other sustainable finance initiatives. Yet, gold might be seen as a risk to ESG principles. Gold can raise concerns related to the environment, conflict financing or contributing to illegitimate markets.

While ESG thrives around the world, for LBMA, it is important to create responsible demand for responsible gold. LBMA's Responsible Sourcing Programme was launched in 2012 to avoid contributing to human rights abuses, conflict and terrorism financing, while complying with high standards of anti-money laundering practices. Last year, the Responsible Gold Guidance was expanded to audit Good Delivery refiners on ESG issues. LBMA also recognises the value of public disclosure to further ESG aims and reflects this in its three-year strategy, running until 2022.

### G20 Nations

The words 'disclosure', 'transparency' and 'public reporting' are ubiquitous across most ESG regulatory initiatives. The G20 Financial Stability Board highlighted their significance within its Task Force on Climate Related Financial Disclosures. The Task Force was created in 2015 to mitigate the potential impact of climate change within the financial markets.

WHILE ESG THRIVES  
AROUND THE  
WORLD FOR LBMA  
IT IS IMPORTANT  
TO CREATE  
RESPONSIBLE  
DEMAND FOR  
RESPONSIBLE GOLD



**Rachel Hart, LBMA Lawyer**, deals with legal and compliance matters affecting the precious metals market, including financial regulation and the Responsible Sourcing Programme. She has taken responsibility on a number of initiatives and helps to manage any relevant legal work on behalf of LPMCL, as well as support the market on the application of REACH and the Global Precious Metals Code.

Before joining LBMA, Rachel worked as a Finance Knowledge Assistant at Freshfields Bruckhaus Deringer, specialising in structured finance and debt capital markets. She read law at University of York and University of Law, London.

If climate-related events led to a sudden fall in asset prices, creating risk of financial instability, this could be mitigated by better disclosure by firms across the industry. Reporting data on governance, strategy, metrics and targets can help to price the risks better in advance.

### EU

The EU has developed several initiatives to promote ESG throughout the financial markets. The European Green Deal supports the EU's aim of being climate neutral by 2050. Next year, the EU regulation on Sustainability-Related Disclosures will require ESG considerations to be integrated into investment decisions by the larger players in the industry.

The EU is also considering a carbon border tax. This would involve assessing the CO<sub>2</sub> footprint of goods imported into the EU and applying a graded tariff. Not only would this encourage trade with more ESG-gearred nations, it would incentivise those with a heavier footprint to 'go green'.

### UK

While the EU has arguably led the path for sustainable finance and any associated regulation, the UK may aim even higher. From January 2021, Brexit will provide the UK with the unique opportunity to build on existing EU standards as a minimum.

Last year, the UK Government established its Green Finance Strategy. This encourages investment in green initiatives while developing a more sustainable financial market. More recently, the Government issued standards for asset managers to establish, implement and manage integrating ESG principles into British investment funds. The UK also aims to achieve net-zero greenhouse gas emissions by 2050.

### China

In October, five Chinese Government agencies launched 'Guiding Opinions' to promote investment and financing to address climate change. The agencies will work to establish incentives for local firms to develop ESG finance products and provide financial support to ESG projects. The green credibility of these products and projects will be verified by a third-party audit system. The Guiding Opinions follows a recent commitment for China to become carbon neutral by 2060.

### India

Since 2012, the Securities and Exchange Board of India (SEBI) has supported ESG-related disclosures. SEBI requires its top 500 companies to publish an annual business responsibility report, which must consider product life cycle sustainability, human rights and the environment, amongst other issues.

In October, the UK and Indian Governments announced a joint statement to ensure their respective economic recoveries post-COVID-19 are as sustainable as possible. The UK and India have also established a bilateral Sustainable Finance Forum, through which they will collaborate on common international disclosure statements and work together to develop the sustainability of the wider financial industry.

If you would like to read more on sustainable finance, Cambridge University Press has recently published ***Making the Financial System Sustainable***. Edited by LBMA's Chairman, Paul Fisher, the book comprises essays by various practitioners, thought leaders and experts from across Europe.





