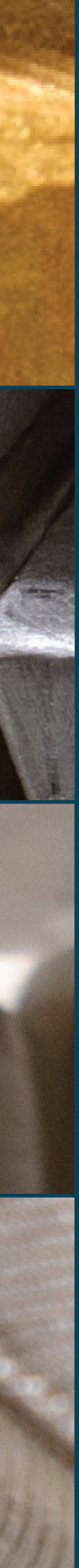
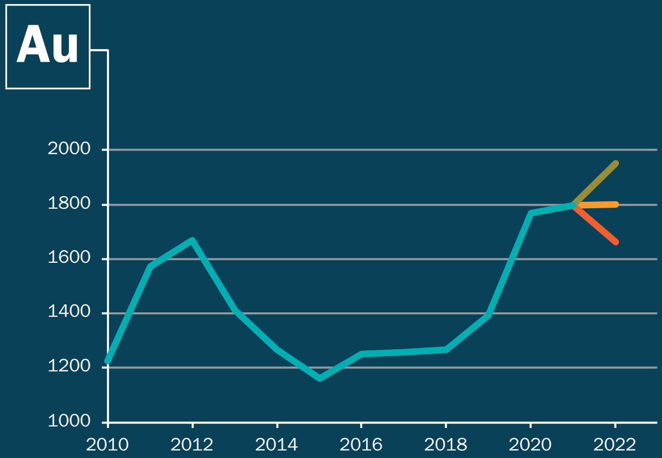
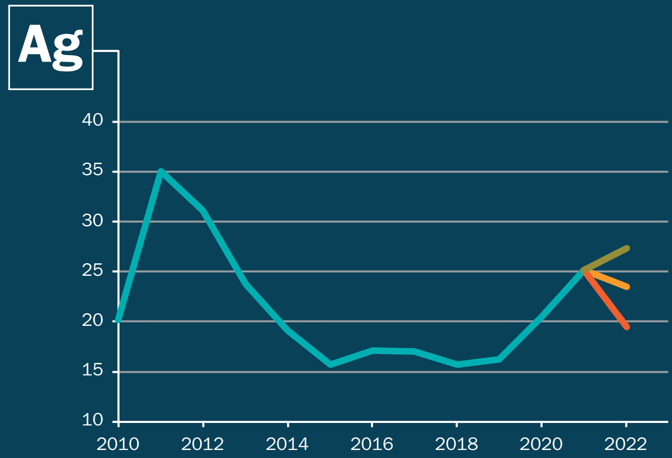


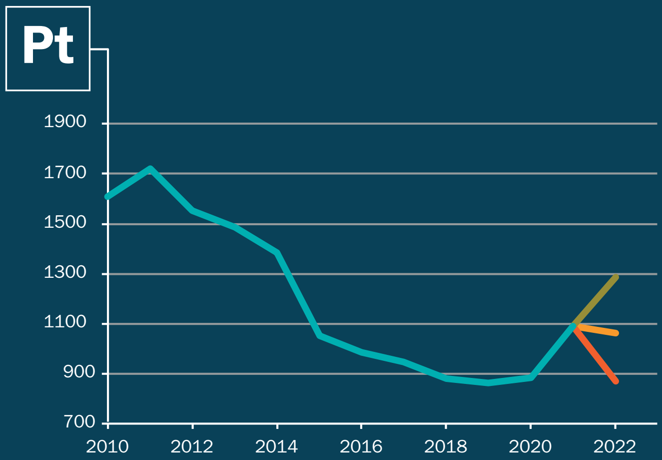
2022 PRECIOUS METALS FORECAST SURVEY

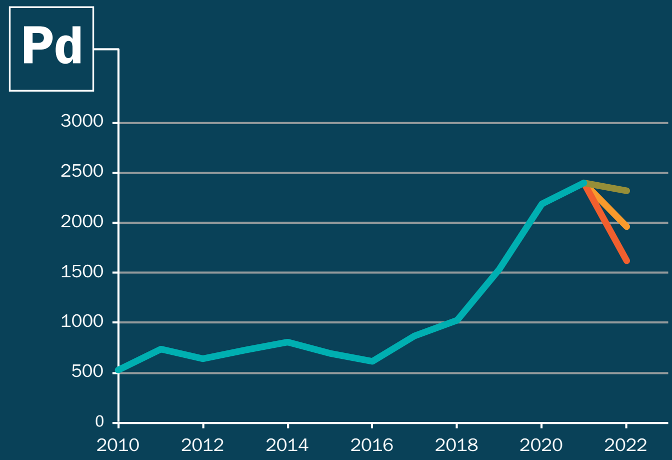
LBMA

Actual Annual Prices 2010-2021 and Analysts' 2022 Average Forecasts (US $ oz)









High Average Low

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FORECAST SURVEY 2022: AT A GLANCE

Flat or negative prices forecast **against 2021 prices**

But analysts more bullish **against H1 January 2022 prices**

In this year's forecast survey, we have 34 analysts – from 18 different cities representing all corners of the globe – offering their expert insight into the direction of precious metals prices in 2022. As usual, we have invited them to forecast the average price of each of the four metals for the year ahead and to support their forecasts with insightful analysis and commentary.

Analysts in this year's Survey are neutral about the gold price in 2022 forecasting that prices are likely to be broadly flat in 2022 when compared against 2021 actual average prices (see Table 1 on page 3). Palladium is unloved this year with analysts forecasting prices against 2021 average prices to fall -18%, with more modest falls expected for silver (-6.4%) and platinum (-2.5%).

The deadline for analysts in this year's survey was 14 January 2022 so they had the benefit of two weeks of trading before submitting their contributions. If we compare analysts' forecasts against actual prices in the first half of January 2022 (see Table 2 on page 3) we see a more bullish outcome for precious metals prices in 2022. The one exception is gold where analysts are forecasting a -0.4% fall in the price. However, they are more bullish about the prospects of the other three metals. In the year of the Queen's platinum jubilee celebrations, analysts are most bullish about platinum prices, forecasting a +10% increase. More modest rises are forecast for silver and palladium, with increases of +3.6% and +3.8% respectively.

Top 3 drivers for the gold price in **2022**

Fed Monetary Policy	Inflation	Equity market performance
36%	24%	9%

We asked analysts in this year's survey to identify their top three drivers for the gold price in 2022. A third of the total votes revolved around the Fed's monetary policy, with projected interest rate rises cited as a negative for the gold price. Concerns about inflation accounted for around a quarter of the votes, with equity market performance regarded as the third key driver. Surprisingly, COVID-19 and geopolitical tensions were not particularly regarded as key influences for the gold price in 2022.

Read the commentaries behind the forecasts to see which of the analysts make the most convincing arguments to support their predictions for the likely path of prices in 2022.

Au

Average: $1,801.9 **Range:** $780
Highest High: $2,280 **Lowest Low:** $1,500

Gold is forecast to trade in a range of around $780 this year, compared to $1,192 in 2021. Analysts are forecasting the gold price to be broadly flat, compared to actual average price in 2021 (+0.2%) as well as in relation to the actual average price in the first half of January 2022 (-0.4%). For the second year running, Thorsten Polleit is the most bullish analyst with his average of $1,965. Bernard Dahdah is the most bearish with his forecast of $1,630.

TABLE 1
Average Forecasts in 2022 Compared to Average Prices in 2021 (a)

Metal	2021 actual average price[a]	Analysts' 2022 average forecast	% change
Gold	$1,798.6	$1,801.9	+0.2
Silver	$25.14	$23.54	-6.4
Platinum	$1,090.2	$1,063.4	-2.5
Palladium	$2,398.3	$1,967.6	-18.0

(a) Based on LBMA pm precious metal prices.

Ag

Average: $23.54 **Range:** $20.2
Highest High: $35.2 **Lowest Low:** $15

Analysts are forecasting silver's trading range to be around $20.20, approximately half what they had forecast in last year's survey ($38). Overall, they are forecasting the silver price to average $23.54 in 2022, representing a -6.4% fall compared to the actual average price in 2021 but +3.6% higher than the actual average price in the first half of January 2022. Andy Habluetzel is the most bullish for silver in this year's survey with his average forecast of $27 and Yufei Liu is the most bearish with her forecast of $20.11.

Pt

Average: $1,063.4 **Range:** $619
Highest High: $1,390 **Lowest Low:** $771

In the year of the Queen's platinum jubilee celebrations, analysts are predicting the average platinum price in 2022 to be $1,063.4, -2.5% lower than its average 2021 price, but +10% compared to its actual average price in the first half of January 2022. Prices are forecast to trade in a range of around $619 compared to $1,053 in last year's survey. James Steel is the most bullish analyst with his average forecast of $1,210 and Frank Schallenberger is the most bearish with a forecast of $886.

TABLE 2
Average Forecasts in 2022 Compared to Average Prices in the first half of January 2022 (b)

Metal	Actual average price in first half of Jan 2022[b]	Analysts' 2022 average forecast	% change
Gold	$1,809.5	$1,801.9	-0.4
Silver	$22.73	$23.54	+3.6
Platinum	$967.1	$1,063.4	+10.0
Palladium	$1,896.2	$1,967.6	+3.8

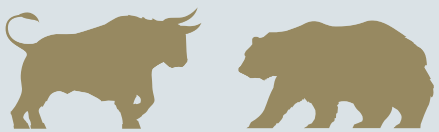
(b) Based on LBMA pm precious metal prices 4 January to 14 January 2022 inclusive.

Pd

Average: $1,967.6 **Range:** $1,487
Highest High: $2,800 **Lowest Low:** $1,313

Analysts are forecasting that palladium prices in 2022 will average 18% lower compared to the metal's actual average price in 2021, but 3.8% higher compared to its average price in the first half of January 2022. It is forecast to trade in a range of around $1,487, which is broadly in line with last year's range ($1,500). Philip Klapwijk is the most bullish about palladium, with his average forecast of $2,320 and Frank Schallenberger is the most bearish with his forecast of $1,571.

For each metal we've inserted a bull or a bear infographic against the analyst who has the highest or lowest forecast average in this year's Survey to highlight who is the most bullish or bearish relative to the other analysts.



RULES OF THE GAME

In each metal category, the analyst whose average price is closest to the actual average price in 2022 will win a 1 oz gold bar.

In the event of a tie-break, where two or more analysts are equally close to the average, our winner will be the one whose high-low forecast is most closely aligned to the actual price range for 2022.

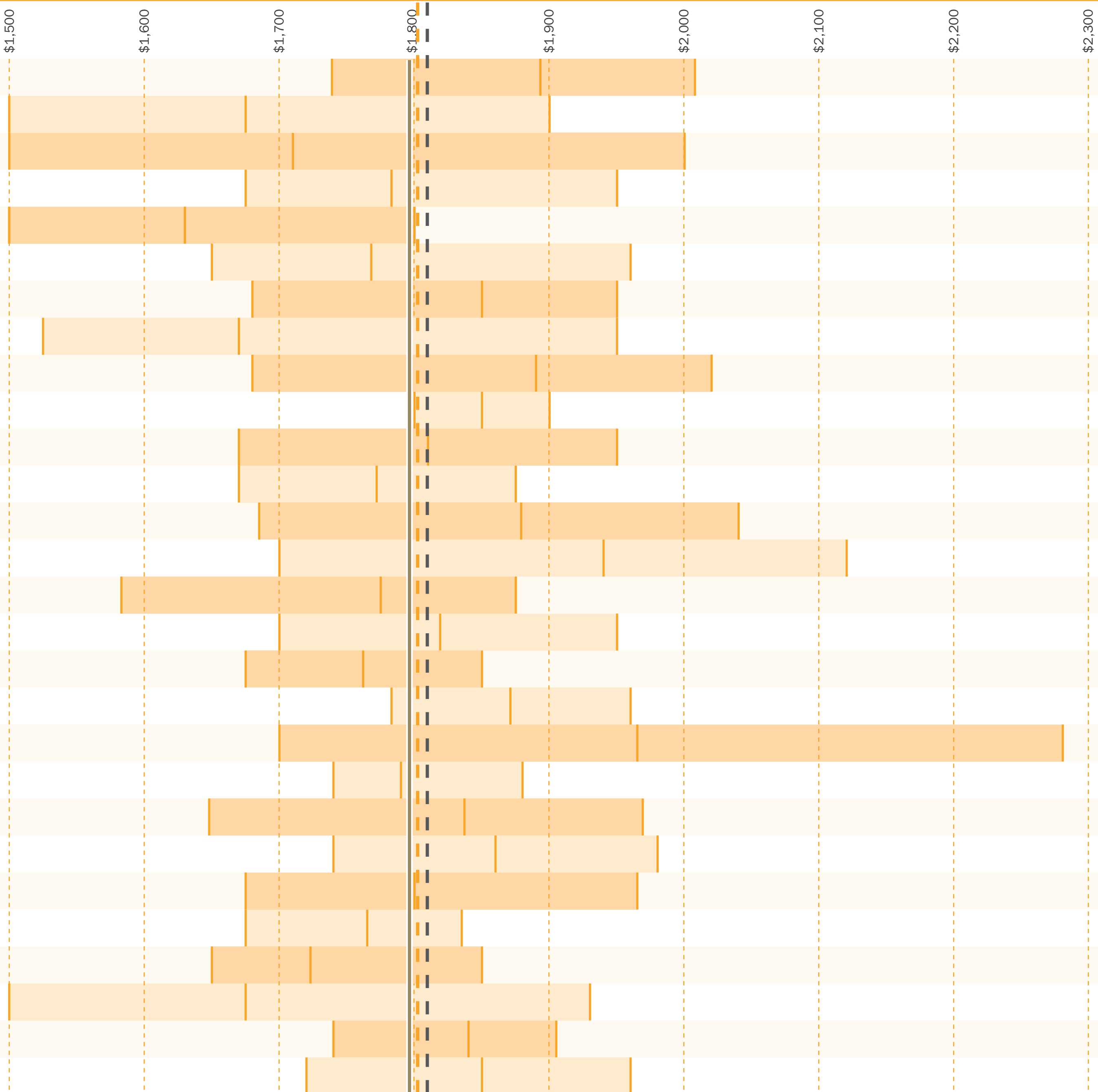
We would like to thank all contributors across the global precious metals market who took part in the 2022 Survey.

