

Gold Demand Trends

Q1 2019

Highlights

Central banks bought 145.5t of gold, the largest Q1 increase in global reserves since 2013.

Diversification and a desire for safe, liquid assets were the main drivers of buying here. On a rolling four-quarter basis, gold buying reached a record high for our data series of 715.7t.

Q1 jewellery demand up 1%, boosted by India. A lower rupee gold price in late February/early March coincided with the traditional gold-buying wedding season, lifting jewellery demand in India to 125.4t (+5% y-o-y) – the highest Q1 since 2015.

ETFs and similar products added 40.3t in Q1. Funds listed in the US and Europe benefitted from inflows, although the former were relatively erratic, while the latter were underpinned by continued geopolitical instability.

Bar and coin investment softened a touch – 1% down to 257.8t.

China and Japan were the main contributors to the decline. Japan saw net disinvestment, driven by profit-taking as the local price surged in February.

Gold used in applications such as electronics, wireless and LED lighting fell 3% to 79.3t. Trade frictions, sluggish sales of consumer electronics and global economic headwinds hit the technology sector.

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Gold demand lifted by central banks and ETFs

Global gold demand grew to 1,053.3 tonnes (t) in Q1, up 7% y-o-y.

This compares with a relatively weak Q1 2018, when demand sank to a three-year low of just 984.2t. Central bank buying continued apace: global gold reserves grew by 145.5t. Gold-backed ETFs also saw growth: quarterly inflows into those products grew by 49% to 40.3t. Total bar and coin investment weakened a fraction to 257.8t (-1%), due to a fall in demand for gold bars; official gold coin buying grew 12% to 56.1t. Jewellery demand was a touch stronger y-o-y at 530.3t, chiefly due to improvement in India's market. The volume of gold used in technology dipped to a two-year low of 79.3t, hit by slower economic growth. The supply of gold in Q1 was virtually unchanged, just 3t lower y-o-y at 1,150t.

Central banks drive global growth with Q1 net purchases hitting six-year high



Source: Metals Focus; Refinitiv GFMS; World Gold Council

Jewellery

Gold jewellery demand marginally higher at 530.3t

- Much of this growth came from India, where wedding-related demand was boosted by a timely correction in the local gold price
- Demand in the US increased for the ninth consecutive quarter, gaining 1% to 24t – the highest Q1 total since 2009
- Meanwhile, Chinese demand fell 2% y-o-y to 184.1t as the slowing economy and international trade frictions affected consumer sentiment during the quarter.

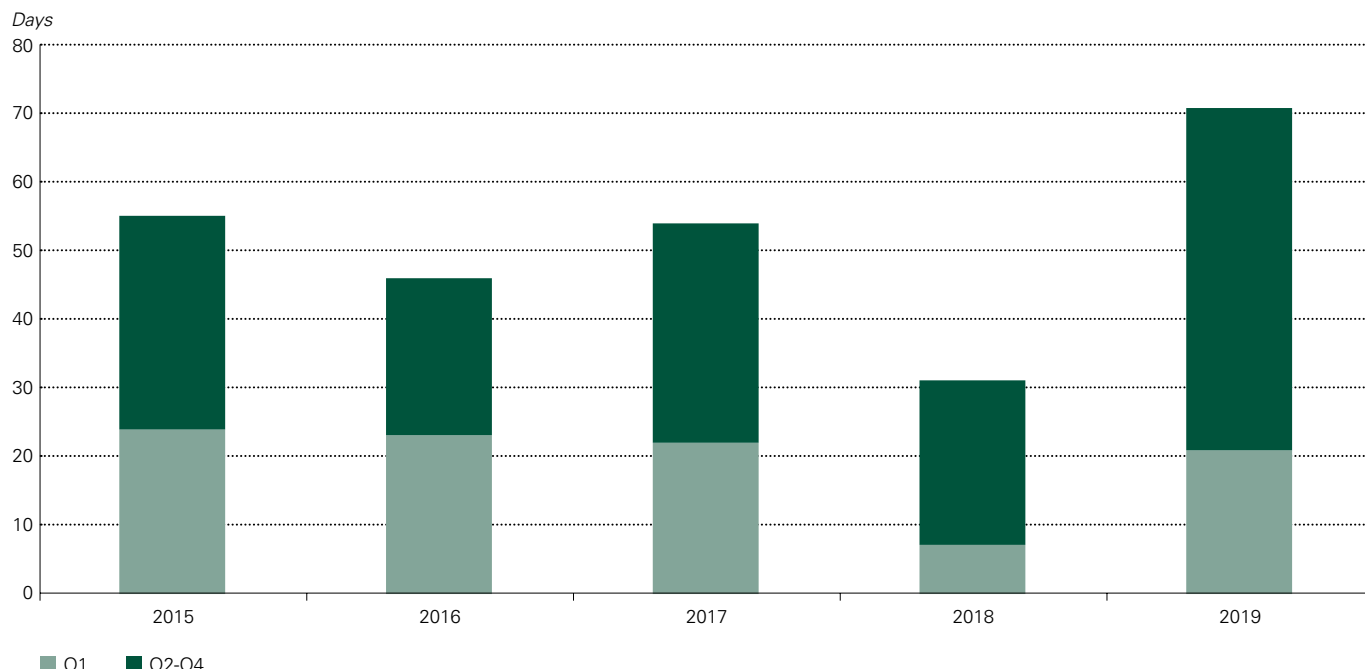
Tonnes	Q1'18	Q1'19	Y-o-y change	
World total	527.3	530.3	↑	1%
India	119.2	125.4	↑	5%
China	187.5	184.1	↓	-2%

Global demand for gold jewellery inched up to 530.3t in Q1, worth US\$22.2bn. India was the primary driver of growth: demand of 125.4t was the highest Q1 since 2015. Although demand in the US continued to expand, the pace of growth slowed as the prolonged government shutdown hit demand in January. The Middle East region saw a modest y-o-y recovery, although this is largely because demand in Q1 2018 was hit by the introduction of VAT in the UAE and Saudi Arabia. Iran was a notable exception, falling by 10%.

India

Wedding purchases and lower prices lifted Indian gold jewellery demand to 125.4t (+5% y-o-y). The first half of the quarter was subdued; the month-long inauspicious period of Kharman/Malman ended in mid-January and was followed by a sharp rise in the local gold price, hitting Rs33,730/10g by the third week of February.¹ Prices then swiftly retreated, falling to Rs32,000/10g by the first week of March, and consumers took advantage of the correction, rushing to make wedding-related purchases and pushing the local price to a premium.

Greater number of wedding days supported Q1 Indian jewellery demand



Source: Drik Panchang; World Gold Council

¹ The period of Kharman (also known as Malman) is an inauspicious period in the Hindu calendar followed in North India.

A higher number of auspicious days boosted

wedding-related demand. There were 21 auspicious wedding days in the Hindu calendar during Q1 2019 – three times that of Q1 2018. This was a crucial factor behind the growth in India's jewellery demand.

