

Gold Demand Trends

Q3 2019

Highlights

Holdings in gold-backed ETFs hit a new all-time high of 2,855.3t in Q3.

Holdings grew by 258.2t during the quarter, the highest level of quarterly inflows since Q1 2016. Accommodative monetary policies, along with safe-haven and momentum buying, drove demand.

Central banks added 156.2t to reserves in Q3.

The -38% y-o-y decline was partly due to Q3 2018 being the highest quarter of net buying in our records. Y-t-d, central banks have purchased 547.5t on a net basis, 12% higher y-o-y.

Jewellery demand was down 16% to 460.9t in Q3.

Weak consumer sentiment due to continued geopolitical and economic uncertainty, coupled with substantially higher gold prices, dented jewellery purchases in all major markets.

Bar and coin investment halved in Q3 to 150.3t.

Higher gold prices across many key currencies were the main cause of the decline to a multi-year low, as retail investors across the globe opted to defer purchases and lock in profits.

Gold supply rose 4% in Q3 to 1,222.3t.

Growth was driven by a 10% increase in recycling – to its highest level since Q1 2016 – as the ongoing price rally continued to encourage selling back by consumers. Mine production of 877.8t was virtually unchanged y-o-y.

The gold price continued to rally, reaching new multi-year highs.

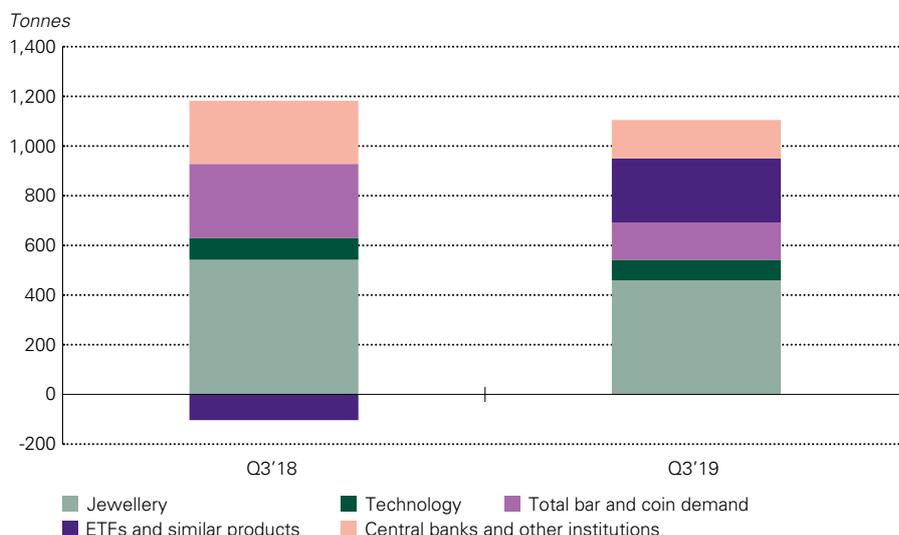
The gold price rose by 5% during Q3, finding sustained support around US\$1,500/oz. The primary factors behind this price momentum continued to be ongoing geopolitical tensions, concerns of a slowdown in economic growth, lower interest rates and the level of negative yielding debt.

Surge in ETF inflows supports Q3 gold demand growth

Gold demand grew modestly to 1,107.9 tonnes (t) in Q3 thanks to the largest ETF inflows since Q1 2016.

A surge in ETF inflows (258t) outweighed weakness elsewhere in the market to nudge gold demand 3% higher in Q3. Although central bank buying remained healthy, it was significantly lower than the record levels of Q3 2018. Jewellery demand (-16%) was hampered by the continued strength in the gold price, which hit new multi-year– and, in some cases, record – highs, as well as by consumer concern over the health of the global economy. Similarly, the decline in bar and coin demand (-50%) in Q3 was driven primarily by the gold price: retail investors took the opportunity to lock in profits rather than making fresh purchases. Technology demand for gold fell 4% as economic challenges remained, but the nascent 5G infrastructure helped to slow the decline in the important electronics sector. With mine production virtually unchanged, a price-related 10% jump in gold recycling boosted gold supply 4% to 1,222t.

Gold demand boosted as surge in ETF inflows outweighed weakness elsewhere



Source: Metals Focus, World Gold Council

Jewellery

Jewellery demand was weakened by higher prices, down 16% to 460.9t

- Jewellery demand fell 16% to 460.9t in Q3, its lowest level since 2010
- Consumers deferred purchases due to higher prices and the subdued economic sentiment
- US demand, however, continued to grow in Q3, up y-o-y for the eleventh consecutive quarter.

Jewellery demand fell 16% y-o-y in Q3 to 460.9t, its lowest level since Q2 2010 (422.8t). Consumers were deterred from making fresh purchases during the quarter as the price rally – which began in June – gathered momentum. The quarterly average gold price in Q3 was US\$1472.47 – 21% (or US\$259.3/oz) higher y-o-y. This price pressure was exacerbated by concerns over the health of the global economy, which encouraged many consumers to moderate their buying plans. Bright spots were few and far between, with most markets seeing significant y-o-y declines, particularly in Asia and the Middle East.

Tonnes	Q3'18	Q3'19	Y-o-y change
World total	546.2	460.9	↓ -16%
India	148.8	101.6	↓ -32%
China	176.6	156.3	↓ -12%

Jewellery demand fell to its lowest level since 2010 due to the higher price



Source: Metals Focus, Refinitiv GFMS, ICE Benchmark Administration, World Gold Council

India

Indian jewellery demand of 101.6t was almost a third lower y-o-y due to weaker consumer sentiment.

Jewellery demand suffered as consumer confidence fell further over concerns around the slowing economy. Several indicators – such as lower sales volumes reported by large fast-moving consumer goods (FMCG) companies and domestic car/two-wheeler sales – pointed towards a slowdown in both urban and rural demand.¹ Weak sentiment due to a liquidity crunch, excessive monsoon rains in some states, and the absence of any festivals, also influenced demand in the quarter.

Demand received no support from the domestic price either.

The gold price rally powered ahead during the quarter: it breached the Rs35,000/10g level in mid-July and continued climbing to Rs38,795/10g by the end of August, before reaching an all-time high of Rs39,011/10g during the first week of September. The two-month leap of ~Rs5,000/10g – from Rs34,006/10g at the end of June – caught consumers completely off-guard, prompting many to delay buying. Despite a correction in the final few weeks

