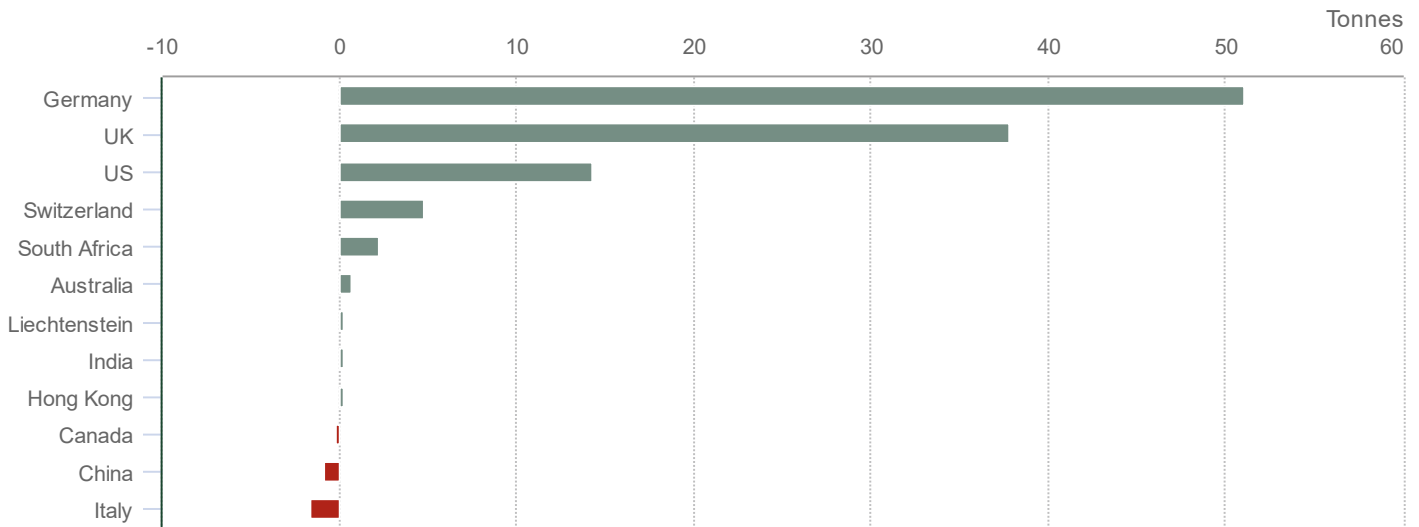


Q1 gold demand: down 18% from last year's exceptional high

Global gold demand in Q1 2017 was 1,034.5t. The 18% year-on-year decline suffers from the comparison with Q1 2016, which was the strongest ever first quarter. Inflows into ETFs of 109.1t, although solid, were nonetheless a fraction of last year's near-record inflows. Slower central bank demand also contributed to the weakness. Bar and coin investment, however, was healthy at 289.8t (+9% y-o-y), while demand firmed slightly in both the jewellery and technology sectors.

Germany and the UK led ETF inflows in Q1



Source: Respective ETF providers; Bloomberg; ICE Benchmark Administration; World Gold Council

Highlights

Inflows into gold-backed ETFs of 109.1t were concentrated in Europe. Although inflows were just one-third of the extraordinary levels seen in Q1 2016, demand was firm. European-listed products were the most popular, due to continued political uncertainty in the region.

Investment in gold bars and coins grew by 9% y-o-y. Much of this growth came from China, where retail investment was up 30%, breaching 100t for only the fourth time on record.

First quarter jewellery demand was steady at 480.9t, marginally up on Q1 2016. Gains in India were the main reason for the slight y-o-y increase, but global jewellery demand remains relatively weak in a historical context.

After a whirlwind end to 2016, Indian consumers enjoyed a period of relative stability in the domestic market, buoying demand. Continued remonetisation by the RBI lifted consumer sentiment, which encouraged demand ahead of the auspicious wedding season, albeit from a very low base.

Central bank demand for gold continued to slow: 76.3t were added to reserves. Central banks showed a diminished appetite for gold purchases; China's purchasing programme was on pause during the quarter as its foreign exchange reserves remained under pressure. Sales, once again, were sparse.

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Jewellery

Indian recovery offset broad global weakness to support Q1 gold jewellery demand at 480.9t.

- Although marginally firmer y-o-y, jewellery demand remains soft: Q1 2016's 474.4t was a seven-year low
- The rising gold price was negative for demand, although one or two sharp pullbacks in gold were used as buying opportunities in some markets
- The steady state of global demand concealed a more varied country-level picture. Gains were concentrated in India, Iran and the US, just outweighing modest losses elsewhere

Tonnes	Q1'16	Q1'17		YoY
World total	474.4	480.9	▲	1%
India	79.8	92.3	▲	16%
China	179.2	176.5	▼	-2%

Higher gold prices stifled jewellery demand



Source: ICE Benchmark Administration; Datastream; World Gold Council

Gold jewellery demand was broadly steady, but remains weak in the longer-term context. Demand was 18% below the 587.7t five-year quarterly average. The 9% rise in the US\$ price between end-December and end-March restrained demand, although US dollar weakness meant that consumers in many markets were protected to some degree. Gold denominated in local currencies in most key consumer markets gained between 3% and 7%, although Turkey was a notable exception. The sector remains heavily influenced by India and China, which together account for over half of the market (56% in Q1).

