Gold Demand Trends
Full Year and Q4 2021

Highlights

The US dollar gold price declined by around 4% during 2021.[1] Nevertheless, the average price for the year of US$1,799/oz was around 2% higher than 2020, as the price was relatively steady, holding within a broad range for much of the year.

Total gold supply eased marginally in 2021: down 1% at 4,666t, its lowest level since 2017. Mine production recovered 2% over the year, but this growth was counteracted by a sharp 11% drop in recycling.

Jewellery growth was almost universal. Gains were fuelled primarily by the two global heavyweights – India and China – but decent recovery was also seen across all other regions.

Inflation-driven retail investment reached record levels in some Western markets. Bar and coin demand exceeded previous annual levels in both the US and Germany as investors focused on rising inflationary pressures and low/negative real rates.

1 Based on the LBMA Gold Price PM as of 30 December 2021.

2 We have implemented a few improvements to the methodology used to calculate gold demand, as discussed in the changes to data tables and terminology section, p.2.

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Strong Q4 lifts full year demand 10%

Annual demand recovered across virtually all sectors – the notable exception being ETFs, which saw net annual out lows.

Full year 2021 gold demand (excluding OTC) increased to 4,021 tonnes (t), propelled by Q4 demand which jumped almost 50% to a 10-quarter high.[2] Demand recouped much of the COVID-related losses sustained during 2020. Demand for gold in the consumer-driven jewellery and technology sectors recovered throughout the year in line with economic growth and sentiment, while central bank buying also far outpaced that of 2020. Investment demand was mixed in an environment of opposing forces: high inflation competed with rising yields for investors' attention.

Jewellery fabrication staged a strong recovery in 2021. It grew 67% to 2,221t to meet the strong rebound in jewellery consumer demand, which increased 52% in 2021 to 2,124t, matching the 2019 total. This was in good part linked to Q4 demand, which – at 713t – saw the strongest quarterly jewellery consumption since Q2 2013.

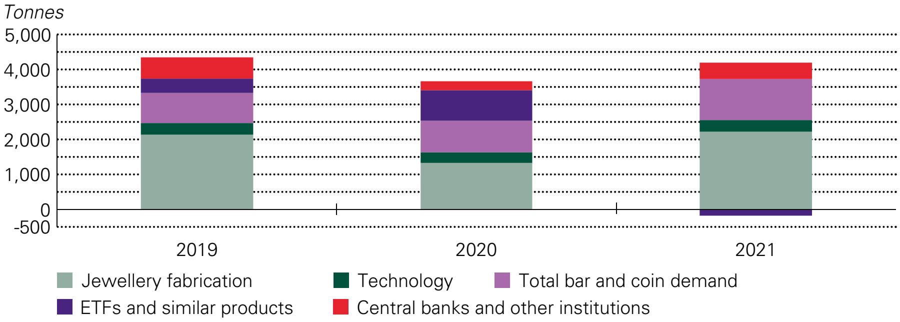
Global holdings of gold ETFs fell by 173t in 2021 in sharp contrast to 2020's record 874t increase. Q4 outflows of just 18t were a fraction of the much larger outflows seen in Q4 2020.

Bar and coin investment maintained its momentum, jumping 31% to an eight-year high of 1,180t. Q4 2021 demand of 318t, meanwhile, was the highest for a fourth quarter since 2016.

Central banks accumulated 463t of gold in 2021, 82% higher than the 2020 total and lifting global reserves to a near 30-year high. The pace of buying slowed in the second half, with a 22% y-o-y decline in Q4.

Gold used in technology grew 9% in 2021, to reach a three-year high of 330t. Y-o-y growth slowed in the most recent quarter (to 2%), highlighting the rapid recovery seen in the sector in Q4 2020.

ETF outflows only exception in robust gold demand recovery in 2021
Global annual demand by sector*



*Data to 31 December 2021.
Source: Metals Focus, World Gold Council

Gold Demand Trends: changes to data tables and terminology

We want to make the gold market, and our data, clear and easy to understand at a glance. To achieve this, we have made some improvements to the way that we present the demand and supply data in Gold Demand Trends.

What has changed?

Streamlined demand tables. We have condensed our global gold demand and supply data into one single comprehensive table. The graphic below shows how this new data table (on the right) relates to the two global demand and supply tables previously included in GDT.

Simplified terminology. The more streamlined data tables lend themselves to simplified terminology. We have updated the labels for some of our data series, making them clearer and more accurate. Our Notes and definitions reflect these changes and clearly explain all statistics presented in Gold Demand Trends.

Previous data format:

Gold demand (tonnes)[1]

Tonnes	2018	2019	2020		Year-on-year % change
Jewellery	2,248.5	2,123.2	1,401.1	↓	-34
Technology	334.8	326.0	302.2	↓	-7
Electronics	268.4	262.3	248.3	↓	-5
Other Industrial	51.2	49.8	42.0	↓	-16
Dentistry	15.3	13.9	11.9	↓	-15
Investment	1,173.3	1,274.9	1,773.5	↑	39
Total bar and coin demand	1,090.3	866.7	899.6	↑	4
Physical Bar demand	775.4	579.2	537.6	↓	-7
Official Coin	241.9	220.7	292.9	↑	33
Medals/Imitation Coin	73.0	66.8	69.1	↑	4
ETFs & similar products	83.0	408.2	873.9	↑	114
Central banks & other inst.	656.2	605.4	255.0	↓	-58
Gold demand (consumption basis)[2]	4,412.8	4,329.4	3,731.7	↓	-14
LBMA Gold Price, US$/oz	1,268.5	1,392.6	1,769.6	↑	27

Gold supply and demand WGC presentation

Tonnes	2018	2019	2020		Year-on-year % change
Supply					
Mine production	3,653.4	3,599.2	3,473.2	↓	-4
Net producer hedging	-12.5	6.2	-51.9	↑	-
Recycled gold	1,132.0	1,273.0	1,302.2	↑	2
Total supply	**4,772.9**	**4,878.3**	**4,723.5**	↓	**-3**
Demand					
Fabrication					
Jewellery	2,284.6	2,137.7	1,327.0	↓	-38
Technology	334.8	326.0	302.2	↓	-7
Sub-total above fabrication	2,619.4	2,463.7	1,629.1	↓	-34
Total bar & coin demand	1,090.3	866.7	899.6	↑	4
ETFs & similar products	83.0	408.2	873.9	↑	114
Central bank & other inst.	656.2	605.4	255.0	↓	-58
Gold demand	4,449.0	4,344.0	3,657.6	↓	-16
Surplus/Deficit	324.0	534.4	1,066.0	↑	99
Total demand	**4,772.9**	**4,878.3**	**4,723.5**	↓	**-3**
LBMA Gold Price (US$/oz)	1268.49	1392.6	1769.59	↑	27

New data format:

Gold supply and demand

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Mine production	3,653.4	3,599.2	3,473.2	↓	-4
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Total supply	**4,772.9**	**4,878.3**	**4,723.5**	↓	**-3**
Demand					
Jewellery fabrication	2,284.6	2,137.7	1,327.0	↓	-38
Jewellery consumption	2,248.5	2,123.2	1,401.1	↓	-34
Jewellery inventory	36.2	14.5	-74.2	↑	-
Technology	334.8	326.0	302.2	↓	-7
Electronics	268.4	262.3	248.3	↓	-5
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LBMA Gold Price (US$/oz)	1268.49	1392.6	1769.59	↑	27

1. The data in this table relates to Q3 2021 and is for illustrative purposes only.
2. This measure of gold demand is calculated using jewellery consumption and will no longer be directly replicated in the demand and supply data. It can be calculated by subtracting jewellery inventory from gold demand in the new table.

Gold Demand Trends: changes to data tables and terminology

Previously, our GDT statistics included two global demand tables:

- **Gold demand (tonnes):** this table presented the components of aggregate global gold demand and measured demand using jewellery consumption (i.e. gold jewellery bought by consumers)
- **Gold supply and demand WGC presentation:** this table presented the components of global gold demand and supply, measured gold demand using jewellery fabrication (i.e. gold jewellery produced by manufacturers, which may also include movement of jewellery held as inventory), and included a surplus/deficit to account for the difference between demand and supply.

Our new, single data table presents all the components of aggregate global demand and supply. It includes both jewellery fabrication and consumption, as well as jewellery inventories, illustrating the relationship between these two measures of jewellery demand.

Why make the changes?

The reason for the enhancements are three-fold:

1. To avoid duplication of data
2. To simplify and streamline the data model
3. To calculate gold demand using the measure of jewellery demand further up the supply chain, aligning with the model used in our Gold Valuation Framework.

Presenting the demand and supply statistics across two tables resulted in a duplication of data; both tables necessarily included data for technology, bar and coin, ETFs and central bank demand. Our new table removes this duplication.

The previous presentation method also produced two slightly different measures of 'gold demand'. The two tables calculated demand using different jewellery measures (fabrication and consumption). Having two different measures of gold demand in the same data model could create confusion. Our new table presents only one figure for gold demand, which is measured using jewellery fabrication. By redirecting our focus further up the supply chain, towards the point at which fabricators buy gold (rather than the points at which it is bought by consumers), our data fits more closely with the model used in our gold valuation framework. Additionally, the use of this measure has the benefit of allowing us to more accurately quantify the value of wholesale jewellery demand. As a result of this change in measurement, annual gold demand shifts by just 0.2% on average over the last 10 years. (The difference between the previous and current measures of gold demand is the volume of jewellery inventory in any given year, which has ranged between -85t and +36t since 2010.)

Finally, the ' Surplus/Deficit' label did not fully explain what was captured within this data series. This element of the model captures various components, including demand in the OTC market (for which data is not readily available), changes to inventories on commodity exchanges, any unobserved changes in fabrication inventories and any statistical residual. It is the difference between total supply and gold demand.

As we continue to look for ways to improve and enhance our research and analysis, these changes help us to achieve our ambition to make our data as clear and easy to understand as possible.

Review and outlook

Gold drew direction chiefly from inflation and interest rate expectations in 2021. Investment may struggle in 2022 amid competing forces but consumer demand should hold strong and central banks will likely keep buying.

- The gold price ended 2021 around 4% lower, closing the year at US$1,806/oz, while its annual average of US$1,799/oz was approximately 2% higher than the 2020 average[3]
- ETFs and OTC demand experienced weakness in 2021 while bar and coin climbed with some regions posting decade-high levels of demand
- Consumer demand was supported by the economic recovery, ease of lockdown restrictions, and softer gold price performance.

Looking ahead:

- Investment may face challenges from rising rates and the recent strong increase in bar and coin demand may be an additional headwind to further growth, but persistently high inflation and equity market pullbacks will likely be supportive
- Consumer-driven demand should benefit from a weaker price environment with good underlying economic growth
- Central banks are expected to continue buying gold but at a slower pace than in 2021
- Expected growth in mine supply, due to fewer COVID disruptions and ramp ups/first pours at various mines, is likely to be offset by a fall in recycling, which would leave total gold supply largely unchanged.