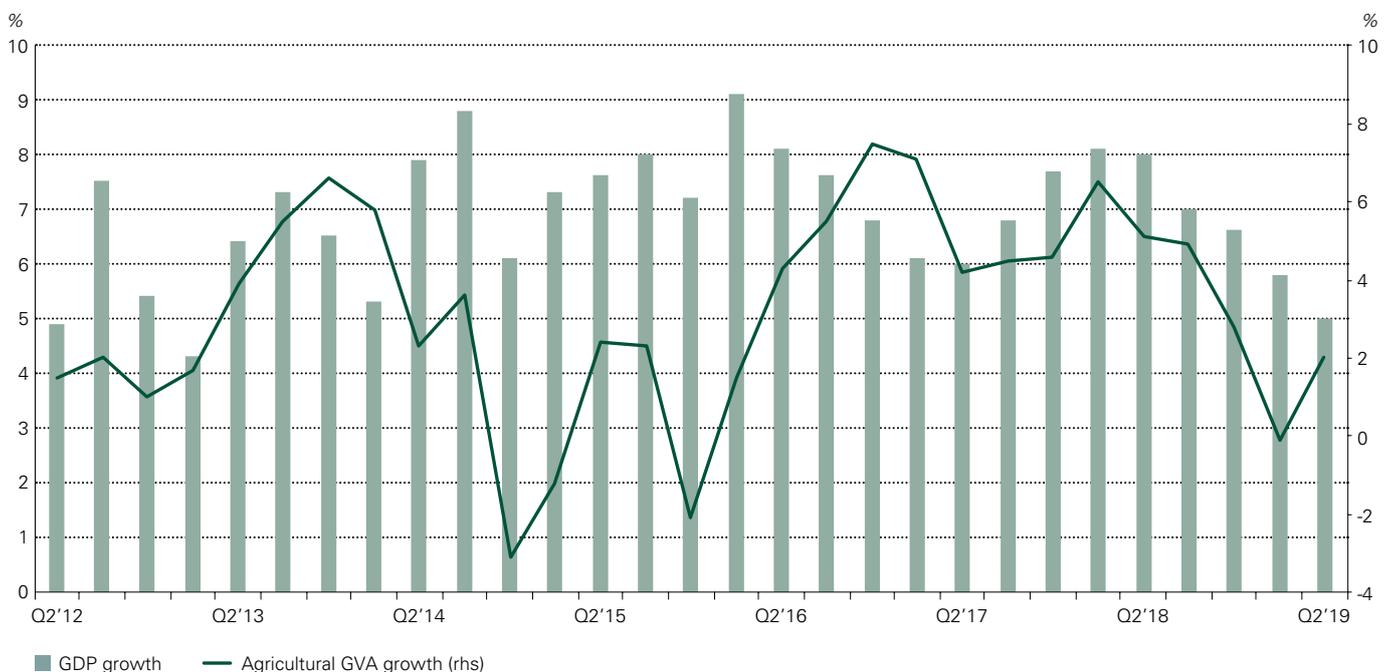
of the quarter – due to the decrease in the international gold price and a strengthening rupee – the impact on demand was muted as it coincided with Pitru-Paksha, an inauspicious 16 lunar day period during which Hindus pay homage to their ancestors.²

Demand was further dented by a 2.5% rise in the custom duty on gold to 12.5%. This higher rate hit sentiment amongst both the gold trade and consumers, and fresh jewellery purchases suffered as a result. Consumers preferred gold-to-gold exchanges, which accounted for an average of 50-60% of purchases, while retailers wound down existing stocks.

Wedding-related purchases provided some support during the quarter.

Wedding days in the Southern states of Tamil Nadu, Kerala and Karnataka supported jewellery demand during August and September. But volumes were 15-20% lower y-o-y due to the higher gold price. Jewellery retailers attempted to counter this by offering promotions – such as discounts on labour charges – but with limited impact.

Economic slowdown dampened urban and rural consumer sentiment in India



Source: Bloomberg, World Gold Council

1 For example, Hindustan Lever – India's leading FMCG company – reported slower growth in Q3 2019 www.hul.co.in/Images/sq19-results-presentation_tcm1255-541174_1_en.pdf

2 Pitru-Paksha occurred between 13 - 28 September.

China

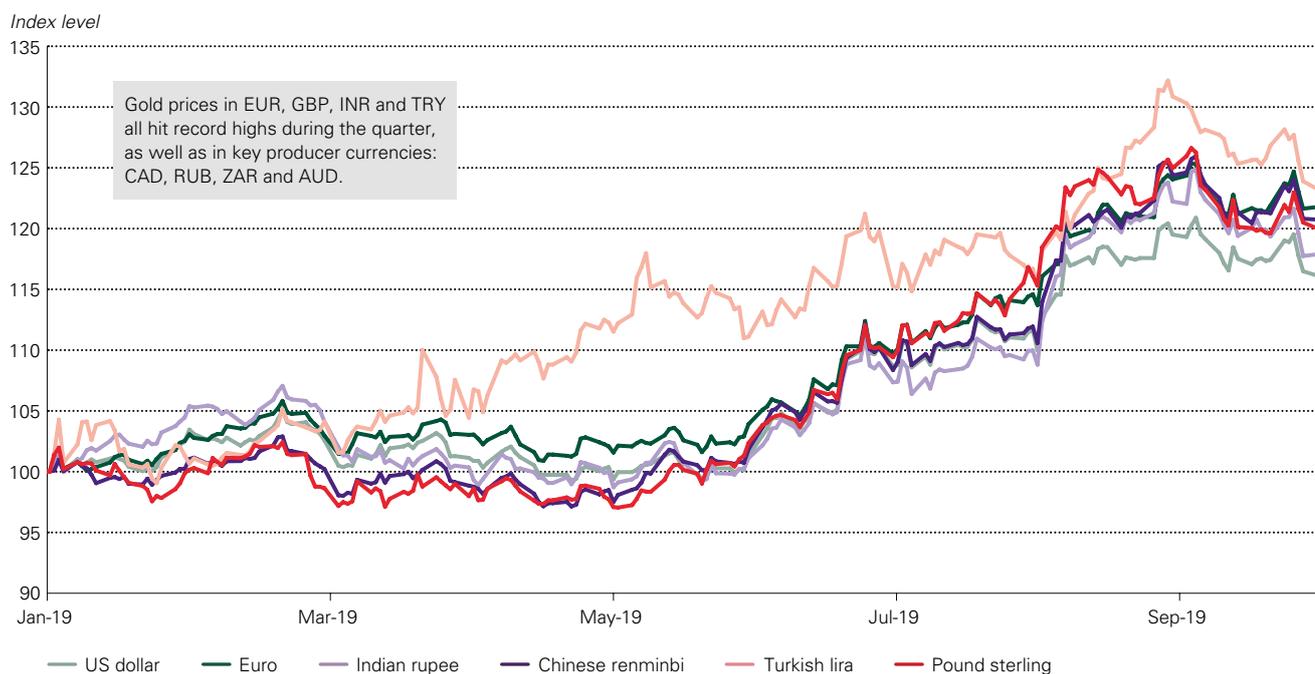
Jewellery demand in China declined 12% y-o-y in Q3 to 156.3t. This is 10% below the five-year quarterly average of 173.5t and the fourth consecutive quarter of y-o-y declines. Concerns over the health of the Chinese economy, as well as rising inflation in staples such as pork, meant that consumers prioritised spending elsewhere.

Plain and mass-appeal 24K gold jewellery suffered a double-digit y-o-y decline in Q3. As these products account for the largest segment in the market, this dragged overall jewellery demand lower. But there were bright spots during the quarter. Most retailers saw growth in the sales of 3D hard gold, 5G gold and other innovative products with lightweight and fashionable designs that appeal to younger consumers. Growth in these high-margin products also helped shore up jewellers' profits during the quarter. But the lower market share and lighter per-piece weight of these innovative products meant

that their sales growth couldn't reverse the falling trend in jewellery demand. Talks with our trade partners in the industry indicate that lighter, more aesthetic products are growing in popularity – consequently, these products are expected to take a larger share of the market in the longer run.