Au

Analysts' 2022 forecast average **$1,801.9**

Actual average price in first half of Jan 2022 $1,809.5

Name	Low	Average	High
Adams, William Fastmarkets	$1,740.00	**$1,895.00**	$2,010.00
Bhar, Robin Robin Bhar Metals Consulting (RBMC)	$1,500.00	**$1,675.00**	$1,900.00
Butler, Jonathan Mitsubishi Corporation	$1,500.00	**$1,710.00**	$2,000.00
Cooper, Suki Standard Chartered	$1,675.00	**$1,783.00**	$1,950.00
Dahdah, Bernard Natixis	$1,500.00	**$1,630.00**	$1,800.00
Fertig, Peter QCR Quantitative Commodity Research Ltd	$1,650.00	**$1,768.00**	$1,960.00
Fritsch, Carsten Commerzbank AG	$1,680.00	**$1,850.00**	$1,950.00
Ganapathy, Svrivastana Eventell Global Advisory Pvt Ltd	$1,525.00	**$1,670.00**	$1,950.00
Habluetzel, Andy Sharps Pixley	$1,680.00	**$1,890.00**	$2,020.00
Hochreiter, Rene Noah Capital Markets/Sieberana Research (Pty) Ltd	$1,800.00	**$1,850.00**	$1,900.00
Kavalis, Nikos Metals Focus	$1,670.00	**$1,810.00**	$1,950.00
Keisuke, Okui Sumitomo Corporation	$1,670.00	**$1,772.00**	$1,875.00
Klapwijk, Philip Precious Metals Insights Limited	$1,685.00	**$1,879.00**	$2,040.00
Marx, Henrik Heraeus Metals GmbH & Co. KG	$1,700.00	**$1,940.00**	$2,120.00
Melek, Bart TD Securities	$1,583.00	**$1,775.00**	$1,875.00
Mururi, Pearson Afriforesight	$1,700.00	**$1,819.00**	$1,950.00
Norman, Ross Metals Daily	$1,675.00	**$1,762.00**	$1,850.00
O'Connell, Rhona StoneX Financial Ltd	$1,783.00	**$1,871.00**	$1,960.00
Polleit, Thorsten Degussa Goldhandel GmbH	$1,700.00	**$1,965.00**	$2,280.00
Savant, Rohit CPM Group LLC	$1,740.00	**$1,790.00**	$1,880.00
Schallenberger, Frank LBBW	$1,648.00	**$1,837.00**	$1,969.00
Schieven, Chantelle Capitalight Research	$1,740.00	**$1,860.00**	$1,980.00
Shiels, Nicky MKS PAMP GROUP	$1,675.00	**$1,800.00**	$1,965.00
Sporre, Grant Bloomberg Intelligence	$1,675.00	**$1,765.00**	$1,835.00
Steel, James HSBC Securities (USA) Inc	$1,650.00	**$1,723.00**	$1,850.00
Teves, Joni UBS Limited	$1,500.00	**$1,675.00**	$1,930.00
Vaidya, Bhargava B.N. Vaidya & Associates	$1,740.00	**$1,840.00**	$1,905.00
Wang, Zhexing Bank of China	$1,720.00	**$1,850.00**	$1,960.00
Averages	**$1,660.9**	**$1,801.9**	**$1,950.5**

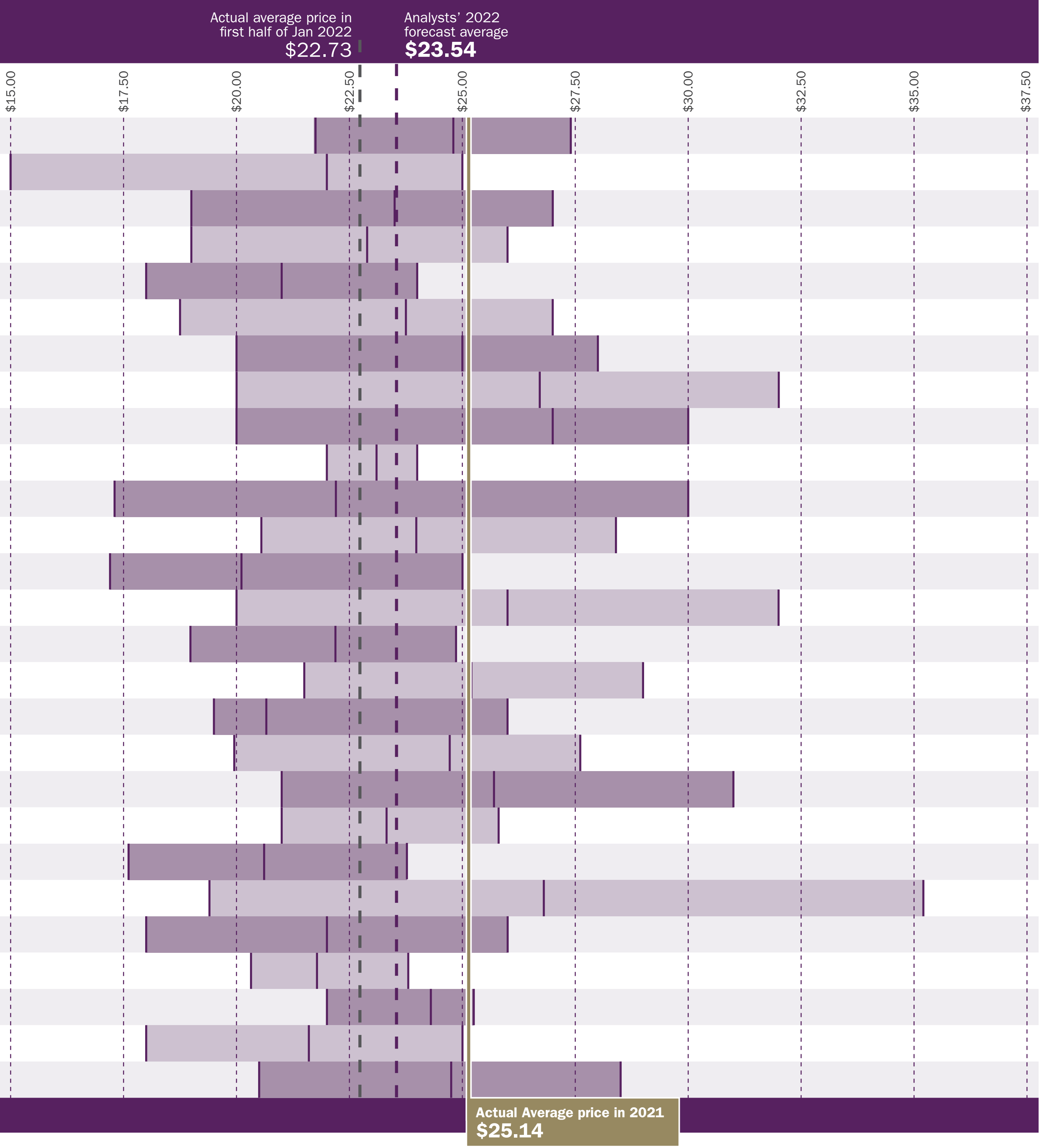


Actual Average price in 2021 $1,798.6

Click on the name of a contributor and it will take you direct to the supporting commentary

Ag

Name	Low	Average	High
Adams, William Fastmarkets	$21.75	**$24.80**	$27.40
Bhar, Robin Robin Bhar Metals Consulting (RBMC)	$15.00	**$22.00**	$25.00
Butler, Jonathan Mitsubishi Corporation	$19.00	**$23.50**	$27.00
Cooper, Suki Standard Chartered	$19.00	**$22.90**	$26.00
Dahdah, Bernard Natixis	$18.00	**$21.00**	$24.00
Fertig, Peter QCR Quantitative Commodity Research Ltd	$18.75	**$23.75**	$27.00
Fritsch, Carsten Commerzbank AG	$20.00	**$25.00**	$28.00
Ganapathy, Svrivastana Eventell Global Advisory Pvt Ltd	$20.00	**$26.71**	$32.00
Habluetzel, Andy Sharps Pixley	$20.00	**$27.00**	$30.00
Hochreiter, Rene Noah Capital Markets/Sieberana Research (Pty) Ltd	$22.00	**$23.10**	$24.00
Keisuke, Okui Sumitomo Corporation	$17.30	**$22.20**	$30.00
Klapwijk, Philip Precious Metals Insights Limited	$20.55	**$23.98**	$28.40
Liu, Yufei Bank of China	$17.20	**$20.11**	$25.00
Marx, Henrik Heraeus Metals GmbH & Co. KG	$20.00	**$26.00**	$32.00
Melek, Bart TD Securities	$18.98	**$22.19**	$24.86
Newman, Philip Metals Focus	$21.50	**$25.20**	$29.00
Norman, Ross Metals Daily	$19.50	**$20.66**	$26.00
O'Connell, Rhona StoneX Financial Ltd	$19.95	**$24.72**	$27.61
Polleit, Thorsten Degussa Goldhandel GmbH	$21.00	**$25.70**	$31.00
Savant, Rohit CPM Group LLC	$21.00	**$23.32**	$25.80
Schallenberger, Frank LBBW	$17.61	**$20.61**	$23.77
Schieven, Chantelle Capitalight Research	$19.40	**$26.80**	$35.20
Shiels, Nicky MKS PAMP GROUP	$18.00	**$22.00**	$26.00
Sporre, Grant Bloomberg Intelligence	$20.32	**$21.78**	$23.80
Steel, James HSBC Securities (USA) Inc	$22.00	**$24.30**	$25.25
Teves, Joni UBS Limited	$18.00	**$21.60**	$25.00
Vaidya, Bhargava B.N. Vaidya & Associates	$20.50	**$24.75**	$28.50
Averages	**$19.49**	**$23.54**	**$27.32**



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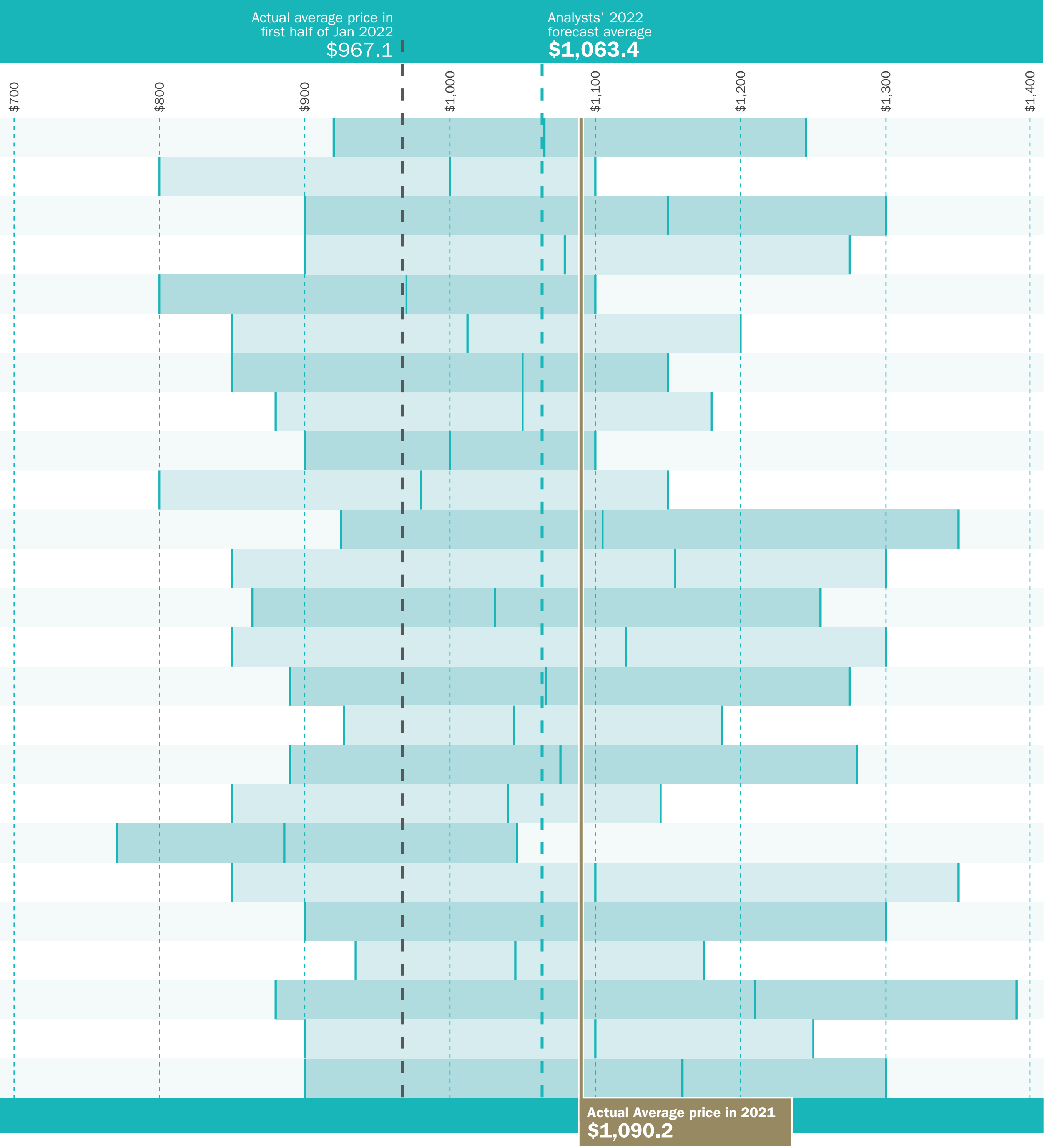
Pt