Q4 and Full Year review

The year ended much as it began, with nominal interest rates and inflation jockeying for position as the key driver of gold. But unlike in Q1, inflation was a more dominant factor than interest rates in Q4. This helped gold make up some of the ground it had lost in the early part of the year (see *Gold Market Outlook 2022*).

While the price of gold finished the year 4% lower, the average price for 2021 was almost 2% higher than the average price seen in 2020. This performance is well explained by gold market dynamics observed in 2021.

The tug-of-war between interest rates and inflation was reflected in investment demand and created a drag on price. Gold ETF outflows – concentrated in North America – were a feature for most of the year, bringing collective gold holdings in ETFs down 173t by the end of the year. Interest rates, representing the opportunity cost for holding gold, are historically a key determinant of ETF flows and last year was no exception. US 10-year Treasury yields ended the year 40 bps higher and shorter maturities like the US 2-year Treasury yields – reflective of market expectations of future Fed policy – rose almost every month of the year. These higher nominal yields helped put downward pressure on gold ETF holdings. Yet despite considerable outflows during the year, global holdings of these products remain significantly above pre-pandemic levels, likely reflecting the fact that much of 2020's record inflows were due to longer-term, strategic buying.

Bar and coin demand, which our analysis suggests is more sensitive to changes in inflation than interest rates, ended the year 281t higher, helped by decades-high demand in both Europe and North America.

The solid recovery in jewellery demand was also supportive for gold. The market witnessed a strong bounce back from the pandemic-ravaged slump of 2020. Demand finished the year with a somewhat surprising surge as Indian buying hit a quarterly record. Chinese demand also impressed, posting one of its strongest Q4 numbers on record.

3 Based on the LBMA Gold Price PM as of 30 December 2021 (this is the last day of the year for which this metric is available and does not capture the rally in the gold price on 31 December).

Review and outlook

Meanwhile, central bank buying offered further reinforcement, particularly through the first three quarters of the year. A few large-scale purchases by banks including Thailand and Brazil added to the regular buying of smaller amounts by the likes of India and Uzbekistan to generate more than 460t of buying in 2021.

And gold's relative stability throughout the second half reflects this combination of subsiding ETF outflows and strength in the consumer and central bank elements of demand.

Finally, supply had a somewhat neutral effect as higher marginally mine production was counterbalanced by considerably lower recycling.

Outlook

Consumer-driven demand for jewellery and technology will likely remain solid in 2022 amid generally strong economic growth and could be further supported if the gold price were to move sideways or to soften. However, the pent up-demand we saw in Q4 will probably subside in 2022 as some of it has likely already been met.

Demand in China for the beginning of 2022 could be restrained by increasing COVID-related restrictions and the current economic slowdown. For the rest of the year, slower growth could hamper demand, but it could benefit from lower price volatility.

Technology demand is expected to show a further modest rise this year, as it continues to recover from a weak 2020. The continued expansion of 5G infrastructure should help support demand for gold in this sector. But demand faces some risks from a slowdown in China as well as COVID-related restrictions.

Investment demand is likely to be pressured by higher nominal interest rates again in 2022 but could benefit from continued inflation concerns and COVID risks.

Bond yields have started the year on the front foot. This trend is likely to continue as long as central banks maintain a hawkish tone, thus increasing the opportunity cost for gold. Yet, gold has remained resilient in the first few weeks of the year, likely as a by-product of perceived continued risks.

Further, rising policy rates and the end of bond-buying programmes could be detrimental to financial markets much as they have arguably been very supportive over the last few years. Equity markets continue to ignore bad news, but a stronger pullback remains a major risk given valuations and earnings prospects. Bonds will not fare well in a rising environment and if supply chain restrictions are eased then commodity prices may soften.

In addition, rising policy rates are not exactly uncharted waters, but the experience from 2018-2019 suggests that the economy is more sensitive to higher rates given that debt levels are substantially higher. This poses the risk of a growth slowdown and a fall in long-term real interest rates.

Finally, gold has historically outperformed in the months following the onset of a US Fed tightening cycle.

ETF demand could largely see a repeat of 2021 with both economic resilience and higher nominal interest rates as headwinds. However, continued inflationary pressures, financial market wobbles and COVID restrictions present upside risk. The outflows that gold ETFs experienced in 2021 should be put into context, considering that they collectively added 2,200 tonnes between 2016 and 2020. The direction of ETFs will largely depend on which factor is stronger: demand for gold as a hedge, in light of persistent inflation and potential COVID-related market pullbacks, or further reduction in holdings in light of rising nominal interest rates.

Bar and coin demand is expected to be rangebound in 2022 compared to 2021, potentially weaker in some regions within an overall range of 1,000 to 1,200t. Price volatility and continued inflation concerns may help demand, but after two strong years some buying exhaustion may have set in. There is, however, some upside in China. Potential currency weakness and higher local inflation alongside continued low bond yields are all encouraging for Chinese bar and coin investment. In India, loosening restrictions have produced bumper numbers for Q4 2021. Some of this will likely wane in 2022 but economic growth should remain a catalyst for solid demand.

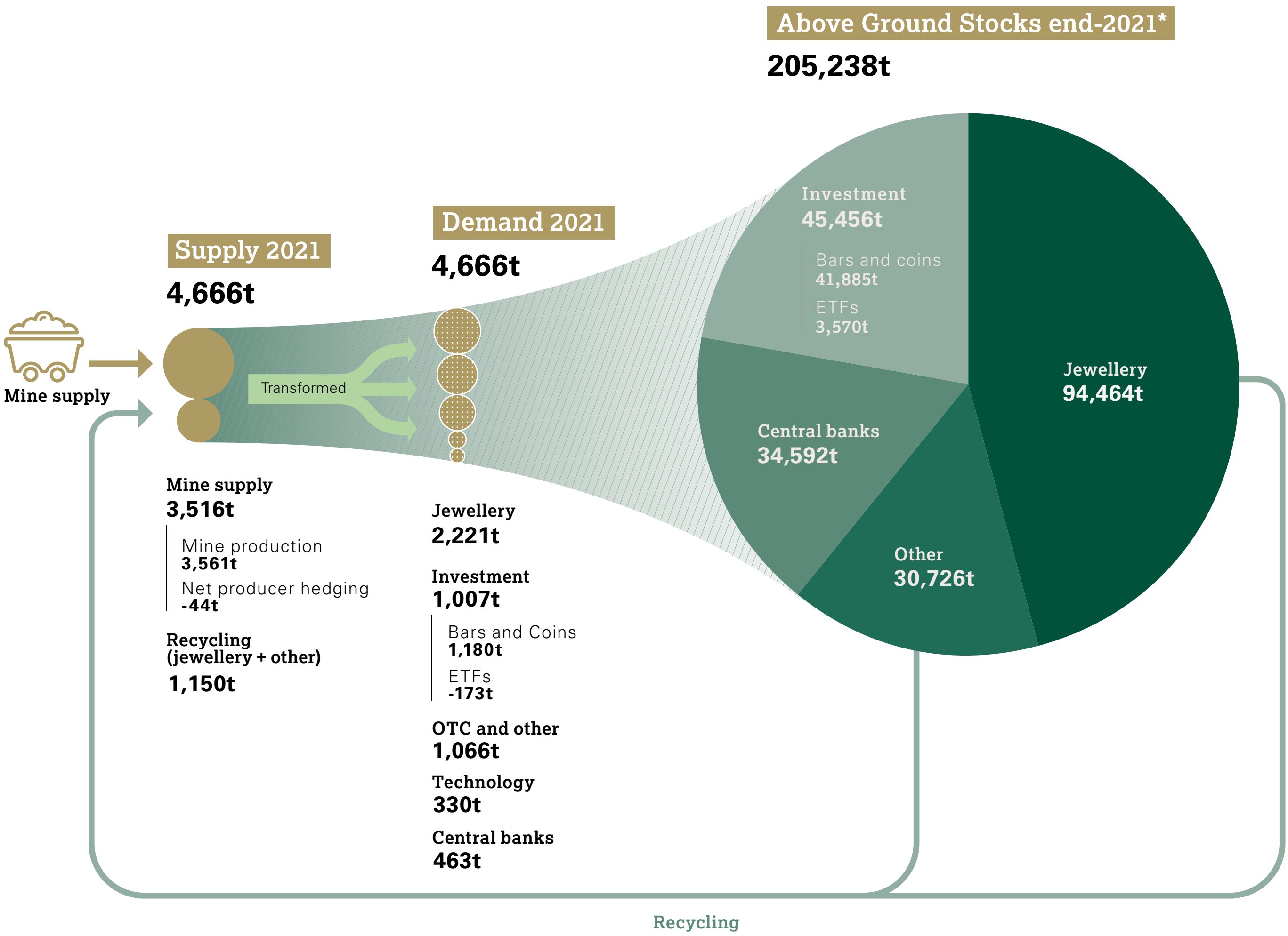
Review and outlook

Central bank demand is likely to continue its positive 12-year trend but may struggle to match the strong performance of 2021. There were major strategic purchases in 2021 that may not repeat soon and previous significant buyers, such as Russia and China, have been relatively inactive in recent years. Both of these factors create more uncertainty around expectations, as do developments in Turkey, which could have a significant bearing on demand numbers. However, our central banks survey indicates a similarly positive inclination towards gold in 2022 as in 2021.

Supply is expected to be marginally softer in aggregate with mine supply rising slightly but outweighed by a fall in recycled gold.

Mine production can achieve similar growth in 2022 to 2021. Margins remain healthy despite rising costs, incentivising continued production. Certain risks to this growth stem from continued COVID-related disruptions and, of course, operational issues.

Recycling is likely to fall in 2022 and we expect a range of 1,050t–1,110t for the full year. Global real GDP growth is expected to be solid, reducing the need for distress selling. As in 2021, government support could factor limit the need to sell and any price weakness – should it materialise – would act as a further disincentive. Higher inflation has also reduced the willingness to recycle and near-market supplies continue to be constrained after the historically high levels of recycling seen in 2019 and 2020.



*Data to 31 December 2021. These totals are indicative only. For an explanation of these terms, please see the Notes and definitions. Above-ground gold stock data can be downloaded back to 2010 on an annual basis here.

Source: Metals Focus, Refinitiv GFMS, World Gold Council

Jewellery

Annual jewellery consumption rebounded to pre-pandemic levels, boosted by Q4 sprint finish.

- Annual jewellery consumption grew 52% in 2021, fully recovering the losses sustained during 2020
- Rocketing Indian demand helped drive the fourth quarter global total to 713t – the highest since Q2 2013
- In value terms, annual demand reached US$123 billion (bn) to virtually match the 2013 record.