So far, the market has been largely unaffected by the restrictions on cash movement that came into force mid-March. The code of conduct for elections restricts anyone from carrying cash worth more than Rs50,000 (approx. US\$700) without also carrying documentation proving the legal source of, and end use for, that cash. But this could act as something of a headwind for demand throughout the second quarter, given the timing of the election – 11 April to 19 May.

Retail promotions also attracted consumers.

Organised retailers, conscious that gold jewellery faces growing competition from electronics, designer brands and vacations, have launched promotional schemes to attract consumers. Most common were campaigns offering discounts on jewellery-making charges, but some retailers also began actively promoting low carat (14c), lightweight jewellery, specifically targeting younger consumers. Alongside these promotional efforts, jewellery demand will likely be boosted in Q2, by traditional wedding season buying, the Akshaya Tritiya festival on 7 May and higher crop prices than last year.²

China

Chinese consumers were relatively conservative in their jewellery buying in Q1. Demand softened by 2% to 184.1t, despite the traditional boost from the Chinese New Year holiday. The market faced a few headwinds: gold prices were relatively volatile during Q1 and consumers remained wary of the slowdown in the domestic economy, particularly against the background of the international trade conflict.

But regardless of the lack of growth, China's jewellery market continued to innovate and develop.

Hot on the heels of antique crafted gold and 3D hard gold, which have both gained a solid foothold in the market over the last 12-18 months, a new category of gold was introduced to compete with 22k. '5G' or 'HD' gold offers the purity of 24k gold combined with the rigidity of 3D hard gold and the fashionable designs of 18k. This will be a segment of the market to watch over the coming year.

Middle East and Turkey

Jewellery markets in the Middle East and Turkey experienced mixed fortunes in Q1.

While demand in both Turkey and Iran was hit by sliding currencies, Egypt registered decent gains. Although the UAE and Saudi Arabia saw growth, this was largely because Q1 2018 was very weak due to the introduction of VAT.

Jewellery demand in Turkey fell 12% to 8.9t as the lira slid further against the US dollar, pushing local gold prices steadily higher.

Consumers faced continued economic hardship: unemployment rose to 15% and rising inflation hit disposable incomes.³ Although the lira-denominated gold price remained below the record spike from August 2018, it continued the steady grind higher that began in late November.⁴ Against this backdrop a fall in jewellery demand was entirely to be expected. On the other hand, bar and coin demand jumped in response to the increasingly difficult economic and geo political environment.

Iran faced similar challenges. The country remained crippled by sanctions and the currency slid by 21% against the US dollar during Q1. Demand consequently fell 10% y-o-y to 9.6t – the lowest Q1 for four years. The q-o-q comparison was relatively positive (+27%) as demand recovered from the severe weakness of Q2-Q4 2018. But we believe the market will remain under pressure over the remainder of 2019, with continued y-o-y declines coming through.

2 Akshaya Tritiya is a highly auspicious holy day in the Hindu calendar, which is believed to bring good luck and success. It is popular to buy gold on Akshaya due to the belief that it will bring prosperity in future.

3 www.turkstat.gov.tr/Start.do?jsessionid=k9TbcCLpW1xQ2RcVQRYkLsnvSNqr4q4bJnGjgWJmQJ8YFHsVtDw6!100113062

4 Quarterly average prices in Q1 reached a record (of TRY225.3/g) as this average smoothed out the sharp peaks and troughs from Q3 2018.

Firmer Q1 jewellery demand across the rest of the region was more a function of 2018 weakness than any real strength. Demand in the UAE and Saudi Arabia made y-o-y gains of 6% and 10% respectively. But the comparison is with a weak Q1 2018 – a time when demand slumped as a new VAT was introduced. The VAT refund offered to tourists in the UAE has only seen limited take-up: in particular, Indian tourists are reluctant to claim in case their information finds its way to the Indian tax authorities. And Saudi Arabia continues to sag under the weight of its localisation drive; the inexperienced, relatively unskilled local workforce is struggling to fill the void left by expat workers.

The story in Egypt was one of more genuine, structural improvement. Demand saw a fifth consecutive quarter of y-o-y growth, rising to 6.9t. Continued appreciation in the local currency helped drive a sharp drop in the local gold price and this fuelled demand during the quarter. The jewellery trade got a boost after cost-savvy manufacturers shifted production to Egypt in an effort to slash labour costs.

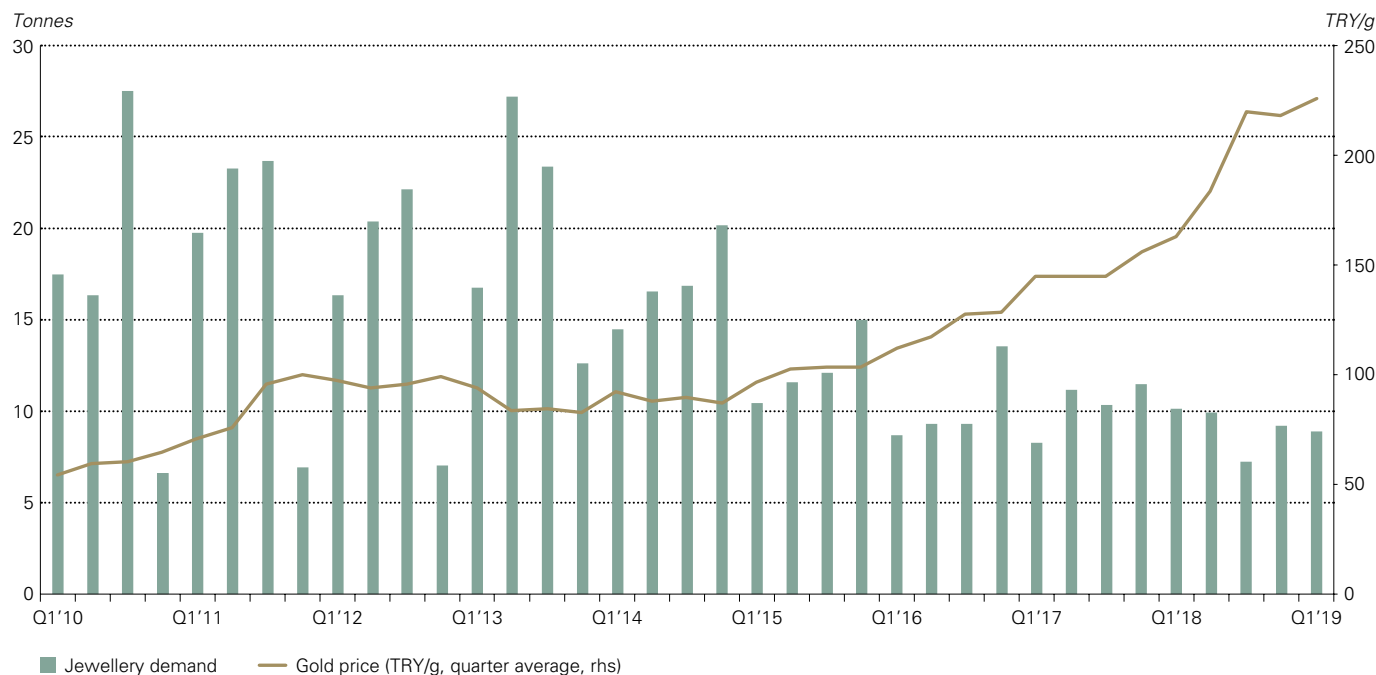
The West

The US jewellery market saw marginal growth: demand reached 24t in Q1. Although this was the ninth consecutive quarter of y-o-y growth in the third largest gold jewellery market, the pace of expansion slowed notably. The prolonged government shutdown hit demand in January, as demonstrated by a drop in gold jewellery imports that month.