In what has become an increasingly visible trend, the traditional jewellery sales boost again failed to materialise during the long National Day holiday in October. As we mentioned in *Gold Demand Trends Full Year 2018*, the relevance of the golden week holiday as a shopping occasion has been fading over recent years. Consumers, especially the younger generation, prefer to spend their money on experiential purchases. According to the Ministry of Commerce, there were 782 million domestic tourist trips made in China during the holiday, a rise of 8% y-o-y. In addition, China's mainland box office revenue increased by more than 100% y-o-y during golden week.

Momentum in the gold price rally during Q3 kept consumers on the sidelines



Note: Index level 01/01/2018 = 100.

Source: ICE Benchmark Administration, Datastream, World Gold Council

Middle East and Turkey

Demand for jewellery across the Middle East fell 12% to 35.3t, with nearly all markets seeing significant declines. With their local currencies pegged to the US dollar, consumers in both the UAE and Saudi Arabia were exposed to the full rise in the international gold price. In the UAE, gold jewellery demand fell 21% to 5.4t, while in Saudi Arabia it dropped 26% to 8.8t. The higher gold price was the primary reason for weaker demand, but consumer sentiment was also depressed due to concerns over regional economic growth and security. In Egypt, the y-o-y decline was more modest – down 5% to 7t – as the stability in the pound helped to offset the rise in the US dollar price.

Turkey and Iran were the two exceptions in an otherwise dismal picture, although this was almost entirely due to the low-base effect. Despite the local gold price surpassing last year's record highs, Turkish jewellery demand grew by 5% to 7.6t in Q3. However, the y-o-y comparison is flattered by Q3 2018 demand totalling just 7.2t, the lowest level of demand since Q4 2012. Iran recorded the largest y-o-y increase in Q3, rising by 32% to 6.1t. This marks a significant recovery from Q3 2018, when jewellery demand collapsed by almost 60% y-o-y to 4.6t, the lowest level in our records. The modest recovery in the Iranian rial, which began in May, helped offset some of the rise in the international gold price this year.

The West

In the US, jewellery demand in Q3 was 1% higher y-o-y at 28.5t. While this is the eleventh consecutive quarter of growth, it was at a slower pace than in Q2 (+3%). Consumer confidence in the economy remained upbeat during the quarter, helping to support sales, but deteriorated slightly compared to the first half of the year. Demand was also hampered by the substantial rise in the gold price during Q3.

European jewellery demand fell fractionally in Q3, down 1% to 12.4t. Faced with record prices in both euros and sterling during the quarter, and ongoing concerns over the health of European economies, consumers remained cautious with their spending. The largest y-o-y decline was seen in the UK: demand fell 4% to 4.4t with concerns surrounding Brexit intensifying as politicians and negotiators raced to reach an agreement ahead of the 31 October deadline. Modest y-o-y increases in France and Spain failed to offset the overall decline across the region.

Other Asia

Fears over an economic slowdown and higher gold prices dented demand in smaller Asian markets. Faced with a record local gold price amidst sluggish economic activity, Indonesian consumers reduced their jewellery demand by 15% in Q3 to 8.8t. This is the lowest level in three years, and 10% below the five-year quarterly average of 9.8t. Under these conditions, selling back took precedence over new purchases.

Vietnamese jewellery demand declined by 12% y-o-y to 3.6t, the lowest level of demand since Q3 2016 and the first y-o-y decline since Q1 2017. Both consumers and retailers remained cautious over the rising local gold price (which reached an eight-year high) and heightened volatility in the local currency. In Thailand, jewellery demand fell sharply by 12% y-o-y to 2.7t, due to the higher gold price and weaker economic growth.

By contrast, the picture in Japan appears relatively healthy. Jewellery demand rose by 5% to 4.2t. Despite the higher gold price, demand for the popular Kihei gold chains – plain, heavy gold chains that serve as quasi-investment products – held up well.

Investment

Investment doubled y-o-y: exceptionally strong ETF inflows offset weak retail bar and coin demand

- Investment demand rose 110% y-o-y to reach 408.6t
- Gold-backed ETF holdings hit a record high in September of 2,855t (US\$136 billion (bn)), surpassing the previous peak in December 2012 of 2,841t
- Bar and coin demand slumped to an 11-year low in response to high gold prices and weakening economies.

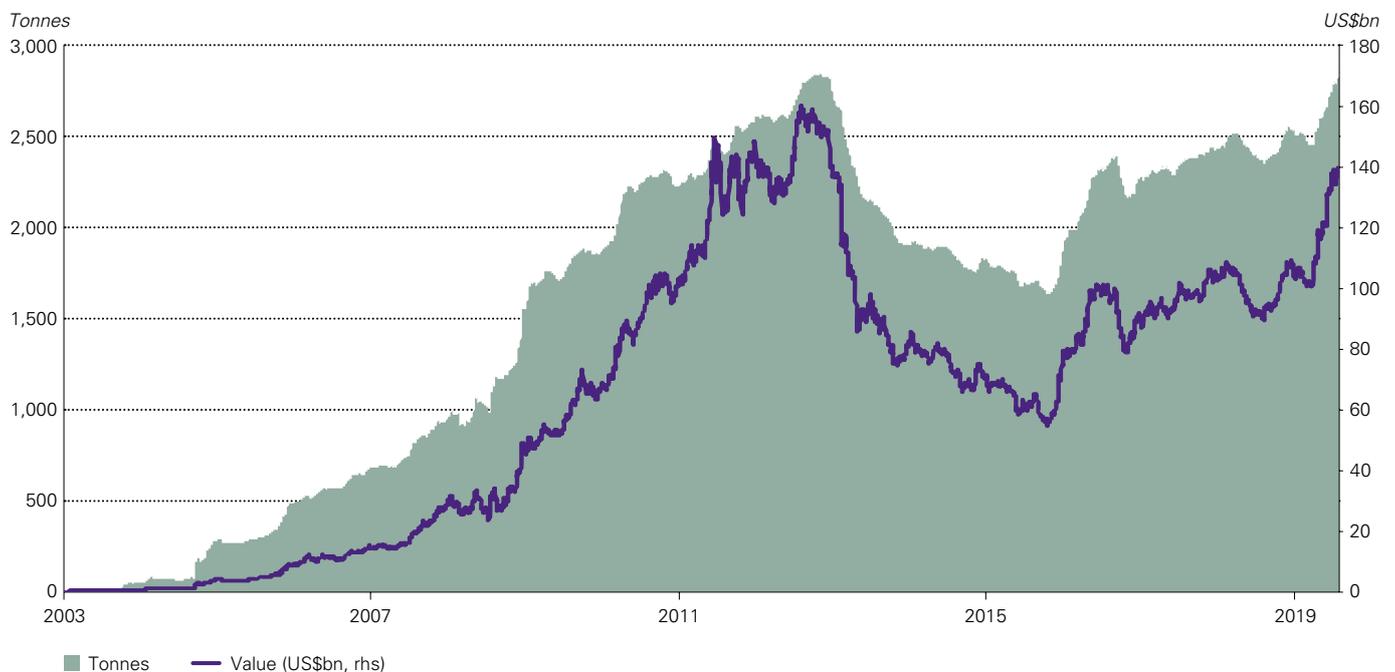
Tonnes	Q3'18	Q3'19	Y-o-y change
Investment	194.4	408.6	↑ 110%
Bar and Coin	298.2	150.3	↓ -50%
India	34.4	22.3	↓ -35%
China	88.0	42.8	↓ -51%
Gold-backed ETFs	-103.8	258.2	↑ -

ETFs

Holdings in gold-backed ETFs hit an all-time high of 2,855.3t in Q3, as investment in global products grew by 258.2t – the highest level of quarterly inflows since Q1 2016. This milestone eclipses the late 2012 peak in holdings, when the gold price was almost US\$200/oz higher than recent levels. In value terms, global assets-under-management (AUM) climbed to US\$136bn, slightly off recent highs as the gold price dipped below US\$1,500/oz at the end of the quarter.