Name	Low	Average	High
Adams, William Fastmarkets	$920.00	**$1,065.00**	$1,245.00
Bhar, Robin Robin Bhar Metals Consulting (RBMC)	$800.00	**$1,000.00**	$1,100.00
Butler, Jonathan Mitsubishi Corporation	$900.00	**$1,150.00**	$1,300.00
Cooper, Suki Standard Chartered	$900.00	**$1,079.00**	$1,275.00
Dahdah, Bernard Natixis	$800.00	**$970.00**	$1,100.00
Fertig, Peter QCR Quantitative Commodity Research Ltd	$850.00	**$1,012.50**	$1,200.00
Fritsch, Carsten Commerzbank AG	$850.00	**$1,050.00**	$1,150.00
Habluetzel, Andy Sharps Pixley	$880.00	**$1,050.00**	$1,180.00
Hochreiter, Rene Noah Capital Markets/Sieberana Research (Pty) Ltd	$900.00	**$1,000.00**	$1,100.00
Keisuke, Okui Sumitomo Corporation	$800.00	**$980.00**	$1,150.00
Klapwijk, Philip Precious Metals Insights Limited	$925.00	**$1,105.00**	$1,350.00
Marx, Henrik Heraeus Metals GmbH & Co. KG	$850.00	**$1,155.00**	$1,300.00
Melek, Bart TD Securities	$864.00	**$1,031.00**	$1,255.00
Mururi, Pearson Afriforesight	$850.00	**$1,121.00**	$1,300.00
Norman, Ross Metals Daily	$890.00	**$1,066.00**	$1,275.00
O'Connell, Rhona StoneX Financial Ltd	$927.00	**$1,044.00**	$1,187.00
Polleit, Thorsten Degussa Goldhandel GmbH	$890.00	**$1,076.00**	$1,280.00
Savant, Rohit CPM Group LLC	$850.00	**$1,040.00**	$1,145.00
Schallenberger, Frank LBBW	$771.00	**$886.00**	$1,046.00
Shiels, Nicky MKS PAMP GROUP	$850.00	**$1,100.00**	$1,350.00
Smith, Jacob Metals Focus	$900.00	**$1,090.00**	$1,300.00
Sporre, Grant Bloomberg Intelligence	$935.00	**$1,045.00**	$1,175.00
Steel, James HSBC Securities (USA) Inc	$880.00	**$1,210.00**	$1,390.00
Teves, Joni UBS Limited	$900.00	**$1,100.00**	$1,250.00
Wang, Pengfei Bank of China	$900.00	**$1,160.00**	$1,300.00
Averages	**$871.3**	**$1,063.4**	**$1,228.1**



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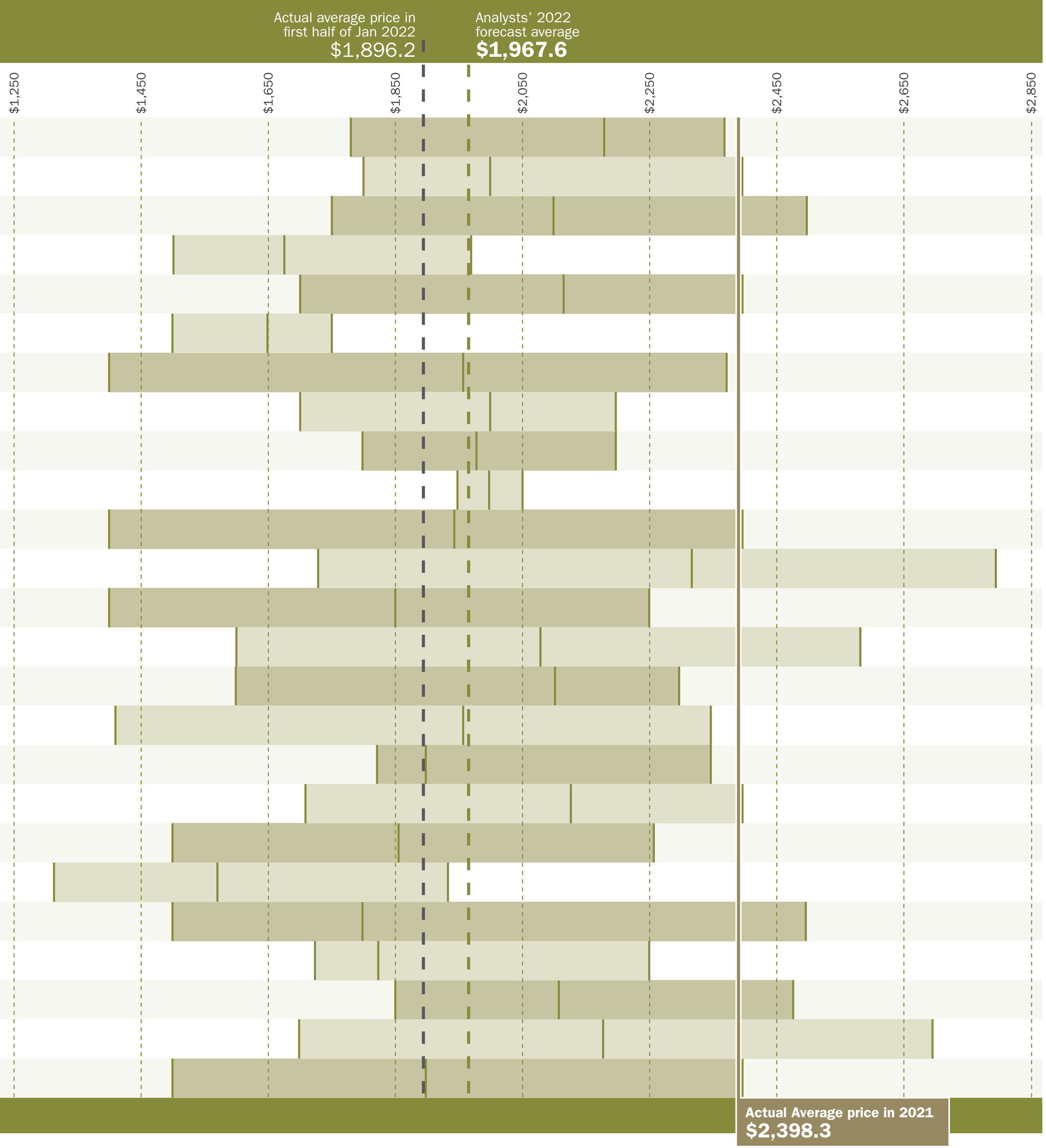
Pd

Name	Low	Average	High
Adams, William Fastmarkets	$1,780.00	**$2,180.00**	$2,370.00
Bhar, Robin Robin Bhar Metals Consulting (RBMC)	$1,800.00	**$2,000.00**	$2,400.00
Butler, Jonathan Mitsubishi Corporation	$1,750.00	**$2,100.00**	$2,500.00
Cheng, Tianze Bank of China	$1,500.00	**$1,675.00**	$1,970.00
Cooper, Suki Standard Chartered	$1,700.00	**$2,116.00**	$2,400.00
Dahdah, Bernard Natixis	$1,500.00	**$1,650.00**	$1,750.00
Fertig, Peter QCR Quantitative Commodity Research Ltd	$1,400.00	**$1,959.00**	$2,375.00
Fritsch, Carsten Commerzbank AG	$1,700.00	**$2,000.00**	$2,200.00
Habluetzel, Andy Sharps Pixley	$1,800.00	**$1,980.00**	$2,200.00
Hochreiter, Rene Noah Capital Markets/Sieberana Research (Pty) Ltd	$1,950.00	**$2,000.00**	$2,050.00
Keisuke, Okui Sumitomo Corporation	$1,400.00	**$1,945.00**	$2,400.00
Klapwijk, Philip Precious Metals Insights Limited	$1,730.00	**$2,320.00**	$2,800.00
Marx, Henrik Heraeus Metals GmbH & Co. KG	$1,400.00	**$1,850.00**	$2,250.00
Melek, Bart TD Securities	$1,601.00	**$2,081.00**	$2,586.00
Mururi, Pearson Afriforesight	$1,600.00	**$2,104.00**	$2,300.00
Norman, Ross Metals Daily	$1,410.00	**$1,959.00**	$2,350.00
O'Connell, Rhona StoneX Financial Ltd	$1,823.00	**$1,900.00**	$2,350.00
Polleit, Thorsten Degussa Goldhandel GmbH	$1,710.00	**$2,129.00**	$2,400.00
Savant, Rohit CPM Group LLC	$1,500.00	**$1,857.00**	$2,260.00
Schallenberger, Frank LBBW	$1,313.00	**$1,571.00**	$1,935.00
Shiels, Nicky MKS PAMP GROUP	$1,500.00	**$1,800.00**	$2,500.00
Sporre, Grant Bloomberg Intelligence	$1,725.00	**$1,825.00**	$2,250.00
Steel, James HSBC Securities (USA) Inc	$1,850.00	**$2,110.00**	$2,480.00
Swarts, Wilma Metals Focus	$1,700.00	**$2,180.00**	$2,700.00
Teves, Joni UBS Limited	$1,500.00	**$1,900.00**	$2,400.00
Averages	**$1,625.7**	**$1,967.6**	**$2,327.0**



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Drive your ESG Agenda

Provenance is a cutting-edge traceability solution that utilizes the **blockchain technology** to track the precious metals supply chain, from source to end product, guaranteeing responsible sourcing through a transparent approach.

Origin of Choice
Select your source of choice from our portfolio based on your ESG criteria

Commit to Sustainability
Consumers today want to obtain assurance that the provenance of their product is from sustainable sources

Risk Management
Significantly reduce your reputational, legal and compliance risks

Complete Chain of Custody
PROVENANCE guarantees full segregation and ensures 100% traceability from sourcing to product - control your supply chain

Provenance

William ADAMS
Fastmarkets, London

Au **Range: $1,740 - $2,010**
Average: $1,895

2021 was a year of consolidation for gold prices after the 2018-2020 rally that saw prices climb by around 78%. Prices spent 2021 in a $240 per oz range, either side of $1,800 per oz. This year promises to be a year with many cross-currents, with geopolitical tensions over Russia and Eastern Europe, and the China/Taiwan conflict having the potential to flare-up, which could boost safe-haven demand for gold, while the pick-up in inflation is likely to be another tailwind. But the central banks' mandates to keep inflation controlled, and their move towards normalising monetary policy to do this, will raise the opportunity cost of holding gold and, therefore, be a headwind. Key will be how investors react. Will investors' confidence in this environment turn more risk off, after what have been some outstanding performances in recent years, or remain risk on. If the former, then while gold prices could correct lower initially in line with a broader market correction, the secondary reaction, which we would expect to be longer lasting, would likely be bullish for gold. Overall, given rising interest rates are likely to lead to a weaker bond market and be a headwind to equity markets, especially the tech sector, and given that central banks are unlikely to be in a position to ramp up interest rates as high as they might need to in order to stem inflation, the combination of inflation and the need for a haven make for a bullish outlook for gold.

Ag **Range: $21.75 - $27.40**
Average: $24.80

Silver prices are for the most part tracking gold prices and we expect that to remain the case in 2022. A better economic climate and governments' focus on green deals should push more investment into renewable energy and therefore solar panels. An easing in semiconductor shortages should also boost demand from the electronics industry.

Pt **Range: $920 - $1,245**
Average: $1,065

A recovery in auto markets in line with greater availability of semiconductors and ever tighter emission regulations are expected to lift prices. Platinum is also expected to take more market share from palladium in catalysts for petrol vehicles. In addition, growing interest in hydrogen as a clean fuel, for vehicles and energy storage systems, should boost investment interest.

Pd **Range: $1,780 - $2,370**
Average: $2,180

A recovery in auto markets around the world as the year progresses and ever tighter emission regulations are expected to underpin a recovery in palladium prices, after an exceptionally weak second half of 2021.

Robin BHAR
Robin Bhar Metals Consulting (RBMC), London

Au **Range: $1,500 - $1,900**
Average: $1,675

Marking the biggest annual withdrawal from gold ETFs since 2013, the bullion market faces more significant headwinds, with increases in interest rates in response to inflationary pressures, global economic strength and a stronger US dollar expected to weigh on the price of gold this year. Many of the drivers that tend to be positive for the US dollar – tighter central bank policy, less US fiscal stimulus and rising real interest rates – also tend to be negative for gold.

Weaker investor interest was the principal drag on prices, as demand for gold jewellery, bars and coins, industrial usage and buying by central banks all rose last year. Huge government deficits and huge increases in public and private debt should support the gold price, while any escalation in geopolitical tensions between the US and China or more violence in Ukraine or Kazakhstan could trigger safe-haven demand for gold.

Ag **Range: $15.00 - $25.00**
Average: $22.00

Silver follows gold, while rebounding global growth/industrial activity is likely to boost jewellery demand, and the metal has more industrial applications and is critical to green technologies (solar photovoltaics, electric vehicles (EVs), 5G networks, etc.). The strength of global silver industrial demand is expected to maintain the market in a small deficit, but this will be modest and silver inventories should remain substantial. Investor interest will be difficult to maintain in the face of tightening US monetary policy and reduced stimulus, leading to a sustained downward trajectory in prices.

Pt **Range: $800 - $1,100**
Average: $1,000

Amid a substantial market surplus, the price upside is likely to be capped. However, strong imports into China and gains from substitution of palladium will be supportive factors. Speculative interest is likely to be rekindled on rebounding autocatalyst demand over the course of the year, with interest switching out of gold into platinum, as rising interest rates favour platinum outperformance.

Pd **Range: $1,800 - $2,400**
Average: $2,000

An ongoing recovery in vehicle sales and tightening emission standards will continue to boost palladium offtake while supply remains in a shortfall, keeping the metal essentially balanced in 2022. However, the rate of substitution and continued thrifting of palladium is likely to hamper demand.

Jonathan BUTLER

Mitsubishi Corporation, London

Au **Range: $1,500 - $2,000**
Average: $1,710

Surging inflation driven by supply chain pressures, post-pandemic pent-up demand and fiscal largesse will help support gold as an inflation hedge and will keep inflation-adjusted yields in negative territory, maintaining the attraction of gold as an investment asset. A weakening of the dollar as a global economic recovery gathers steam will also be positive for gold, though a slowdown in Chinese growth spilling over from the domestic property sector could diminish physical demand for the metal. The near-certainty of US rate hikes in 2022 and expectations that the Fed will move further and faster than current guidance will dent the appeal of gold and lend greater volatility to the price. However, the emergence of new variants of COVID-19 amid a patchy global vaccination roll-out will periodically keep risk assets on the defensive, potentially to gold's benefit.