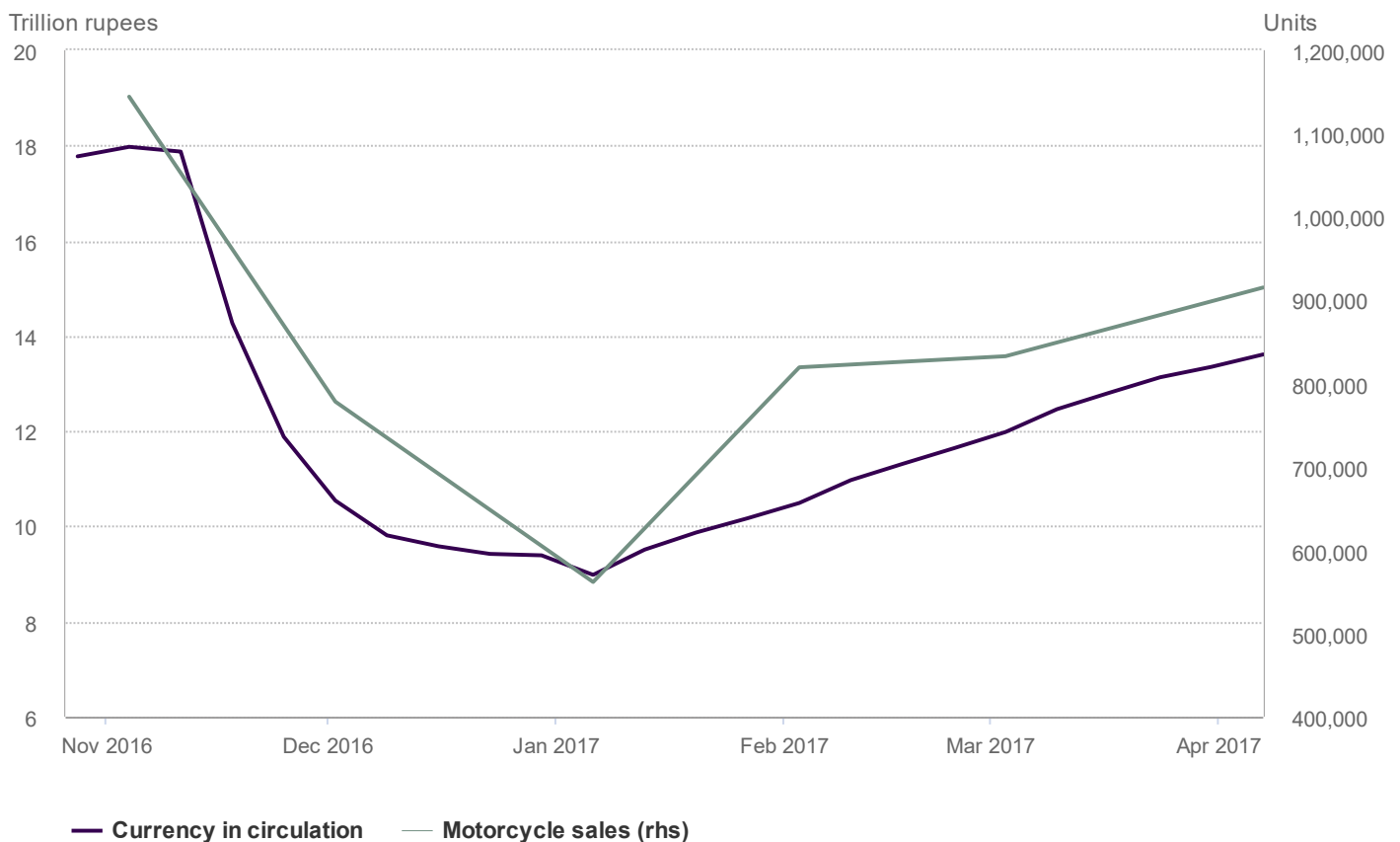
India

Indian jewellery demand jumped 16% from last year's exceptionally low level as market conditions improved after a very tough 2016. Pent-up demand from the closing weeks of 2016 was gradually released as liquidity improved. But Q1 was still weak at 92.3t - only the third quarter this decade in which demand has fallen below 100t. And the industry remains uneasy, awaiting clarity on whether the forthcoming Goods & Service Tax (GST) will result in a higher tax burden for the end-user.

The gold price held mixed fortunes for Indian jewellery consumers during Q1: rupee strength meant the domestic price rose by 3%, compared with a 9% rise in the LBMA price. The local price rose steeply in the opening weeks of 2017 before a sharp appreciation of the rupee in February and March. The pullback in the price during March was well-timed to coincide with planned purchases of gold ahead of the Q2 wedding season and the Akshaya Tritiya festival at the end of April.

The RBI continued to remonetise India's economy, thereby easing pressure on cash-strapped consumers. By the end of March, 85% of the value of currency removed from circulation under demonetisation had been returned.¹ The RBI also gradually eased temporary restrictions on the amount of money that could be withdrawn from bank accounts, aiding cash-dependent rural demand in particular. Although the effects of the policy lingered, rural spending partially recovered as cash was injected back into the system. This is evidenced by motorcycle sales, which recuperated from the December lows.

India's economy is slowly recovering from 2016's shock demonetisation



Source: Reserve Bank of India; Society of Indian Automobiles; World Gold Council

Field research shows cashless transactions gathered momentum, reflecting relative outperformance of organised retailers. The government's push for transparency in India's economy began to take effect in the gold market, with a gradual shift towards electronic transactions. Although cash remains vital within the rural economy, consumers are gradually adopting cashless payment methods. This has helped bolster the performance of organised retailers, such as national chain [Tanishq, which reported a 'quite significant' recovery in Q1 demand](#) ².

The outlook for India's gold demand is robust, but GST remains a cause of concern. The combination of the wedding season, Akshaya Tritiya festival (falling on 28/29 April) and continued remonetisation of India's economy should support gold jewellery demand. However, the market is wary of the forthcoming decision on GST and this will likely weigh on demand until the government's final decision, due for implementation in early July.

China

In China, demand for gold jewellery softened slightly, down 2% y-o-y as the seasonal uplift broadly cancelled out the impact of higher gold prices. Demand in the first quarter was 176.5t, compared with 179.2t in Q1 2016 and 5% below the five-year quarterly average of 186.4t.

Demand was strong at the start of the year. The Lunar New Year fell relatively early (late January, compared with February in recent years), meaning traditional Chinese New Year purchases were concentrated in January. This seasonal demand was boosted by 2017 having a double spring and a leap month, making it an auspicious year for weddings.³ Once the festivities were over, demand dropped off as usual – an effect that was more pronounced due to the backdrop of rising gold prices.

China's gold jewellery industry is resourceful in combating subdued consumer demand. Gold jewellery demand has been negatively affected by the slowing economic environment as well as by changing consumer tastes. Our consumer research has shown that younger Chinese consumers want to spend their money on experiences rather than material goods.⁴ This is backed up by research from Agility Research & Strategy which shows that the top three priorities for affluent Asian millennials are 'health, travel and spending time with the family'⁵. But they are also keenly aware of new trends and enjoy expressing themselves in ways that differ from tradition. Gold jewellery manufacturers and retailers are willing and able to tap into these trends, responding with innovation.

The 18k sector continues to grow. Manufacturers have responded by offering a wider array of designs, more intricate and modern than 'traditional' 24k jewellery. A new 22k segment has been introduced to cater for demand for new, innovative and trend-setting pieces. Some retailers increasingly specialise in bridal jewellery, targeting demand from that all-important sector. And some have chosen to innovate in terms of services: Decent group, for example, has recently introduced a new after-sales service, offering customers a no-cost exchange option on jewellery from its bridal range ([Xinxiyuan's Wujiu Houde Gold](#) ⁶).

So, although demand in China faces headwinds from the economy and the changing tastes of its consumers, the industry is keen and determined to adapt – an attitude that should help stem any weakness.

Other Asia

Jewellery demand within the smaller Asian markets was hit by the rising gold price, as well as rising political tensions in the region. In the face of rising gold prices, Japanese jewellery demand fell 9% year-on-year to 3.2t. A drop in Chinese tourist numbers was also a reported factor. In Thailand, sluggish economic growth contributed to a 5% decline in Q1 jewellery demand, falling to 3.1t from 3.2t in Q1 2016. The government responded with several measures designed to boost the domestic industry. These included [waiving tariffs on raw material imports used in jewellery production](#) ⁷, and making low-interest loans available for small- and medium-sized businesses to upgrade machinery.

Middle East & Turkey

After the usual Q4 uplift, demand in Turkey sank to a four-year low of 7.7t. Continued currency weakness in Turkey meant that the price of gold in lira rose more than in any other currency during Q1 (+12%), undermining jewellery demand. The fragile economic and political conditions that have beset Turkey over recent years were again a key factor behind the weak Q1 number. The mid-April referendum on changing Turkey's constitution from a parliamentary to a presidential republic weighed on demand for the sector. And the outlook for the market is weak as the local price remains prohibitively high for many at a time of deteriorating economic indicators.