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# FACING FACTS

## Gold M&A activities cool down in Q3, but emerge again in Q4

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After announcing a flurry of M&A activities in the first half of this year, sentiment in the gold mining sector cooled off in the third quarter. Indeed, we never expected that the fiery activities in the gold space could last for the whole year, and a cooling down period is certainly healthy for the industry in the longer run.

Despite the slowdown, the number of gold deals recorded in Q3 was still by far ahead of the level recorded in recent years. In this article, we break down how the trend of the deals changed in Q3, including a change in the valuation of deals compared to earlier quarters.

The slowdown in merger or acquisition activities in Q3 can be attributed to three major reasons:

- 1 Those who wanted to buy, and those who wanted to sell, would have already done so in the first half of the year, particularly in Q1. With the gold price hovering close to \$2,000/oz, both sides are now on the sidelines waiting for the right deal to come along.
- 2 Compared to gold, the price performance of many base metals (copper, zinc and nickel, for example) has been lagging behind that of the precious complex and, as a result, some mining professionals have begun turning their acquisition targets from gold to base metals projects.
- 3 The sharp drop in the gold-to-silver ratio (which fell from a high of 127 in March to as low as a sub 70 level in August) has prompted mining companies to buy silver/zinc-lead-silver deposits in Q3.

Having said that, the global gold mining industry was still announcing deals almost every working day in Q3, indicating that despite the dip in sentiment, people have still been enthusiastic over gold, but more deals in Q3 involved projects that are at earlier stages.

In the first quarter of 2019, two mega deals took place, with Newmont taking over Goldcorp and Barrick forming a joint venture alliance with Newmont at its Nevada assets. As a result, from the perspective of the total number of resources ounces involved (220 million ounces) and deal size (\$10 billion), these were at historical levels, and thus using Q1 2019 to compare with other quarterly activities is meaningless.

Consequently, we compare quarterly activities of global gold deals starting in Q2 2019 in chart 1.

To be clear, the number of total gold resources refers to gold only (not Aueq) and does not include royalty deals. On the other hand, the deal size also includes the deals involving projects that do not carry a resource estimate, including royalty deals.

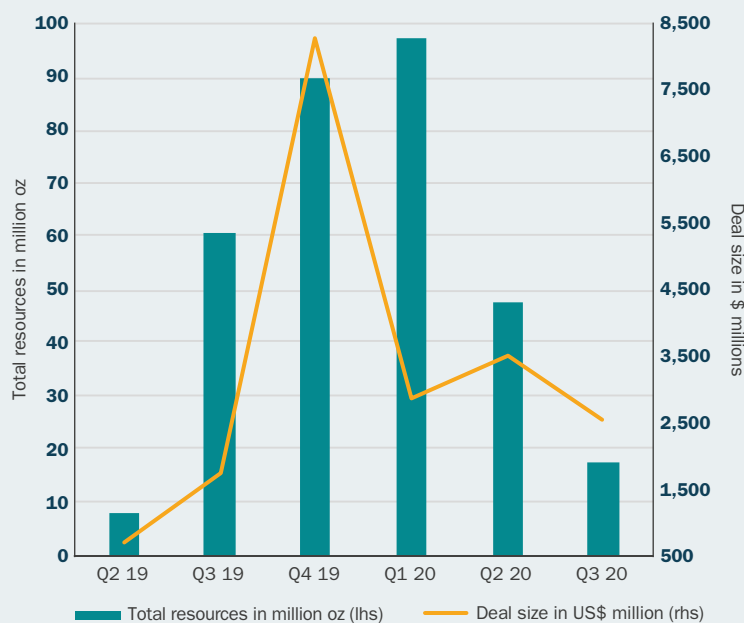
### TOTAL GOLD RESOURCES ANNOUNCED CHANGING HANDS FELL IN Q3

In terms of the total gold resources announced changing hands on a quarterly basis, the deals announced in Q1 this year were the highest in the last six quarters, although in value terms, they were far lower than those announced in Q4 2019. Due to COVID-19, the mining industry has become even more bullish on

**IN THE FIRST QUARTER OF 2019 TWO MEGA DEALS TOOK PLACE WITH NEWMONT TAKING OVER GOLDCORP AND BARRICK FORMING A JOINT VENTURE ALLIANCE WITH NEWMONT AT ITS NEVADA ASSETS**

the outlook for the gold price, and thus buyers have been rushing into the market looking to acquire projects. However, many of those willing sellers who decided to sell in a market when the majority had turned bullish may have had good reason to do so. As a result, the average acquisition cost per total resource ounce in Q1 20 was actually lower, due to the quality of the majority of the projects being transacted.