Ag **Range: $19.00 - $27.00**
Average: $23.50

High inflation, like COVID-19, is not a temporary phenomenon but is here to stay in 2022 alongside rising demand, stretched supply chains and tight labour markets. Silver will therefore continue to be supported both as an inflation hedge and as an industrial asset with exposure to the key growth areas of infrastructure and energy. Silver prices may nonetheless come under periodic downwards pressure as US rate hikes and quantitative tightening are priced in, and this could lead to liquidation of some of the substantial off-market physical silver investment holdings. Combined with greater mined and recycled output, this could ease some of the tightness in physical markets seen of late. Industrial silver demand will continue to benefit from the race to net zero carbon emissions, especially with growth in offtake in the solar photovoltaic sector and greater usage of silver in electrified vehicles.

Pt **Range: $900 - $1,300**
Average: $1,150

Platinum could benefit from some risk/inflation hedging amid decades-high inflation and uncertainties stemming from COVID-19, though rate tightening will weigh on the attraction of non-yielding assets. Although platinum supplies are set to grow this year with a return to normal output levels in South Africa combined with some mining expansions, tail risks remain from mid-year mine wage negotiations plus potential operational disruptions, which could limit physical availability and lift the price. The demand side will remain less at the mercy of the chip shortage than palladium, as substitution and growth in the heavy-duty market disproportionately benefits platinum, though platinum demand in light-duty diesel will continue to decline. Platinum should see some incremental new offtake in the hydrogen and fuel cell space, though this will be more significant for longer-term investor sentiment than for absolute demand right now.

Pd **Range: $1,750 - $2,500**
Average: $2,100

Disruption to automotive semiconductor supply chains will continue to keep demand for palladium in vehicle emissions control lower than it would otherwise be; however, increases in auto production over the course of the year should lift palladium offtake and the market will remain in deficit. Macro-related price volatility will provide opportunities for auto and industrial users alike to buy at relatively attractive levels. Provided interest rate hikes do not choke off the economic recovery and consumer confidence remains buoyant, and if coronavirus lockdowns are now a thing of the past, palladium demand in the auto sector should return to pre-pandemic levels. Combined with tight near-term primary and secondary supplies, this should mean palladium prices are well on their way this year to a 'last hurrah' before aggressive moves towards vehicle electrification reduces demand for palladium in the key market of exhaust emissions control.

Tianze CHENG

Bank of China, Beijing

Pd **Range: $1,500 - $1,970**
Average: $1,675

The supply and demand in the palladium market is expected to shift toward balance in 2022. In the supply side, palladium primary supply will probably benefit from recovering mining and refining activities, while secondary supply may be relatively robust. And on the demand side, we forecast that global vehicle production may continue to be adversely affected by shortages of semiconductor chips and supply chain constraints in the first half of 2022, while in the second half, there might be steady improvement in vehicle production. Among new vehicle production, BEV (battery electric vehicles) production is expected to grow fast, which may squeeze out the production capacity of gasoline vehicles. Thus, autocatalyst demand for palladium is forecast to recover slightly. In summary, we predict that the palladium price will move lower in 2022 compared with 2021.

Suki COOPER
Standard Chartered, New York

Au **Range: $1,675 - $1,950**
Average: $1,783

We believe the gold market has already priced in a number of headwinds, such as scope for US dollar strength, accelerated Fed rate-hike expectations, and portfolio reallocation out of gold. Gold is now caught between the anticipated pace of the Fed hiking cycle and inflation expectations. Upside risk for gold stems from relatively light tactical interest, particularly: (1) as investors weigh downside risks to growth, as well as upside risk to inflation, (2) if central banks are less hawkish than market expectations and (3) if geopolitical tensions rise. A retest of 2021 highs is possible in 2022.

Gold has shifted from tracking the US dollar most closely to predominantly taking its cue from real yields; we expect real yields to remain negative this year and the US dollar to weaken. Gold has also found robust support from the physical market, with demand from key regions proving to be price-elastic and central banks remaining net buyers. However, gold still needs to contend with the strength of other asset classes amid a rate-hiking cycle and the greater opportunity cost of holding gold. ETFs have proven to be a drag and flows will need to stabilise for gold's gains to be sustained, which is unlikely, at least in the initial stages of rate hikes.

Ag **Range: $19.00 - $26.00**
Average: $22.90

For silver to outperform, it needs to harness both safe-haven interest and buoyant industrial demand. We expect industrial demand to continue to recover in 2022, albeit at a slower pace year-on-year. Yet silver has not only underperformed relative to copper prices; the rise in the gold-silver ratio also signals that silver has lagged gold's performance.

Silver consumption has faced headwinds from semiconductor chip shortages and supply chain challenges, which have impacted consumer electronics as well as auto manufacturers. But pent-up auto demand, coupled with expected growth in the photovoltaic sector and robust demand from India, should set a solid floor for silver prices. Silver upside risk is likely to face the same macro headwinds as gold. Growth in retail interest in silver remains robust, but is unlikely to offset the less enthusiastic interest from tactical and ETF investors.

Pt **Range: $900 - $1,275**
Average: $1,079

The balance of risks is skewed to the upside for platinum in 2022, particularly in the second half of the year. We forecast the market to deliver yet another surplus this year, albeit to a lesser extent. We expect three key drivers for the platinum market to persist in 2022: (1) limited supply growth, (2) recovering ETF flows and (3) an auto production rebound. Substitution between platinum and palladium appears to be in the early stages, and switching could gain momentum this year; however, platinum loadings are also being buoyed by tighter emissions legislation. The biggest risk to our outlook and the largest downside risk factor for platinum prices stems from the anticipated recovery in chip shortages. Our base-case scenario assumes that supply chain bottlenecks will start to ease in H2 2022 and support auto production and platinum demand, but if this proves to be a longer timetable, platinum's price recovery is likely to be stretched as well.

ETFs have proven to be a pivotal swing factor for platinum, mopping up past surpluses. While longer-term demand trends driven by potential growth in the hydrogen economy, coupled with substitution, are likely to swing the platinum market into a deficit in the medium term, tactical positioning has kicked off the year on a bearish note. Aside from macro headwinds and downside risks to growth stemming from COVID variants, elevated inventory levels could cap upside risk to platinum.

Pd **Range: $1,700 - $2,400**
Average: $2,116

While downside risks to the palladium market are starting to surface, we still expect palladium to remain undersupplied for the 11th consecutive year in 2022. Similar to platinum, but to a larger extent, easing supply chain bottlenecks and chip shortages are pivotal to the recovery in palladium demand, given that over 80% of global demand is driven by autocatalysts. Tighter emissions standards and a recovery in auto production are set to drive up palladium prices in H2 2022 and the rebound is likely to spur more positive investor interest. Palladium is likely to experience one more rally before prices start to trend lower in light of platinum switching, which is likely to more than offset the switching of palladium for rhodium on a longer-term basis. The key downside risk stems from medium-term views that stalling demand, coupled with supply growth, is likely to swing the palladium market into surplus. This has started to weigh on investor sentiment.

Given that the market is likely to deliver a deficit again, price action is likely to remain volatile and unexpected supply disruptions could quickly tighten the market again, as could an earlier-than-anticipated supply chain recovery.

Bernard DAHDAH

Natixis, Paris

Au **Range: $1,500 - $1,800**
Average: $1,630

We expect to see gold prices continuing to retreat in 2022, mainly on the back of normalisation and the potential for rate hikes by the Fed and other central banks. Although inflation is expected to remain relatively elevated, we see it being at much a lower level (2.8%) than in 2021 (7%). This will be driven by an easing in bottlenecks and as 2021's bumper demand (deferred from 2020) dissipates. Regarding upside risks, geopolitical tensions surrounding Ukraine, Taiwan and Iran could potentially temporarily boost gold prices. Turning to downside risks, large outflows from physically backed ETPs (as the opportunity cost of holding gold rises when yields rise) presents the biggest risk.

Ag **Range: $18.00 - $24.00**
Average: $21.00

Silver is expected to remain strongly correlated with gold, as historically has been the case. Although demand should benefit from the green energy transition (mainly through solar panels), the amounts in play will not be substantial enough to counterbalance the impact of normalisation. Holdings of silver in physically backed ETPs could turn into a source of supply in the market and drive prices down; however, holdings do appear stickier than in gold ETPs.

Pt **Range: $800 - $1,100**
Average: $970

Similar to palladium, the metal is expected to suffer from the increasing market share of BEVs (battery electric vehicles). Nevertheless, with demand being more diversified and less reliant on the ICE (internal combustion engine) automobile sector, prices are expected to remain relatively unchanged. The return in consumer demand for jewellery should soften the blow, along with increased output from the automobile sector during the second half of the year.

Pd **Range: $1,500 - $1,750**
Average: $1,650

Palladium prices are expected to continue their downward trend as the energy transition leaves the need for the metal behind. With around 80% of demand for the metal being for autocatalysts, the rapid rise in BEVs is eating into demand for palladium and its prospects. Although hydrogen fuel cells require an even larger amount of palladium compared with cars than run on an internal combustion engine, the market is still considerably smaller and isn't expected to expand rapidly for at least two years. Nevertheless, an end of the shortage in microchips (sometime in the third quarter) could give a temporary boost for automobile production and PGM prices in the second half of the year.

Peter FERTIG

QCR Quantitative Commodity Research Ltd, Hainburg

Au **Range: $1,650 - $1,960**
Average: $1,768

If a market does no longer react with rising prices on bullish news, then it is a harbinger for lower prices. This is still the case with gold at the start of 2022. Consumer prices in various countries recorded the highest percentage rises year-over-year in several decades. However, gold ended the previous year at a lower level than at the first trading day in 2021. This indicates that lower gold prices would be in store for this year. In addition, the monetary policy of the most important central bank, the US Fed, turned from a backwind to a headwind for gold. Instead of an unchanged Fed funds target rate, as the dot charts indicated for 2022 one year ago, the US central bank has now prepared the market for at least three rate hikes, while some FOMC members have argued for even more steps.

Thus, the opportunity costs for holding gold will rise, which is negative for gold, especially if the money market prices in further rate hikes. Higher US interest rates are also supporting the US dollar, which would also weigh on gold prices. ECB president Christine Lagarde stated at the December press conference that interest rates in the eurozone would be kept unchanged in 2022. However, some members of the ECB council have also argued for a rate hike already in this year. Money and foreign exchange markets were already not convinced that the ECB would keep rates on hold. Thus, the strength of the US dollar might be close to its peak, which would be supportive for gold. But on the other hand, inflation rates are also likely to be considerably lower at the end of 2022.

Thus, all in all, gold is expected to remain range-bound, but with a lower mean price at the London fixings than in 2021.

Ag **Range: $18.75 - $27.00**
Average: $23.75

Also for silver, rising opportunity costs have to be expected as the Fed prepares the markets for rate hikes. Some other central banks have already increased interest rates. Market expectations about the ECB monetary policy are likely to be the driving factor for the US dollar. If speculation on an ECB rate hike in 2022 intensifies, the US dollar is likely to weaken, which would compensate at least partly the negative impact of rising opportunity costs. However, silver could get support from industrial demand, if supply chains are restored and industrial production picks up again. Especially, the environmental protection goods sector (solar panels, etc.) is expected to increase the demand for silver. Nevertheless, a lower average price seems to be the more likely scenario for this year.

Pt **Range: $850 - $1,200**
Average: $1,012.50

The decisive factor for the PGMs will be the demand from the automotive sector. Platinum is expected to be supported in the short run, as the production of cars with an internal combustion engine still dominates. The shortage of chips is expected to come to an end this year. Thus, automobile production should increase in 2022, which implies a rising demand for platinum in catalytic converters. However, as more and more e-cars will be produced, the medium-term outlook for demand is negative. This would reduce the appeal of platinum for financial investors. Therefore, also slightly lower prices for platinum have to be expected.

Pd **Range: $1,400 - $2,375**
Average: $1,959

After rising above $3,000 per ounce at the end of April last year, palladium lost almost 50%. An expected recovery of car sales and higher automobile production has been supportive for palladium, which recovered from the last year's low in December. If the rise of automobile output materialises, then the demand for palladium should also increase again and support a further recovery. However, the annual average is likely to be lower in 2022 compared to the previous year. Also, the medium-term outlook for the production of cars with an internal combustion engine and the competition with cheaper platinum will limit the upside potential for palladium.

Carsten FRITSCH

Commerzbank AG, Frankfurt

Au **Range: $1,680 - $1,950**
Average: $1,850

Headwinds for gold could initially come from the change in direction by the US Federal Reserve. However, the market has already priced this in, according to the Fed fund futures, so gold should no longer be additionally affected by this. In the last interest rate hike cycles, gold tended to weaken in the run-up to the first rate hike. After the start of the rate hike cycle, however, the price began to rise. We consider such a pattern likely this time as well. This argues for a rather subdued price performance at the beginning of the year and a stronger price later on. We expect a gold price of $1,900 per troy ounce at the end of 2022.

Ag **Range: $20.00 - $28.00**
Average: $25.00

We see silver demand well supported in the long term by the advancing efforts to decarbonise the economy. For example, significantly more silver is used in electric vehicles than in cars with internal combustion engines. The global expansion of solar capacities should also have a positive impact on silver demand. As a result, ETF investors should also jump on the bandwagon and add to their holdings after selling for much of last year. The silver price should benefit from this positive demand outlook and rise to $26 per troy ounce this year. Silver would thus also make up some ground against gold. This is not unusual, as silver normally follows gold's price movements disproportionately.

Pt **Range: $850 - $1,150**
Average: $1,050

Given that automotive and other industries together account for 70% of total platinum demand, platinum is highly dependent on the general economic outlook. If this brightens, platinum should catch up with gold. If, on the other hand, it becomes gloomier, platinum is likely to fall behind. A normalisation of automobile production from the current problems could benefit platinum, even though the WPIC's forecasts are already very optimistic. The resulting higher demand for platinum in catalytic converters and the increasing substitution of palladium for platinum argue for a higher platinum price. We see platinum at $1,100 per troy ounce at the end of 2022.

Pd **Range: $1,700 - $2,200**
Average: $2,000

Demand for palladium is heavily reliant on the automobile industry, which accounts for 85% of total palladium demand. The substitution of palladium for the much cheaper platinum should limit an increase in palladium demand from the automotive industry, provided it gradually returns to normal after the chip shortage is resolved. The increasing scepticism towards palladium is also visible in the market positioning of speculative financial investors. They have been holding net short positions throughout since mid-September 2021. The palladium price is therefore likely to recover only slightly this year. We expect a price of $2,100 per troy ounce at the end of the year.