Overall sentiment towards gold remained positive in Q3. The gold price rally, which began in June, saw the US dollar price reach a six-year high in September. The rally is partly a reflection of ongoing global monetary policy decisions – most notably, the Federal Reserve (Fed) cutting rates and the European Central Bank announcing that it would resume quantitative easing – but also of continued geopolitical uncertainty, a global economic slowdown, and the level of negative-yielding sovereign debt. This positive sentiment was also reinforced by COMEX net longs, which hit all-time highs during September.

Holdings in global gold-backed ETFs reached a new record in September



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

Inflows into North American-listed funds accounted for the bulk of the quarter's growth. Holdings in North American funds grew by 184.9t in Q3 – over 70% of the global total. Strong inflows were seen each month during the quarter as the rising US dollar gold price attracted further investment. This was supported by more accommodative monetary policy, with the Fed opting to cut rates twice in Q3 – by 25 basis points on each occasion – as well as signalling the potential for an additional cut this year. The direction of monetary policy is likely to further influence the gold price, and investor flows, during the remainder of 2019, something covered in our [mid-year outlook](#) and more recently by BNP Paribas in [Gold Investor](#).

European inflows were more diverse, with UK- and German-listed funds leading the way. Holdings in European-listed gold-backed ETFs rose by 55.8t in Q3, bringing overall holdings to a record high of more than 1,290t.

UK-listed funds grew by 28.6t in Q3 as concerns over the direction of Brexit negotiations continued to rattle investors. The ongoing uncertainty surrounding the issue, exemplified by the Supreme Court battle that ended with the ruling that Prime Minister, Boris Johnson, had unlawfully suspended Parliament, only served to weaken the pound further. Facing the growing prospect of a hard Brexit, many UK investors sought safe haven assets.

German investors, fearing that the economy would be dragged into recession by a fall in global industrial output, added a modest 13.1t to German-listed gold-backed ETF holdings. The uncertainty around global growth and trade has taken a toll on Germany's export-reliant economy. And the outlook remains weak: at the start of October, the Ifo Institute's [Joint Economic Forecast for 2019](#) was revised from 0.8% to 0.5%. Against this backdrop, government bond yields remained rooted in negative territory, reducing the opportunity cost of holding gold. The yield on 10-year bunds continued to fall during July and August, recording a new all-time low of -0.725% at the start of September.

Inflows into gold-backed ETFs in the rest of the world were modest. Asian-listed funds grew by 14.3t in Q3. Chinese funds – primarily Huaan Yifu Gold ETF and Bosera Gold Exchange Trade Open-End Fund ETF – accounted for most of this increase as investors were attracted by the rally in the gold price. By the end of Q3, AUM in Chinese gold-backed ETFs totalled RMB16.9bn or US\$2.4bn, marking a new record high. Gold-backed ETFs in other regions added 4t to their holdings, which brought the total to 35t – half of the end-2009 peak.

Bar and coin

Global bar and coin demand halved y-o-y, dropping to 150.3t, its lowest quarterly level since Q1 2008.

The y-t-d picture is similarly bleak: cumulative demand in the first three quarters was at its lowest level since 2009. A soaring gold price across multiple currencies has prompted retail investors in many markets to either wait in anticipation of a price dip or sell a portion of their holdings to realise profits. But the weakness in demand is not just price related. Households in some major gold markets, such as China and India, have had their incomes squeezed by a combination of rising inflation and slowing economic growth.

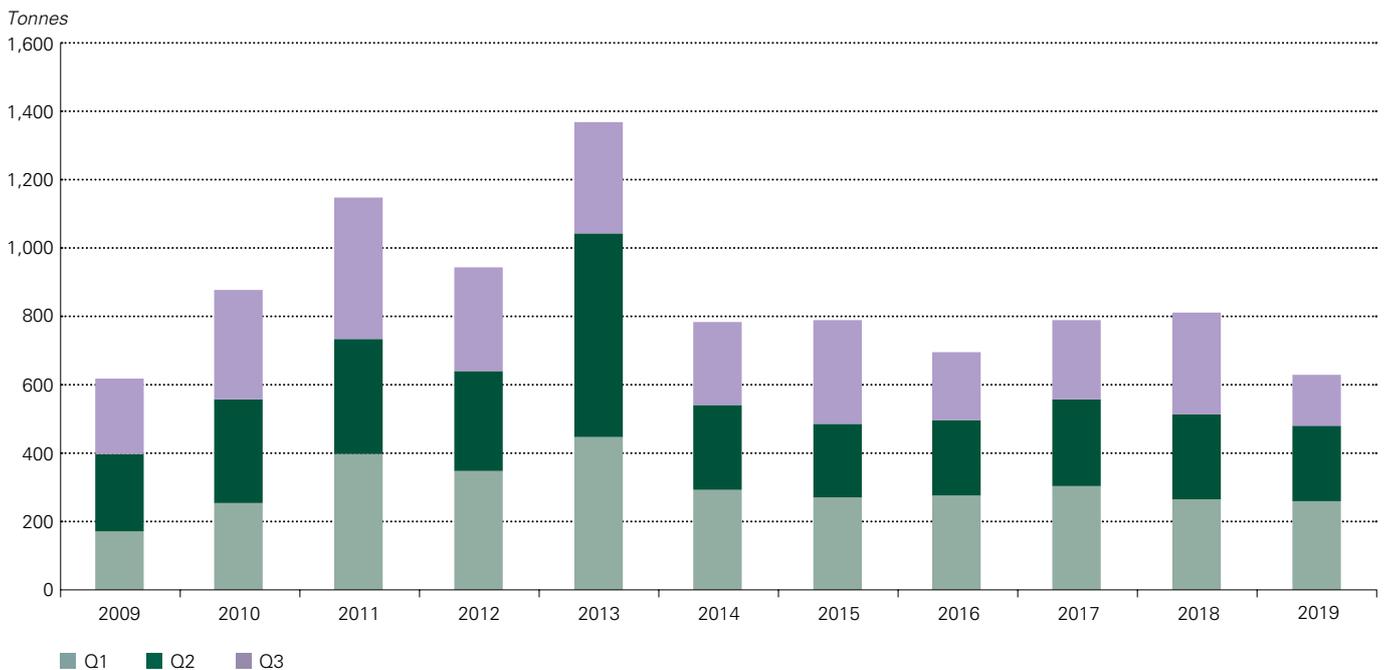
China's bar and coin demand fell 51% to 42.8t, its lowest level in three years, as the domestic gold price hit a multi-year high.

On 29 August, Au9999, the Shanghai Gold Exchange's (SGE) physically-backed contract, hit RMB369.2/g, its highest level in eight years. Rather than enter the market at that level, many investors sat back in the hope of a price correction.