Demand in the Middle East – virtually unchanged at 54.6t – followed a familiar pattern: growth in Iran contrasted with weakness elsewhere. Jewellery demand in Iran jumped 27% y-o-y to a four-year high of 12.9t, helped by an improving economy. The sector was also boosted by investment-driven purchases, due to a lack of supply of gold coins from the central bank.

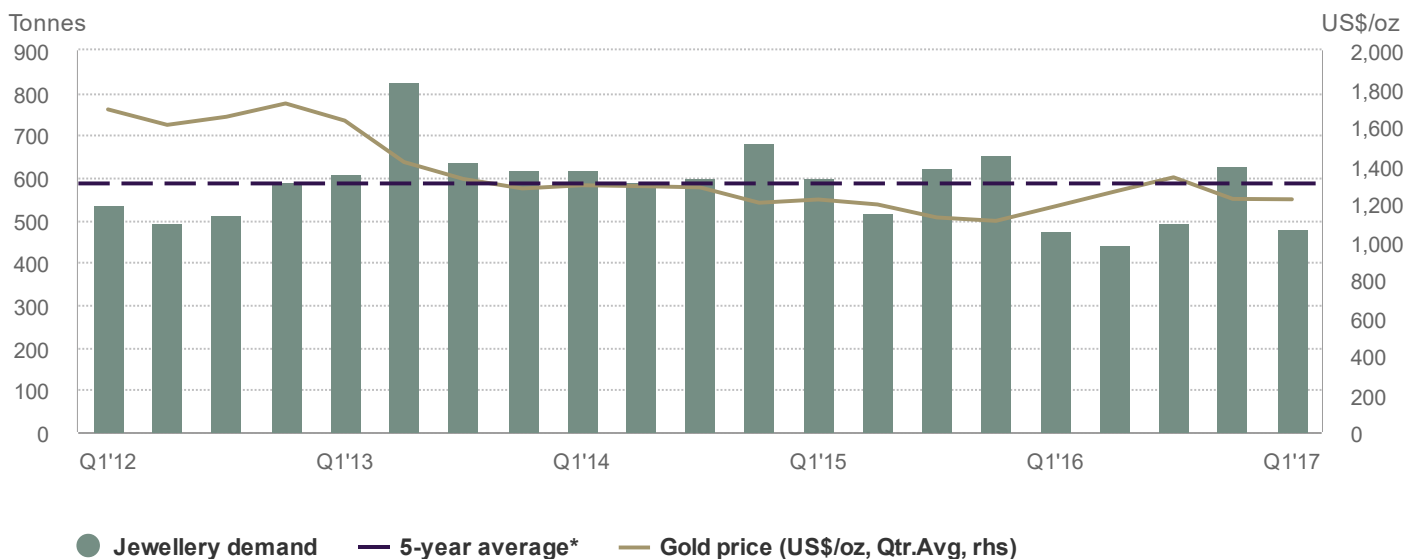
Demand across the rest of the region remained weak in the face of low oil prices and subdued tourist numbers, the impact of which was exaggerated by rising gold prices. Although the UAE has imposed a 5% import duty, demand in that market was relatively robust as consumers rushed to buy before the full effect of the tax fed through to end-user prices.

The West

Growth in US jewellery demand resumed, leading to the strongest Q1 since 2010. A post-election lift in US consumer sentiment buoyed jewellery demand in the first quarter: it rose 3% to 22.9t. Plain yellow gold was more popular in the US than in European markets. High-end and online retailers performed strongly. The online segment is also gaining strength, particularly with continued growth in ‘clicks and mortar’ retailing – the overlap between the virtual and physical retail environments.⁸

European jewellery demand was again dragged down by weakness in France and the UK; the rest of the region was stable. Demand fell 6% y-o-y in France on pre-election uncertainty and the rise in terrorist activity which has impacted tourism. Structural factors are also at work in this market, with branded silver making continued inroads into market share.

Q1 jewellery demand was weak compared with its long term average



*5-year average covers Q1'12 to Q4'16.

Source: Metals Focus; GFMS, Thomson Reuters; World Gold Council

Investment

Inflows into ETFs resumed in Q1; European investors continued to build strategic positions. Bar and coin demand rose 9% y-o-y.

- **Assets under management (AUM) in gold-backed ETFs increased in Q1 as political uncertainty fuelled European ETF inflows. European bar and coin demand was strong too**
- **China's quarterly bar and coin demand breached 100t for only the fourth time on record – currency weakness, concerns over the property market, and a seasonal boost from Chinese New Year underpinned the market**
- **India's bar and coin demand inched up, but remains at historically low levels. The industry, however, is confident the market will recover as the aftershock of demonetisation wanes**

Tonnes	Q1'16	Q1'17	YoY
Investment	606.9	398.9	▼ -34%
Total bar & coin demand	264.9	289.8	▲ 9%
India	27.5	31.2	▲ 14%
China	81.3	105.9	▲ 30%
ETFs & similar products	342.1	109.1	▼ -68%

ETFs

Global holdings of gold-backed ETFs grew by 109.1t in Q1; total AUM in these products was 2,251.8t by quarter-end, worth just over US\$90bn. This increase in holdings is dwarfed by last year's huge growth: inflows were just one-third of the 342.1t seen in Q1 2016. But this is more an indication of the atypical strength of 2016 inflows than of recent weakness. Indeed, inflows of 109.1t are in line with quarterly average between Q1 2009 and Q4 2011 (108.7t), a period that encompassed the global financial crisis.

Continuing the trend from the second half of 2016, European investors accounted for the bulk of investment in the sector in Q1: inflows into European-listed products were 92.4t, compared with just 14.1t added to holdings of US-listed products. Outflows were minimal during the quarter, indicating a generally positive underlying attitude towards gold-backed ETFs.

Geopolitical tensions became more of a concern for European-based investors than for their US counterparts.

Investors focused on the continued rise of anti-establishment parties associated with the growing populist movement across Europe, as well as the potential outcome of elections in the Netherlands and France – particularly in the aftermath of the Brexit vote.

Concerns around the French Presidential election mushroomed with the late surge of far-left, anti-EU politician, Jean-Luc Mélenchon, at the end of the quarter. While the Macron/Le Pen run-off after the first-round had been predicted by the polls, Mélenchon's gains – as well as the exceptionally high proportion of voters who were undecided – added to the political uncertainty.

On top of a fragile political environment, conditions in financial markets gave investors a further incentive to build their positions in gold-backed ETFs. Safe-haven flows pushed two-year German yields further into negative territory, reaching a record low of -0.95% in February. And European equity markets were subdued with volatility at multi-year lows. Negative real and nominal yields coupled with a period of relative calm in regional stock markets improved the appeal of gold, particularly as its price strengthened through the quarter. The dips in the euro-denominated price of gold in January and March were also taken as a good opportunity to add it to portfolios.