Tonnes	2020	2021	Y-o-y change
World total	1,401.1	2,123.6	↑ 52%
India	315.9	610.9	↑ 93%
China, P.R.: Mainland	413.8	674.6	↑ 63%

Source: Metals Focus, World Gold Council

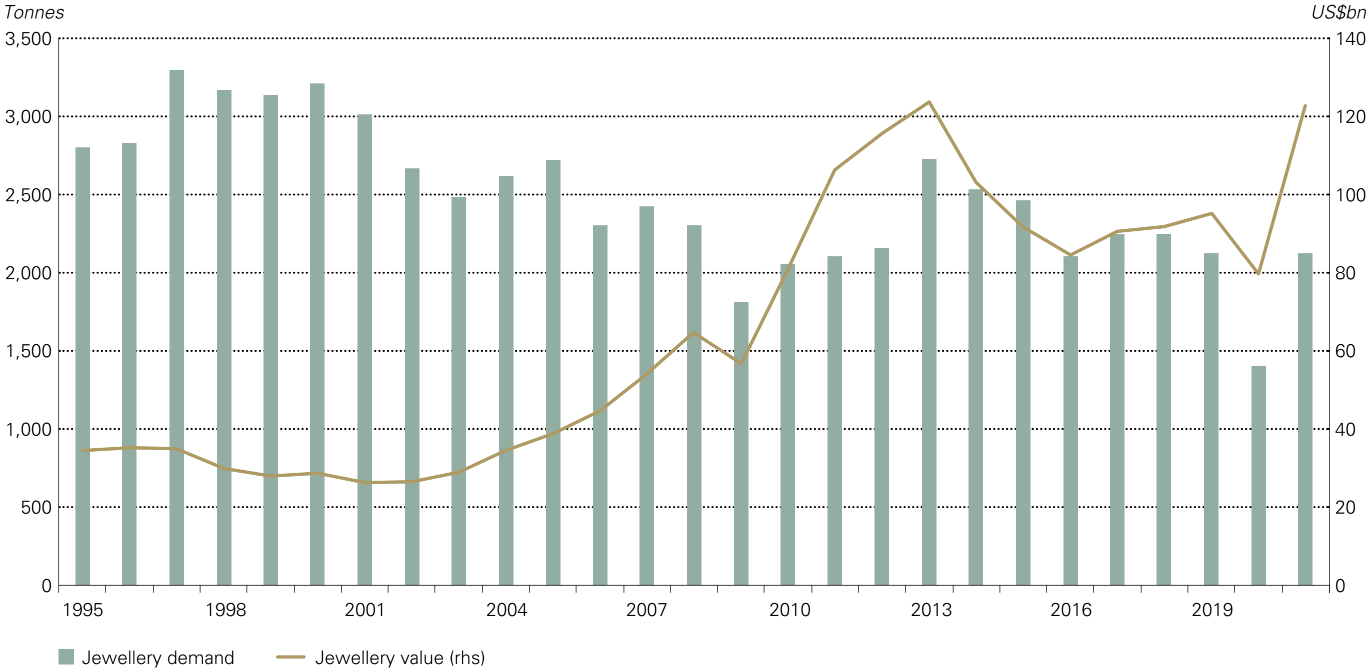
2021 was a redemption story for global jewellery demand as it recovered fully from the blows inflicted by COVID in 2020. Demand by consumers reached 2,124t,[4] lifted by an exceptional fourth quarter with the release of pent-up demand in India being a key factor

Jewellery fabrication rose 67% to 2,221t – the highest since 2018 – in response to strong consumer demand and inventory building of 97t during the year. This inventory replenishment compensated for the 74t of stock depletion seen in 2020 as the jewellery trade battled with the impact of the pandemic.

Strong growth in the first three quarters of 2021 was largely due to base effects (i.e. the extreme weakness of 2020). The fourth quarter, however, had a fairer comparison as Q4 2020 had been robust. This makes the 40% y-o-y increase in the most recent quarter all the more impressive.

India was a key driver in Q4, but jewellery demand in markets across the globe – almost without exception – was stronger y-o-y. Continued economic recovery and, crucially, the less widespread use of strict lockdown measures to contain COVID, were key reasons.

Economic recovery and lower price lifted jewellery demand to pre-pandemic levels
Global annual jewellery demand in volume and value*



*Data to 31 December 2021.

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

4 This refers to jewellery consumption, i.e. end-user demand for fine gold jewellery at the retail level.

Jewellery

While many markets have continued to ease restrictions, it is again worth nothing that varying degrees of market lockdown across the globe continue to impinge on data collection, making data for some markets more susceptible than usual to future revisions once normal fieldwork is able to resume.

China

Double-digit y-o-y growth in Q4 concluded a strong 2021 for gold jewellery demand in China. In 2021 China's gold jewellery demand reached 675t, a 63% y-o-y jump and 6% higher than 2019. Demand was primarily supported by economic recovery from 2020 and a relatively stable gold price during the year. The surging popularity of Heritage gold jewellery items[5] and increasing adoption of the per-gram pricing method also contributed. In addition, we believe pent-up wedding gold jewellery demand from 2020 also supported China's gold jewellery demand growth in 2021.

Meanwhile, a relatively stable gold price and seasonal factors – Chinese consumers tend to buy gold products ahead of the Chinese New Year Festival – were main drivers of the 24% y-o-y growth in the fourth quarter.

Mass-appeal 24K products lost market share to more intricately designed ranges. The reason for this was two-fold. On the one hand, manufacturers are catering to the demand aesthetic consideration of modern (mainly Gen Y and Gen Z) Chinese consumers, who require higher jewellery design standards. This is especially evident in higher-tier cities. Heritage gold jewellery's rocketing popularity among these consumers is a quintessential example.

On the other hand, as local retailers increase the range of per-gram priced products in their inventory, they prefer to focus on items with higher added value from craftsmanship, in order to pursue higher margins. While mass-appeal 24K gold jewellery maintains its popularity in some regions, market share could fall further as products with more intricate designs gain greater prominence.

Meanwhile the share of plain 18K and 22K product ranges is shrinking. This is likely caused by the rising popularity of 24K Hard Gold jewellery products in recent years.[6] Since their inception, these well-designed, light-weight products have been gnawing away at the market share of plain 18K and 22K gold jewellery: our survey results show that the latter items only accounted for 13% of local retailers' inventories in 2021, lower than that of 24K Hard Gold pieces.

Looking ahead, a possible slowdown in China's economic growth and the trend of declining marriage registrations might present challenges. But a stable or declining gold price could provide support. And we believe demand should benefit from continued migration to the per-gram pricing method increasingly adopted by local retailers as well as from the expansion in leading retailers' points of sale.

5 Also known as 'antique crafted gold' these are chunky 24K gold products that evoke the style and craftmanship of ancient China with matte finishing and traditional cultural designs.

6 After special treatment, 24K Hard Gold is harder than traditional 24ct gold with adequate ductility, allowing manufacturers to produce intricately designed, lighter weight pieces without compromising on the purity of the gold.

Jewellery

India

Indian gold jewellery demand almost doubled y-o-y in 2021, surging past pre-pandemic levels to reach a six-year high of 611t. Record quarterly demand of 265t in Q4 set the seal on this remarkable annual performance.

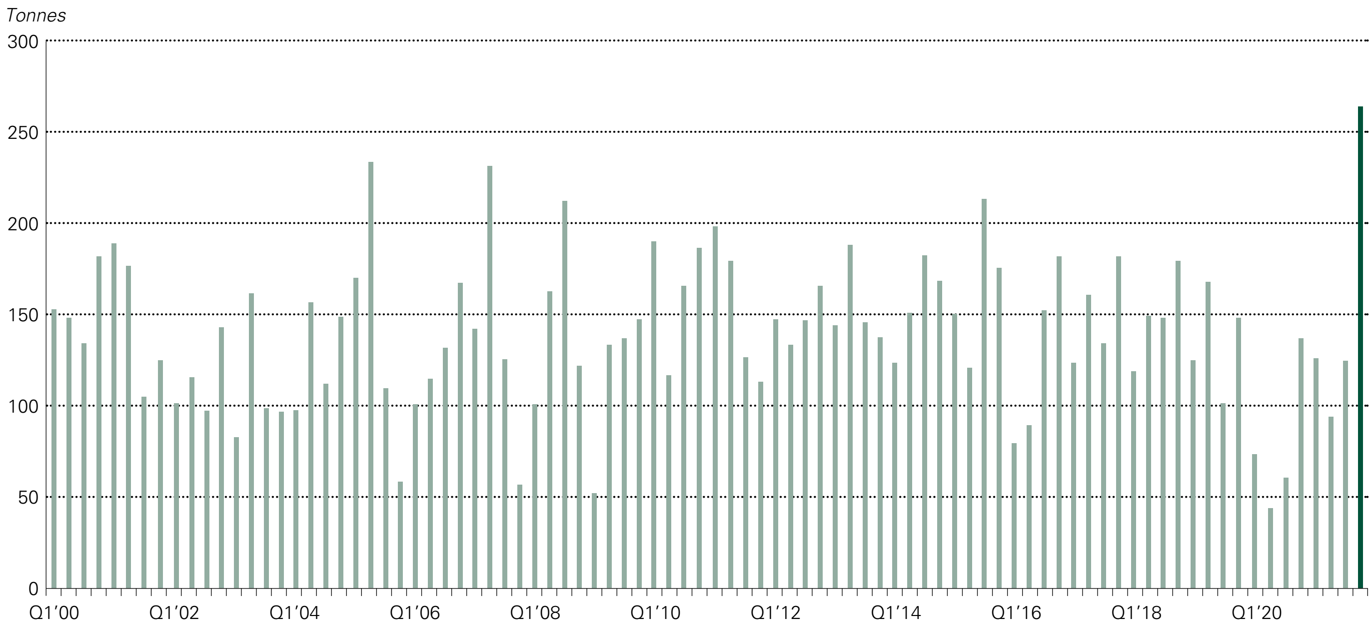
With the easing of lockdown restrictions from June onwards and continued successful roll out of the vaccination program, India's economy recovered in H2 2021. This boosted consumer sentiment – particularly in urban India – as reflected in an increase in the Reserve Bank of India's Consumer Confidence Index, which rose to 62.3 in November 2021. Rural demand was supported by normal monsoon rainfall, although crop loss due to floods in the Southern states of Kerala and Tamil Nadu impacted rural demand to a degree.

Festivals and weddings were the driving force behind robust Q4 demand. Jewellery demand remained strong in October with festival purchases of Dussehra and Pushya Nakshatra, followed by a robust Dhanteras, with retailers reporting sales volumes above those of pre-pandemic levels.[7]

Weddings boosted jewellery demand further in the quarter. Pent-up demand from weddings deferred during Q2 and re-scheduled for Q4 2021 provided a fillip, as did the higher number of auspicious wedding days in Q4 (15 in Q4 2021 vs seven in Q4 2020). With higher wedding purchases and a stable price, consumers preferred gold-for-gold exchange.