But a few bright spots remain. The higher-end jewellery segment remains robust. And independent retailers in more affluent and/or Hispanic-dominated areas reported a strong quarter. Lower-tier, mass market retailers were less resilient, although the challenge to gold from branded silver and costume jewellery is fading which bodes well for demand. One area of concern is the wedding market, where platinum and base metals are encroaching on gold's position as the metal of choice for men's wedding bands.

European jewellery demand slipped 1% to 12.7t – on a par with Q1 2017. The regional weakness was chiefly due to losses in the UK and France, where demand was hit by the fragile economic outlook and political uncertainty.

Jewellery demand in Turkey shrank as lira weakness pushed up local prices



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

Other Asia

The smaller markets in the Asian region were a mixed bag in Q1. Performance ranged across the spectrum from weak (South Korea and Singapore), to stable/firm (Malaysia, Japan and Thailand) and strong (Vietnam and Indonesia).

Weakness was most pronounced in South Korea where demand fell 19% to 5.0t, the lowest Q1 since 2009. The market was undermined by its exposure to the global trade cycle and the US/China trade dispute. Total Q1 exports declined for the first time in more than two years, with unemployment consequently rising to a nine-year high.⁵

The Q1 picture in Vietnam was contrastingly positive: jewellery demand grew 6% y-o-y to 5.4t, the strongest quarter for jewellery demand since Q1 2011. A healthy and sustained rate of economic growth has had a positive income effect, supporting jewellery demand during the Vietnamese New Year (Tet holiday) – a traditional gold-buying occasion.

Jewellery consumers in Japan seemed to be attracted to gold's investment properties. Retailers reported that 'kihei' chains – plain, heavy gold chains that serve as quasi-investment products – were popular. This is interesting as it suggests a disconnect between gold jewellery buyers wanting to benefit from gold's investment benefits and gold retail investors, who mostly took profits on their investment holdings in Q1.

⁵ www.kostat.go.kr/portal/eng/index.action

Investment

Bar and coin demand marginally weaker at 257.8t; ETFs saw inflows of 40.3t

- Bar demand fell 5%, chiefly due to weakness in China and Japan
- Contrastingly, coin demand increased in several markets, pushing the global total up 12%
- Investors globally added 40.3t to gold-backed ETF holdings in Q1.

Tonnes	Q1'18	Q1'19	Y-o-y change	
Investment	288.4	298.1	↑	3%
Bar and Coin	261.3	257.8	↓	-1%
India	32.3	33.6	↑	4%
China	77.3	71.2	↓	-8%
Gold-backed ETFs	27.1	40.3	↑	49%

ETFs

Gold-backed ETFs saw a strong start to the year, with 40.3t of global inflows during Q1. In value terms, those inflows were equivalent to US\$1.9bn. But flows during the quarter were not just one way – there were notable monthly variations: chunky inflows in January (+71.4t) were partially offset by February outflows (-32.9t) while March was broadly neutral (+1.8t). Global AUM grew almost 2% during Q1, to reach 2,482.8t (US\$103.4bn) by quarter-end.

At a regional level, products listed in the US and Europe both had decent inflows – of 26.4t and 20t respectively – while AUM in funds listed in Asia and other regions declined slightly (-6.1t).

US-listed funds grew by 2% during Q1. Investors added 26.4t to their holdings of North American-listed funds, equal to US\$1.1bn of inflows. But investment flows were not consistent throughout the quarter. Strong January inflows (+53t) were supported by the US government shutdown, an escalation in US/China tensions after the White House cancelled a planned trade discussion, and growing doubts over the health of the US economy. February saw much of those flows reversed as the more tactical investors took profit on their holdings.

Despite US stock markets generating their strongest quarterly returns in ten years, investor sentiment in Q1 was underpinned by the shifting stance of the Federal Reserve, which adopted a more neutral monetary policy approach. The concurrent shift in market expectations – from a predicted scenario of US rate rises to one in which rates stay unchanged over the remainder of this year – supported demand for gold-backed ETFs.⁶ And this more dovish outlook should underpin regional demand for the rest of 2019, although continued strength in the stock market would be a headwind.

AUM in European-listed ETFs remains near all-time highs. As the euro gold price surged to an 18-month high in the early weeks of the year, investment flowed in to regional gold-backed ETFs (+20.1t). AUM in these products hit record levels, breaching 1,200t. Since the January influx, investment has been steady; marginal February outflows were fully reversed in March.