Yield on two-year German debt fell to its lowest level on record



Source: Bloomberg; World Gold Council

In the US, net inflows of around 45t in February were sandwiched between outflows in January and March. Broadly, though, US investors maintained their underlying positivity towards gold. The bulk of holdings in US-listed products are in strategic hands after much of the looser, more speculative buying that was a feature of the sharp inflows in 2016 was reversed in the November/December washout.

The gold market reacted positively to the Federal Reserve's dovish guidance when it raised interest rates in March. Having edged lower in advance of the announcement, the gold price rebounded as expectations around future increases in US interest rates eased a little.

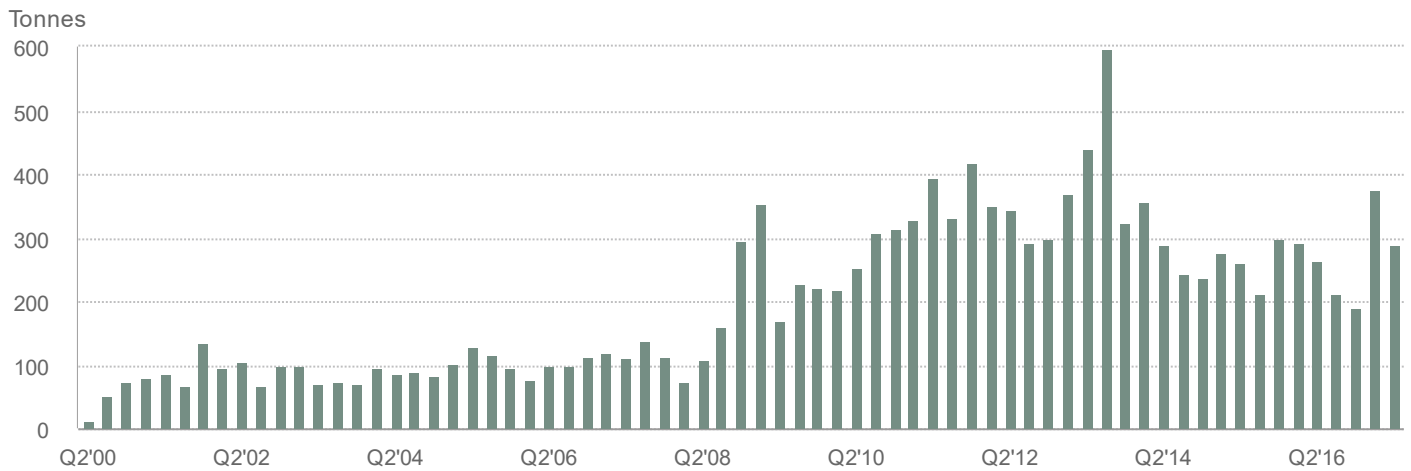
The positive view of gold in the US is also well supported by the risks associated with the global geopolitical and economic backdrop (the ongoing crisis in Syria; uncertainty over Brexit; slowing growth in China; friction between the West and Russia; and more recently, tensions over North Korea's nuclear program). And question-marks remain over the path of US growth and inflation.

Outside of the US and Europe, net flows were minimal. China's Huan Yifu Gold ETF continued to outperform: holdings grew by a net 0.8t over the quarter, to 24.9t. But this was exceeded by outflows from other domestic ETFs, leading to net outflows from Chinese gold-backed ETFs of -0.8t.

Bars and coins

Bar and coin demand posted gains, up 9% on the same period last year, reaching 289.8t – equivalent to over US\$11bn. The strength of the retail investment market in the first quarter built on 2016's exceptionally strong finish.

Bar and coin demand was up 9% year-on-year



Source: Metals Focus; GFMS, Thomson Reuters; World Gold Council

Demand in China soared in Q1, maintaining the strong momentum established in Q4 2016. At 105.9t it was up 30% y-o-y and was the fourth strongest quarter on record.

Several factors fuelled this boom. Concerns over the weakness of the yuan and the outlook for the real estate market from the tail-end of last year spilled over into 2017; this combined with the usual seasonal strength around Chinese New Year and a rising gold price to support investor sentiment.

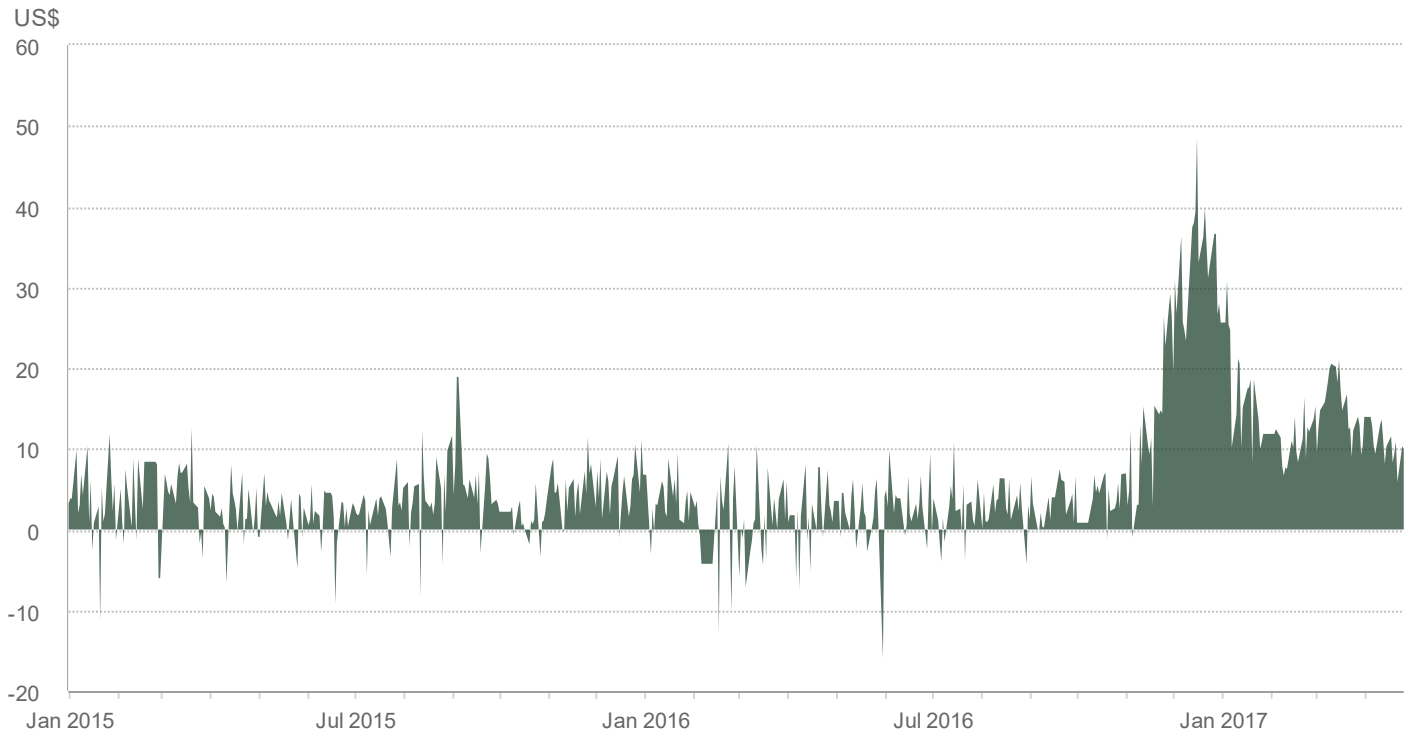
Innovation within the market is making gold even more accessible for retail investors. Commercial banks are increasingly looking to develop their gold businesses to offer a compelling proposition to investors. Bank of China, for example, launched an interest-bearing gold product at the end of 2016. It is benchmarked on the Shanghai Gold Exchange (SGE)'s AU9999 contract with a minimum entry point of one gram and is traded online. It also gives investors the option of withdrawing physical gold through the bank's extensive branch network.