Release of pent-up demand in India led to a quarterly record for jewellery in Q4

Quarterly Indian jewellery demand*



*Data to 31 December 2021. Quarterly demand data begins Q1 2000.

Source: Metals Focus, Refinitiv GFMS, World Gold Council

7 Dussehra is a festival celebrated at the end of Navratri each year. Navratri is an annual Hindu festival spanning nine nights and is celebrated as a mark of victory of good over evil. Dussehra was celebrated on 15 October 2021. Pushya Nakshatra is considered the most auspicious nakshatra to bring home Goddess Laxmi – the Goddess of wealth – and is considered auspicious for gold purchases. Pushya Nakshatra falls a few days ahead of Dhanteras (which marks the first day of Diwali), and for 2021 this started on 24 October and ended on 25 October.

Jewellery

As the year ahead unfolds, jewellery demand in India should receive support from continued improvement in consumer confidence and income levels. But there are likely challenges too. COVID-19 remains a significant factor, the latest wave of the pandemic prompting renewed Uncertainty and fresh restrictions on the size of weddings and social gatherings, and this see weddings postponed from Q1 to later in the year. Likewise, the sharp release of pent-up demand in Q4 is less likely to be repeated to the same degree in 2022.

Middle East and Turkey

Full year 2021 jewellery demand in Turkey and across much of the Middle East fell short of a return to pre-pandemic levels.

Turkish jewellery consumers were discouraged by extreme currency-induced volatility in the local gold price during Q4. The gold price was relatively stable during the first few weeks of the quarter, which permitted a 9% y-o-y increase in Q4 demand to 7.4t. But the subsequent sharp rise and rapid correction in the local price later in the quarter saw demand slow to a virtual standstill; as a result, Q4 demand was down 20% from the third quarter. Annual demand recovered to 34t (+31% y-o-y), restrained by the precarious economic situation and surging inflation.

Markets in the Middle East all witnessed significant double-digit y-o-y growth rates in 2021. The UAE led with a 57% increase in annual demand to 34t. Continued improvement in tourist numbers, especially from India, aided this growth, while the relatively effective containment of COVID generated a positive mood that helped local demand.

The West

US jewellery demand was the strongest for 12 years at 149t (+26%). The value of annual demand was the highest in our series by some margin, at US$8bn. All four quarters saw healthy y-o-y growth, with Q4 demand up 9% y-o-y and 8% higher than the same quarter of 2019. Demand growth was generally considered to be due to the lack of competition for discretionary spending, given the ongoing lull in spending on travel and entertainment. Postponed weddings that were rescheduled to the most recent quarter also had an impact.

A contributing factor to robust demand volumes was the healthy interest in plain gold items, including heavy chains, and the continued dominance of 14-carat pieces, with the very low 6- and 1-carat ranges having failed to gain traction.

Jewellery demand in Europe continued its recovery in 2021 but fell short of pre-pandemic levels. Annual demand for the region grew 21% to 68t. Fourth quarter demand was broadly in line with pre-pandemic averages, but the continued interference from restrictions to combat the spread of COVID prevented a full recovery in demand across the region.

ASEAN markets

Demand for jewellery in Indonesia was 27t for the full year, an increase on the 21t of purchases in 2020 but still well below the 40t annual average of the preceding five years. Q4 jewellery demand in Indonesia rose 26% y-o-y to 10t. Consumer confidence was likely buoyed by the country's relative success in dealing with the pandemic. New cases fell significantly after peaking in July 2021 and the economy began to normalise following the easing of lockdowns in Q4. GDP growth of 4.5% in the final quarter and the fall in gold prices in November and December likely supported jewellery consumption.

Annual demand for gold jewellery in Thailand was 8t, a 38% increase on 2020's 6t. In the fourth quarter jewellery consumption was 20% higher y-o-y – the third consecutive quarter of y-o-y growth. This was the strongest quarter since the pandemic began and reflects Thailand's continued recovery from the effects of COVID. Whil the jewellery market has improved, consumers are still reluctant to make big-ticket purchases. Tourism has only recently resumed, but arrivals are expected to increase significantly in 2022 likely boosting demand further.

Jewellery

2021 demand for jewellery in Vietnam was 12t, 11% higher than the 2020 figure of 11t. But the fourth quarter saw a 12% y-o-y fall to 2.5t, as the market was hit hard by COVID. Jewellery shops were allowed to reopen in October, but the severe effects of the pandemic in Vietnam have left consumers cautious about making high value purchases. Despite this, sales picked up in November, reflected in strong q-o-q growth, with promotional campaigns and the wedding season contributing to the recovery. Demand is likely to continue to pick up as Vietnam's economic recovery boosts consumer confidence. Q4 GDP grew 5.2%, and a major government stimulus package is likely to further support a recovery.

Jewellery consumption in Singapore increased by 16% y-o-y to 2t in Q4. Annual demand in 2021 was 7t, a 22% increase on the 6t of 2020. Jewellery shops remained open throughout the year, and limited tourism began to resume in H2, which will likely support the market throughout 2022.

Annual jewellery consumption in Malaysia rose by 10% to 10t, with a 37% y-o-y increase in Q4 to 4t. Lockdowns were eased in August, and pent up demand and seasonal buying continued to support the jewellery market in the final quarter.

Rest of Asia

Jewellery demand in Japan continued to recover with volumes nearly back to pre-pandemic levels: annual demand was up 12% at 15t. Fourth quarter consumption increased by 9% to 5t, the third consecutive quarter of growth.

Fourth quarter jewellery demand in South Korea rose by 5% y-o-y to 5t. This was supported by the wedding season, year-end promotions and a weaker gold price. Demand for the full year 2021 was 19t, an increase on the 16t purchased in 2020.

Investment

Eight-year high in bar and coin demand collides with annual ETF outflows.

- Annual bar and coin investment jumped 31% to 1,180t, aided by record high volumes in the US and Germany
- Global gold ETFs saw outflows of 173t in 2021, a 5% decline in total holdings
- In Q4, total investment more than doubled y-o-y as ETF outflows were sharply lower than in Q4 2020, while bar and coin demand maintained its momentum.

Tonnes	2020	2021	Y-o-y change
Investment	1,773.6	1,007.1	↓ -43%
Bar and Coin	899.6	1,180.4	↑ 31%
India	130.4	186.5	↑ 43%
China, P.R.: Mainland	198.9	285.5	↑ 44%
Gold-backed ETFs	874.0	-173.3	↑ –

Source: Metals Focus, World Gold Council

After four consecutive quarters of y-o-y declines, investment demand jumped 118% y-o-y in Q4. ETF outflows slowed to trivial levels – particularly in comparison with Q4 2020 – while bar and coin investment continued to gain strength.

Despite the significant uptick in Q4 demand, the net result for 2021 was a 43% decrease in total investment to 1,007t. However, the last time gold ETFs saw annual outflows, which was between 2013 and 2015, average annual investment demand was 901t, 11% lower than last year. This highlights the extent to which bar and coin demand growth helped to offset ETF outflows.

ETFs

Gold ETFs had net outflows of 173t (US$9bn) in 2021. These were heavily concentrated in Q1, coinciding with a sharp rise in US rates and risk-on investor appetite as newly developed vaccines were rolled out. Global holdings fell 5% to 3,570t by year-end, while AUM in value terms lost 9% to US$209bn as net outflows were compounded by the 4% gold price decline over the year.

Looking at these outflows in a longer-term context provides useful perspective. Over the previous five years, global gold ETFs have seen cumulative inflows of more than 2,200t during which time global holdings more than doubled to almost 4,000t. Outflows of 173t in 2021 are therefore relatively small in comparison and global holdings of these products remain significantly above pre-pandemic levels.

Losses in 2021 were driven by North American funds, which never recovered from their significant outflows in Q1, ultimately registering outflows of nearly 200t (US$11bn) by year-end. The bulk of these outflows were from large US funds whose assets fluctuated in tandem with the gold price.

European ETFs were contrastingly stable. After seeing sharp outflows early in 2021, these funds turned positive for the remainder of the year, fully reversing the 44t Q1 decline. There was diverse performance within the region during the year. Funds listed in Germany and France were the drivers of growth, with inflows of 19t and 14t respectively, likely linked to growing inflation concerns and recurring lockdown measures amid a stream of new COVID variants. Meanwhile, UK funds saw net outflows, of 28t – potentially as rate hikes were a more immediate priority for the BoE. Rising inflation expectations helped fuel inflows and the region's funds ended the year marginally higher (+0.7t, US$264mn).

Asian ETFs outperformed again. Funds listed in the region accounted for the vast majority of annual inflows among global funds. Total holdings in the region grew by more than 20%, adding 25t (close to US$1.5bn) over the year.

China absorbed more than 60% of these regional inflows. With an inflow of 3.4t in the fourth quarter, Chinese gold ETFs added 14.4t in 2021 –in contrast to the outflows from North American funds. By year-end, collective holdings in these Chinese funds had reached a record 75.3t (US$4.4bn, RMB27.8bn).

Among the main factors driving gold ETF demand in China were slowing economic growth, concerns over rising inflationary pressures and declining local bond yields. But we believe that a more tactical approach to gold ETF investment also played a role, as the gold price moved within a range for much of the year. In Q1 2021, local investors bought 11.5t of gold ETFs as the local gold price fell by 8.5%. Conversely, Q2 saw modest outflows (4t) when the gold price rebounded, suggesting some investors might have capitalised on their earlier investment. This pattern broadly continued for the remainder of the year.

Indian-listed funds also contributed to the regional growth with net inflows of 9t in 2021, aided by 2.5t of inflows in Q4. Seasonal festival demand, concerns over elevated equity valuations and safe haven demand prompted by Omicron fuelled the quarterly growth. The inflows pushed total holdings in Indian-listed funds to 37.6t by end of 2021, with AUM touching US$2.4bn.

Regional trends have witnessed something of a turnaround during the opening weeks of 2022, with inflows into US- and European-listed funds providing a contrast to small-scale outflows from funds in China.

Bar and coin

Q4 bar and coin investment saw a y-o-y growth rate of 18% for the second consecutive quarter. Demand of 318t was the highest for a fourth quarter since 2016, helping to lift the annual total to an eight-year high of 1,180t.

Bar and coin investment accelerated sharply in the first half of 2021, gaining almost 50% y-o-y by the end of Q2. This was largely due to the comparison with a weak H1 2020 when markets were in lockdown and distress selling was seen in some markets – notably Thailand – in response to the pandemic. In H2 2021, this element of investment demand maintained good momentum, as high inflation readings across the globe kept retail investors focused on gold's role as an inflation hedge and wealth protection asset.