In addition, disposable income is being squeezed.

Economic growth in Q3 slowed to 6%, its slowest pace in 27 years, and inflation edged up to 3%, spurred on by the impact of African Swine Flu on the domestic stock of swine.

Y-t-d bar and coin demand was the lowest since 2009 amid higher prices



Source: Metals Focus, Refinitiv GFMS, World Gold Council

In contrast to a lacklustre physical market, gold speculation soared during the quarter. While the higher gold prices were unappealing to consumers, some speculative investors saw this as an opportunity. Trading volumes of Au(T+D), the SGE's margin-traded gold contract, surged to 2,894t in August, creating a new record high as short-term traders bet on higher prices.

Indian bar and coin demand slumped to its lowest level since Q1 2009. The already high gold price surged even higher in Q3 to reach Rs39,011/10g which, coupled with a faltering economy, pushed retail investment down to 22.3t, a fall of 35% y-o-y. Despite the rapid uptick in the gold price there was limited net selling, with dealers reporting that many investors were holding on to their bars and coins in the expectation of further price rises.

Gold demand in India faces increasingly competitive threats from other mainstream investment opportunities. Retail investors' attention has been captured by equities, with the BSE SENSEX flirting with record highs and y-t-d trading volumes at their highest since 2009. But, more importantly, a well-executed marketing campaign by the Association of Mutual Funds in India (AMFI) has generated sustained inflows into systematic investment plans (investment plans that facilitate regular, fixed savings from as little as Rs500 a month), capturing the minds of India's millennials.

Thailand, South East Asia's largest gold market, experienced a rare quarter of net disinvestment in Q3 – its first in ten years. A slowing economy coupled with high dollar gold prices encouraged some investors to liquidate their holdings and lock in some profits. Net disinvestment in Q3 totalled -13.5t, consisting mainly of locally minted bars that were subsequently shipped off to Swiss refineries to be re-refined into higher purity bars for the international market.

Every market in the Middle East contracted y-o-y for the second consecutive quarter, as consumers shied away from high and rising gold prices and struggled amidst continued economic malaise. Regional demand in Q3 was 17.6t, with Iran accounting for 12.6t. There was one bright spot: policy developments in the UAE may prove to be a boost for the region, as the country looks to enhance its position as a global hub for gold and jewellery trade.

Turkey was unique in Q3 – it was the only market in our dataset where retail investment grew y-o-y. Demand rose 45% to 6.7t. The percentage growth, however, was in comparison to a weak Q3 2018 rather than being due to any genuine strength in underlying retail investment demand. When compared to Q2 2019, demand slumped 32%, as many investors took advantage of the increase in the gold price, which according to the Borsa Istanbul rose to a record high of TRY288.9/g on 29 August.

European bar and coin demand fell 38.9% in Q3. Y-t-d demand was 108.5t, the lowest level since 2008. Most markets experienced double digit declines as investors took profits off the back of the record high gold price of €45,200/kg, attained on 4 September. The economic and political uncertainty that has spurred European gold-backed ETF inflows has had little effect on retail investment demand.

Demand in the US was down 2.9t y-o-y, but there were signs of improvement. While demand remained relatively soft, and coins in the secondary market continued to be exported to Germany, dealers reported a healthier two-way market with some investors entering the market on recent price dips.

Central banks

Y-t-d central bank net purchases 12% higher than in 2018

- Central bank net purchases of 156t in Q3 bring the y-t-d total to almost 550t
- Recent buyers were active once again: Turkey, Russia and China led the way
- September marked the end of the fourth, and final, central bank gold agreement (CBGA).

Tonnes	Q3'18	Q3'19	Y-o-y change
Central banks and other institutions	253.1	156.2	↓ -38%

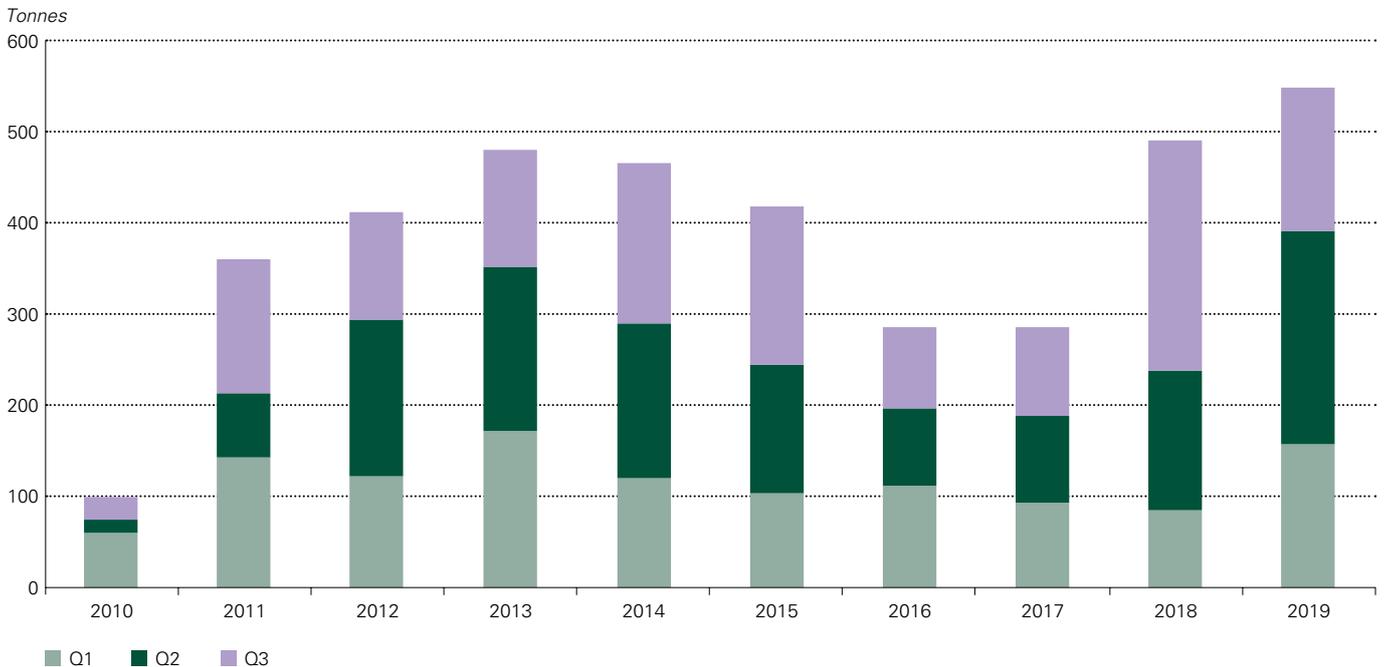
Seemingly unfettered by the remarkable scale of purchases since the start of 2018, central bank buying totalled a healthy 156.2t during Q3. Although 38% lower than the same period last year, this is due to Q3 2018

seeing the highest level of quarterly net purchases since 2010. On a y-t-d basis, central bank net purchases totalled 547.5t at the end of September, 12% higher than over the same period in 2018.

On a y-t-d basis a total of fourteen central banks have reported adding to their gold reserves by one tonne or more. This continues the trend of purchases by a broad spectrum of emerging market central banks – albeit with a small subset accounting for the bulk of the purchases.