Svrivastana GANAPATHY

Eventell Global Advisory Pvt Ltd, Bangalore

Au **Range: $1,525 - $1,950**
Average: $1,670

The gold price in 2021 ranged between $1,708 and $1,906 per troy ounce. The softening gold price is on the back of an expectation of an increase in interest rates. The manner and pace of the increase is not clear yet. At the same time, supply-related constraints are likely to persist for some more time. This would keep inflation at elevated levels. Both these factors would decide the investment demand for gold. We believe that net investment demand would be subdued.

Secondly, the world has not yet taken full control over the COVID pandemic. We expect the repercussion of this to be felt through most of 2022. As a result, although economic activities would resume from the second quarter, they may take time to scale up. This would mean flat jewellery demand with no growth during 2022 over 2021, although some markets might see a slight improvement. Jewellery demand provides support to gold prices.

Overall, the gold price may be more volatile, but is expected to slide during 2022.

We expect the gold price to be capped at $1,950 on the higher end and supported at $1,525 on the lower end. The yearly average is likely to be around $1,670 per troy ounce.

Ag **Range: $20.00 - $32.00**
Average: $26.71

In 2021, silver traded in the region of $22.36 and $30.03/oz. In 2022, silver demand is likely to increase due to the demand for electric vehicles and the upgrading of mobile networks to 5G. According to Silver Institute data, physical demand in 2021 increased by 8% to 1,056 million ounces when compared to 2020.

The US December 2021 consumer price inflation data hit a record high, the highest in the last four decades. It may favour an increase in the silver price. After two years of COVID, 2022 is likely to be much better in terms of global economic growth and hence one may see higher industrial usage of silver.

Silver prices will remain steady to higher in Q1, and are set to take off in Q2 (in search of $30+), to cool down in Q3 and to rebound in Q4 of this year.

Andy HABLUETZEL

Sharps Pixley, London

Au **Range: $1,680 - $2,020**
Average: $1,890

Following successive gains in 2019 and 2020, the gold price softened a little against all major currencies over the past year in a stable downward trend. Looking ahead to 2022, we expect to see a firmer gold price driven by an increase in investment demand due to elevated inflation fears. We are unconvinced that the Fed will be able to keep pace with its planned timeline for monetary tightening, and that inflation will persist across Europe and America. In summary, with a high inflation environment, continued strong central bank buying and more volatile equity markets, we expect an average price target of $1,890 per ounce in 2022.

Ag **Range: $20.00 - $30.00**
Average: $27.00

We consider the silver price to be undervalued relative to most asset classes, particularly compared to other commodities, and expect to see an average price target of $27 per ounce. Demand for physical silver remains very strong, driven by retail and professional investor demand due to inflation risks along with high industrial fabrication demand. We expect the investment appetite to shift more and more towards silver this year to the detriment of gold investments.

Pt **Range: $880 - $1,180**
Average: $1,050

We expect to see increasing investment demand due to the historically low platinum price relative to palladium. This demand will drive strong inflows of new capital into platinum ETFs. On the other hand, we must assume weaker demand from the industrial sector, especially light vehicles, to remain in 2022 and therefore platinum prices will only manage to enter a consolidation phase. We do not expect stronger demand for platinum and palladium from the automotive industry to positively impact pricing until 2023.

Pd **Range: $1,800 - $2,200**
Average: $1,980

Following last year's sharp price decline of almost 20%, we expect the average price target to be only slightly higher this year than the current level. Investment demand for palladium continues to be too weak for us to expect any fireworks for the palladium price in 2022. In addition, there will be weak demand across both the automotive and technology sectors, and global supply chains will remain fragile.

René HOCHREITER

Noah Capital Markets/Sieberana Research (Pty) Ltd, Johannesburg

Au **Range: $1,800 - $1,900**
Average: $1,850

The gold price is a ghost of its former self, reacting to very little nowadays. Flat to slightly upwards-leaning moving averages indicate a mildly positive trend. Opposing forces abound. It may react positively to higher US inflation in H1 2022, but H2 2022 will see falling inflation. Rising interest rates in H2 2022 and a stronger dollar (which is set to outperform major currencies) are a negative. The VIX (volatility index) is also showing signs of having returned to low levels and the geopolitical tensions in the Ukraine, North Korea and South China Seas seem to have had little effect. Bitcoin could take away some business from the gold market. Higher demand from jewellery and central banks could be positive. On balance, the outlook is rather negative. However, if all the negative indicators above are "too good to be true", they most likely are not true. So, contrarily, we might just see prices firming in 2022.

Ag **Range: $22.00 - $24.00**
Average: $23.10

Fundamental demand and supply show a well-supplied market with lower demand than normal due to supply chain issues. Gold and silver, though, have always moved in tandem. Over the last 10 years, silver has traded at 1/75th of the gold price. The silver price vastly outperformed the gold price in 2021 and is expected to correct its 2021 untoward enthusiasm this year. Recently it has traded at around 1/80th of the gold price and a reversion to the peloton (the mean) is quite likely in 2022. Stale bull investors in silver are already selling some of their holdings and may turn to bitcoin (for a bit of excitement) as an alternative to silver.

Pt **Range: $900 - $1,100**
Average: $1,000

The platinum price is influenced by the gold price through its link to it as a precious metal. The fundamentals of platinum still show around 3 Moz of above-ground stocks, which are likely to be depleted only by 2027-ish. There is a 500 Koz surplus estimated in the market in 2022, which will stop any adventurous upward move of the platinum price this year. And if the gold price does very little, so platinum too will likely do very little.

Pd **Range: $1,950 - $2,050**
Average: $2,000

The palladium price is expected to rebound when the semi-conductor chip shortage is resolved, probably in early 2022 rather than later. New car sales are expected to rebound strongly, which will spark strong demand for palladium, as it is intimately linked to gasoline car sales. Rentals and second-hand car price indices have risen strongly recently, reflecting high demand for vehicles, whether they be new or not. Electric vehicles, which are forecast to take away market share from gasoline ICEs (internal combustion engines), will not be sufficiently available until late this decade and certainly not in 2022, due to materials shortages. This all means that demand for palladium will remain firm and that prices will likely stay at around the $2,000/oz mark for several years to come.

Nikos KAVALIS

Metals Focus, London

Au **Range: $1,670 - $1,950**
Average: $1,810

The linked but opposing forces of elevated inflation and rising US rate expectations will remain the key gold price drivers. Inflation at multi-decade highs will put pressure on real yields and add to gold's appeal to investors, given its perceived inflation-hedge properties. In contrast, expectations that the Fed, faced with such high inflation, will pivot towards policy tightening are a major headwind for gold. All this explains the metal's recent lack of direction.

At this juncture, we believe that policy tightening expectations have gone a little too far. We suspect that policy hikes will start later, and their speed will prove to be slower than the current consensus holds. As expectations are adjusted, gold will receive a boost, and we forecast its price peaking at $1,950 during the first half of the year. Later on, however, we believe the tides will turn for the metal. Eventually, US policy rate increases will become a reality. Meanwhile, their effect on real yields will also be amplified by inflation easing, as supply chain challenges dissipate. Gold will likely suffer liquidations, sending its price to a low of $1,670 before year-end. Overall, this will result in a $1,810 full-year average, marginally higher than last year's figure.

Okui KEISUKE

Sumitomo Corporation, Tokyo

Au **Range: $1,670 - $1,875**
Average: $1,772

The gold price may rise in the beginning of 2022 as some market participants consider that a purchase of gold is a hedge against inflation. This may well also be supported by purchases from some of the central banks. The fear of COVID-19 should provide support as well. But as interest rates are expected to rise and the Fed is expected to taper towards the end of 2022, the market will turn around at some point and could show some collapse. Gold may also continue to compete against other assets such as bitcoin, which can be a negative factor for the price of gold. Hence, I would expect gold to be higher in the first half of 2022 and lower in the last half of 2022.

Ag **Range: $17.30 - $30.00**
Average: $22.20

Silver generally follows gold's price action, on the back of the same reasons stated above. However, this metal is slightly more positive from both a supply and demand perspective. From the supply side, silver that is a by-product of zinc and lead mining may suffer from disruption, as the production of zinc and lead may be disrupted due to a shortage of power and a possible reduction in zinc and lead mine expansion due to pressure from environmental activists. From the demand side, silver shall continue to grow from the photovoltaic, electrification of vehicles and 5G sectors.

Pt **Range: $800 - $1,150**
Average: $980

Platinum does not seem to have many reasons to spike from the current level, nor many reasons to collapse either. A possible positive factor is that the lower the price goes, the less recyclers are interested in collecting and smelting this metal. But as long as the other PGM prices maintain their relatively expensive level, both recyclers and producers may have room for more expansion of the mine production, which will weigh on the price. If there is any downside, it may be led by the possible decline in auto demand or sudden shifts towards BEVs (battery electric vehicles) from diesel.

Pd **Range: $1,400 - $2,400**
Average: $1,945

The price of this metal is thoroughly dependent on how BEVs can be accepted by the market, while we are seeing continuous power shortages in many parts of the world. There is also still the issue of how long the batteries for BEVs last. Until these issues are fully resolved, this metal can maintain its price. Based on a long-term-view, market participants tend to make shorts on this metal, but the paradigm shift should not happen in a year or so will trigger some short covers from time to time if the auto sector keeps purchasing. Also some spikes may come from issues with producers if the safety of the miners is threatened.

Philip KLAPWIJK
Precious Metals Insights Limited, Hong Kong

Au

Range: $1,685 - $2,040
Average: $1,879

Given that gold reacted so tepidly last year to the surge in inflation and deeply negative real interest rates, it may seem perverse to forecast a better performance in 2022, when US monetary policy is going to be tightened and inflation is expected to moderate. However, both these assumptions need to be qualified.

First, the three to four 25 bps increases forecast this year in the Fed funds rate are trifling when set against US CPI inflation, which is currently running at 7%. Moreover, even this weak medicine could prove to be too much for the equity and credit markets – and, most importantly, the "real economy" – to stomach. In summary, the tightening cycle is likely to be modest and short-lived.

Second, whilst inflation may moderate somewhat during the course of 2022, there is no chance that by year-end it will fall to the 2.4% - 3.2% range on the Core PCE measure expected by the FOMC at its December 2021 meeting. US money supply growth is still too rapid, services inflation is taking off and the public's inflation expectations are rising. During late 2022/H1 2023, therefore, it is probable that the Fed will be forced to stop tightening and, subsequently, loosen monetary policy again, in spite of inflation remaining well above target. This will seriously damage the central bank's credibility.

The other key factor in gold's favour this year will be a weaker dollar. The currency will be negatively impacted by the eventual realisation that the Fed is a "paper tiger" when it comes to fighting inflation. In addition, the US dollar is presently at a very high level and massively overvalued on a Purchasing Power Parity basis. The strong dollar is also to a large extent responsible for the huge current account deficits that are driving America's Net International Investment Position ever more deeply into the red, a process that will eventually result in downgrades to the country's credit rating. Finally, a tense geopolitical background will be positive for gold, with potential major flashpoints in East Asia, the Middle East and Eastern Europe. In conclusion, while gold may initially struggle during 2022, by the end of the year, it should be trading above the $2,000 level.

Ag

Range: $20.55 - $28.40
Average: $23.98

Growth in demand from silver's use in photovoltaic installations and the auto industry, especially battery-powered vehicles, will help to support a floor for the precious metal comfortably above the $20 mark in 2022.

Upside for the price, however, may be constrained by further strong growth in mine production (Metals Focus currently predicts a 7% year-on-year rise this year) and a lack of investor interest in silver, related to its disappointing price performance and the perceived greater profit potential from speculative alternatives such as cryptocurrencies and levered bets on tech stocks.

Of course, given that economic developments this year are expected to prompt a new wave of investment in gold, silver should also benefit handsomely, even if its gains may not be as spectacular as one might have expected in the past due to its apparently reduced appeal these days to investors.

Pt

Range: $925 - $1,350
Average: $1,105

Modest growth in supply, mainly from higher autocatalyst recycling, coupled with a stronger increase in fabrication demand, driven by rising HDD offtake and some autocatalyst substitution gains, is expected to result in a smaller market surplus this year to be absorbed by stock-building and investors. This alone should give a modest lift to the platinum price.

Add to that, firstly, the promise of tighter physical platinum markets from 2023 onwards (due to demand growth from the "hydrogen economy" and erosion in South African mine supply) and, secondly, a move sharply higher later this year in gold prices, and the scene should be set for a strong rise in the platinum price over the course of 2022.

Pd

Range: $1,730 - $2,800
Average: $2,320

An expected recovery in auto production during 2022 as the constraint from chip shortages eventually lifts and underlying vehicle demand grows in line with the COVID epidemic easing will boost autocatalyst use of palladium in spite of some marginal substitution losses to lower-cost platinum.

This growth in fabrication demand will more than offset an increase in supply from a further recovery from its COVID-related 2020 low in global mine production and a higher level this year of autocatalyst recycling. Given the current relatively subdued price level (sub $2,000), the benign outlook for the auto industry and assuming the pandemic's impact on the economy is much reduced, not only is a repeat of Q4 2021's tremendous sell-off in palladium unlikely this year, but also a (volatile) trend higher over the next 12 months is probable.

Nevertheless, last year's high of $3,000 (London p.m.) looks unattainable, especially if long-term holders sitting on unrealised gains focus on what are significantly worsening supply/demand fundamentals for palladium over the medium to longer term.

Yufei LIU
Bank of China, Beijing

Ag **Range: $17.20 - $25.00**
Average: $20.11

Silver is expected to be under pressure in 2022. The macro environment will be a headwind for silver since the Fed is on track to end asset purchases, hike rates and shrink balance sheets. US inflation will likely cool down with monetary policy tightening, so that real interest rates will rebound. Fortunately, fundamentals will provide some support. Silver demand from the green energy and electronics sectors, such as solar photovoltaic usage and 5G mobile technologies, may brace double-digit growth. Yet, this only accounts for a small portion of total demand and cannot offset downward pressure from the macro side. We therefore predict that the average price of silver will drift lower in 2022.