CHART 1: QUARTERLY GOLD RESOURCES DEALT AND VALUE



Source: Refinitiv Metals Research

In Q3 2020, 17.5 million gold ounces were announced changing hands in various transactions, down 64% from Q2 and down 72% year-on-year. Total gold ounces changing hands in Q3 was the second-lowest quarterly figure recorded in the last six, while in value terms, it was the third lowest. In fact, none of the deals announced in Q3 involved a project that carries more than 3 million ounces of total gold resources (due to the complicated nature of the Cardinal/Nord Gold/Shan Dong Gold deal, we have excluded this in Q3 for the time being), compared to four each in the first and second quarters respectively this year.

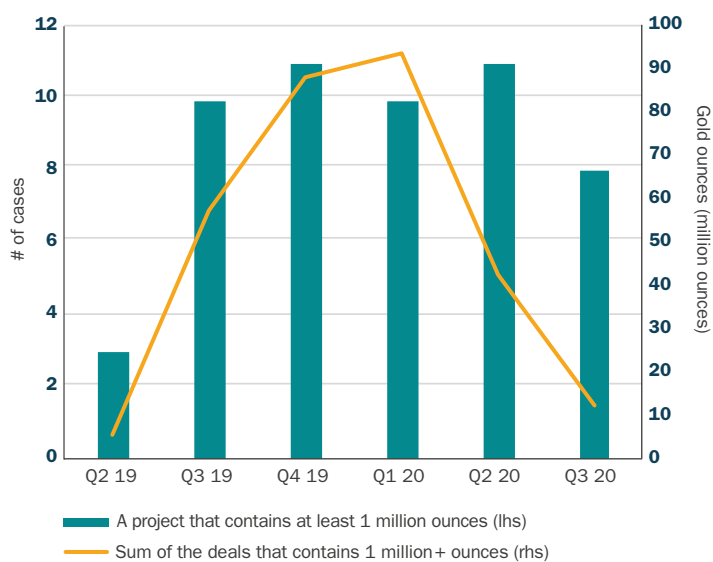
The following are the top three deals in Q3 in terms of resource size:

Buyer	Being Acquired	Total gold resources (in million ounces)	Acquisition cost per total resource gold ounce (US\$)
Shandong Gold	Heng Xin	2.6	152.51
Premier Goldmines	Getchell	2.1	24.06
Future Global Resources	90% Bogoso-Prestea	1.6	57.68

Source: Refinitiv Metals Research

There were only eight deals announced in Q3 that involved at least one million ounces of resource or more. With the exception of Q2 2019, there were 10 to 11 cases in each of the other quarters that fit this criteria.

**CHART 2: NUMBER OF INDIVIDUAL DEALS THAT CARRY 1 MILLION + OUNCES RESOURCE AND ITS QUARTERLY SUM**



### AVERAGE ACQUISITION COST PER TOTAL RESOURCE OUNCE HAS ALSO DECREASED IN Q3

With market sentiment cooling, the average acquisition cost per total resource gold ounce also decreased in Q3, falling from \$65.8 in Q2 to \$57.2 during the latest quarter (if we exclude the Shandong deal buying out another Chinese gold producer, Heng Xin, which was announced on 30 September, the average would be even lower at \$40.8/oz), but would still be higher than the \$23.9/oz recorded in Q1 2020 and \$25.9 in Q3 2019. See chart 3 below.