In Q3, Turkish gold reserves saw the largest increase, rising by 71.4t to over 380t.^{3,4} This included its largest ever monthly purchase, with the central bank buying 41.8t in August. Total gold reserves in Turkey now stand at 385.5t, the highest level on record.⁵ Russia also continued to see its gold reserves swell, albeit at a slower rate since the central bank began buying gold at a discount in May; after adding 55.3t and 38.7t in Q1 and Q2 respectively, 34.9t tonnes were added in Q3. Gold reserves now total 2,241.9t, accounting for a fifth of total reserves and worth over US\$100bn. The central bank recently indicated that it

Y-t-d central bank net purchases are 12% higher than last year



Source: Metals Focus, Refinitiv GFMS, World Gold Council

3 Excluding changes in commercial banks' gold holdings at the central bank as part of the Reserve Option Mechanism (ROM) policy.

4 This excludes data for September, which was not available at the time of publication.

5 Monthly IMF gold reserves data for Turkey extends back to December 1950.

Central banks

had almost halved its allocation to US dollars – from 43.7% to 23.6% – and is using other currencies, such as the yuan and euro, as well as gold, to boost diversification.

Chinese gold reserves also rose during the quarter, by a relatively modest 21.8t. The People’s Bank of China has reported higher gold reserves every month since it resumed buying in December 2018. The importance that China places on its gold reserves, and the diversification role that gold plays in an international reserves portfolio, was highlighted by Wang Chunying, spokesperson of the State Administration of Foreign Exchange (SAFE): “From a long-term and strategic perspective, we will dynamically adjust the allocation of global reserve portfolios as needed to ensure the safety, liquidity, value preservation and appreciation of international reserves.”

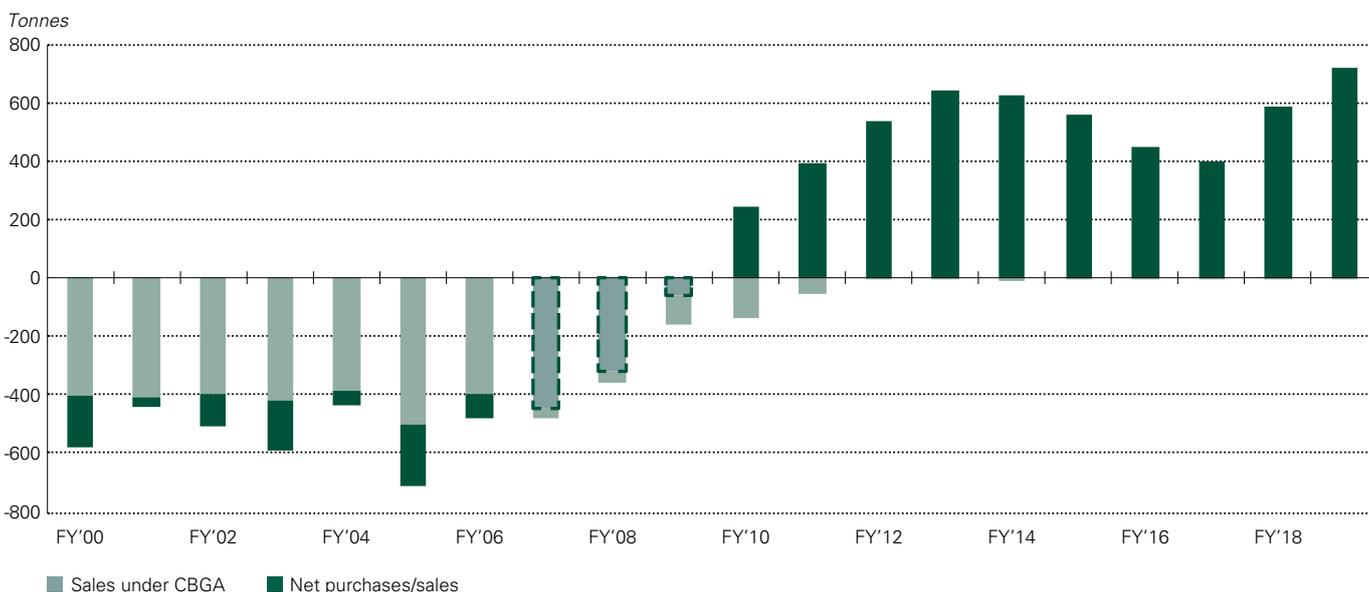
Other net purchasers of one tonne or more during the quarter included the United Arab Emirates (4.9t), Qatar (3.1t), Kazakhstan (2.1t), Kenya (1.9t) and the Kyrgyz Republic (1.2t).⁶

Reported net sales amounted to 28.7t during Q3. Net sales continued to be overshadowed by net purchases in Q3, with Uzbekistan (-18t), Guinea (-2.2t) and Mongolia (-1.1t) the only central banks to lower reserves by one tonne or more.⁷

Farewell to the Central Bank Gold Agreement (CBGA).

Q3 also marked the end of the fourth, and final, Central Bank Gold Agreement. When the first CBGA was signed in September 1999 the gold market was drastically different: gold demand was less diverse and the price far lower. The uncoordinated selling by central banks at the time destabilised the market, necessitating a formal agreement to control sales. But sales under subsequent CBGAs progressively declined to inconsequential levels as the gold market became more diverse and stable, and central banks became net purchasers in the wake of the global financial crisis. As such, it was announced in July that a formal agreement was no longer needed. The signatories to the final agreement signed off by confirming that “gold remains an important element of global monetary reserves and none of them currently has plans to sell significant amounts of gold.”

The CBGA became less relevant after the global financial crisis



Note: Full year (FY) periods cover central bank activity between October-September to correspond to the CBGA.

Source: Metals Focus, Refinitiv GFMS, IMF IFS, European Central Bank, World Gold Council

6 All country-level data includes data available for Q3 at the time of publication.

7 It has been reported in the media that the Bank of Mongolia bought 11.2t y-t-d, however this is yet to be reflected in the data reported by the IMF.

Technology

The sector faced continued challenges, but accelerating deployment of 5G infrastructure has slowed declines in demand from the electronics sector

- The electronics sector saw further weakness in gold used for Light Emitting Diode (LED) and memory applications
- This was offset by strong growth in wireless demand (+30-40% y-o-y), boosted by rapid growth in the deployment of 5G infrastructure
- Dental demand continued its steady decline (-7% y-o-y), whilst other technology applications weakened by 6%.

Tonnes	Q3'18	Q3'19	Y-o-y change
Technology	85.4	82.2	↓ -4%
Electronics	68.8	66.5	↓ -3%
Other industrial	12.9	12.2	↓ -5%
Dentistry	3.7	3.5	↓ -7%

The third quarter saw a 4% y-o-y drop in the amount of gold used in the technology sector, to 82.2t. Whilst this was the fourth consecutive quarter of falling demand y-o-y, there are indications that some of the key electronics sectors are beginning to recover.

Electronics

Gold used in electronics fell 3% to 66.5t during Q3 due to a broad slowdown across the sector. The World Semiconductor Trade Statistics (WSTS) organisation published updated data during the quarter, which illustrates a stuttering market throughout 2019; the worldwide semiconductor market is forecast to decline 13% to US\$406.6bn from 2018's US\$468.8bn record high. The WSTS predicts weakness across all geographical regions before an equally widespread recovery in 2020, with the market up 4.8 percent overall.