⁶ www.gold.org/goldhub/research/the-impact-of-monetary-policy-on-gold

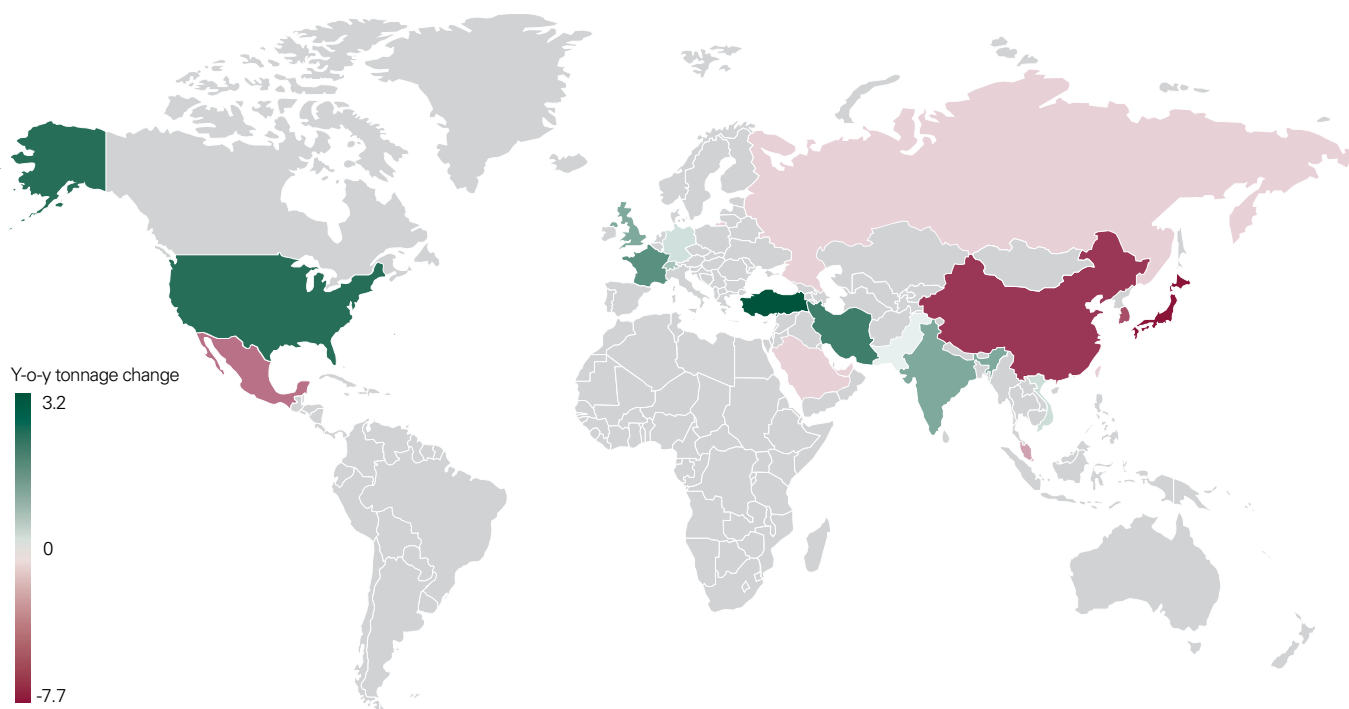
Investment

Geopolitics remains a key driver of investment in the region, with investors prizing gold's safe haven status amid the background of low/negative yields, financial market volatility and geopolitical worries.⁷ The forthcoming European parliamentary elections and the possibility that right-wing, populist parties will gain more of a foothold in the region, are a looming concern. As are Italy's burgeoning budget deficit and the ongoing Brexit saga. The latter helps to explain why holdings in UK-listed funds remained near all-time highs in Q1.

Gold-backed ETFs listed in other regions saw small outflows in Q1. Asian-listed funds lost 4.9t, much of which came from China. Continued rotation out of Boser's funds meant a decline of 2.1t in the holdings of those two products. And the Huanan Yifu Gold fund lost 2.9t as investors fixed their attention on the rallying domestic stock market.

China and Japan pushed global retail investment demand down

Bar and coin demand (y-o-y tonnage change, top and bottom 10)



Source: Metals Focus; World Gold Council

Bars and coins

Bar and coin demand totalled 257.8t in Q1 2019, down 1.4% compared to the same period last year. This was largely due to a drop in Chinese demand and net disinvestment in Japan, which pushed global bar demand down 5% y-o-y. Official coin demand, however, had its best start since 2014, rising 12% y-o-y to reach 56.1t. Iran, Turkey, South Africa, the UK and US accounted for most of this growth.

⁷ www.gold.org/goldhub/research/market-update/european-etps-reach-record-highs

Retail investment demand in China fell 8% to 71.2t in Q1.

The year started strongly with many investors taking advantage of the dip in the renminbi-denominated gold price ahead of Chinese New Year. But demand petered out as the quarter progressed, with relatively low levels of retail interest in February and March. Instead, many retail investors in China were more focused on the surging stock market – the Shanghai Shenzhen CSI 300 was up a staggering 30% in Q1 – and stronger currency, both of which were aided by recent fiscal and monetary policies designed to boost domestic economic growth.

There are signs that the domestic supply and demand balance in China's gold trading market is getting tighter. Gold imports fell to their lowest Q1 level since 2014, as authorities controlled gold import quotas. The fall in supply helped push up the premium of the Shanghai Gold Benchmark Price over the LBMA Gold Price.

Rising China premium reflects tighter supply



Source: Shanghai Gold Exchange; ICE Benchmark Administration; World Gold Council

Japan is not the gold market it used to be. Around the turn of the millennium, demand occasionally exceeded 100t a year. Today, it is not unusual for Japan to be a seller of bars and coins. In Q1 2019, it saw net disinvestment of 6.2t, a sharp reversal on the 1.5t it bought in Q1 2018, as investors took profits from the 14% rally in the local gold price between August 2018 and February 2019. But while Japan's retail bar and coin market contracted, demand for *kihei* jewellery – chunky, high-carat, quasi-investment jewellery – flourished. Please see the jewellery section for more detail.

A Q1 price dip in India boosted demand 4% y-o-y.

Demand for bars and coins in India rose to 33.6t in Q1, as the rupee strengthened and investors took advantage of the local gold price coming off its recent highs. But while demand increased, it remains relatively soft, with rising equity markets continuing to be a source of interest for many urban investors.

Although it currently represents only a small part of demand, the landscape of internet investment gold providers continues to evolve. Google Pay is a new entrant to the market recently announcing a deal with India's only LBMA-accredited refiner, MMTC-PAMP.⁸ India's digital-savvy gold investors now have the option of purchasing gold for as little as one rupee using apps on their smartphone, such as PayTM Gold, PhonePe, MobiKwik, SafeGold, and now Google Pay.

Japan's retail investment market is a shadow of its former self



Source: Metals Focus; Refinitiv GFMS; World Gold Council

8 www.livemint.com/technology/tech-news/google-pay-launches-gold-buying-partners-mmmtc-pamp-india-1554989215660.html

South East Asia's largest markets remained healthy.

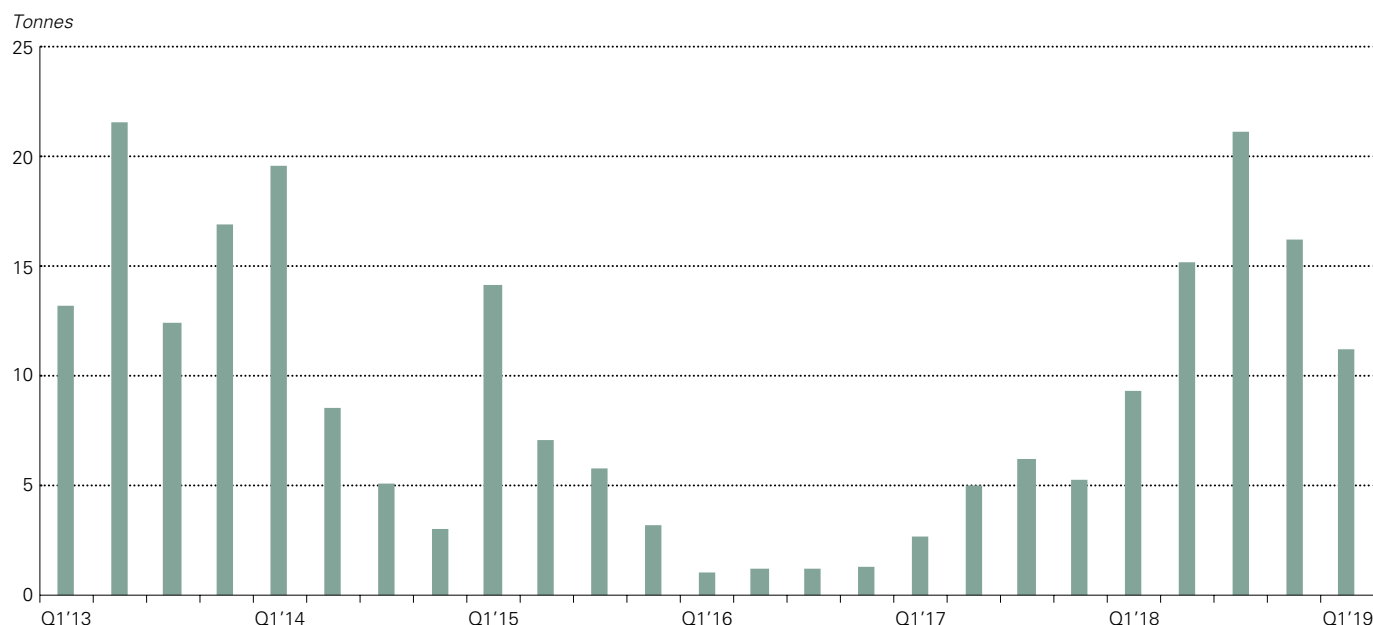
Retail investment demand in Thailand – the region's largest gold market – was steady in Q1 at 21.3t. Strong demand around the lunar new year (TET holiday) in Vietnam buoyed the retail bar and coin market, which was up 5% y-o-y at 13.3t. And demand in Indonesia rose 5%, as the domestic gold price steadied after a burst of volatility towards the end of 2018.