And the product pipeline doesn't stop there. In the first quarter of this year, Industrial and Commercial Bank of China (ICBC) teamed up with Tencent to launch a new physical gold-backed product – Microgold – targeted at China's internet users. Through WeChat – with over 800 million users China's largest social networking app – Microgold users can invest in gold (based on ICBC's gold accumulation plans), digitally send gold to friends and family in culturally significant red envelopes, and view real-time prices. This innovation will make gold easier to access for China's digitally savvy millennials.

Sales outside of the banking sector also did well. The SGE continued to gain market share, as high net-worth individuals increasingly used it to buy 1kg bars at low margins. Elsewhere, retailers performed well in the run up to Chinese New Year and in some instances demand exceeded supply; one retailer asked customers to wait until after the lunar New Year to take delivery of their investments.

China appears to be suffering a demand/supply imbalance. Having closely tracked the global spot price since 2014 (premiums have averaged around US\$4 over the global spot price in recent years) the local premium shot up in Q4 2016 to an average of US\$17/oz. Demand has been healthy, but this was also in part because cross-border capital controls affected gold imports. The premium persisted in Q1, averaging US\$14.2/oz, as the after-effects of capital controls rippled through the market and banks adapted to the increased regulatory oversight on imports.

China's premium over the global spot price has shot up in recent months



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

India's bar and coin demand stood at 31.2t in Q1 – up 3.8t on last year's low level, but just half its five-year quarterly average. This belies the modest improvement in the market following the sharp liquidity squeeze caused by demonetisation in November. Economic activity almost ground to a halt at the end of 2016 as cash was pulled from the economy – currency in circulation fell 50% from 11th November to 6th January. Sales of motorcycles – a good barometer of the health of the cash-reliant economy – halved in December.

But 2017 has seen an improvement. While the stock of cash is significantly off its peak of November 2016, it increased 43% in Q1 2017. As outlined in the [Jewellery 9](#) section of our report, the increased cash in circulation has helped the economy pick up a little, which in turn has supported the gold market. Gold imports have improved over recent months: Q1 official imports were 106% up on Q1 last year.

Vietnamese investment demand increased 6% y-o-y. Demand was supported by Chinese New Year and the traditional God of Wealth festivities, celebrated on the 10th day of the Lunar New Year. According to Vietnamese tradition, purchasing gold on God of Wealth day will bring a year of prosperity. [Several traders reported strong sales 10](#). This demand was also supported by the recent depreciation of the Vietnamese dong.

The European bar and coin market is in good health. Our estimate for Q4 2016 was revised up, and the first quarter of 2017, at 60.8t, is up 9% y-o-y. At its core is a strong German market, up 13% y-o-y to 34.3t – the strongest first quarter since 2011. Switzerland and Austria saw decent growth, as did the UK, which hit its highest level since Q2 2013. As with European-based institutional investors, the spectre of political uncertainty prompted retail investors to buy gold as a hedge against the flurry of elections in the Netherlands, France and Germany.

The US market suffered in the first quarter. Demand fell 20% to 16.2t, the lowest level of demand since Q2 2015, as retail investors shifted their focus away from gold to buy into the Trump-rally and chase equity markets higher. Dealers reported that many retail investors took advantage of the rise in the gold price to sell into the secondary market – at times these sales of

bars and coins even matched consumer demand. Given this strength of supply it was not surprising to see imported bullion coins fall 22% and US Mint combined Eagle and Buffalo sales fall by around 30% y-o-y.

Central banks and other institutions

Demand for gold as a reserve asset slowed in the first quarter; sales were trivial.

- **Central banks continued to buy gold but at a much slower pace: quarterly net purchases reached a six-year low of 76.3t**
- **Argentina and Hungary both engaged in swap transactions over recent months**

Tonnes	Q1'16	Q1'17	YoY
Central banks & others	104.1	76.3	▼ -27%

Central banks had a slow start to 2017; net purchases dropped to 76.3t in Q1. This is a 27% decline from the 104.1t seen in Q1 2016 and almost a third lower than the 108.5t in Q4 of that year. Looking towards the longer-term trend, demand for gold among central banks has broadly slowed since reaching a peak of 174.9t in mid-2014. This lower rate of purchases is likely to continue throughout 2017.

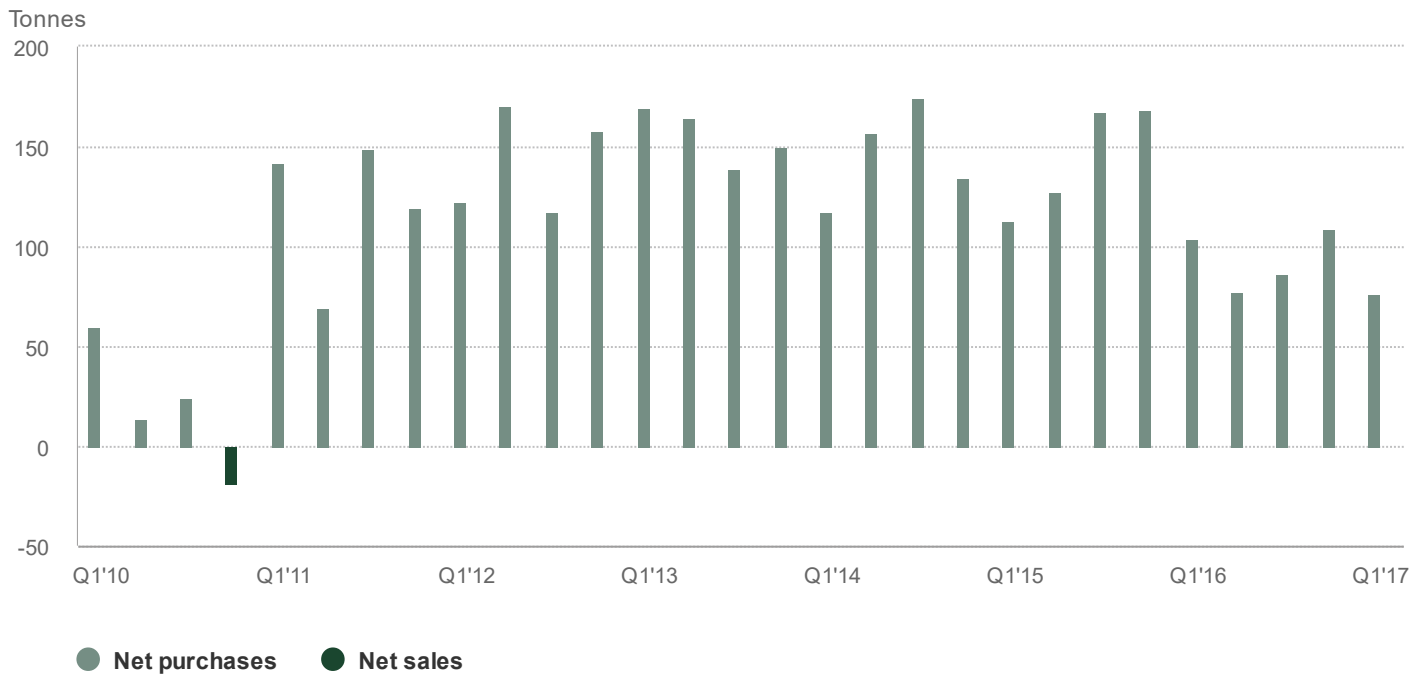
There were few active buyers in Q1. Russia returned to the market after a brief hiatus in December: gold reserves increased by 64.9t to 1,680.1t, taking gold as a percentage of the country's reserves to 17%, its highest level since Q1 2000. The National Bank of Kazakhstan added 9.6t to gold reserves in Q1, extending its unbroken run of net purchases to 54 consecutive months.