Henrik MARX
Heraeus Metals GmbH & Co, Hanau

Au **Range: $1,700 - $2,120**
Average: $1,940

Solid consumer demand is expected from a recovery in Indian jewellery demand, and continued purchases by central banks are anticipated. Inflation is forecast to remain elevated this year, and the Federal Reserve and ECB have been slow to react. The ECB is not intending to raise interest rates this year, whereas the market has priced in several rate hikes by the Fed. If the Fed fails to deliver, or the ECB becomes even slightly more hawkish, that could also weaken the dollar. Real interest rates will remain negative. Gold remains a safe haven and an insurance against policy errors, and the price could have a weakening dollar as a tailwind.

Ag **Range: $20.00 - $32.00**
Average: $26.00

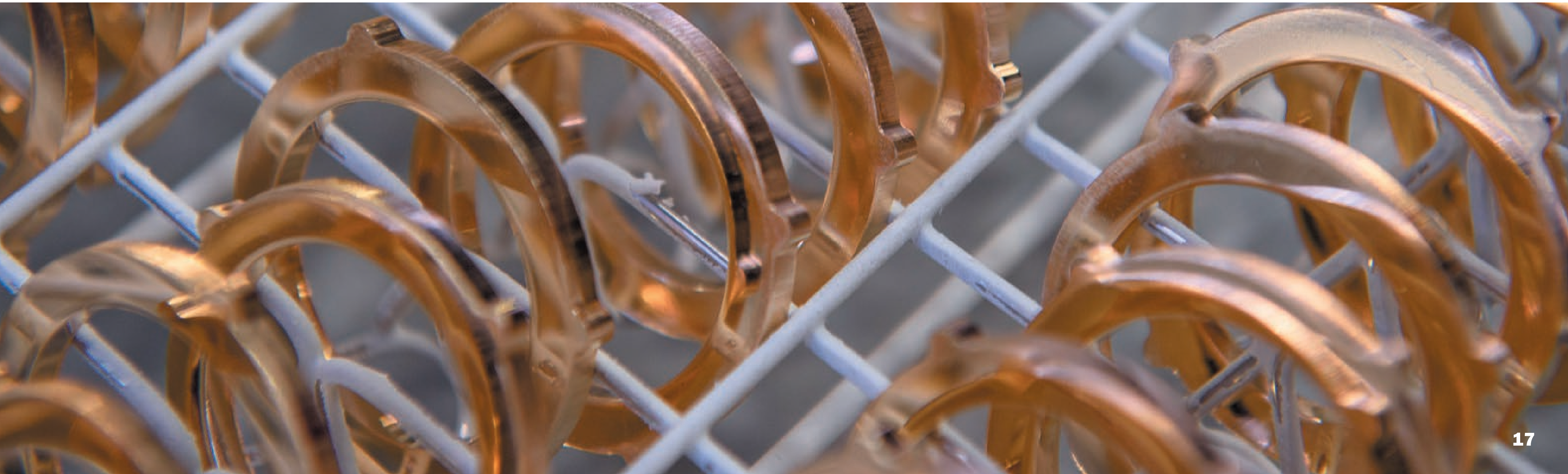
Strong industrial demand and continued investor interest are forecast to lift the silver price this year. Double-digit growth in solar photovoltaic installations is predicted for 2022, giving silver demand a boost. Demand for jewellery and silverware in India was negatively impacted by COVID last year but is expected to see a recovery this year. Inflation remains high and the Fed is well behind the curve, so investment demand should remain robust. Silver is expected to outperform gold.

Pt **Range: $850 - $1,300**
Average: $1,155

On an industrial basis, the platinum market remains in substantial surplus, but the surplus is shrinking. Demand is growing faster than supply, with recovering car sales and the wider roll-out of gasoline autocatalysts in which some platinum has been substituted for some palladium, along with higher loadings on heavy-duty vehicles in China. In addition, industrial demand is predicted to hit a record level this year. Platinum still trades at a substantial discount to gold and palladium, and with inflation remaining high, real assets could benefit from renewed investor interest. A return of ETF investors could help to pull the price higher.

Pd **Range: $1,400 - $2,250**
Average: $1,850

Automotive palladium demand is predicted to reach record levels this year. Even though the semiconductor chip shortage will still constrain automotive production to some extent, chip availability should improve and light-vehicle production should ramp up through the year. Around 10 million additional light vehicles are forecast to be produced this year. Supply also rises this year, with the recovery of mine output in Russia keeping the market close to balance and supporting historically high prices.



Bart MELEK
TD Securities, Toronto

Au **Range: $1,583 - $1,875**
Average: $1,775

Gold posted a mixed and a very volatile performance in 2021 as real interest rates embarked on a wild ride amid a surge in break-even inflation and as markets began to price in the Federal Reserve's exit away from extreme accommodation. In this context, investor flows in the form of exchange traded fund (ETF) holdings, commodity trading advisors (CTAs) and discretionary positioning were very much skewed toward the shortening of exposures, which also helped prices follow a downward trajectory.

Considering this framework, and the fact that most gold market players are pricing a Fed funds hike as early as March and the possibility of an early balance sheet run-off this year, the current investor bias has continued to fuel bloated short positions, keeping prices at around the $1,790s/oz at the turn of the year. However, while the US central bank may be on track to raise rates, it will still provide an expansionary monetary policy. Central banks continue to buy gold, while investors are looking to diversify given a higher perceived risk of equity market volatility, suggesting that gold speculators' relative short positioning may still drive the yellow metal materially above the $1,850s/oz in the early months of 2022. But, while negative real rates along the curve should protect gold from a full-blown rout, the yellow metal is projected to trade in the mid $1,600s for parts of H2 2022, with short periods significantly lower, as monetary conditions keep tightening.

Ag **Range: $18.98 - $24.86**
Average: $22.19

As for silver, the key question will be: can silver replicate its relative outperformance in 2022? While we think that silver should be somewhat insulated from a gold-driven sharp decline, signals of tighter monetary conditions coming from the Fed and other central banks, which could include policy rate hikes and QT, will still serve as a meaningful negative. An environment which will be dominated by talk of Fed tightening is unlikely to generate significant investor confidence to grow long silver exposures sufficient to generate a sustained rally, negating the upside pressure coming from firm industrial demand and relatively weak supply growth.

As silver has a historical volatility roughly double that of gold, based on historic norms, it should underperform gold when the yellow metal responds to higher real rates in the second half of next year. So, after beating the street in the early months of this year, the white metal may disappoint thereafter. But the good news is that it will perform better than in previous tightening cycles, as industrial demand will continue to represent an ever-growing proportion of demand into 2023.

At the current 80 gold-to-silver ratio, the white metal is cheap when compared to its relative value to gold over time. In 2022, silver is likely to capitalise on the post-COVID industrial recovery, as over 60% of silver demand comes from industrial sources. Expenditures on the photovoltaics used in the production of solar energy, decarbonisation infrastructure and electrification of vehicles, which are more silver-intensive, should help demand. The intensity of silver use should continue growing as major global economies' retooling for net zero is set to be sharply higher over the next decade, with this starting to materially accelerate into 2023.

Pt **Range: $864 - $1,255**
Average: $1,031

Supply disruptions in platinum group metals (PGMs) have been remedied, leaving the market with plenty of supply as the global chip shortage kept what was expected to be a strong year for auto demand under wraps. At the same time, the prospect of central bank tapering and eventual tightening is also weighing heavily on investment appetite for gold, which trickles down to the PGMs as another headwind to contend with.

These factors are seeing platinum markets loosen notably. Looking forward, these factors will continue to leave a bad taste in the mouth for platinum traders who were betting long and will remain a dark cloud over much of the 2022 outlook. But, ultimately, we believe these industrial precious metals can turn the corner in the coming year.

With global economic headwinds set to weigh on industrial metals broadly, pent-up autocatalyst demand can offer PGMs hope and a level of relative attractiveness that could see investors take a shine to the metal in 2022. Jewellery and other industrial uptake should also help to materially tighten this market. As such, platinum markets should tighten up and it is likely that price will bounce convincingly above $1,000/oz as 2022 matures.

Pd **Range: $1,601 - $2,586**
Average: $2,081

Following the negative impact of the microchip shortage, which helped to take prices down from a high of over $3,000/oz to just under $1,560/oz, palladium is expected to again show an impressive performance over the next 12 months. Very inelastic inventories and chronic primary deficit will remain a fact for our forecast horizon. As such, prices could well skyrocket again as available metal from ETFs become increasingly scarce and pollution regulations assure demand will firm. Indeed, autocatalyst demand will jump after the microchip shortage is mitigated. This higher loadings per unit should serve as a double positive in the latter part of 2022. Modest Russian and South African supply growth and speculative interest may work together to tighten the market, lifting prices as we saw in April-May 2021.

Given that the sector is operating beyond the primary mining production possibility frontier, where demand destruction and investor metal are required to balance the market, the current price of $1,880/oz seems very low. A much higher price will be needed to balance the market as demand will be robust after chip production recovers due to regulations which mandate Clear-air technology to be used. As such, we see palladium reaching highs of above $2,500/oz in the latter part of the year.

Pearson MURURI

Afriforesight, Cape Town

Au **Range: $1,700 - $1,950**
Average: $1,819

The gold price should trend upwards over 2022, driven by hedging against inflation (particularly in the near term due to the ongoing energy crunch in Europe/Asia and supply chain bottlenecks) as well as persisting geopolitical tensions and COVID uncertainties. Some expected recovery in the global jewellery sector should further support price increases; however, expectations of higher US interest rates should boost the dollar and hold back the price to some extent later in the year.

Pt **Range: $850 - $1,300**
Average: $1,121

Platinum prices should rise over 2022, driven by recovering autocatalyst demand amid easing microchip shortages. Autocatalyst demand growth should lift as microchip supply chain bottlenecks gradually ease, with vehicle production expected to rise sharply especially in the second half of 2022, boosted by pent-up demand. Demand should be boosted further by the increasing use of platinum as a substitute for palladium in petrol vehicles. However, price increases should be held back somewhat by a strengthening dollar and rising supply. South African supply should rise boosted by refining of inventories by Amplats and as new projects ramp up. Russian supply should also return to normal after flooding at two Nornickel mines and a concentrator breakdown disrupted 2021 production.

Pd **Range: $1,600 - $2,300**
Average: $2,104

Palladium demand should rise as automakers gradually ramp up auto manufacturing on easing microchip shortages. Vehicle sales should be boosted further by pent-up demand after shortages in 2021. However, we expect increased substitution of palladium by platinum to gradually temper price increases.

The palladium market should be more or less balanced as supply growth from Russia and South Africa (about two-thirds of global combined) counter demand growth. Supply should rise as Russian output returns to normal levels after underground flooding disrupted operations at Nornickel's Oktyabrsky and Taimyrsky mines in 2021. South African supply should rise on processing of inventories and as new projects ramp up.

Philip NEWMAN

Metals Focus, London

Ag **Range: $21.50 - $29.00**
Average: $25.20

The key price driver this year for silver remains the trend in institutional investment. Overall, this is expected to remain broadly price supportive during the first half of 2022, before turning negative later on. There will, however, be little price support from improving supply/demand fundamentals. Even though we expect to see a new record high for industrial offtake and a strong recovery in jewellery, silverware and physical investment demand, all of which will offset a healthy recovery in mine supply, the deficit will be modest in absolute terms.

With regards to institutional investment, this will largely take its cues from activity in the gold market. As such, we expect to see investment demand rise as rate expectations initially prove too hawkish, helping silver achieve a high for 2022 of $29.00. At this time, silver will also outperform gold, pushing the ratio into the low 70s. However, in the second half of the year, as interest rates do start to rise, investor liquidations will emerge, which could see silver fall to its low for this year of $21.50.

Even though the average annual price will be little changed year-on-year, it will still achieve the highest level since 2012. It is also worth remembering that the silver price has already risen on average by 25% in each of the last two years.

Ross NORMAN

Metals Daily, London

Au **Range: $1,675 - $1,850**
Average: $1,762

It is hard to be bullish about gold in 2022, with headwinds increasing as the economy goes "post pandemic". Meanwhile, the tailwinds will likely remain (inflation/negative real rates), but less so. And gold has lost friends after what should have been a stellar year.

If 2021 was a "consolidation year" following hefty gains, 2022 will likely see a retracement if confidence in gold from all important US institutional investors continues. It feels like gold is entering a watershed and struggling with an identity crisis.

Long-held claims about "store of value", "inflation hedge" and "wealth preservation" are being called into question by former market participants now holding competing hedges and bets; meanwhile, physical retail investors are vainly attempting to fill the void alongside price-sensitive Asian bargain hunters.

The caveat is that wider financial markets are priced for a level of perfection they may struggle to achieve.

Perhaps most worrying for gold, in a period of great innovation, is that it is left looking decidedly "old school", or the analogue solution to a digital world – to remain relevant, it has work to do. And I think the market senses this and is pricing it accordingly. Where are our champions?

Ag **Range: $19.50 - $26.00**
Average: $20.66

Silver performed poorly in 2021, with an 11.72% fall, so we see few grounds for optimism looking ahead.

Silver is typically capricious and usually outperforms gold to the upside in a bull market, but by extension is punished to the downside when gold significantly underperforms. And it is the latter that we foresee for 2022.

On the positive side, as the world normalises post COVID, we see good industrial offtake especially for renewable energy generation in photovoltaic cells.

On the negative side, we expect investment flows out of the silver ETF, with the redemptions pushing fresh metal back into the market as frustrated "long and wrong" positions are shed.

Pt **Range: $890 - $1,275**
Average: $1,066

We see a positive outlook for platinum prices as rising demand offsets a supply surplus.

Platinum had a difficult year in 2021, shedding just under 10%, with supply disruptions and semiconductor shortages having a deleterious effect on auto sales. The decline was further impacted by large ETF redemptions in H2.

Looking ahead, as the global economy recovers, we see increased demand coupled with an easing of the chip-induced issues. As such, good growth should be observed in the jewellery, automotive, industrial and, by extension, the investment markets. We see gains for platinum in 2022, but these will not be stellar.

Pd **Range: $1,410 - $2,350**
Average: $1,959

Palladium had quite a rollercoaster year in 2021, being easily the best-performing precious metal in H1, hitting an all-time record high of $3,016 in May 2021 on supply tightness, but by the end of H2, it was the worst-performing, down 22% on the year.