Demand in the Middle East was up 10% y-o-y. This was mostly due to the strength of the Iranian bar and coin market, up 20% y-o-y. This outweighed the contraction of demand in Saudi Arabia and the UAE, both down 5% y-o-y.

While Iran saw strong y-o-y growth, demand eased q-o-q. The continued free fall of the Iranian rial – down around 21% in Q1 2019 – made gold unaffordable for some local retail investors.

After a subdued H2 2018, the Turkish bar and coin market sprang back to life in Q1. Demand rose 25% y-o-y to reach 16.4t as investors became increasingly unsettled by the economic and political backdrop. Unemployment edged towards 15% and inflation crept higher, while domestic and international political tensions added to investor concerns.

Iran bar and coin demand has come off recent highs



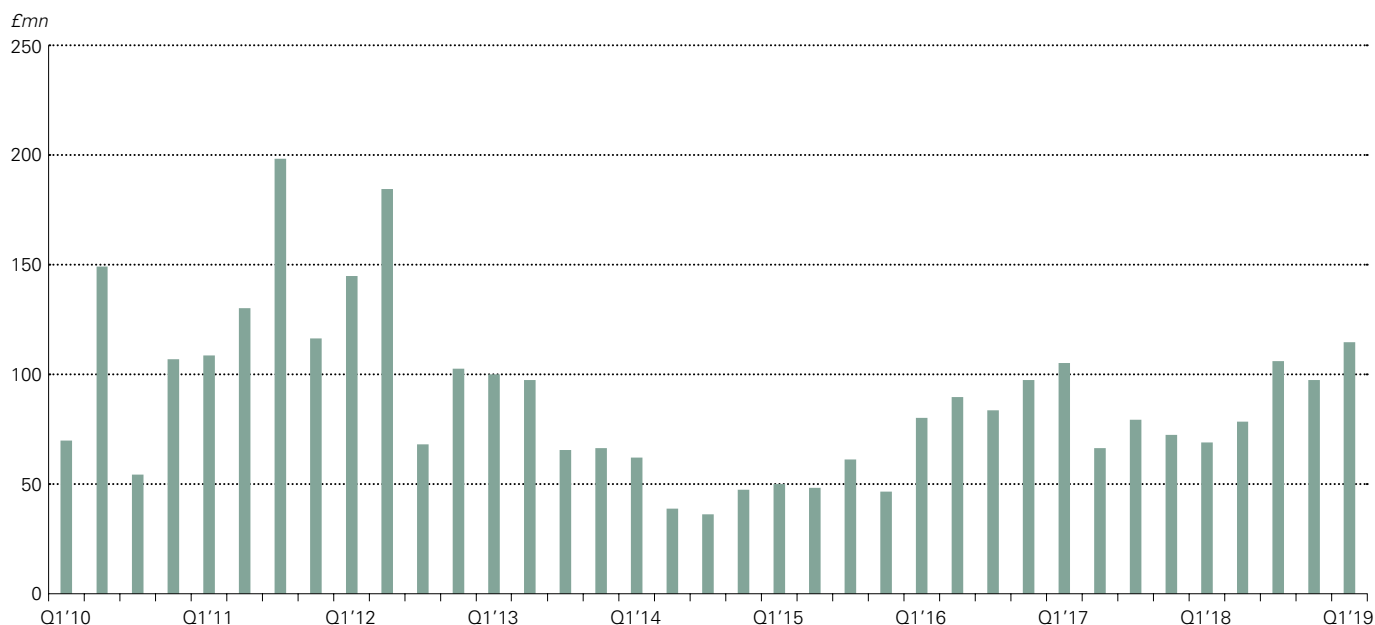
Source: Metals Focus; Refinitiv GFMS; World Gold Council

US bar and coin demand rose 38% y-o-y. This positive start to the year is more reflective of a weak Q1 2018 than a strong rebound in retail investor interest in gold. At 7.6t, demand was still relatively soft – comfortably below the three- and five-year quarterly averages of 12.9t and 13.7t respectively. January stood out as a particularly strong month, but many dealers were disappointed with the lack of retail interest when the gold price fell beneath US\$1,300 in March.

Economic and political uncertainty drove higher investment in Europe. Bar and coin demand rose 10% to 44t as investors became increasingly aware of the slowdown in economic growth, a heightened possibility

of recession, and continued political risk. Germany, the region's largest gold market, rose a modest 3% to 24.1t. The main drivers of growth, however, were Europe's smaller markets. In the UK, demand rose 58% to 3.6t – equivalent to £114.8mn (US\$149.5mn) – the highest quarterly value since 2012, as investors looked to protect their wealth against the potential turmoil a chaotic departure from the European Union could bring.

Brexit boosts UK investment value to six-year high



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

Central banks

Strongest Q1 net buying by central banks since 2013

- Central bank net purchases totalled 145.5t in Q1
- This was the strongest first quarter since 2013 (179.1t)
- A diverse breadth of central banks continued to buy gold: 9 central banks added more than a tonne to their reserves in Q1. Demand for the last four quarters rose to a series high of 715.7t.