By contrast, China – one of the largest purchasers in recent years – has left gold reserves untouched since October 2016. This development may be related to shifts in foreign exchange reserves. Although these rose in February for the first time in 7 months, Chinese FX reserves have been under pressure for some time, having dropped from US\$3.2 trillion in January 2016 to US\$3 trillion in January 2017. As a percentage of total reserves, however, China's gold remains comfortably above 2%, reaching as much as 2.4% as the gold price rose during Q1, (download our [statistics on current and historical global gold reserve holdings](#) ¹¹). This is its highest share since the early 2000s, and may partly explain the lack of gold purchases in recent months.

Net sales remain at trivial levels. Jordan and Qatar both sold over 3t each in Q1. Czech Republic, Mexico, Mongolia and Mozambique also reduced their gold holdings by modest amounts. Additionally, some central banks entered swap agreements in recent months: Argentina conducted swaps of gold totalling 6.9t as part of a strategy to enhance the yield on their gold holdings; and Hungary lent 3.1t in a swap transaction in December.

Media reports suggest Turkey's central bank's gold policy may be evolving. In April, Reuters reported that the [Turkish central bank is to be given first option to buy locally mined gold](#) ¹². The central bank will be able to buy gold using lira, thus preserving its FX reserves.

Central banks bought less gold but still show little appetite to sell



Source: Metals Focus; GFMS, Thomson Reuters; World Gold Council

Technology

Gold used by the technology sector grew 3% y-o-y, led by electronics, where gains in the wireless sector were partly offset by shrinkage in demand for LEDs.

- **Electronics demand rose by 4% on a yearly basis, but the usual seasonal Q4 –Q1 dip in demand was again observed with a 8% fall**
- **Bonding wire was resilient, thanks to strong demand for memory chips, but continued progress in reducing wire diameters suggests the sector will decline throughout 2017**
- **The growth of wireless charging in the smartphone sector should lead to increased demand for gold via the incorporation of additional sensors in handsets and charging stations**

Tonnes	Q1'16	Q1'17		YoY
Technology	76.4	78.5	▲	3%
Electronics	59.9	62.1	▲	4%
Other Industrial	11.9	12.1	▲	1%
Dentistry	4.6	4.3	▼	-5%

Overall demand for gold in technology was marginally firmer at 78.5t in Q1. This was slightly exaggerated, however, by Q1 2016 having been the lowest quarter on record (at 76.4t).

Electronics

Gold used in electronics grew 4% y-o-y to 62.1t in Q1. Growth came from the increasing wireless capabilities of smartphones, as well as robust demand for gold bonding wire. After a period of heightened activity in the second half of 2016, demand for gold bonding wire remained resilient in the first quarter of 2017. Strong demand for memory chips helped to offset the negative impact of 3D packaging¹³, which uses much lower volumes of bonding wire. Continued progress in reducing the diameter of bonding wire and advances in 3D packaging are, however, likely to dominate the sector over the coming quarters.

Developments in the wireless sector were positive for gold usage, many of which were related to smartphone technology. Increasingly, smartphones are expected to offer wireless charging capability. This bodes well for demand for Printed Circuit Boards (PCBs), a component of wireless chargers. Additionally, a more high-end application of gold in smartphones involves the inclusion of vertical-cavity surface-emitting lasers (VCSEL)¹⁴, which are used in gesture recognition, 3D sensors and 3D video applications. The iPhone 8 – expected to launch later this year – is rumoured to include this technology. These positive trends should offset the effect of the downturn in demand for smartphones.

The LED sector underperformed in Q1, hit by thrifting as miniaturisation continued to take hold. Growth in demand for infrared LED automobile lighting was not enough to offset the effect of the switch to Chip Scale Packaging (CSP)¹⁵ in the sector.

Several key Asian markets saw a y-o-y recovery in electronics demand: China grew around 7%, albeit from a low base, while Taiwan was steady, marginally firmer by around 1%. South Korea benefitted from the growth in PCB and memory production, turning in growth of around 3%.

Scientists worldwide continue to uncover new applications for gold that will lead to future sources of demand for the metal. US and UK researchers published a seminal paper in the leading journal Science describing insight into the working of an important gold catalyst currently in production in China.¹⁶ The research identified how gold particles within the catalyst

drive the formation of an industrially important feedstock chemical. This insight promises to lead to the development of improved gold catalysts for the chemical industry.

Separately, researchers at Missouri University of Science and Technology have developed a new way of using gold to transform “flexible” or **wearable technology** ¹⁷. By growing thin layers of gold on a single crystal wafer of silicon, they discovered that they could preserve all the positive characteristics of silicon while adding the benefit of gold’s greater durability and flexibility.

Supply

Gold supply contracted sharply in Q1: down 12% y-o-y to 1032t. Lower levels of recycling and continued net de-hedging by producers explain the drop; mine production was virtually unchanged.

- Mine production of 764t was little changed from Q1 last year (767.8t), supporting our view that production will remain broadly steady before tailing off

- A third consecutive quarter of de-hedging by producers reduced the global hedge book by a further 15t

- The 21% y-o-y fall in recycling was largely due to the comparison with a very strong Q1 2016

Tonnes	Q1'16	Q1'17	YoY
Total supply	1,175.2	1,032.0	▼ -12%
Mine production	767.8	764.0	▼ 0%
Net producer hedging	47.5	-15.0	-
Recycled gold	360.0	283.0	▼ -21%

Mine production

Miners supplied 764t of gold to the market in the first quarter of the year, fractionally below the 767.8t produced in Q1 2016. There were areas of growth, largely from new mines: the US and Suriname both saw increases from projects that came on stream over recent months. The additive impact from these markets, however, was offset by weakness elsewhere.