**IT SEEMS TO BE GETTING EVEN MORE DIFFICULT TO ACQUIRE A PROJECT THAT ALREADY CARRIES A RESOURCE ESTIMATE (for a decent price) AS A RESULT COMPANIES HAVE HAD TO LOOK FURTHER UP THE FOOD CHAIN AND SHIFT THEIR FOCUS TO EARLIER STAGE PROJECTS**



### THE TREND IN Q3 POINTING TO EARLIER STAGE PROJECTS

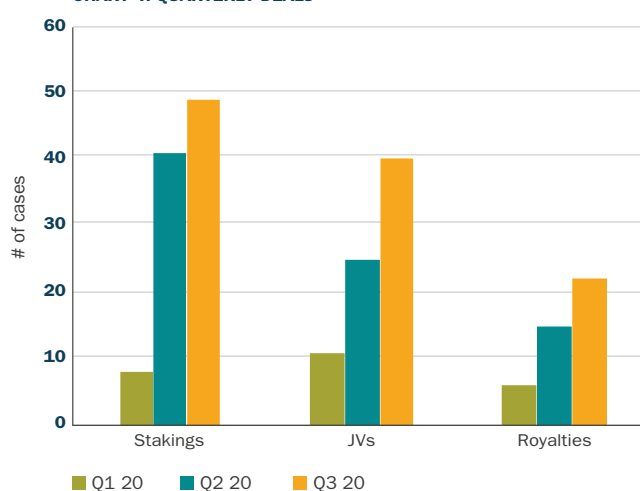
Despite both total resources changing hands and the quarterly deal value falling, it is not far fetched that in general terms the sector remains buoyed, especially when compared to the sentiment just a few years ago. The number of cases where companies are successfully staking lands from local governments, as well as the number of joint venture deals and royalty deals, all increased in Q3 compared to the previous quarters (see chart 4).

Therefore, the cooling down in Q3 is not because the industry insiders have turned bearish on gold's outlook, but because it seems to be getting even more difficult to acquire a project that already carries a resource estimate (for a decent price). As a result, companies have had to look further up the food chain and shift their focus to earlier stage projects.

**CHART 3: AVERAGE VALUE OF ACQUISITION PER OUNCE**



**CHART 4: QUARTERLY DEALS**

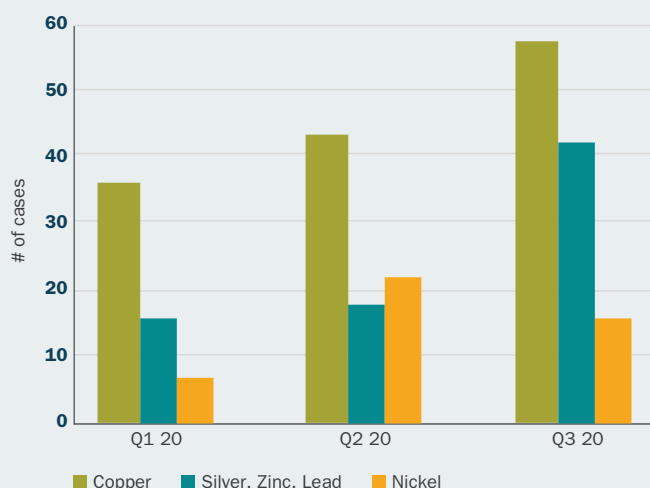


## BUYERS ALSO START WORKING ON THE LESS SORTED JURISDICTIONS

Western Australia has by far become the most popular destination for people working on gold. While the quarterly growth rate in terms of the number of cases slowed in Q3, it still jumped 70% from Q2. The second-ranked Quebec recorded a minor dip in Q3, but the third- and fourth-ranked Ontario and British Columbia also saw an increase, of 33% and 86%, respectively, in Q3. In addition, some mining jurisdictions that were somewhat neglected by the industry in the first half of this year saw activities working in these areas increase by a high margin in Q3, including Nevada, Newfoundland and Mexico.

As mentioned at the beginning of the article, we have begun to see an increasing number of deals in non-gold metals in the mining industry as well. One of the more interesting observations is the silver space, as there is a huge valuation gap between the equities market (valuation of silver miners) and the acquisition market (valuation on buying a silver project/silver company).