Underlying the price volatility has been the chip shortage and its impact on auto production. If, as expected, global market starts to normalise in 2022, then it follows that we should see a revival in auto demand, rising from 75m light vehicles in 2021 to a forecasted 83m in 2022, then to 92m by 2023, and by extension, for palladium demand to also increase. As such, we see the worst being behind us.

Just as "demographics are destiny", the same principle applies to the slow and inexorable shift into new technologies. And this move does not favour palladium much in the longer term. The fundamentals point to structurally weaker demand, with EVs gaining market share, which may have a deleterious impact on palladium prices. For now though, things look just dandy.

Rhona O'CONNELL

StoneX Financial Ltd, London

Au **Range: $1,783 - $1,960**
Average: $1,871

Influences on gold are evenly balanced. After enjoying the tailwinds of uncertainty, geopolitical risk and persistently low real interest rates, there is the potential for gold to come off a peak in the latter part of the year as (barring exogenous shocks) economic activity settles down and confidence creeps back, although domestic political battles in the States may, along with continued central bank diversification and investors' hunt for yield, pressure the dollar and take some of the pain out of any correction in gold.

The Fed's interest rate cycle is now well-entrenched in the markets' psyche and a key parameter to watch this year is the US balance-sheet run-off, which will help to buoy bond yields. If it supplants, in part, the interest rate cycle, then that could be bullish for gold, but if they work together, as seems more likely, then that will turn into a headwind.

Ag **Range: $19.95 - $27.61**
Average: $24.72

Silver price action continues to oscillate between the influences of the precious and industrial sectors, but has a brighter outlook for 2022 than the performance of 2021. The market is expected to move into a deficit as solar demand in particular continues to expand and it should benefit from a potentially voracious appetite for passenger vehicles as and when the supply chain dislocations are worked through – although this is most unlikely before Q3 at the earliest. Silver is expected to post an approximate two-week deficit this year, concentrated in the second half, which will help to give it a better profile this year than last. The primary price driver is still likely to be gold, though, and any price spikes may also find fresh grass roots and professional selling keeping silver spikes, as usual, to be just that – spikes.

Pt **Range: $927 - $1,187**
Average: $1,044

Platinum mine production rebounded last year from the weakness of 2020 and will increase again in 2022 both in South Africa and Russia. This will keep the market in surplus, potentially a substantial one, in the early months, but if the auto sector is rejuvenated in the second half of the year, platinum will reap the benefits, especially as it is now benefiting from partial substitution for palladium and has a bright light ahead of it, further down the line, in the form of fuel cell-powered light transportation. Prices are therefore likely to remain under pressure in the first few months, but patience will bring benefits as the market builds a base for longer-term gains.

Pd **Range: $1,823 - $2,350**
Average: $1,900

Palladium's precipitous falls in late 2021 reflected a dearth of industrial interest in the face of a beleaguered auto industry, which sits towards the back of the queue when it comes to semiconductor chip supplies. While there are signs of bargain hunting at the start of the year, this is likely to be cautious as the end of the dislocations is not cast in stone. The Base Case is for the second half of the year, quite possibly as late as the fourth quarter. Prices would anticipate these changes and there is the possibility of price spikes in a relatively thin market. With supplies very largely the by-product of platinum and nickel, the fate of the price lies in the hands of the demand side, which should come to the rescue before year-end.

Thorsten POLLEIT

Degussa Goldhandel GmbH, Frankfurt

Au **Range: $1,700 - $2,280**
Average: $1,965

The widely held expectation is that the central banks' tightening of monetary policy this year is likely to keep a lid on the prices of precious metals, gold in particular, for now. However, we believe that, at the end of the day, central banks will prioritise the goal of "keeping the economies going" over "bringing inflation down". This means that policy tightening will be less pronounced and will remain largely cosmetic, keeping inflation-adjusted interest rates well in negative territory.

Against this backdrop, we see a fairly good chance that the price of gold will return to its long-term upward trend – especially as we still consider the yellow metal to be undervalued at current prices. In particular, we expect institutional investor demand in gold to pick up, potentially taking gold prices higher towards $2,100/oz in the current cycle.

Ag **Range: $21.00 - $31.00**
Average: $25.70

The improvement in demand for silver in the industrial, electronic and solar sectors bodes well for a rise in the silver price this year, especially given the relatively tight supply-side conditions. And in view of a rising gold price, the price of silver has a good chance to rise. From our point of view, reaching $28.20/oz seems quite possible.

Pt **Range: $890 - $1,280**
Average: $1,076

The improvement in the world economy, especially the auto industry, should support the price of platinum. In addition, the push for 'green policies' has the potential to boost platinum demand. Overall, there is a good chance that the price of platinum will continue its recovery, which began in autumn 2020, and will move towards $1,175/oz over the course of this year.

Pd **Range: $1,710 - $2,400**
Average: $2,129

The palladium price correction seems to be over, and the current supply and demand conditions justify the expectation that palladium will rise in price this year. A price of around $2,260/oz in the course of 2022 is plausible from our point of view, especially since a return of investor demand has a good chance of counteracting tepid demand from the industrial sector.

The overall outlook for precious metals appears brighter to us than to many other people these days. Of course, a key reason for this is our expectation that global monetary policy will be significantly less restrictive than widely anticipated. Against this backdrop we think that it makes sense for an investor to consider building up or expanding precious metals position in their portfolio.

Rohit SAVANT

CPM Group LLC, New York

Au **Range: $1,740 - $1,880**
Average: $1,790

The biggest headwind to gold prices will be the unwinding of emergency monetary policy measures put in place by various central banks during the pandemic. Despite this unwinding, which has already begun, global monetary policy will remain extremely accommodative, which should continue to support gold prices at elevated levels. Gold prices also will be supported by ongoing demand from central banks and by investors that are expected to buy gold as a hedge against political risk and as a portfolio diversifier.

Ag **Range: $21.00 - $25.80**
Average: $23.32

On an annual average basis, silver prices are projected to decline during 2022 from the levels in 2021. That said, silver prices are generally expected to remain above the levels observed from the second half of 2013 through the first half of 2020. A combination of healthy fabrication, decline in total supply, both mine production and scrap, coupled with ongoing interest from longer-term investors is expected to keep silver prices supported at elevated levels. Reduced interest from shorter-term investors is expected to weigh on prices, however.

Pt **Range: $850 - $1,145**
Average: $1,040

Platinum prices are forecast to put in a relatively lacklustre performance during 2022. The ongoing increase in supply during 2022 and the build-up of inventory during 2021 due to the excess supply over fabrication demand are expected to weigh on platinum prices in the near future. Fabrication demand fundamentals are expected to improve over the course of this year; however, investors will look for clear signs that the supply and demand fundamentals are improving before entering this market.

Pd **Range: $1,500 - $2,260**
Average: $1,857

Palladium prices are forecast to move in a sideways fashion, with a downward bias during 2022. While the auto market is forecast to improve over the course of 2022, it is not out of the woods with regards to the shortage of microchips. This could continue to act as a headwind to palladium fabrication demand and prices during the year. Palladium supply meanwhile is forecast to continue recovering, adding another headwind to palladium prices.

Frank SCHALLENBERGER

LBBW, Stuttgart

Au **Range: $1,648 - $1,969**
Average: $1,837

Jewellery demand is coming back and high inflation numbers are good for gold. But ETCs are still not buying and interest rates will go up in 2022, which means a headwind for gold. Therefore, we will see a sideways trend for gold in 2022.

Ag **Range: $17.61 - $23.77**
Average: $20.61

The main reason for silver's 2020 rally was strong demand by silver ETCs. In 2021, this stopped and I don't expect a comeback. But without ETC demand, we will see a supply surplus on the silver market. Therefore, silver will keep on underperforming gold.

Pt **Range: $771 - $1,046**
Average: $886

The fundamentals still don't look too good for platinum. The supply surplus on the market is here to stay and the triumphant advance of electric vehicles will make platinum demand for catalysts even smaller. So platinum won't be able to stay above the $1,000 mark.

Pd **Range: $1,313 - $1,935**
Average: $1,571

More and more electric vehicles will slowly but surely lead to lower dynamics on the demand side for palladium. And the slowdown in auto production will keep on dragging down demand in 2022. So, I expect the price to stay under the $2,000 mark.

Chantelle SCHIEVEN

Capitalight Research, Victoria

Au **Range: $1,740- $1,980**
Average: $1,860

Central bank announcements, notably from the Fed, will likely continue to swing the gold price as sentiment changes around the trajectory of interest rates. Our view is that although central banks are tightening policy, they will stay behind the inflation curve, meaning that real interest rates will remain quite negative. The high global debt levels will limit how much central banks can increase interest rates. This, along with increased consumer and central bank demand, will help support the gold price in 2022.

Ag **Range: $19.40 - $35.20**
Average: $26.80

The silver price was sluggish in the second half of 2021, after rising in the first half. 2022 is looking to reverse this, with a sluggish first half as markets adjust to the first interest rate increases from central banks. In the second half of the year, the combination of elevated inflation and continued very negative real interest rates will help the metal regain upward momentum. Silver will also benefit from increased industrial demand.

Nicky SHIELS

MKS PAMP Group, New York

Au **Range: $1,675 - $1,965**
Average: $1,800

Gold prices could become unstuck, as three important drivers – inflation, the Fed and expected macro/equity volatility – are on the move this year. Gold is a referee on the Fed and a policy mistake (either rampant inflation or an aggressive hiking cycle bringing forward recession risk), who are currently well behind the inflation curve. Gold has one more peak higher, as the “inflation” or “Fed policy mistake” peak is not yet in. As the Fed implements a series of rate hikes in the lead-up to the US mid-term elections, downside risks will emerge, especially if they materially reduce balance sheet assets. Solid physical demand is a key base for when large-scale asset rotations occur searching for relatively safer and more traditional inflation/stagflation hedges, creating upside risks.

Equity market volatility and structural bullish drivers (unsustainable global debt path, asset bubbles, messy geopolitics, social unrest, currency devaluation concerns and impending sovereign crises) usually re-emerge on a Fed hiking cycle, and are additional tailwinds.

Gold is down but not out, with an innate ability to rally when the consensus is bearish. We acknowledge that if $1,675/oz is broken, all hope of pricing in inflation will be gone and a new bear market will be enacted, where gold will lose appeal as a monetary asset and inflation hedge.

Ag **Range: $18.00 - $26.00**
Average: $22.00

Silver is relatively more sensitive to US dollar upside, and thus with a more hawkish Fed priced in for 2022, its downside is accentuated versus gold’s downside. That is notwithstanding the fact that fundamentally it remains saturated, which is highlighted more so in rising interest rate environments. Decent retail demand, rising industrial demand on continued growth expectations and its growing role in the energy transition are bright spots that helped drive the supply/demand balance (including investor demand) into a small deficit in 2021, for the first time in six years. These demand pillars are expected to remain strong into 2022, but with the enormous size of both known and unknown above-ground stocks, any upside rallies will be short-lived. Investor – both institutional and retail – demand could reignite, especially as prices fall as the year progresses and into US mid-term elections, given perceived inflation and political concerns.

Pt **Range: $850 - $1,350**
Average: $1,100

Platinum’s forecast is contingent on gold remaining supportive and not rerating into a new bear market, further auto substitution and higher diesel/HDD loadings due to ESG efforts, which would put it on a path of shrinking surpluses. Those positive tailwinds will offset the headwind from chip shortages (which will ease in 2022 but not be alleviated). Platinum’s role in the energy transition and in hydrogen applications will provide a short-term sentiment kicker and structurally swing it into a deficit by mid-2022 Downside price risks will be contingent on faster Fed hikes into weaker global demand, which would induce large-scale investor deleveraging at a time of OEM/auto and producer inventory destocking.

Pd **Range: $1,500 - $2,500**
Average: $1,800

Structural headwinds in the form of ongoing substitution (platinum is relatively cheaper, more readily available and less volatile than palladium) and growing EV (electric vehicle) penetration put palladium on a path of shrinking deficits. An expected stronger auto sales recovery in 2022 (versus 2021, but not as strong as 2019 levels) and a consensual short investor market will create tactical bullish opportunities in 2022, while supply risks are also possible.

Jacob SMITH

Metals Focus, London

Pt **Range: $900 - $1,300**
Average: $1,090

Despite headwinds from gold and rising interest rates, there is reason to be broadly optimistic for platinum in 2022. Autocatalyst demand is set to recover, especially in the latter half of the year, leading to 20% year-on-year growth in autocatalyst demand and an increase versus pre-pandemic levels. The palladium-to-platinum substitution narrative will grow at a time when semiconductor supply chain issues unwind, both of which will be supportive of a stronger platinum price. Our assumption that speculative buying in China (which underpinned the jump in Chinese platinum imports in 2021) continues, or at the very least is not reversed, will also lend price support to platinum this year.

Mined production will remain broadly unchanged year-on-year, while pipeline stocks, stemming mostly from Anglo’s 2020 ACP shutdown, were largely drawn down last year, resulting in less material being available for the market in 2022. Platinum will remain in a healthy surplus this year of around 0.5Moz, which will limit the upside potential of the price.

Overall, for 2022, we forecast the average price of platinum to be $1,090. Although the year-on-year average price is little changed from 2021, this represents a strong intra-year rally and will result in the gap with gold narrowing to less than $600 by year-end, from $845 currently.

Grant SPORRE

Bloomberg Intelligence, London

Au Range: $1,675 - $1,835
Average: $1,765

While three, possibly four US interest rate hikes in 2022 will make it difficult to see gold averaging higher than in 2021, the metal has a number of support factors that could keep prices relatively firm. Sticky and higher than expected inflation rates could see real interest rates remain in a supportive range for gold. Equity market valuations look stretched, making a broad-based correction likely in our view, which should also be supportive for gold. Gold also looks cheap versus a number of metrics, suggesting that the metal has already pre-empted a Fed taper and interest rate cycle, while at the margin, consumer demand should continue to stay firm.

Ag Range: $20.32 - $23.80
Average: $21.78

Silver is likely to trade lower in line with our gold view, but only more so, such that the gold-silver ratio averages higher than 80 for 2022. Retail investors' heads will continue to be turned by crypto-currencies, which could continue to become more mainstream, taking market share away from silver. The strong industrial rebound did very little to re-rate silver versus gold, and while we see strong photovoltaic demand, the pull is not going to be strong enough to offset the broader macro headwinds, we believe.