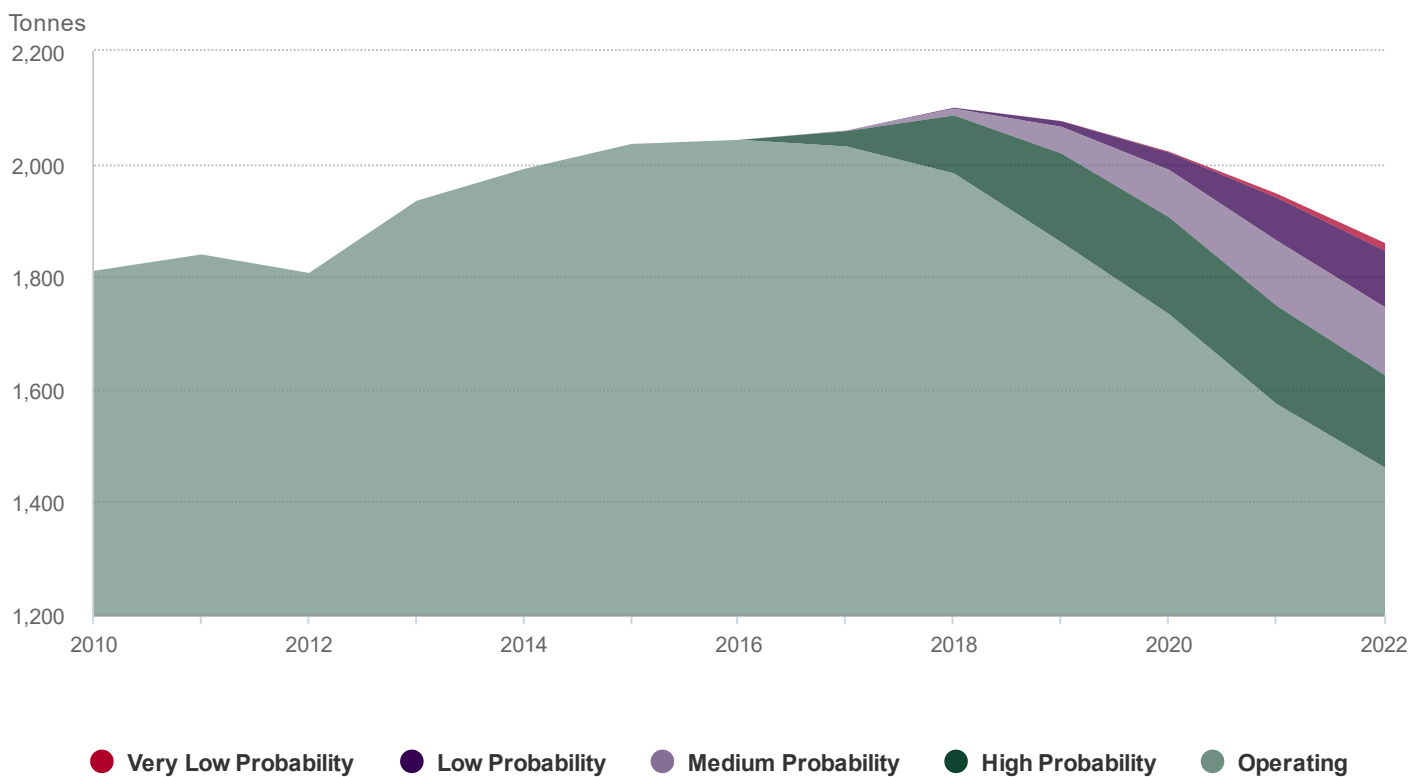
Mining lower-grade ore at Mongolia's Oyu Tolgoi copper mine resulted in a gold output reduction of around 3t. In China, extended New Year holidays at some refineries and mining companies cramped supply, as did the imposition of strict environmental management restrictions: together, these two factors knocked around 2t off Chinese gold production y-o-y.

But by far the largest impact on Q1 mine production came from Indonesia, thanks to a more than 8t fall in production from Grasberg. Production was cut back by around 60% to match domestic smelting capacity, after Indonesia introduced new restrictions on exports of unrefined metal.¹⁸ Freeport-McMoRan – Grasberg's operator - was granted a reprieve on 21st April in the form of a six-month temporary export licence. But this issue is far from resolved, and negotiations between the two parties continue.

Despite the wrangling, Grasberg is moving into a period of high-grading and will ramp up production over the next several quarters. This, along with a few smaller projects coming on-stream – particularly in Canada and Australia – will nudge global production higher in 2017 and 2018. But the effect will only be temporary.

Having plateaued in recent years, mine production will soon enter a period of decline. The production profile of currently operating mines shows a relatively steep drop-off over the next 5 to 10 years. Even factoring in high-probability projects (those highly likely to reach commercial production), the fall in production is still significant.

Mine production likely to drop beyond 2018 as the project pipeline is squeezed



Note: Probability weighting is as follows: operating (99.5%), high (95%), medium (50%), low (25%) and very low (15%). This chart comprises data for 700 mines and projects, collectively accounting for around 60-65% of global mine supply between 2010 and 2016. Unidentified and informal/artisanal gold production is excluded.

Source: Metals Focus Database of Mines; World Gold Council

This is largely a consequence of sharp cuts in capital expenditure over recent years (total capex for companies in the HUI Index¹⁹ declined 65% between 2012 and 2016²⁰), as well as a lack of significant discoveries. We have seen this before: lower prices in the late 1990s and early 2000s also negatively impacted production and exploration in the years that followed. And while there are signs of renewed interest in brownfield development and extending the life of existing mines, these are not yet sufficient to offset the steep cuts in project development spending of recent years. Inevitably, the supply pipeline will be squeezed.

The speed at which production will fall is uncertain. As existing reserves are depleted, the current project pipeline will be unable to replace them fully. Over the long-term, the global production profile will depend on the trajectory of the gold price and potential exploration upside, particularly the speed with which brownfield exploration can be brought into production.²¹

Net producer hedging

Gold producers reduced their overall net hedge positions by 15t in Q1. This compares with positive net hedging of 47.5t in Q1 2016.

In the first half of 2016 a rising dollar gold price coupled with weakening local currencies encouraged greater levels of net hedging as gold producers sought to lock in higher prices for their output. But the increase in the Q1 2017 gold price provided little temptation, particularly as prices stayed below average 2016 levels.

Project financing and/or debt repayment are key reasons why many miners opt to hedge, despite the practice being generally opposed by many shareholders. Our view is that while higher price levels may elicit more producer hedging, it will remain tactical in nature and small by historical standards. Any hedging would likely remain in line with the annual average of 16.7t

since 2011, vs the 344.8t average between 1995-1999. At the end of Q1, the global hedge book stood at 237 tonnes, an almost insignificant level when compared to the 3,000t plus hedge book of the late 1990s.