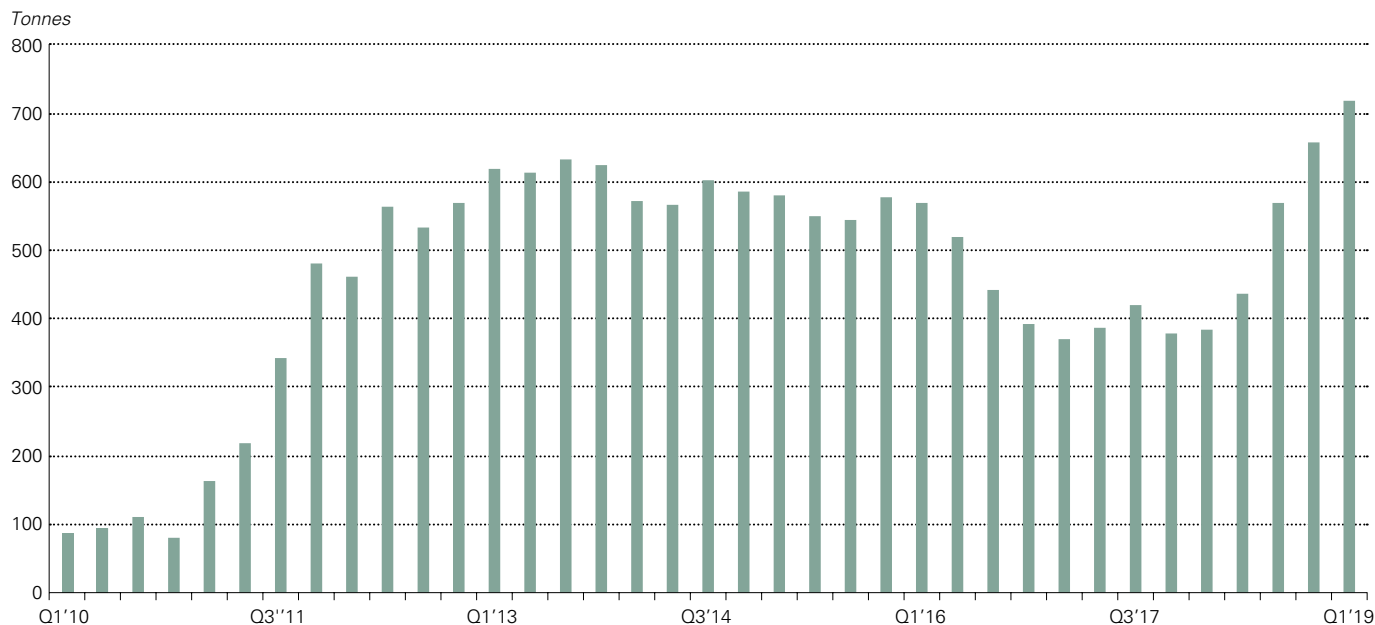
Tonnes	Q1'18	Q1'19	Y-o-y change
Central banks and other institutions	86.7	145.5	↑ 68%

Net buying by central banks reached 145.5t in Q1, 68% higher y-o-y. This is the highest volume of Q1 net purchases since 2013 (179.1t), comfortably exceeding the five-year quarterly average of 129.2t. On a rolling four-quarter basis, demand reached a record high for our data series of 715.7t.

Demand from this sector remains robust. The factors that drove central bank net purchases to a 50-year high in 2018 remained relevant at the start of 2019. Economic uncertainty caused by trade tensions, sluggish growth and a low/negative interest rate environment continued to weigh heavy on reserve managers' minds. And geopolitics still cause consternation. In the face of these challenges, central banks continued to accumulate gold.

Net buying was again notable, not only for its volume but also for its global spread.⁹ Russia was again the largest buyer, adding 55.3t in Q1. This brought gold reserves to 2,168.3t (19% of total reserves). Russia bought 274.3t in 2018 – the fourth consecutive year of +200t increases – while drastically reducing its US Treasury holdings, as part of its 'de-dollarisation' drive. Shortly after the end of Q1, Sergey Shvetsov, deputy head of the central bank, stated that it is necessary to "increase forex and gold reserves even more" in the face of "persisting sanction risks."¹⁰

Central banks buying: rolling four-quarter total reaches new high



Source: Metals Focus; Refinitiv GFMS; World Gold Council

⁹ Country-level tonnage figures quoted are latest available data at time of publication: some figures might not include all months in Q1.

¹⁰ www.themoscowtimes.com/2019/04/04/russia-s-central-bank-flip-flops-on-need-to-build-up-reserves-to-500-bln-a65086

Central banks

China reported net purchases of 33t in Q1, having begun buying gold again in December after a 25 month pause. Monthly net purchases by the PBOC have averaged 11t over the last four months. Total gold reserves now stand at 1,885.5t, less than 3% of total reserves.

Several other banks also made significant additions to gold reserves in Q1. Ecuador bought gold for the first time since 2014, boosting gold holdings by 10.6t. Turkey also continued its programme of gold accumulation, purchasing 40.1t. And India, which began purchasing gold again in 2018 after a nine-year hiatus, bought 8.4t. RBI gold reserves have now grown for 13 consecutive months, reaching 608.8t at the end of Q1. Kazakhstan (+11.2t), whose gold reserves have now grown for 78 consecutive months, Qatar (+9.4t) and Colombia (+6.1t) were also notable purchasers during the quarter.

Q1 saw country-level sales total 11.3t. This is the highest level of sales we have seen for some time and was primarily from three banks. Uzbekistan, which began reporting its gold reserves in March, sold 6.2t in Q1, while Mongolia (-3.4t) and Tajikistan (-1t) were the only other banks whose reserves declined by at least one tonne. It should be noted that our Q1 figure of 145.5t includes – as a sale – the 2015 US\$1.6bn (~42t) swap between Venezuela and Citibank, which expired in March and has yet to be reported via the IMF.

Technology

Q1 2019 saw further falls in technology demand, chiefly due to a weakened electronics sector

- The electronics sector saw weakness across the automotive, consumer and lighting sectors
- Other technology applications registered a small increase in demand, but dental demand continued its decline with an 11% y-o-y fall.

Tonnes	Q1'18	Q1'19	Y-o-y change
Technology	81.8	79.3	↓ -3%
Electronics	65.3	62.9	↓ -4%
Other industrial	12.5	12.9	↑ 3%
Dentistry	4.0	3.6	↓ -11%

Overall, the volume of gold used in the technology sector fell to 79.3t during Q1, a 3% y-o-y decline. This was the second consecutive quarter of falling demand, a direct consequence of a weaker electronics sector and the ongoing trade dispute between China and the US.

Electronics

Gold used in electronics fell 4% to 62.9t during Q1, a consequence of a sector-wide slowdown. Apple, a bellwether for the sector, issued its first profit warning in 17 years during the quarter – a clear signal of weakening consumer electronics sales. And according to the World Semiconductor Trade Statistics organisation, the broader semiconductor market is expected to fall 3% in 2019, with modest growth returning in 2020.¹¹

The LED sector suffered another weak quarter, with gold used in these applications 5-8% lower y-o-y.

Ongoing US-China trade friction continued to weigh heavily: more than 30 lighting applications are now subject to additional duties and this has led to some production shifting out of China. In the longer-term, gold demand within the LED sector is expected to come under further pressure as micro-LED packages begin to replace mini-LEDs, leading to lower gold bonding wire demand.¹²

Gold demand in the Printed Circuit Board (PCB) sector fell by 5-7% y-o-y.

Q1 is traditionally a slow season for PCBs, as manufacturers adjust production lines, but weak smartphone sales also had a direct impact on demand. Looking ahead, 5G-related applications are expected to support demand, particularly in the automotive sector, where vehicles offering 5G functions will need over 30 different PCB products.