**CHART 6: NUMBER OF BASE METALS DEALS HAVE BEEN TRENDING UPWARDS THIS YEAR**



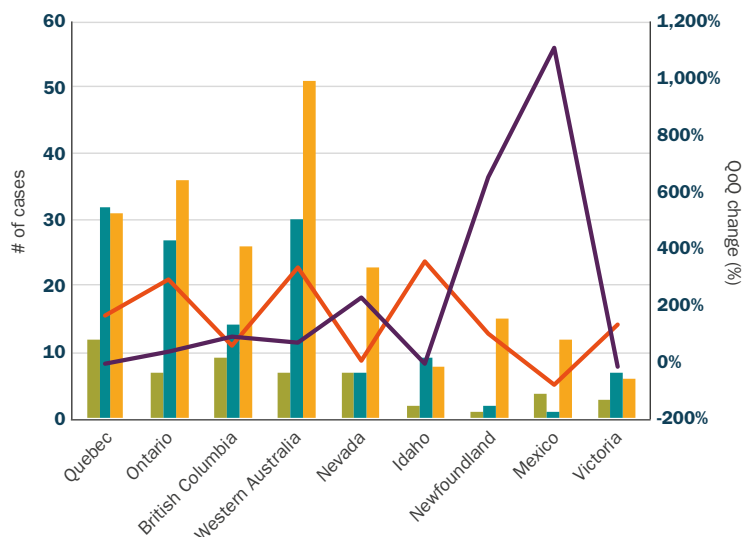
## MINE SUPPLY RETURNING TO PRE-COVID LEVELS

As companies start reporting their results for the third quarter of 2020, it is clear from preliminary estimations that business is almost back to normal. Preliminary results indicate that Q3 production will be slightly lower year-on-year, with a production loss of around 7 tonnes, or 0.8% compared to the same period last year. This sends a message of recovery to the industry, after the precipitous 10% year-on-year decline in the previous quarter (Q2), representing a supply contraction of 71 tonnes.

The crisis derived from the COVID-19 pandemic took a considerable toll on mine production worldwide, but the focus was set in South Africa and several Latin American countries.

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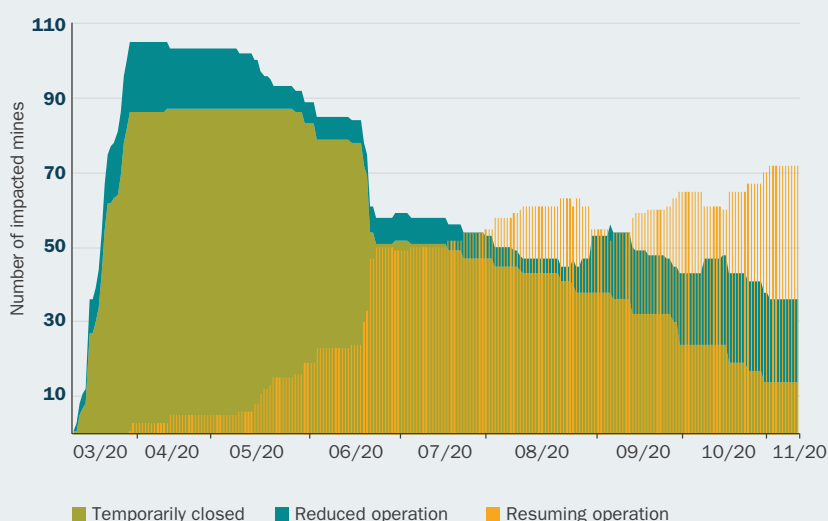
**CHART 5: MINERS BEGAN WORKING INTO LESS SORTED JURISDICTIONS IN Q3**



Not only is there further downside potential in the gold-to-silver ratio in the longer run, which can create further catalysts for silver equities, but there will be more and more silver public companies acquiring silver projects in private hands or buying private silver companies so they can benefit from the change of valuation and enjoy a higher valuation of silver assets in the stock market.

Despite the fact that sentiment may have been quieter in Q3, the gold mining industry has started Q4 with a bang. On 6 October, two Australian gold miners, Northern Star Resources and Saracen Mineral, announced that they intend to merge to become a single entity and, in so doing, will become a global top 10 gold producer, with this deal creating up to A\$2 billion in synergies. Northern Star will pay a combination of shares and cash to Saracen shareholders, which should be worth approximately \$4.2 billion, or equivalent to paying Saracen \$464.3 per total resource gold ounce. This is the biggest gold deal recorded this year so far and may be just a precedent for more such deals that could come before the end of 2020.