Bar demand was 50% higher for the full year at 804t, while official coin demand slipped marginally to 291t. The latter was a reflection of the significant drop in demand in Turkey amid local market turmoil.

Bar and coin demand jumped to an eight-year high amid high global inflation
Annual bar and coin demand by type*

*Data to 31 December 2021.
Source: Metals Focus, Refinitiv GFMS, World Gold Council

Investment

China

China's gold bar and coin demand reached 77t in Q4, taking the 2021 annual total to 285t, a 44% increase on 2020 and a three-year high. Factors such as stable income growth, a steady gold price and lower local bond yields all contributed to the increase in demand over the year. Meanwhile, local commercial banks continued to shift their focus towards physical gold product sales, as they exited other retail gold trading businesses, and this was also a vital driver of bar and coin growth in 2021.

Fourth quarter demand was further supported by growing inflation concerns. The early timing of the 2022 Lunar New Year holiday also helped boost demand before year-end.

For 2022 we expect gold bar and coin demand to benefit from continued promotional efforts by the precious metals departments of commercial banks. And, as we noted in a recent blogpost, further rate cuts designed to cushion China's economy from the recent growth slowdown, potential persistent inflationary pressure and a possible devaluation in the local currency could all bode well for China's bar and coin investment over the year ahead.

India

Indian investors pounced on gold in the fourth quarter, with demand surging to an eight-year high of 79t. The strong end to the year helped lift annual investment 43% to 186t. Fourth quarter demand was boosted by festival purchases, with strong demand noted during Pushya Nakshatra and Dhanteras.[8] The price correction later in November gave added impetus to retail investors, who maintained their positive price expectations.

Amid concerns over elevated equity valuations, the downward correction in the BSE Sensex index during Q4 – which dropped 10% between mid-October and mid-December – encouraged investors to focus on gold's safe haven investment attributes.

We expect Indian investment demand to remain healthy as we head into 2022. It may receive support from higher inflation expectations and possible weakness in the rupee due to the widening trade deficit. However, it may struggle to maintain the momentum of Q4, given that strength of pent-up demand at that time is unlikely to be repeated.

Middle East and Turkey

Having started 2021 very strongly, Turkish bar and coin demand slumped and remained weak for the remainder of the year: retail investment roughly halved to 61t. Fourth quarter bar and coin demand fell 87% to a near-record low of 4t as the local populace continued to battle difficult economic conditions. Surging inflation meant that consumers prioritised spending on certain items before prices rose further. The steep lira depreciation also acted as a deterrent as it caused local gold prices to rocket, while encouraging demand for dollars at the expense of gold investment.

The Middle East region saw a third consecutive decline in annual bar and coin demand, to 55t (-4%). The decline was driven solely by Iran, where high inflation and rising housing costs continued to sap demand, which declined 30% to 25t. In contrast, demand across the rest of the region made strong gains. The UAE jumped to 8t, a level not seen since 2015, as deeply negative real rates (a result of high inflation and low nominal rates) increased the relative appeal of buying gold.

The West

US bar and coin investors bought a record 117t of gold in 2021. Annual demand grew 69%; Q4 was the eighth consecutive quarter of y-o-y growth – at rates of at least double-digits. In contrast to ETF investors, who apparently were more focused on the likely upward path of interest rates, bar and coin investors were more concerned with rising inflationary pressures. The sharp price rally, and subsequent correction, during November reportedly also encouraged buying, with investors hoping for an opportunity to generate returns.

The US Mint reported its strongest year bullion coin sales since 2009: it sold a combined total of 1,252,000 ounces of gold in 2021 in Eagle and Buffalo coins.

Interest in gold bars and coins was reportedly almost entirely one-way, with selling back activity very limited.

A second consecutive record year of bar and coin demand in Germany helped lift annual European investment 6% to 264t. Following 2020's demand figure of 249t, this represents a step up in regional retail investment, back towards the annual average of 276t seen during the crisis-ridden period of 2008-2013.

8 Pushya Nakshatra is considered the most auspicious nakshatra to bring home Goddess Laxmi – the Goddess of wealth – and is considered auspicious for gold purchases. Pushya Nakshatra falls a few days ahead of Dhanteras (the first day of the festival of Diwali) and in 2021 this started on 24 October and ended on 25 October.

Investment

While the initial COVID-induced buying reaction cooled down during the year, macroeconomic uncertainties kept interest in bullion high. Among these, surging inflationary pressure and negative interest rates in both real and nominal terms have continued to drive gold investment.

ASEAN markets

Full year bar and coin demand in Indonesia was 20t, the highest since 2018 but significantly below the peak of 47t in 2013. Fourth quarter demand was 10% lower y-o-y at 4t. Logistical constraints played a part; a shortage of tamper-proof packaging cards limited the supply of investment bars. Concerns about a potential new tax on the purchase and sale of gold bars likely also had an impact.

In 2021 Thailand moved from net disinvestment to net positive investment in bars and coins. The combination of a lower gold price and continued economic recovery saw annual demand for bars and coins reach 29t, compared with net selling of 87t in 2020. Concerns about inflation and a weakening of the Thai baht also played a role. Retail investment in Thailand continued to improve in Q4, with 48% q-o-q growth to 10t.

Retail investment in Vietnam declined by 11% y-o-y to 6t in Q4. Although lockdowns started to ease in October, consumer confidence is taking time to rebound fully. Q-o-q retail demand grew, due in part to concerns about inflation, a reduction in the savings rate, and weaknesses in the Vietnamese dong. Annual bar and coin demand in Vietnam was 31t, a slight increase on the 29t purchased in 2020. Investment demand is likely to be supported by new digital avenues for purchasing gold – several new digital products came to market in 2021.

Annual retail investment in Singapore stood at 4.5t, an increase on the 3.7t purchased in 2020. Singapore remained relatively open for much of the year, supporting the market. Bar and coin demand increased by 15% y-o-y to 1.2t in the final quarter.

Bar and coin investment in Malaysia increased by 28% y-o-y in Q4 to 1.4t. The lower gold price, seasonal buying, and emergence from COVID lockdowns continued to support retail investment.

Rest of Asia

Japan saw a return to quarterly net disinvestment in Q4, wiping out the 4t bought to the end of Q3 2021. Price rallies in October and November were amplified by yen weakness and consequently the local price rose to its highest since August 2020. This triggered profit-taking among Japanese retail investors, generating 4t in net sales during Q4. Full year demand was 0.1t, compared with net disinvestment of -9t in 2020.

Investment demand in South Korea finished the year at 21t, an increase on the 19t purchased in 2020. Q4 saw demand pick up by 3% y-o-y to 5t. This is the third consecutive quarter of growth in bar and coin demand.

Central banks

Central bank buying rebounded and developed markets re-joined the fray.

- Central banks added 463t to global gold reserves in 2021, 82% higher than 2020
- This pushed global gold reserves to just under 35,600t, their highest for almost 30 years
- Developed market central banks were also among the notable buyers.

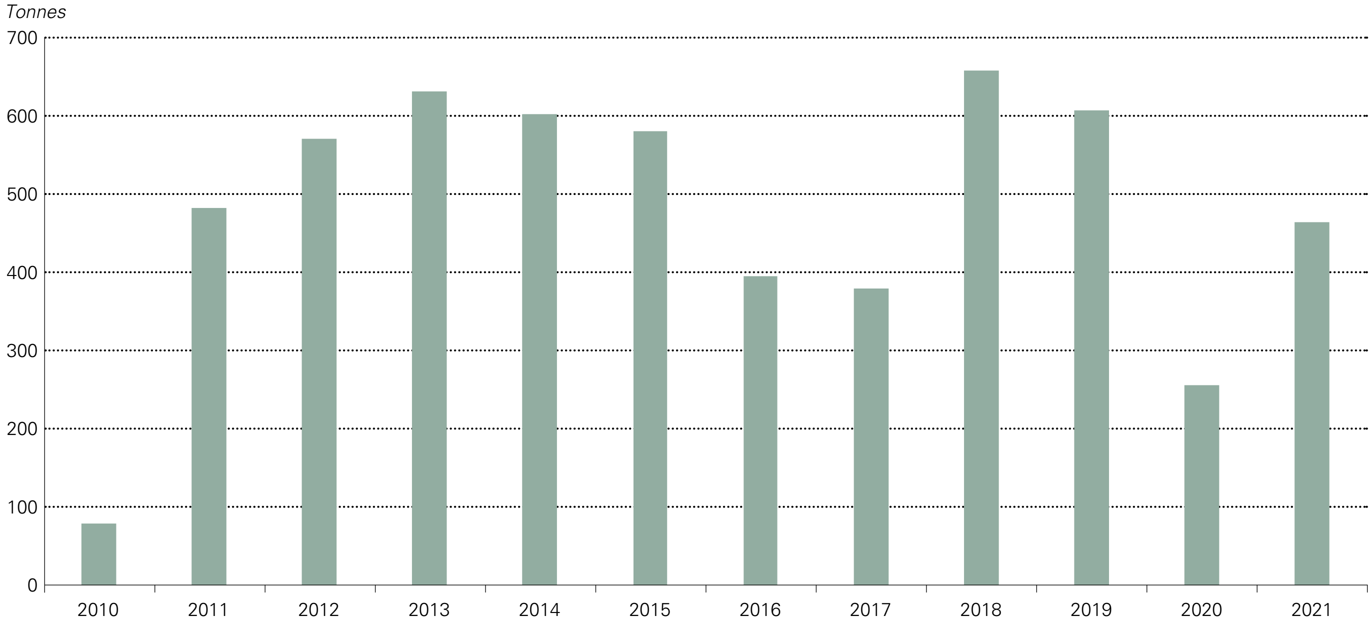
Tonnes	2020	2021	Y-o-y change
Central banks and other institutions	255.0	463.1	↑ 82%

Source: Metals Focus, World Gold Council

Central bank net purchases totalled 463t in 2021. This marks a significant rebound in demand from this sector following the decade low of 255t in 2020. Buying was heavily front-loaded: 324t was bought during the first half of the year, boosted by several large purchases, before slowing sharply to 139t in the second half. Q4 2021 saw net purchases of 48t – the lowest quarterly level of net buying since Q3 2010.

2021 is the twelfth consecutive year of net purchases, during which time central banks have bought a net total of 5,692t. According to data from the IMF, global central bank gold reserves rose to just shy of 35,600t during 2021, the highest level since 1992.[9]

Central bank gold demand rebounded off a decade low in 2021
Annual net purchases by central banks in tonnes*



*Data to 31 December 2021. Japan's reported 81t increase in its gold reserves in March 2021 is excluded as this was the culmination of an off-market transaction between two different divisions within the Ministry of Finance.