The LED sector experienced another weak quarter, with gold used in these applications down 8-10% y-o-y. Weakness in China's automotive market contributed to the general market sluggishness. Mini-LED technology continued to gain a foothold, with some high-end notebooks now utilising this gold-free alternative. In parallel, the Chinese display market also saw continued weakness; inventories in this sector are high and this may temper growth in gold demand should the market recover in the coming quarters.

Printed Circuit Board (PCB) demand was stable during Q3, edging higher by 1-2%. Miniaturisation in the smart phone sector has stunted growth in the sector. Although increasing functionality has fuelled production growth, the requirement for high density packaging has driven miniaturisation, hence less gold per unit. However, it is also estimated that total PCB demand in 5G infrastructure will be four to five times greater than 4G's. Combining this with the generally positive outlook for consumer electronics and artificial intelligence applications, the outlook for gold demand in the PCB sector remains positive.

The memory sector again registered a small decline, in the region of 3-5% y-o-y, mirroring Q1 and Q2.

The ongoing challenges in the sector were again under the microscope as some of the world's largest manufacturers announced reduction plans during the quarter; both Samsung and Micron have had a difficult 2019 although analysts believe the memory sector may have reached the bottom of the cycle. Indeed, a stabilising inventory, a recovery in PC/notebook shipments and rising demand in mobile devices seems to have steadied the ship and we expect to see a smaller decline in Q4.

Finally, the wireless sector surprised during Q3 with significant growth of 30-40% y-o-y.

This has been fuelled by the rapid acceleration of 5G infrastructure deployment. Major manufacturers are in the process of implementing significant capacity increases; in 2020 Advanced Wireless Semiconductor will raise production by 30% and Win Semiconductor will implement a ~15% increase. Adding this to the already positive outlook for the automotive sector means strong demand is likely to continue into Q4 and 2020. The key eastern fabrication hubs of Mainland China and Hong Kong (SAR) and Japan registered falls in gold volumes in Q3, of 3.8% and 6.5% respectively. As seen during H1 19, the US bucked this trend with a small increase of 1.1%.

Other industrial and dentistry

Dental demand continued its ongoing decline, falling 7% y-o-y to 3.5t, with losses across all territories. Meanwhile, gold used in other industrial applications fell 6% to 12.2t. In the laboratory, gold continues to be at the heart of many R&D projects with huge potential for future application. During Q3, scientists in the UK developed ultra-thin, two-dimensional layers of gold nanoparticles that could be used across a range of sectors, including medical devices, electronic inks, catalysts, water purification systems and flexible device screens.

Supply

Total supply rose 4% in Q3, boosted by the highest level of recycling since 2016

- Mine production softened 1% y-o-y in Q3, flat y-o-y on y-t-d basis
- The June to September price rally encouraged higher levels of net producer hedging in 2019
- Recycled gold volumes reached 354t in Q3, the highest quarterly total since Q1 2016.

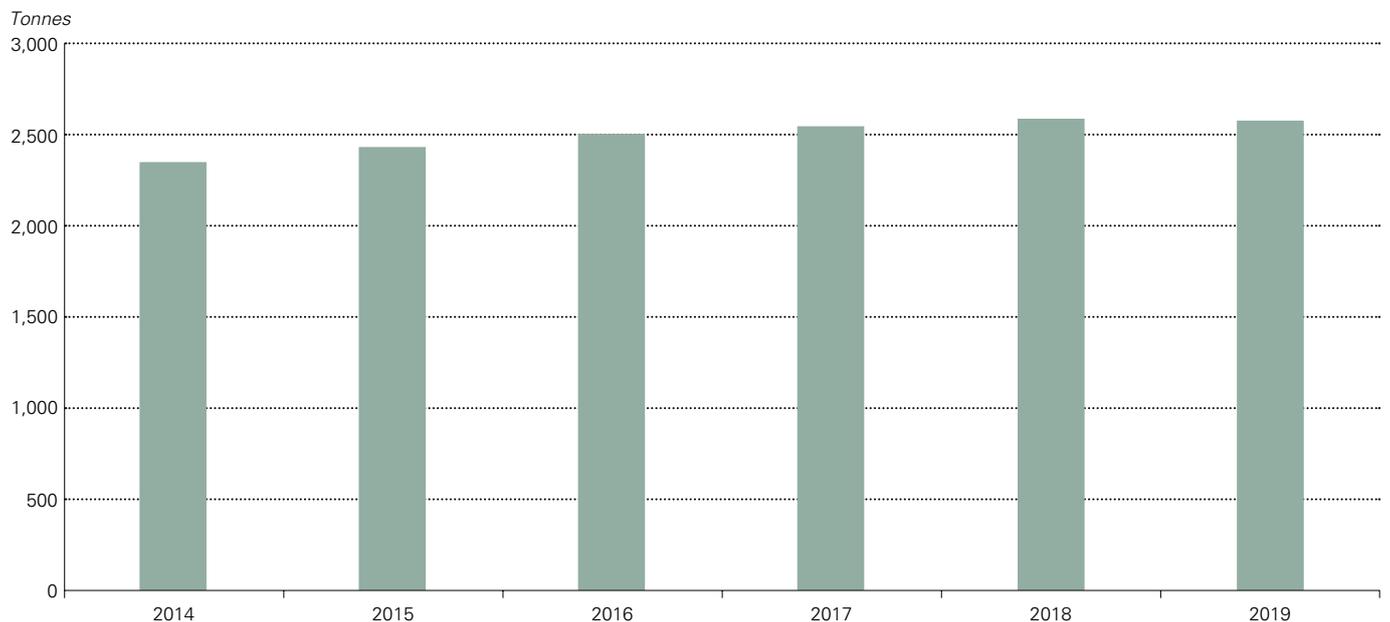
Tonnes	Q3'18	Q3'19	Y-o-y change	
Total supply	1,179.7	1,222.3	↑	4%
Mine production	883.3	877.8	↓	-1%
Net producer hedging	-24.1	-9.2	↑	-
Recycled gold	320.6	353.7	↑	10%

Mine production

Mine production was fractionally lower at 877.8t in Q3 (-1% y-o-y). This is comfortably above the five-year quarterly average of 851.9t. On a y-t-d basis, mine production now amounts to 2,583.4t, virtually unchanged from the same period in 2018.

Gold output in Mexico saw an 11% increase y-o-y in Q3. Output was boosted as operations resumed at Peñasquito, having been suspended due to a dispute between local communities and contractors. However, the dispute does not seem to be over; operations were suspended again towards the end of the quarter as talks broke down. Gold production in Australia rose 7% y-o-y, boosted by incremental increases at several mines, while Ghanaian gold production (4%) benefitted from scheduled output increases at both Ahafo and Akyem. And while Russian Q3 mine production was flat y-o-y, we continue to see a ramp up of several projects in the country – particularly in the Far East region.