**CHART 7: IMPACTED MINES DUE TO COVID-19**



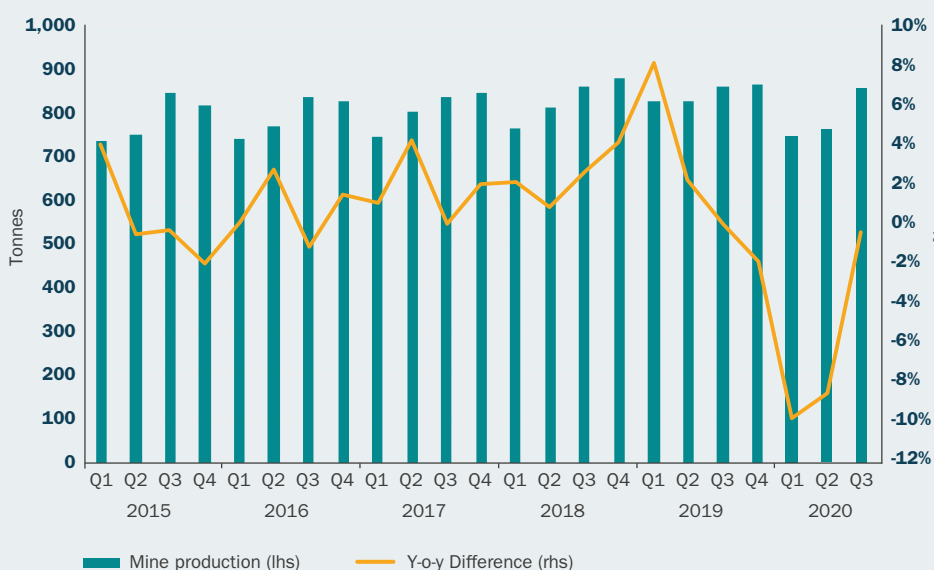
We estimate that a total of 105 gold-producing mines (82 of which are primary gold producers, while the rest produce gold as a by-product) suffered some kind of disruption in their operations for a period ranging from a few days up to three and a half months.

This mainly depended on how the relevant governments reacted to the plight of the pandemic, as seen in South Africa, Mexico and Peru, for example, where a stricter approach was taken, limiting (or even suspending) travel within cities and mining operations.

The number of mines that are returning to normal production levels HAS BEEN STEADILY INCREASING for the last few months

There were some examples when the workers or nearby communities blocked access to some mines to avoid community infections or to complain about insufficient measures taken to avoid contagion. The largest impact was registered during the period from mid-March to mid-April, although we have detected a slow recovery from those mines that were temporarily suspended since June. In addition, the number of mines with reduced operations has been plateauing for the last four months, ranging between 30 and 40 mines. On the other hand, the number of mines that are returning to normal production levels has been steadily increasing for the last few months, and the latest reports indicate that there are around 72 mines now resuming their operations, 12 of which are operating at pre-COVID levels at the moment.