Source: Metals Focus, Refinitiv GFMS, World Gold Council

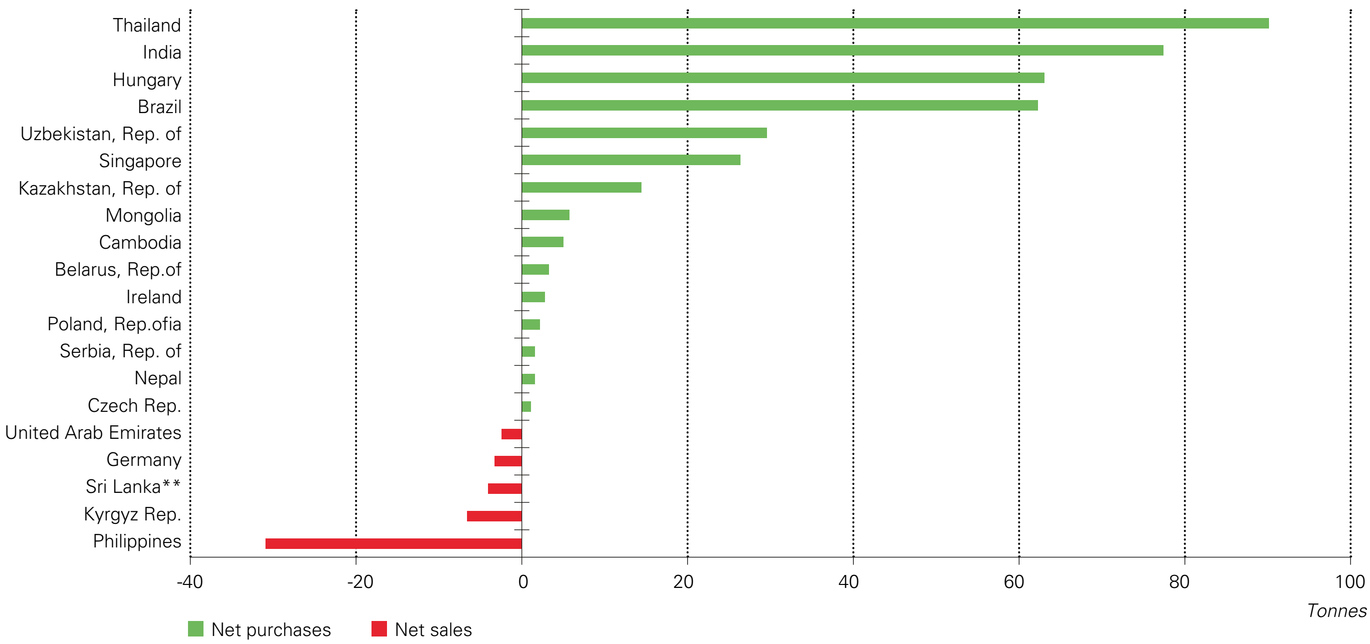
9 Data to November 2021.

Central banks

In a continuation of the established trend, a large number of emerging market central banks bought gold, demonstrating the breadth of interest.[10] Many of the 15 central banks that bought a tonne or more over the year were familiar names, having added to their gold reserves recently. India, for example, added a further 77t to its gold reserves in 2021, the biggest increase since 2009 when it bought 200t from the IMF. Hungary added 63t over the year, tripling its gold reserves, while Uzbekistan and Kazakhstan added 30t and 15t respectively. But we also saw several new emerging market banks significantly increase their gold holdings. Thailand, which last increased its gold reserves in 2017, was the largest buyer in 2021. The country's gold reserves rose by 90t (59%) to 244t, accounting for 6% of total reserves and the highest tonnage level on record.[11] Brazil bought 62t between May and July, the first sizeable increase since November 2012; this took its gold reserves to 130t (2% of total reserves), the highest level since November 1999.[12]

But in a departure from the trend, buying was not just confined to emerging markets. For the first time in almost a decade we saw significant buying from developed market central banks. In Q2, the Monetary Authority of Singapore (MAS) added just over 26t to its gold holdings. This is the first increase for at least 21 years – when data availability begins – lifting gold reserves to 154t (2% of total reserves). A spokesperson for MAS stated: "The change in gold holdings is a result of the continuous and ongoing efforts by MAS to ensure that the Official Foreign Reserves portfolio remains well-diversified and resilient through economic and market conditions,". Meanwhile, Ireland became the first Western developed market central bank to meaningfully increase its gold reserves. It added 3t in 2021 (+47%), the first rise in its gold holdings since a 0.5t addition in 2008. While other developed market central banks have increased their gold reserves in recent years, this has typically been at a much slower pace. For example, Greece has increased its gold reserves by over 2t but over a period of ten years.[13]

2021 saw a broad range of central bank buyers, including developed market banks
Individual central bank net purchases and sales in tonnes*



* Data to 31 December 2021 where available. Includes annual net purchases/sales of at least one tonne. Japan's reported 81t increase in its gold reserves in March 2021 has been excluded as this was the culmination of an off-market transaction between two different divisions within the Ministry of Finance.
**Estimated.

Source: IMF IFS, Respective Central Banks, World Gold Council

10 Country-level gross sales and purchases based on the most recent IMF IFS and respective central bank data available at time of writing. This may not match the net central bank demand figures published in this report as Metals Focus uses various sources of information to obtain their estimates.

11 As per the IMF IFS database back to December 1950.

12 As of 31 December 2021.

13 More details on this can be found in our monthly central bank gold statistics.

Central banks

Selling activity was more concentrated by comparison: six central banks reduced their gold reserves by a tonne or more. The largest sale – of 31t – came from the Philippines, lowering gold holdings to 158t (8% of total reserves). This is the largest annual sale from a central bank since 2016, when Venezuela sold 86t. In September 2020 the central bank shifted to more actively trading gold to maintain its gold reserves at a more "optimal" level of around 10% of total reserves. Kyrgyz Republic (7t), Sri Lanka (~4t), Germany (3t), and the UAE (2t) were the other notable sellers during the year. Sri Lanka's sale represented around half of its gold reserves and was done to help bolster the liquidity of its foreign reserves, which hit a 12-year low in November. However, the door was left open to future gold purchases when foreign reserves have increased. The sale from Germany was likely related to its long-standing coin-minting programme.

The broad range of buying in 2021 has shown there is still significant appetite for gold as a reserve asset. While demand from central banks can, at times, be less predictable than other sources of gold demand – given it is often policy rather than market driven – we remain confident that the overall trend of net buying will continue into 2022. Many of the factors for gold ownership highlighted in our *2021 Central Bank Gold Reserves Survey* are likely to remain relevant, given continued uncertainty over the economic outlook.[14] For more information on our expectations for central bank demand in 2022, please see review and outlook section.

14 Our 2022 Central Bank Gold Reserves Survey findings will be published later in the year.

Technology

Demand for gold in technology staged a rapid recovery in 2021.

- Full-year gold demand in the technology sector grew by 9% to 330t, with y-o-y growth seen in all four quarters
- A buoyant electronics sector bounced back from the 2020 impact of the pandemic, growing 9% to 272t
- Demand for gold used in other industrial applications also recovered, rising 12% to 47t, while dental demand continued its steady decline with a 4% fall to 11t.

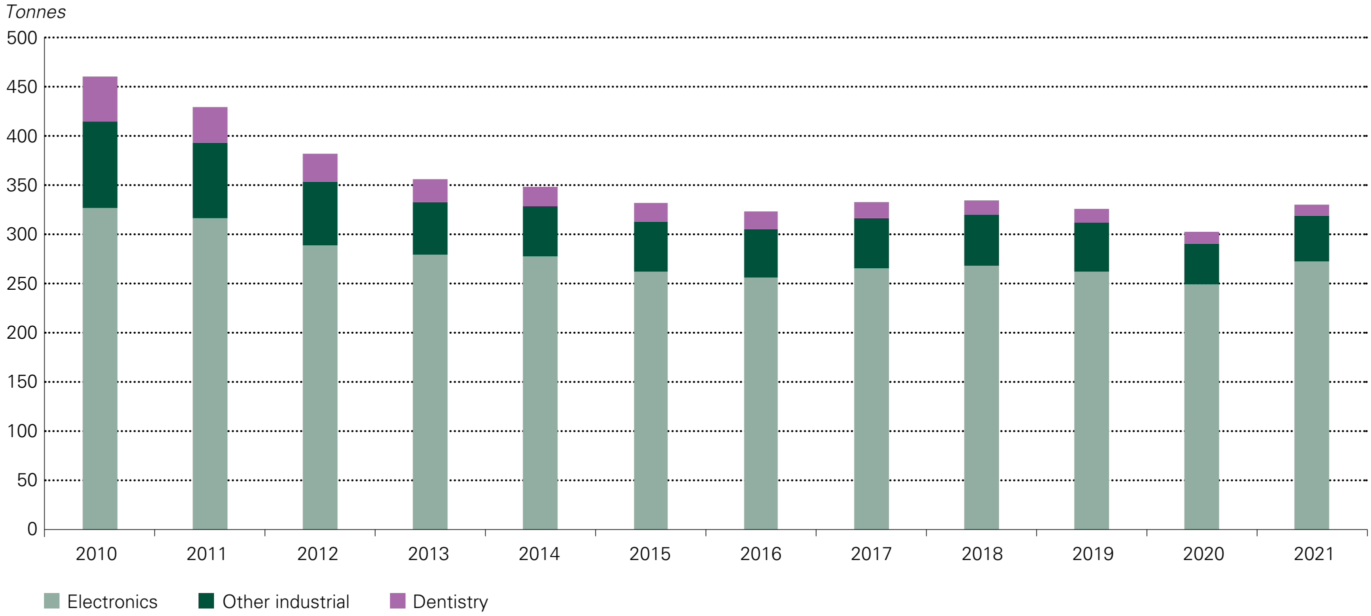
Tonnes	2020	2021	Y-o-y change
Technology	302.8	330.2	↑ 9%
Electronics	249.3	272.0	↑ 9%
Other industrial	41.6	46.8	↑ 12%
Dentistry	11.9	11.4	↓ -4%

Source: Metals Focus, World Gold Council

While 2021 can broadly be considered a year of strong recovery in the technology sector from the depths of COVID-19 in early and mid-2020, it has not been without its challenges. As we reported through the year, the pandemic continued to impact both supply and demand across all technology sectors. Many large manufacturers have had to inject ingenuity and agility into their operations to cope with a range of situations including sudden localised lockdowns and energy rationing.

The electronics industry has been particularly vulnerable to these events given its reliance on vast fabrication plants, and stories of entire chip manufacturing operations temporarily relocating have not been uncommon during the last two years. However, these efforts have been worthwhile simply because demand for high-end consumer electronics has, on the whole, remained strong and the pandemic has effectively fuelled a global shortage of semiconductors.[15] Stark illustrations of this include the recent announcement by Apple's main chip supplier, Taiwan Semiconductor Manufacturing Company (TSMC), that it is setting aside over US$40bn for expansion in 2022,[16] and the World Semiconductor Trades Statistics group forecasting continued growth across all categories and regions of the semiconductor market in 2022.[17]

Technology sector recovered rapidly from the pandemic, driven by strong electronics demand
Annual technology demand by sub-sector*



*Data to 31 December 2021.