Y-t-d mine production is virtually unchanged from 2018



Source: Metals Focus, World Gold Council

Chinese gold production suffered another quarter of y-o-y declines (-4%) as the industry continues to be impacted by the strict environmental regulations introduced in 2017. In the US, mine production was marginally weaker (-1%) due to lower scheduled output from several Nevada mines – including Cortez and Goldstrike. South African gold output (-6%) was impacted by the tail end of industrial action, which hampered production significantly in H1. Peru's 12% decline in mine production was a consequence of falling grades due to mine scheduling. Indonesian output saw the largest y-o-y decline in Q3 – down 41%. This was due to the exhaustion of higher-grade ore at Grasberg and transitions from open pit to underground mining, as well as output constraints at Batu Hijau (phase seven open pit expansion, as well as copper concentrate limits and a lack of local smelting capacity).

Slight increase in costs has not dented margins significantly. Despite many key producer currencies remaining weak against the US dollar – which helps reduce costs at operations outside of the US – global average all-in sustaining costs (AISC) increased during Q2 (the latest data available). This rise was reflective of ongoing operational issues, such as industrial action and mine plan transitions. Despite this, all-in sustaining margins remained very healthy, thanks in large part to the significant increase in the gold price. There appears to be little indication that the industry has begun mining lower grade ore in response to the higher margins.

Producer hedging

In Q3, early estimates indicate that gold miners reduced the global hedge book by 9.2t.⁸ This follows net hedging of 47.5t in H1, which brought the global hedge book to 265.8t at the end of June, its highest level since Q1 2018.

Tactical opportunity for more hedging. Hedging activity in 2019 has been a direct response to the impressive rise in the gold price. Y-t-d, the international gold price has risen by more than US\$200/oz (+16%), but this has been eclipsed by the price rise in many key producers' currencies. The price is at, or near, record highs in Australian dollars, Russian rubles and Canadian dollars, among others. However, while the higher gold price has encouraged some miners to enter fresh positions, some may have used it as opportunity to restructure existing positions.

⁸ All figures are provisional so may be revised when more data is made available.

Recycling

Recycled gold supply grew 10% in Q3, to 353.7t. On a y-t-d basis, gold recycling totals 963.1t, over 8% higher y-o-y. This is the highest level since 2016, when a higher price environment prompted a wave of selling back in the first three quarters. In fact, Q3 2019 is the highest level of quarterly recycling since Q1 2016, and significantly above the five-year quarterly average.

As in 2016, growth in gold recycling was primarily driven by a significant rise in the gold price. In Q3, the international gold price – in US\$/oz – rose by 5%, following a rise of 9% in Q2. But this was bettered by the local gold price in many key markets. This, coupled with the global economic slowdown, resulted in consumers continuing to part with some of their gold holdings.

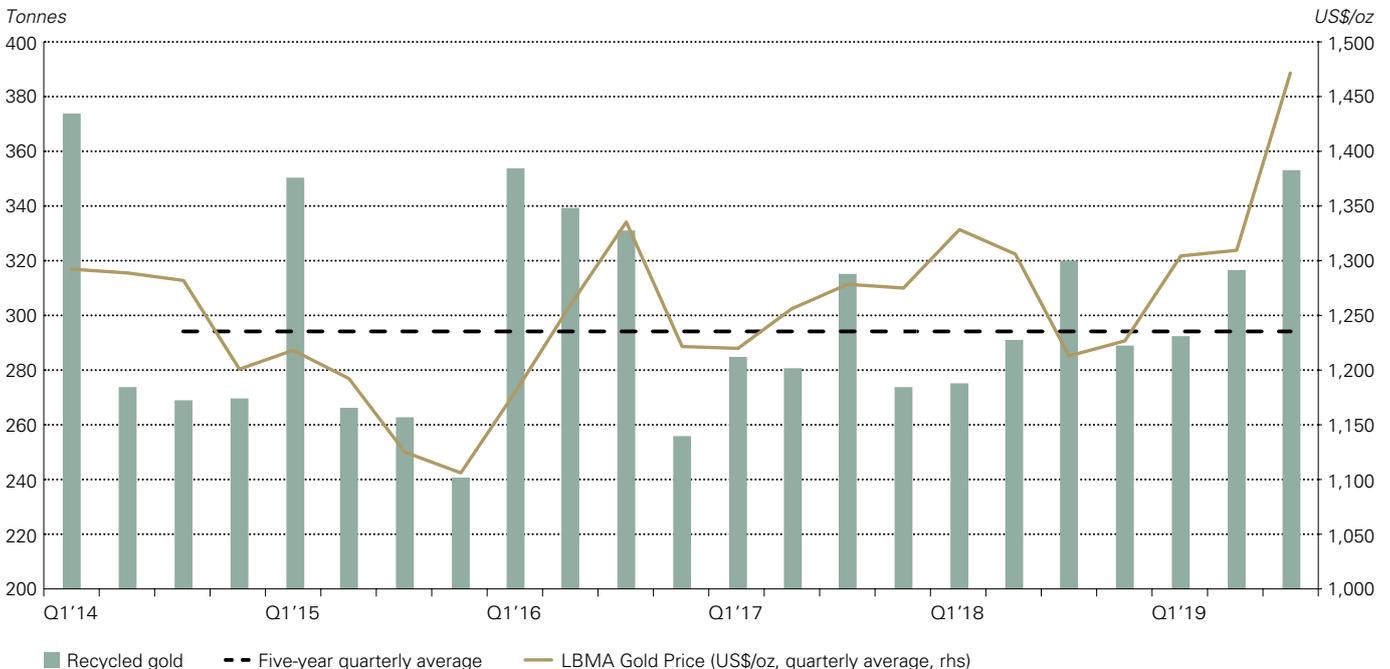
In the Middle East, Turkey and Iran bucked the trend. While most markets in the region saw an increase in recycling during Q3, recycling declined in Turkey and Iran. In Turkey, the y-o-y change was impacted by the high levels of recycling seen in Q3 2018 when the local price

soared, flushing out near-market supplies. But as the price remains near record highs more recycled supply may be coaxed out during Q4. In Iran, consumer sentiment was affected by the relatively low level of the gold price – around 20% down from its peak due to the strengthening rial.

Recycled gold in India saw a dramatic increase in Q3, as the gold price hit multiple record highs. The gold price rose sharply in August, to around Rs38,795/10g, before going on to break the Rs39,000/10g level at the beginning of September, 24% higher than at the start of the year. At such record price levels consumers' focus remained on selling rather than buying. Recycled gold supply in Q3 was similar to Q2 when the price rally began. China, too, saw noticeably higher gold recycling levels in Q3 owing to the higher gold price.

Following the modest increase in Q2, recycling in the western markets of North America and Europe continued to rise during Q3. In Europe, record prices in both euros and pounds sterling lead to higher levels of selling back.

Recycled gold volume responded strongly to the price rally in Q3



Note: Five-year quarterly average covers Q3'14 to Q2'19.
 Source: Metals Focus, ICE Benchmark Administration, World Gold Council

About the World Gold Council

The World Gold Council is the market development organisation for the gold industry. Our purpose is to stimulate and sustain demand for gold, provide industry leadership, and be the global authority on the gold market.

We develop gold-backed solutions, services and products, based on authoritative market insight, and we work with a range of partners to put our ideas into action. As a result, we create structural shifts in demand for gold across key market sectors. We provide insights into the international gold markets, helping people to understand the wealth-preservation qualities of gold and its role in meeting the social and environmental needs of society.

Based in the UK, with operations in India, the Far East and the US, the World Gold Council is an association whose members comprise the world's leading gold mining companies.

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