CHART 8: QUARTERLY GOLD MINE PRODUCTION



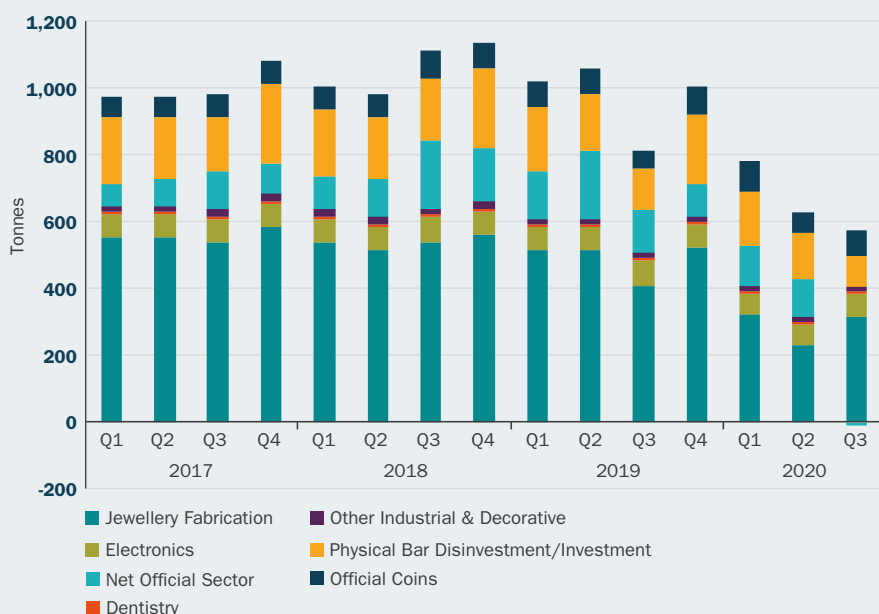
TIME SERIES SHOWING HOW COVID-19 IMPACTED ACTIVITY ON GOLD-PRODUCING MINES

Turning to mine production, it's no surprise that South Africa and Peru registered a year-on-year contraction in their third quarter production of 12% and 7%, respectively, compared to the same period last year, due to the pandemic. Mine production in China was also severely impacted, by around 5%, due mainly to a slowdown in the artisan gold production, but the pandemic was not solely responsible, as the country's ongoing environmental crackdown has been limiting this sector's production over the last few years. On the other hand, and partially offsetting these losses, production grew in Australia, Papua New Guinea and Canada. At a regional level, year-to-date production losses reached 8% in Latin America, as production contracted by 39 tonnes compared to the first nine months of 2019. Asia and Africa followed, as production decreased by 26 and 20 tonnes, respectively (4% in both regions).

Considering 2020 as a whole, we expect gold output to reach 2,372 tonnes, representing a year-on-year drop of almost 4%, the first annual contraction in 12 years. It is important to note that during the last 20 years, there were only three annual production decreases – in 2004, 2006 and 2008 – all of them related to supply disruptions, mainly in the African continent.

Gold physical demand recorded another poor performance in the third quarter, tumbling by 30% year-on-year to an estimated at 562 tonnes. Jewellery fabrication remained the worst affected segment, with global offtake contracting by 23% to a total of 314 tonnes. Despite many markets re-emerging from the severe lockdown restrictions prevalent for most of Q2, demand remained poor across all the key regions. Countries continued to battle against the COVID-19 pandemic, which took a serious toll on the global economy, unemployment rates, household incomes and consumer demand. Jewellery offtake in the world's two largest gold-consuming markets, China and India, dropped by 7% and 21%, respectively, battered by weak economic conditions, along with a record high gold price.

CHART 9: PHYSICAL DEMAND FOR GOLD ALSO DRAGGED LOWER BY THE ONGOING ECONOMIC UNCERTAINTY



Source: Refinitiv Metals Research



**Federico Gay, Senior Analyst, Refinitiv, GFMS.**

Federico is a geologist with a BSc from the National University of the South, Argentina. He joined Refinitiv in London in

November 2019, focused on precious metals supply modelling. Prior to Refinitiv, he worked over seven years in Chile in a wide range of assignments, including exploration, ore control, geological modelling and resource estimation for a Copper-Gold-Molybdenum mine in the Atacama Desert. He completed a master's program in Economic Geology from the Catholic University of the North, Chile.



**Samson Li has been a Senior Metals Analyst at Refinitiv Metals Research for over six years.**

He has become a well-known figure in the Chinese mining industry.