Demand for gold in the wireless sector saw a very significant decline: in the region of 10-15% y-o-y.

This was driven by slowing smartphone sales and ongoing delays to the installation of 5G infrastructure installations. However, we expect these delays to be resolved in the coming months, after which we would anticipate an increase in consumer electronics purchasing and an associated upturn in gold usage in the wireless sector.

The memory sector also continued to slow in Q1 with an average decline of 2-5% y-o-y.

The smartphone slowdown continued to negatively impact demand, with many manufacturers lowering CAPEX investment in response. Technology migration remains a threat; for example, the increasingly widespread use of 96-layer Through-Silicon-Via (TSV) chip packages (which use much smaller amounts of gold wire than the current standard 64-layer packages) will further erode gold usage in these applications.

The key eastern fabrication hubs of China (Mainland China and Hong Kong (SAR) combined) and Japan registered falls in Q1 gold volumes of 6.7% and 5.4% respectively. The US bucked this trend, with a 3% increase.

Other industrial and dentistry

Dental demand again declined, falling 11% y-o-y to 3.6t with losses across all markets. Meanwhile, gold used in other industrial applications registered a small (3%) rise to 12.9t, helped by modest growth in demand for branded gold-plated accessories in Europe and costume jewellery in South East Asian markets.

In the healthcare space, a range of innovative gold-based nanotechnologies made progress towards market launch. Healthcare applications were boosted by the launch of a pilot facility in Europe designed to manufacture gold nanoparticle therapeutics for clinical testing.¹³ The lack of such a facility has been a considerable bottleneck for many years, so we expect this to accelerate the development of new gold-based therapeutics.

¹¹ www.wsts.org/76/Recent-News-Release

¹² Micro-LEDs are the latest generation of LED display technology, offering advantages of improved brightness, contrast, lifespan and efficiency. They contain less gold than mini-LEDs.

¹³ www.uk-cpi.com/news/cpi-supports-nanofabricating-to-advance-healthcare-treatments

Supply

Total supply was largely unchanged in Q1: modest growth in mine production and recycling were offset by a decline in net hedging

- Mine production grew fractionally to 852.4t, a new first quarter record
- Gold recycling grew 5% to 287.6t as the higher price encouraged selling
- The hedge book grew by just 10t in Q1.

Tonnes	Q1'18	Q1'19	Y-o-y change	
Total supply	1,153.1	1,150.0	↓	0%
Mine production	843.3	852.4	↑	1%
Net producer hedging	35.2	10.0	↓	-72%
Recycled gold	274.6	287.6	↑	5%

Total supply was virtually flat at 1,150t (-0.3% y-o-y). Modest growth in mine production (1%) and recycling (5%) was supported by a second consecutive quarter of net hedging (10t).

Mine production

In Q1, mine production grew marginally to 852.4t (+1% y-o-y), the highest level of Q1 output on record. Given the seasonality in gold production – where output in the first quarter is typically the weakest – this represents a strong start to the year.

The continued ramp-up of significant projects in key gold mining jurisdictions supported growth in Q1. In Canada, the fifth-largest producing nation in 2018, the continued ramp-up in production at Brucejack, Rainy River and Moose River, as well Meliadine coming online, boosted output by 9% y-o-y. Russia production grew by 4% y-o-y in Q1, primarily due to the ramp-up of the Natakka open-pit mine. This was also supported by growth at several other projects, particularly in the far east of the country. Australian output rose by 3% y-o-y, thanks to the ramp-up of Mount Morgans and Cadia Valley. Kazakhstan mine production grew by 26% y-o-y, driven mostly by the ramp-up at the Kyzyl project. Aggregate Q1 production in Papua New Guinea gained 11% y-o-y, with output from Lihir, Porgera and Hidden Valley rising.

But some producing nations saw notable declines. In China, the impact of stringent environmental regulations was more muted: national gold production fell 2% y-o-y in Q1, compared with y-o-y declines of up to 8% since 2016.¹⁴ Most of the major mining companies within the country are now compliant with the regulations after a tough adjustment period. Argentinian gold output fell by 7% y-o-y in Q1, due to a combination of lower production at Veladero and the shutdown of Alumbrera.¹⁵ The largest Q1 y-o-y decline was in Indonesia, where production slumped 45%. This was primarily due to the exhaustion of higher-grade ore from the final phase of the Grasberg open pit, and not entirely unexpected as Grasberg transitions to underground operations.

¹⁴ In August 2016, a revision to the “The Hazardous Waste List” allowed for significant fines to be imposed should the discharge of mine tailings contain cyanide.

¹⁵ An underground extension to Alumbrera is expected to commence production in late 2019, and an agreement has been signed to amalgamate the project with Agua Rica.

Artisanal and small-scale mining (ASM) has become a larger part of annual mine production.¹⁶ Given the nature of ASM activity, reliable data are extremely difficult to come by. There are several estimates regarding the scale of ASM, with most suggesting now accounts for somewhere between 15% and 20% of global annual gold mine production. This growth has been prompted by a few key factors: higher gold prices, population growth, the lack of economic opportunity and the spread of mining expertise have boosted ASM output, most prominently in Africa.

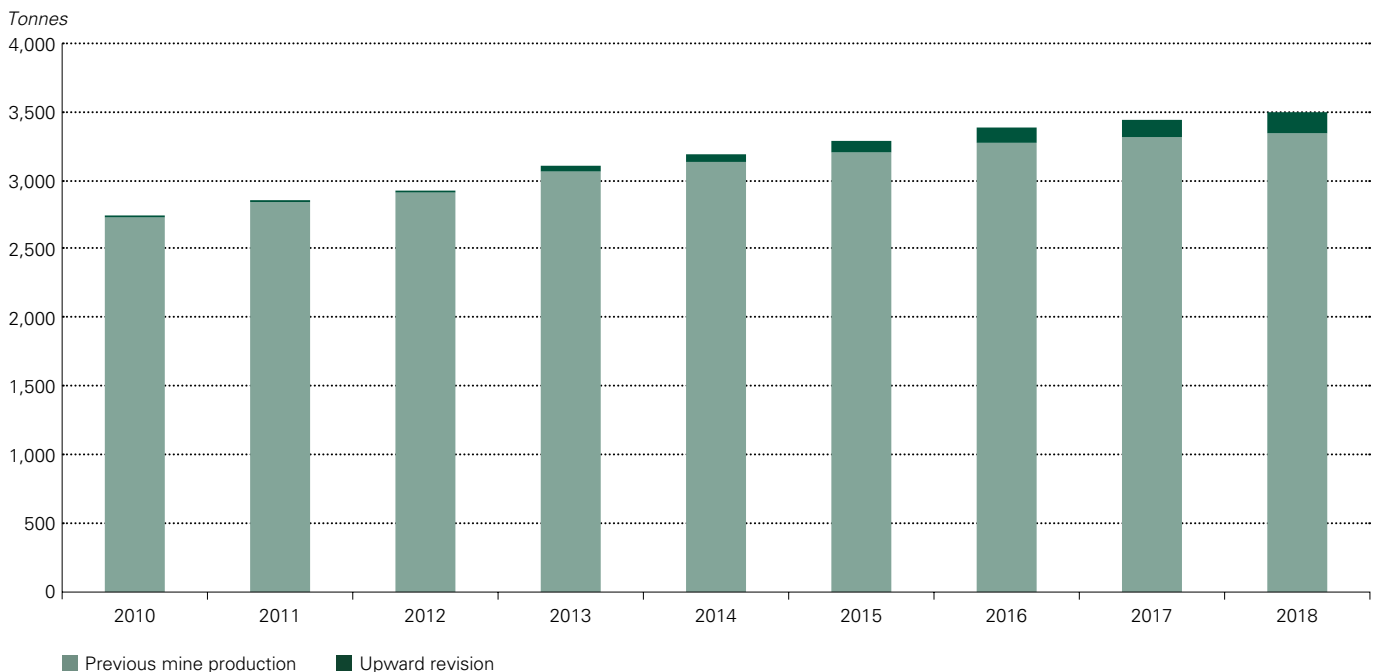
This lack of reliable data not only increases the chances that estimates can be inaccurate, but also heightens the need to constantly review the quality of the data we do have. Following an extensive reassessment of the scale of ASM, during which new information came to light, Metals Focus – our primary gold demand and supply data provider – concluded that previous estimates significantly understated ASM output. Global mine production data have been revised upwards as a result, which has impacted our mine production data series back to 2010.