Recycling

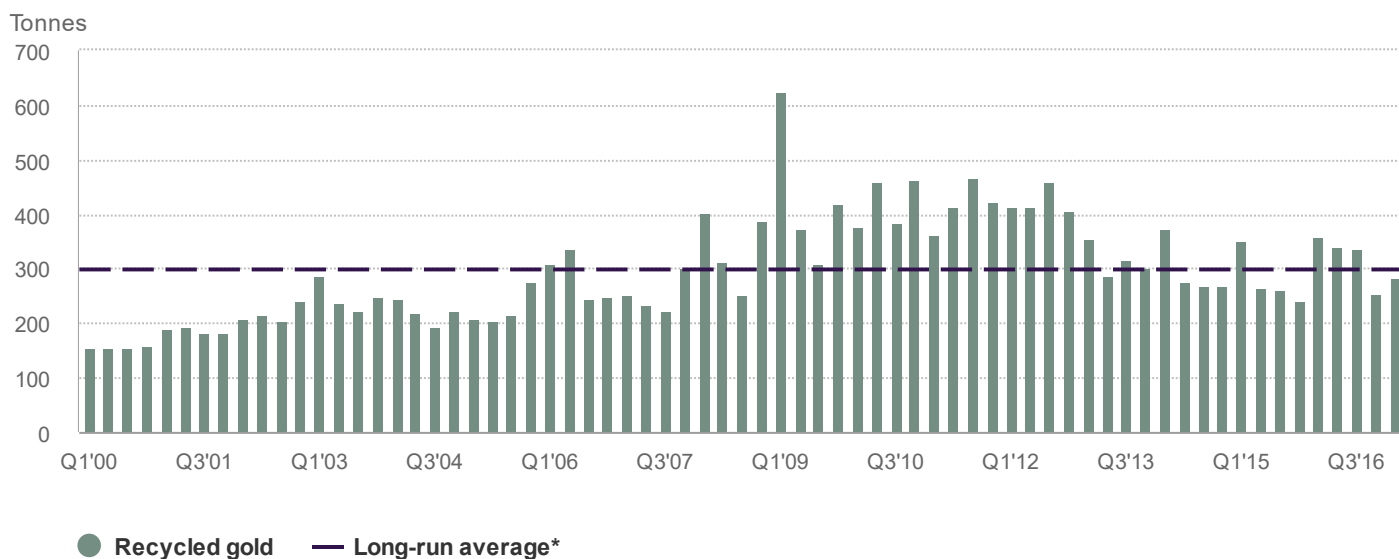
Recycling contributed 283.0 tonnes to supply in the first quarter, a drop of 21% from Q1 2016. The steep y-o-y decline is largely due to recycling having jumped in Q1 2016 in response to sharply rising gold prices at that time. At 283.0 tonnes, recycling is below its long-run average (since Q1 2000) of 296.2 tonnes.

Much of the decline in recycling activity came from Southeast Asian markets – Thailand and Indonesia in particular – where local currency weakness in Q1 2016 exaggerated the rise in the US\$ price. Turkey also witnessed far lower levels of recycling during the most recent quarter. Price and currency moves played their part here too, but the constitutional referendum was also a factor: the populace was reluctant to sell its gold holdings in the face of an uncertain political outcome.

Indian recycling has been remarkably subdued since November’s shock demonetisation. Retailers remained short of cash for some time, slashing their available funds to buy back holdings of old gold. The market remains in something of a holding pattern ahead of the government’s GST decision. Once that becomes evident we could see a resurgence in recycling.

Recycling levels during the first quarter can be seen as something of a ‘normalisation’ in the absence of sharp price moves. Given that recycling supplies were elevated throughout much of last year, negative comparisons are likely over the next two quarters at least.

Q1 recycling was 21% down on last year's relatively high level



*Long-run average covers Q1'00 to Q4'16.

Source: Metals Focus; GFMS, Thomson Reuters; World Gold Council

Footnotes

1. In November 2016, the Indian government implemented a surprise demonetisation that removed Rs15.44trillion (or 86% of the currency in circulation) from India's economy. For a review of India's recent policy initiatives and the likely implications for gold demand, see our [Market Update: Indian demand will recover from 2016's lows](http://www.gold.org/research/indian-demand-will-recover-from-2016-lows)
<http://www.gold.org/research/indian-demand-will-recover-from-2016-lows>
2. Read more: <http://corporates.bseindia.com/xml-data/corpfiling/AttachHis/4822c9d4-9583-4ce1-be76-a5c1a8a8499a.pdf>
3. The new lunar 'year of the rooster' contains a leap month in order to bring it into line with the solar calendar. This means that it encompasses the 'Start of Spring' day in both February 2017 and February 2018.
4. World Gold Council, 2016: [China's gold market: new perspectives on consumer behaviour](http://www.gold.org/research/china-jewellery-market-new-perspectives)
<http://www.gold.org/research/china-jewellery-market-new-perspectives>
5. Agility Research & Strategy; [Affluent Insights Luxury Study 2017](http://www.luxurysociety.com/en/articles/2017/04/top-3-priorities-affluent-asian-millennials/)
<http://www.luxurysociety.com/en/articles/2017/04/top-3-priorities-affluent-asian-millennials/>
6. Read more: <http://www.decent9999.com>
7. Read more: <http://www.pressreader.com/thailand/bangkok-post/20170209/281973197396310>
8. World Gold Council, November 2016; [Gold Demand Trends Q3 2016](http://www.gold.org/supply-and-demand/gold-demand-trends/back-issues/gold-demand-trends-q3-2016/focus-us-jewellery) <http://www.gold.org/supply-and-demand/gold-demand-trends/back-issues/gold-demand-trends-q3-2016/focus-us-jewellery>
9. Read more: <http://www.gold.org/supply-and-demand/gold-demand-trends/back-issues/gold-demand-trends-q1-2017/jewellery>
10. Read more: http://news.xinhuanet.com/english/2017-02/08/c_136041055.htm
11. Read more: <http://www.gold.org/statistics#reserves-statistics>
12. Read more: <http://www.reuters.com/article/turkey-cenbank-gold-idUSL5N1H53VN>
13. 3D packaging increases the memory capacity of a flash chip in a smaller space, offering lower cost per gigabyte and greater durability.
14. A vertical-cavity surface-emitting laser (VCSEL) is a type of semiconductor-based laser diode that emits a highly efficient optical beam vertically from its top surface.
15. Chip Scale Packaging (CSP) is suitable for use in automobile lighting as it can more easily withstand a vibrating environment. It also has the advantages of reduced size and, as it does not use gold, costs less.
16. Malta et al., Science 31 Mar 2017: Vol. 355, Issue 6332, pp. 1399-1403. DOI: 10.1126/science.aal3439
17. Read more: <http://gadgetsandwearables.com/2017/03/20/gold-wearable-technology/>
18. The restrictions applied to exports of copper concentrate and anode slimes, among other things. As Grasberg is primarily a copper mine, with gold produced as by-product, production of gold was affected.
19. HUI Index is an equally-weighted index of some of the world's largest gold mining companies. Its full title is the NYSE Arca Gold BUGS Index.
20. Bloomberg

21. Please see Full Year/Q4 2016 Gold Demand Trends <http://www.gold.org/supply-and-demand/gold-demand-trends/back-issues/gold-demand-trends-full-year-2016> for more detail.