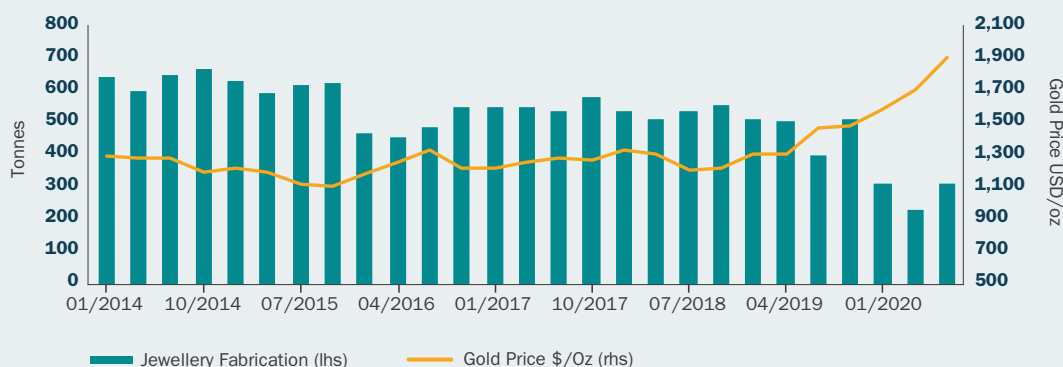
Prior to joining GFMS, Samson worked for eight years as the Chief Analyst of an asset management firm in Hong Kong, with four years being responsible for managing a portfolio investing in the global mining equities sector. Samson holds a degree in Commerce from the University of Toronto.



**Cameron Alexander holds the position of Manager, Precious Metals Research for the Refinitiv Metals Research team. He has more than 20 years**

experience in the precious metals markets. Having joined GFMS Limited as a Metals Analyst in 2005, he was brought across to Thomson Reuters in a 2011 acquisition and now heads the precious metals research within Refinitiv's Metals Research and Forecast division. In his current role he has overall responsibility for the team's output but remains responsible for the precious metals research across South East Asia, Australasia, Middle East, and Indian Sub-Continent. His main area of research covers macro influences, jewellery, industrial, and investment demand, as well as scrap supply and metal flows from these key regions.

**CHART 10: GLOBAL GOLD JEWELLERY FABRICATION (QUARTERLY)**



Source: Refinitiv Metals Research

It is worth adding, however, that the rate of decline was less pronounced than the one seen in the previous two quarters as economies started to reopen after the lockdown.

Demand for gold in industrial applications recorded a 9% year-on-year drop in the three months to September, with double-digit percentage declines in dental and other industrial and decorative offtake. That said, demand from the electronics industry seems to have rebounded from the previous quarter, particularly from the automobile industry as manufacturing resumed, although it remained some 9% down year-on-year.

## RETAIL INVESTMENT

Turning to retail investment, which is the sum of physical bars and all coins, demand was marginally up year-on-year, as a strong rebound in official coin fabrication was largely offset by poor physical bar investment. Official coin fabrication surged by 53% to nearly 72 tonnes as fears around the COVID-19 crisis and the global market turmoil, along with the improved gold outlook, saw resurging interest among the retail investors, driving premiums to unprecedented levels. Meanwhile, demand for gold bars slumped by 20% to just under 97 tonnes, the lowest quarterly level since the financial crisis of 2008/09.

The regional analysis, however, reveals some interesting and contrasting findings between the East and the West. The 20% drop was largely attributed to a poor performance in Asia, where investment demand plunged by 59% over the three-month period as investors liquidated gold assets.

Central banks shifted to net sellers for the first time in nearly a decade, with net sales estimated at just under 13 tonnes for the third quarter. The shift was driven by an absence of purchases from Russia and China, as well as a significant rise in gross sales as countries continued the battle against COVID-19, which has

taken a severe toll on the global economy, with perhaps some also taking advantage of gold's astonishing price performance in recent months. Gold ETPs witnessed another quarter of strong demand, estimated at over

280 tonnes, with total inflows over the nine-month period estimated at over 1,000 tonnes, up by 60% from the record annual gain seen in 2009.

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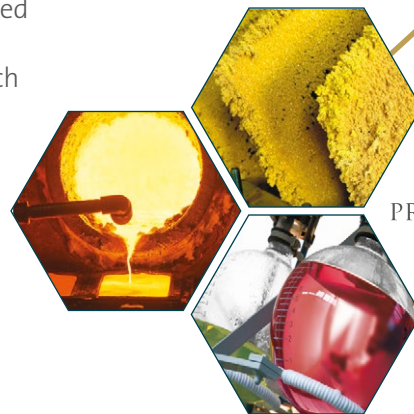
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