Net producer hedging

Net producer hedging amounted to just 10t in Q1, 72% lower y-o-y, as some miners took advantage of the rising gold price. The international price rose by 9% in US dollars between the start of Q4'18 and the end of Q1'19, as concern over the global macroeconomic and political landscape swelled. But the impact was even more noticeable on gold priced in key producer currencies. Over the same period, gains in the gold price in Australian dollars (11%), Russian rubles (9%) and South African rand (11%) created further incentives to lock-in prices.

Australian producers have dominated the hedge book in recent quarters and Q1 was no exception. With the local gold price hitting several successive record highs in Q1 – most recently in February at A\$1,920/oz – many have opted to secure cash flow for portions of their output. Goldfields, the second largest producer in Australia, added 456koz (14t) of options on top of renewed existing positions of 456koz. This covers the entirety of the company's production for 2019.

Growth in ASM has led to a revision in our mine production series



Source: Metals Focus; Refinitiv GFMS; World Gold Council

¹⁶ A differentiation should be made between potentially illegal or conflict-related ASM and informal but legal ASM. This distinction is important since ASM may have a long history in some countries and can be a significant employer in developing countries.

Despite more sustained activity in Australia, hedging remained sporadic elsewhere. Tactical motives still drive most hedging activity and hedging volumes remain well short of the record levels seen two decades ago.

Recycled gold

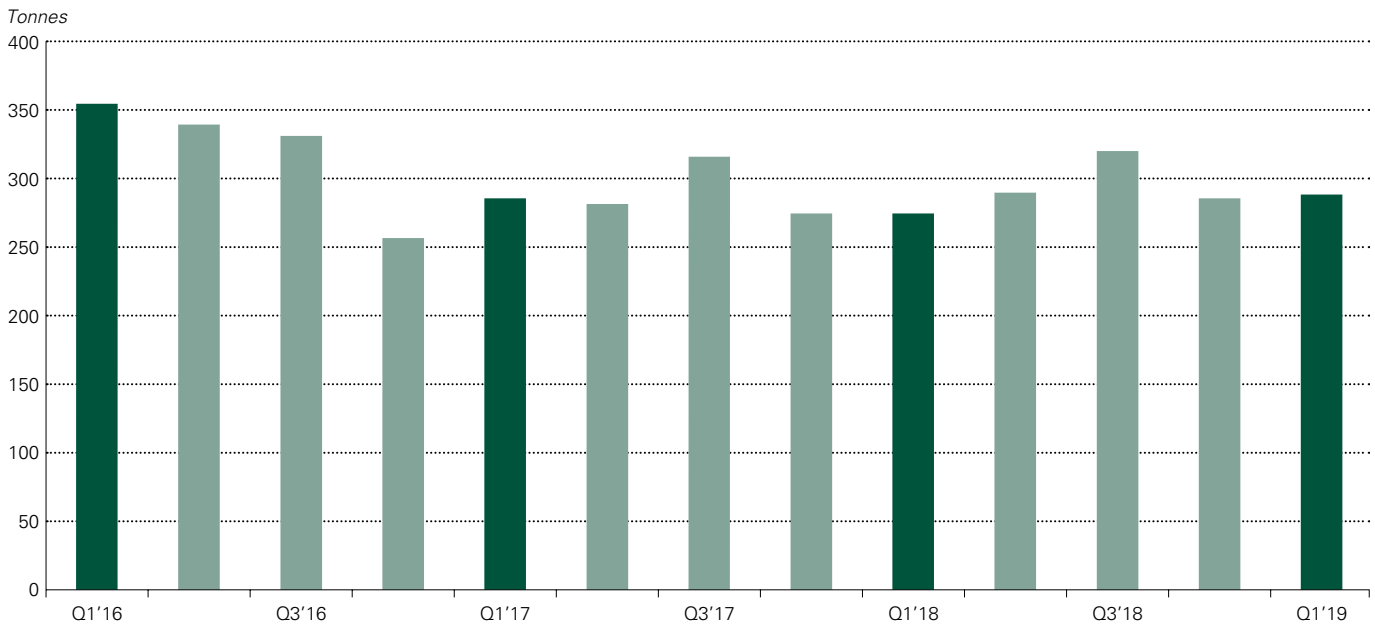
The supply of recycled gold reached 287.6t in Q1 (+5% y-o-y), largely due to recent strength in the local gold price across many markets.

In western markets, the recycling picture was somewhat muted. Despite elevated levels of global uncertainty, a combination of depleted near-market supplies and a lack of distress selling kept consumers on the side-lines. The largest growth in recycling was seen in the UK. Brexit wrangling continued to exert pressure on the pound in Q1, helping to push up the local gold price further and tempting some to cash in.

In the Middle East, Iran saw a doubling of recycling levels y-o-y during Q1. A much higher local price in Iran was the primary driver of this increase, as consumers continue to face deteriorating economic prospects. In other key markets, the picture was more mixed. Turkish recycling registered a decline y-o-y as political tensions, a struggling economy and artificially-low interest rates dissuaded consumers from selling. In Egypt, the continued normalisation of the market led to another y-o-y decline in Q1.

In India, both gold-for-cash and gold-for-gold recycling levels were boosted by the rise in gold price to a peak of over Rs33,700/10g by mid-February. Recycling of old inventory by local retailers also rose slightly during Q1, as concerns over a price correction mounted. Similarly, China saw a greater level of recycling among retailers as they switched to higher-margin products.

Recycled gold supply grew 5% y-o-y, the highest first quarter since 2016



Source: Metals Focus; Refinitiv GFMS; 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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For data sets and methodology visit:

www.gold.org/goldhub/data/gold-supply-and-demand-statistics

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