Source: Metals Focus, Refinitiv GFMS, World Gold Council

15 Why We're in the Midst of a Global Semiconductor Shortage (hbr.org)

16 TSMC Reports Fourth Quarter EPS of NT$6.41, January 2022.

17 WSTS Semiconductor Market Forecast Fall 2021, November 2021.

Technology

Electronics

Gold used in the electronics sector rose 2% y-o-y to 71t during Q4. Having made double-digit gains throughout the first half of 2021, growth slowed in the second half and the final quarter saw the smallest y-o-y increase of 2%. This is indicative of gold demand returning to more 'normal' levels as the worst impacts of the pandemic on this segment of the industry were concentrated in the first half of 2020. However, while the percentage increase is relatively small, this is the first time quarterly electronics demand has exceeded 70t since Q4 2017.

Gold used in LEDs grew on the back of the ongoing recovery in the automotive sector, but challenges remain. This was supplemented by strong demand for high-end LEDs, such as UV-LEDs and IR-LEDs, both of which are used in healthcare sensors including skin sensors and heart rate-tracking functionality in smartphones and watches. These types of wearable technology are becoming increasingly popular, and will continue to support demand for high-end LEDs. This was balanced to an extent by inventory adjustments by some major LED backlight end-users (such as TV manufacturers) who reportedly carried high stocks from Q3. Looking forward, the threat of migration to mini-LED and/or micro-LED technology (which, in some cases, uses less gold) remains. For example, Apple is incorporating mini-LEDs into some of its products,[18] and Sony is following suit in its 2022 TV technology.[19] This will continue to build pressure on the traditional LED market in 2022 and beyond.

Printed circuit board (PCB) demand remained strong thanks to steady performance across key sectors. The ongoing recovery in the automotive sector combined with high demand from high-performance computing, 5G infrastructure and AI applications saw gold demand increase during the quarter. The supply situation also steadied, with production returning to normal after the disruption caused by power outages in China during the third quarter. Looking into 2022 and beyond, the outlook is broadly positive as major industries are likely to continue relying on increased electrification, which will provide support for high-end PCBs.

The memory sector continued to experience steady growth but this may slow as we enter 2022. Cryptocurrency mining drove strong demand for high-end graphics DRAM chips during the quarter, but the threat of miniaturisation in NAND chips remains, with major manufacturers such as Samsung and Hynix working to develop new architectures that may need smaller quantities of connecting gold bonding wire. Additionally, as the impact of COVID on the industry continues to retreat, demand for new devices and infrastructure to support home working is likely to slow. However, given that the recovery of the automotive and consumer electronics sectors are set to continue, we believe 2022 will remain broadly flat as these competing factors begin to balance one another out.

Finally, the wireless sector also performed well with strong demand across various applications. The recovering automotive sector, alongside high-end satellite and 3D imaging sensors, provided a strong base for demand during the quarter. Looking ahead, smartphone shipments have been slated to return to pre-pandemic levels in 2022, with almost 50% of those devices being 5G-enabled.[20] A gradual easing of chip shortages will further support the steadier supply of consumer electronics. Overall the outlook for gold demand in the wireless sector remains positive.

At an aggregate level, three of the four major electronics fabrication hubs around the world recorded increases in gold demand during Q4; Mainland China and Hong Kong SAR, South Korea and the US recorded increases of 4%, 4.1% and 0.9% respectively, while the fourth (Japan) was flat.

Other industrial and dentistry

Other industrial applications recorded a healthy y-o-y increase of 6% to 12.5t during Q4, while dental demand fell 7% y-o-y to 2.7t. The recovery in the other industrial and decorative segment was chiefly due to India, where the improving economy helped boost demand for jari, a gold thread used in saris. Italy also contributed to the growth, thanks to improved demand for high-end plated accessories.

Structural losses continued in the dental sector, where migration to lower-cost and cosmetically preferred alternatives continues.

18 Mini-LED display shipments growing considerably as Apple embraces the technology, 9to5Mac, January 2022.

19 Sony jumps on Mini LED TVs for 2022 & first QD-OLED, Tech Advisor, January 2022.

20 Smartphone market could return to pre-pandemic levels in 2022, TechRadar, November 2021.

Supply

Total supply fell 1% y-o-y in 2021; a sharp drop in recycling more than offset higher mine production.

- Annual mine production increased 2% y-o-y, clawing back some of the pandemic-driven losses seen in 2020
- The global hedge book is estimated to have fallen below 150t, its lowest level since 2014
- Full-year recycled gold supply fell 11% y-o-y, a reaction to the modestly lower gold price.

Tonnes	2020	2021	Y-o-y change
Total supply	4,721.1	4,666.1	-1%
Mine production	3,474.7	3,560.7	2%
Net producer hedging	-45.9	-44.5	–
Recycled gold	1,292.3	1,149.9	-11%

Source: Metals Focus, World Gold Council

Total supply fell by 1% y-o-y in 2021, the second successive year of declines and the first consecutive fall in more than a decade. Although mine production increased to 3,561t, largely due to fewer pandemic interruptions, it was still slightly below its 2019 level. The global hedge book is estimated to have fallen again, down 44t for the full year: aggregate outstanding hedges from gold mining companies have now fallen for four of the past five years. A sharp drop in recycling to 1,150t drove the y-o-y fall in overall total supply, despite consumers in virtually all markets being able to sell-back their old gold jewellery more easily.

Mine production

Mine production in Q4 2021 fell 1% y-o-y to 915t. This represents the lowest level of Q4 mine output since 2015. Annual production totalled 3,561t in 2021, 2% higher than 2020 but still lower than 2019 and 3% lower than 2018–which stands as the year during which most gold was mined.[21] Production strength in the first half of the year (5% higher y-o-y) gave way to weakness in H2. Output in H2 2021 was unchanged compared to H2 2020.

Mine production recovered partially in 2021 but remained below peak
Global annual mine production*

*Data as of 31 December 2020. For an explanation of global mine production, please see the Notes and definitions.

Source: Metals Focus, Refinitiv GFMS, World Gold Council

21 Using annual data back to 1970.

Supply

COVID-19 interruptions are no longer a major factor. In contrast to 2020, when pandemic-related interruptions were the main reason for lower mine production, operational factors dominated last year. Regionally, Asia and Oceania saw lower full-year production compared to 2020, whilst modest growth was seen across all other regions.

Operational issues dominated in Q4. Ongoing safety-related stoppages in the Shandong province saw Chinese mine production down 10% y-o-y. Lower grades and operational issues saw production from Burkina Faso 8% lower y-o-y and Australia down 7% y-o-y. A fire at Tasiast's SAG Mill in June saw processing suspended, leading to a 58% y-o-y reduction in output from Mauritania. Full capacity at the mill was expected to be restored in December.

But it was not all bad news , as several countries saw production growth during the quarter. Egypt reported a 56% increase after Sukari recovered from a pit stability problem that occurred in Q4 2020, and Kyrgyzstan is believed to have increased mine production from Kumtor due to the processing of higher grades – although we are seeing less information on this mine's performance following it's seizure by the state. Indonesia saw a 14% y-o-y increase in mine production as Grasberg continued to ramp up its underground block cave activities, and Russia saw 8% higher production in Q4 2021, predominantly from smaller and privately owned operations.

On an annual aggregate basis, China saw the largest full year decline, down 37t, followed by Australia (17t lower y-o-y), the US (11t lower y-o-y) and Papua New Guinea (down 10t y-o-y). Indonesia saw full-year production increase by 21t y-o-y as underground production was ramped up at Grasberg. Canadian production increased 19t on production expansions and recovery from fire-related disruptions. Mexican output increased by 14t y-o-y and South African production increased by 13t as the industry recovered from the pandemic in both of these countries.

The vagaries of production rather than COVID interruptions will likely dominate production in 2022. Six new mine start-ups with annual production capacity of about 16t per annum have recently begun production. Although this will be supplemented with private and smaller mines, it is almost inconsequential compared to current mine output and annual changes will probably be dominated by operational issues – positive and negative – in 2022. But if mine production is going to be sustained at current levels, the industry is probably going to need some new, large mines soon. More detail on the gold mine production outlook can be found in the Review and Outlook section.

Net producer hedging

Latest estimates suggest that gold miners reduced their aggregate hedged position by 25.9t in Q4 2021. A marginally higher average quarterly gold price in Q4 2021, up less than 1% q-o-q, is not expected to have prompted major new hedging as producers appear to prefer to keep production exposed to the spot gold price. The only additions anticipated are from companies required to add new positions due to debt finance requirements.

Gold mining companies reduced aggregate hedging positions in three of the four quarters of 2021, resulting in full-year net de-hedging of 44t. Over the past five years producer de-hedging has amounted to 122t, with de-hedging seen in four of those years. The aggregate producer hedge book is estimated at less than 150t, which is the smallest since 2014.

Recycled gold

Recycling was lower y-o-y in every quarter of 2021. Q4 saw a 9% y-o-y fall to 301t, bringing the annual supply of recycled gold to 1,150t. This was 11% lower than the 1,292t seen in 2020 and 10% lower than the 2019 total, a year in which gold averaged US$1,392.60/oz, more than US$400 below the average US$1,798.61/oz for 2021.

Last year saw the recycling market operations normalise. Owners of old gold jewellery gained renewed access to pawnbrokers and retail gold buyers after the lockdown measures – which had hindered recycling in 2020 – were largely lifted and shops were re-opened. This is reflected in the quarterly data for 2021, which shows sequential quarterly growth in recycling volumes from Q1, despite average quarterly gold prices being relatively steady. Anecdotally, increased recycling flows took place in the third and fourth quarters in some markets, including the US, as lockdowns eased and shops re-opened.

We believe that pent up recycling stocks have been flushed out in 2021 as any sales that had been postponed have probably now been made. In light of the strong economic recovery we do not expect a resurgence of widespread distress selling, although economic turmoil in some countries – Lebanon, for example, and Iran – has prompted high levels of recycling. But in others, such as Turkey, no such surge in volumes has been evident.

Supply

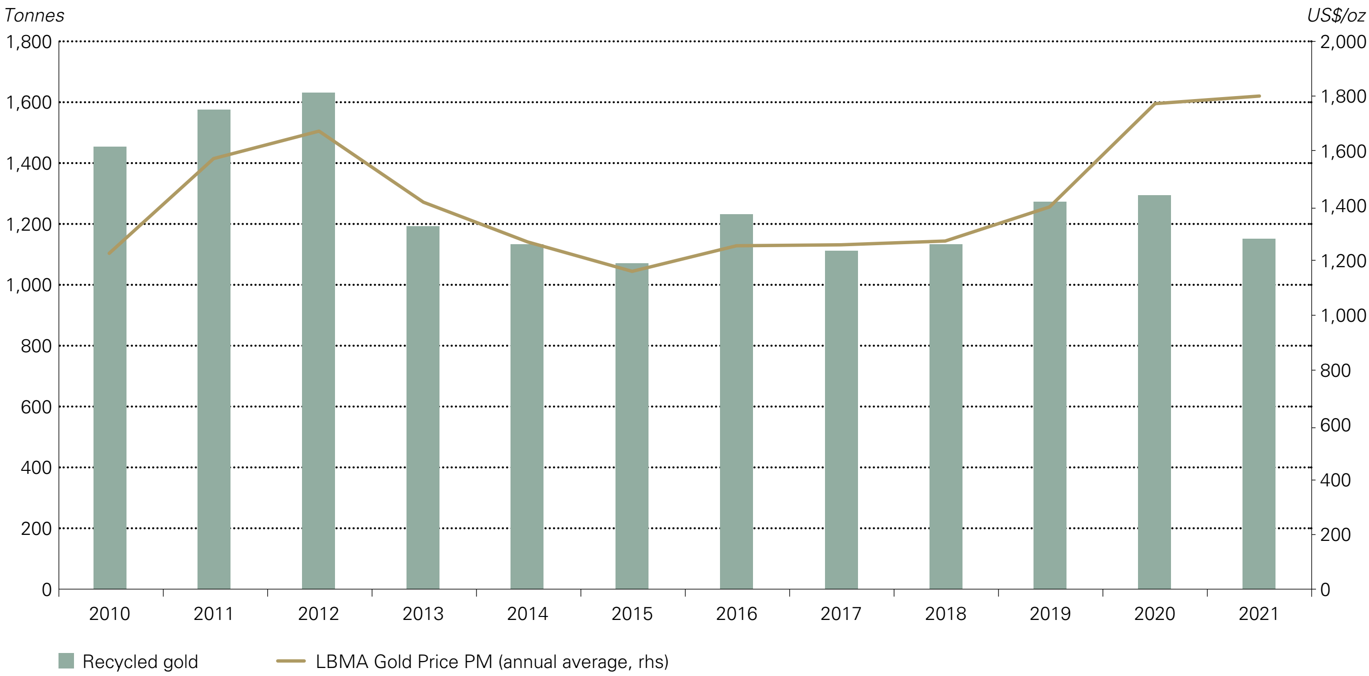
Turning to key markets, China's recycled gold supply witnessed a double-digit decline y-o-y in the fourth quarter primarily due to the relatively lower gold price and the fact that local scrap gold supply in Q4 2020 was the highest on our records. The annual decline in China's gold recycling activities in 2021 was driven by similar factors, namely softer local gold prices and the comparison to record high recycling the previous year. And with healthy consumer gold demand in 2021, there was no repeat of the retailers' heavy funding needs that had driven large scale inventory liquidation in 2020.

Indian recycling volumes in Q4 2021 were approximately 8% lower y-o-y due to a softer gold price, positive rural sentiment and a high proportion of gold-for-gold exchange during jewellery purchases. A higher-than-normal proportion of wedding jewellery purchases were part funded by gold-for-gold exchange, rather than by the proceeds of an outright sale of gold. Note the gold-for-gold exchange is not counted as recycling supply in our methodology.

Despite the normalisation of the recycled gold market in 2021, we believe that gold recycling could fall further in 2022. For more detail, please see the Review and Outlook section.

Recycling fell 11% in 2021 to levels not seen for three years

Global annual recycling and gold price*



*Data to 31 December 2021. For an explanation of global recycled gold, please see the Notes and definitions.

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

Notes and definitions

Notes

Revisions to data

All data is subject to revision in the light of new information.

Historical data series

Demand and supply data from Q1 2014 are provided by Metals Focus. Data between Q1 2010 and Q4 2013 is a synthesis of Metals Focus and GFMS, Thomson Reuters data, which was created using relatively simple statistical techniques. For more information on this process, please see *Creating a consistent data series* by Dr James Abdey.

Definitions

Bars

Net investment (i.e. gross purchases less gross sales) in small gold bars (1kg and below) sold at the retail level. Where identifiable, this also includes gold bought and stored via online vendors.

Central banks and other official institutions

Net purchases (i.e. gross purchases less gross sales) by central banks and other official sector institutions, including supra national entities such as the IMF. Swaps and the effects of delta hedging are excluded.

Comex net long positioning

The Commodity Futures Trading Commission (CFTC) publishes a weekly Commitment of Traders (COT) report that provides information on the positioning of speculative investors in the U.S. futures markets. The report gives the aggregate positions held by traders from the previous Tuesday, including the number of long contracts (that stand to benefit if prices rise) and short contracts (that benefit if they fall). The report is often used as an indicator of market sentiment regarding the price of gold: short positioning reflects bearish sentiment while long positioning reflects bullish sentiment in the gold futures' markets.

Consumer demand

The sum of jewellery consumption and total bar and coin investment occurring within a country i.e. the amount (in fine weight) of gold purchased directly by individuals. Technology demand is not included at the individual country level, as it is measured at the point of fabrication rather than at the point of consumption.

Electronics

The volume of gold bullion or grain fabricated into components used in the production of electronics, including – but not limited to – semiconductors and bonding wire.

Dentistry

The volume of gold bullion or grain fabricated into products destined for dental applications such as dental alloys.

Gold-backed Exchange-Traded Funds (ETFs) and similar

The volume of gold held in physical form by open-ended Exchange Traded Funds (ETFs) and other products such as close-end funds, and mutual funds. Most funds included in this list are fully backed by physical gold. While several funds allow other holdings such as cash, derivatives or other precious metals, we monitor only those funds investing at least 90% in physical gold and appropriately adjust their reported assets to estimate physical holdings only. For funds that include physical holdings of multiple precious metals, the total AUM depicted for such funds is lower than their actual total AUM. Over time, the data set will adapt to most accurately represent the universe of active funds. For a comprehensive list of the funds we track or to subscribe to our monthly update on gold-backed ETF holdings, visit /goldhub/data/global-gold-backed-etf-holdings-and-flows

Fabrication

Fabrication is the first transformation of gold bullion into a semi-finished or finished product.

Gold bullion

Gold, in bar form, refined to a purity of at least 99.5%.

Gold demand

The total of jewellery fabrication, technology fabrication, investment and net purchases by central banks.

Jewellery consumption

End-user (consumer) demand for all newly-made carat jewellery sold at the retail level, by volume of fine gold. Measured on a gross basis (i.e. includes recycled gold). Excludes: purchases funded by the trading-in of existing carat gold jewellery (gold-for-gold exchange); and purchases of second-hand jewellery, other metals plated with gold, and coins and bars used as jewellery. At the global level, it is measured as jewellery fabrication adjusted for changes in inventories held by the trade. At the country level, it is jewellery fabrication adjusted for changes in trade stocks plus imports, less exports.

Notes and definitions

Jewellery fabrication

Jewellery fabrication is the first transformation of gold bullion into semi-finished or finished jewellery. This differs from jewellery consumption as it excludes stock building/de-stocking by manufacturers and distributors. At the individual country level, it also excludes imports or exports.

Jewellery inventory

Changes to the level of jewellery stocks along the jewellery distribution chain, this is the difference between gold fabrication and gold consumption. A negative figure represents a draw-down of stocks when consumption exceeds fabrication. A positive figure represents a build-up of stocks.

LBMA Gold price PM

Unless otherwise specified, gold price values from 20 March 2015 are based on the LBMA Gold price PM administered by ICE Benchmark Administration (IBA), with prior values being based on the London PM Fix. For more information, see www.gold.org/goldhub/research/market-primer/gold-prices

Medals/imitation coins

Fabrication of gold coins without a face value, produced by both private and official/national mints. India dominates this category with, on average, around 75% of the total. 'Medallion' is the name given to unofficial coins in India. Medals of at least 99% purity are also included.

Mine production

The volume (in fine weight) of gold mined globally. This includes an estimate for gold produced by artisanal and small-scale gold mining (ASGM), which is largely informal. For more information, refer to: www.gold.org/goldhub/research/market-primer/mine-production

Net producer hedging

The net impact in the physical market of mining companies' gold forward sales, loans and options positions. Hedging transactions – which release gold to the market from existing above-ground stocks – accelerates the sale of gold. De-hedging – the process of closing out hedged positions – has the opposite impact and will reduce the amount of gold available to the market in any given quarter. Over time, hedging activity does not generate a net change in the supply of gold. For more information, refer to: www.gold.org/goldhub/research/market-primer/mine-production

Official coins

Net investment in gold bullion coins (i.e. gross purchases less gross sales) at the retail level. It is equal to the volume of fine gold in coins fabricated by official/national mints which are, or have been, legal tender in the country of issue. It is measured at the country of consumption rather than at the country of origin (for example, the Perth Mint in Australia, sells most of the coins it produces through its global distribution network). In practice it includes the initial sale of many coins destined ultimately to be considered as numismatic rather than bullion.

OTC and other

This number captures demand in the OTC market (for which data is not readily available), changes to inventories on commodity exchanges, any unobserved changes in fabrication inventories and any statistical residual. It is the difference between total supply and gold demand.

Other industrial

Gold used in the production of compounds, such as Gold Potassium Cyanide, for electro-plating in industrial applications as well as in the production of gold-plated jewellery and other decorative items such as gold thread. India accounts for the bulk of demand in this category.

Over-the-counter (OTC)

Over-the-counter (OTC) transactions (also referred to as 'off exchange' trading) take place directly between two parties, unlike exchange trading which is conducted via an exchange.

Recycled gold

Gold recovered from fabricated products, including unused trade stocks, which is refined back into bullion. This specifically refers to gold sold for cash. It does not include gold traded-in for other gold products (for example, by consumers at jewellery stores) or process scrap (scrap generated during manufacturing, which never becomes part of a fabricated product but instead returns as scrap to a refiner). For more information, refer to www.gold.org/goldhub/research/market-primer/recycling

Technology

This captures all gold used in the fabrication of electronics, dental, medical, decorative and other technological applications, with electronics representing the largest component of this category. It includes gold destined for plating jewellery.

Notes and definitions

Tonne (Metric)

1,000 kg or 32,151 troy oz of fine gold.

Total bar and coin

Total net investment in gold bars, coins and medals/ imitation coins.

Total supply

The total of mine production, net producer hedging and recycling.

Year-to-date (y-t-d)

In Gold Demand Trends, year-to-date refers to the period to the end of the quarter being reviewed (i.e. for Gold Demand Trends Q2 2017, 'year-to-date' referred to the period from 31/12/2016 to 30/06/2017).

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, China, Singapore and the USA, the World Gold Council is an association whose members comprise the world's leading and most forward thinking gold mining companies.

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Further information

For data sets and methodology visit:
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