Pt Range: $935 - $1,175
Average: $1,045

There is no shortage of platinum, with 2022 looking like another surplus (pre-investment) year, so it difficult to be too bullish on the metal. However, the surpluses in the market should start to narrow before moving to a deficit in 2023/24, as the metal starts to gain market share from palladium in gasoline autocatalysts. Recovering vehicle sales in Europe and the easing in semi-conductor shortages are likely to see bouts of bullish sentiment, closing some of the short positioning.

Pd Range: $1,725 - $2,250
Average: $1,825

Palladium remains in a deficit market, but the deficits are getting smaller with the market flipping back into a surplus in 2024 on our numbers. Substitution into platinum and growing battery vehicle market share may offset the growth in overall sales. There is still some metal to be unlocked from the refining pipeline after the 2020 disruptions, but that said, the supply chain remains fragile, with any disruptions likely to lead to price spikes.

James STEEL

HSBC Securities (USA) Inc, New York

Au Range: $1,650 - $1,850
Average: $1,723

The major headwind facing gold in 2022 is the end of the era of ultra-loose monetary and fiscal policies. While rate hikes and tapering as well as fiscal restraint globally are to some degree priced into the market, they may still have a negative impact on prices. While shifts are negative, policies are still likely to remain relatively loose by historical standards and so the drag on gold may have limits.

Real rates will remain negative and a possible rise in trade and geopolitical risks could aid gold. Any increases in financial market instability or uncertainty could also spark quality asset demand for gold. Thus, the safe-haven demand component of gold may trump inflation hedge demand. The physical market is supportive. Economic recovery may boost jewellery demand, and retail interest in coins and bars may remain firm. Central bank purchases are expected to be strong following from good 2021 demand.

Ag Range: $22.00 - $25.25
Average: $24.30

While the perceived withdrawal of monetary and fiscal stimulus is weighing on silver, as it has on gold, this should be offset by steady industrial demand. The likely recovery in microchip production and growing environmental and bioscience applications for silver – as well as traditional demand uses – assure good physical demand going forward. Price-sensitive retail buyers are boosting demand in the key coin and bar markets, where inflation scares and uncertainty may also boost purchases.

Jewellery demand should also be positive, as despite the recent slowing in the world economy, income levels and employment are still rising. Prices are unlikely to be high enough to trigger heavy increases in discretionary recycling. Silver has upside limits. Mine supply is forecast as robust, and above-ground stocks are high and can be mobilised at short notice in the event of particularly robust rallies. This should act as a restraining influence on prices.

Pt Range: $880 - $1,390
Average: $1,210

The outlook for platinum is positive this year, in line with a marked recovery in global auto demand as the microchip shortage should begin to be remedied later in 2022. In addition to the likely substantial rise in the volume of autos produced, tightening and more stringently applied emissions regulations will add to platinum in autocatalyst loadings. Platinum supply from auto recycling supply should grow, but be capped by the high prices of second-hand vehicles. Platinum also stands to gain from substitution with higher priced palladium.

Jewellery demand may edge higher based on economic recovery and price competitiveness with gold. Other industrial demand growth looks positive. Mine output increases this year should only be modest and are unlikely to measurably restrain rallies. Investment should turn positive, especially if safe-haven demand rises as a result of financial market uncertainty. Although we anticipate a supply/demand surplus, it is likely to be modest.

Pd Range: $1,850 - $2,480
Average: $2,110

Price prospects for palladium look positive based on greater auto demand in 2022 as semiconductor output rises. Still, palladium auto demand growth, while likely to be very strong, may be capped by growth in alternative vehicles and rising substitution with less expensive platinum. Sharp gains in auto demand for palladium will be offset by greater levels of recycling. But recycling levels will also be capped by high-priced second-hand vehicles.

Mine supply is growing but not at a pace that would be price disruptive. Above-ground stocks remain low and ETF holdings are barely above 500,000 oz. That said, more moderate deficits going forward will reduce the need to draw down on above-ground stocks. We do not think investment or jewellery will make a big impact this year on demand. Other industrial demand is steady but limited by high prices.

Wilma SWARTS
Metals Focus, London

Pd **Range: $1,700 - $2,700**
Average: $2,180

Although 2022 starts with the semiconductor and other parts shortages still weighing on the automotive industry, there are clear indications that the crisis is easing. As the year progresses, we expect vehicle production will recover strongly, even if overall it fails to return to pre-pandemic levels.

This will translate into a sharp recovery in palladium demand. In turn, we expect that this will take the global market from surplus conditions at the start of the year to a deficit towards its end. This shift may also be amplified by some inventory replenishment in China, where our analysis of local supply/demand dynamics and trade flows point to drawdowns having taken place in 2021.

Against this background, we are bullish on palladium overall in 2022. In the very near term, as supply chain challenges continue to put pressure on car production, a price correction seems likely. Later on, however, and particularly in the last few months of the year, we expect that tightening physical market conditions will fuel a strong palladium price rally, to a peak of $2,700. This will result in an average of $2,180, marking a 9% decline year-on-year.

Joni TEVES
UBS Limited, Singapore

Au **Range: $1,500 - $1,930**
Average: $1,675

We continue to look for lower gold prices in 2022, as the Fed tightens policy and real rates move higher. Gold should bottom out over the next 12 to 24 months, with prices likely to recover and stabilise after the Fed hiking cycle starts in earnest. This has typically been the case in previous hiking cycles and makes sense given the interest in gold as a diversifier as growth turns. Gold has so far been quite resilient despite expectations of Fed tightening and higher real rates. Lingering risks around COVID variants are likely propping up interest in gold as a hedge and diversifier. High inflation prints are also supporting gold to the extent that these keep real rates deeply negative, albeit levels have risen from the lows.
We think Q1 strength is understandable, helped by seasonality, but weakness is bound to resume for the remainder of the year.

Ag **Range: $18.00 - $25.00**
Average: $21.60

Silver price action very much depends on gold's path. Despite indications of continued improvement in fundamental demand and expectations that growth will continue, waning investor interest suggests that silver prices should follow gold lower this year, typically underperforming the latter in a downtrend. Persistently high inflation resulting in compressed real rates is a key upside risk for silver, as upward pressure on gold prices should also spill over to the white metal – silver is likely to outperform in this scenario, with retail interest expected to pick up.

Pt **Range: $900 - $1,250**
Average: $1,100

We expect platinum prices to move higher in 2022 as supply and demand conditions gradually tighten, which should in turn improve investor sentiment towards platinum. Although substitution has not been a prominent topic among conversations recently, we think this trend should ramp up, helping platinum demand. We also expect healthy demand growth from the heavy-duty diesel sector. The market is likely to still be in surplus, but the degree of overhang is smaller and could potentially be absorbed by stronger investment interest and/or supply disruptions.

Pd **Range: $1,500 - $2,400**
Average: $1,900

We have held a long-term bearish view on palladium for some time now on the back of deteriorating market fundamentals. That said, we are still expecting the market to be in deficit in 2022, albeit a smaller deficit than in the previous three years. We think palladium demand should lift next year as global auto production normalises and this should support some recovery and consolidation in prices from recent lows before the long-term downtrend resumes in earnest. The upside from current levels on the back of indications of recovery in auto demand is likely to also be amplified by short-covering risks, given the large net short positioning in palladium futures. Overall, volatility is likely to remain elevated amid lingering uncertainty, particularly around the impact of the omicron COVID variant, which most recently has been weighing on risk sentiment. This year could well be more of a trading environment for palladium investors, providing opportunities to position for a long-term price downtrend.

Bhargava N. VAIDYA
B.N. Vaidya & Associates, Mumbai

Au **Range: $1,740 - $1,905**
Average: $1,840

The world has learnt to live with the effects of the pandemic. The global economy is on a recovering trend and this will allow interest rates to increase marginally and at a very slow pace. I expect gold will retain its old refuge as a "store of value". I do not expect that we will see the highs of 2020 or 2021, but that said, I am forecasting that the average this year will be slightly higher than last year's.

Ag **Range: $20.50 - $28.50**
Average: $24.75

I expect silver to track gold for the most part. Silver will continue to receive impetus from industrial demand for clean energy, but the basic nature of supply of silver as a by-product will restrict any major movement in the price.

Pengfei WANG

Bank of China, Beijing

Pt **Range: $900 - $1,300**
Average: $1,160

We expect the mine supply in South Africa to remain uncertain due to the impact of COVID-19 variants. On the other hand, the demand from the vehicle industry that was disrupted by the supply chain bottleneck in 2021 is expected to recover in 2022 and the ongoing substitution of palladium will contribute to the demand as well. In addition, during the global economy's green transition, the prospects of the growing hydrogen economy are expected to lift up ETF demand. We hold the optimistic view on platinum in 2022, while the headwind from the widely expected Fed's tightening policies may limit the upside potential of the price.

Zhexing WANG

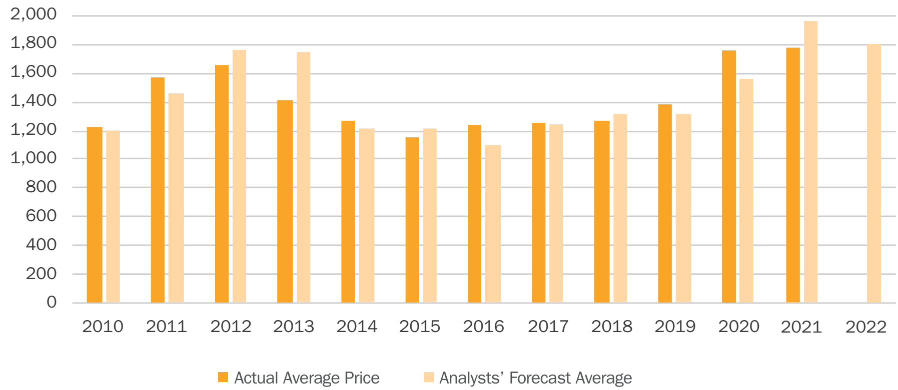
Bank of China, Shanghai

Au **Range: $1,720 - $1,960**
Average: $1,850

2022 will be the year when the gold price bottoms out. History tells us that when the Fed tightening cycle commenced in June 2004 and December 2015, the gold price reversed the mid-term or long-term trend and began to rise. While the previous examples may be different from the current market, we still look forward to a bottom rebound. Inflation risk needs to be controlled. But considering the scale of the US's huge balance sheet, the tightening cycle may not last too long. This may contribute to the success of bottoming gold prices in the future.

ACTUAL AVERAGE PRICE VS ANALYSTS' FORECAST AVERAGE 2010-2022

Au



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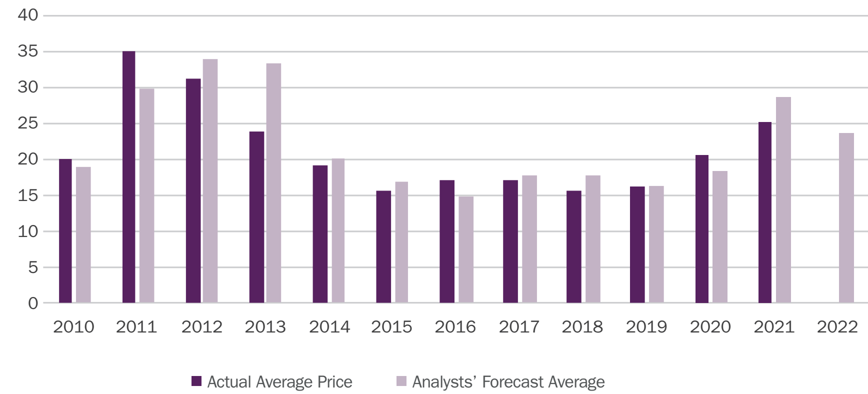

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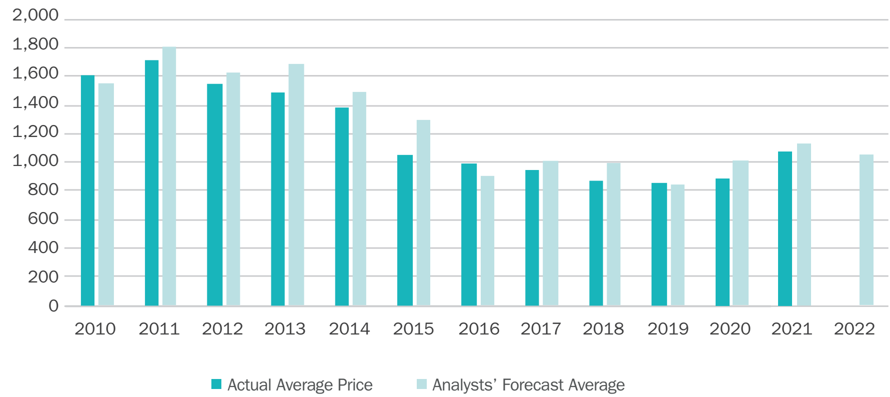

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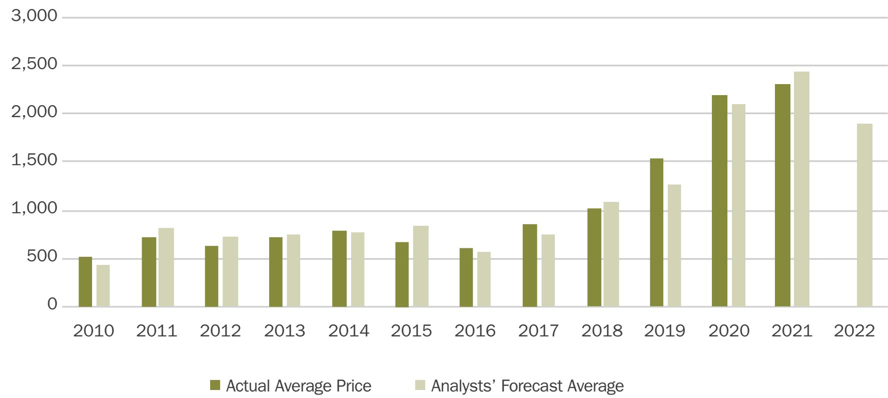
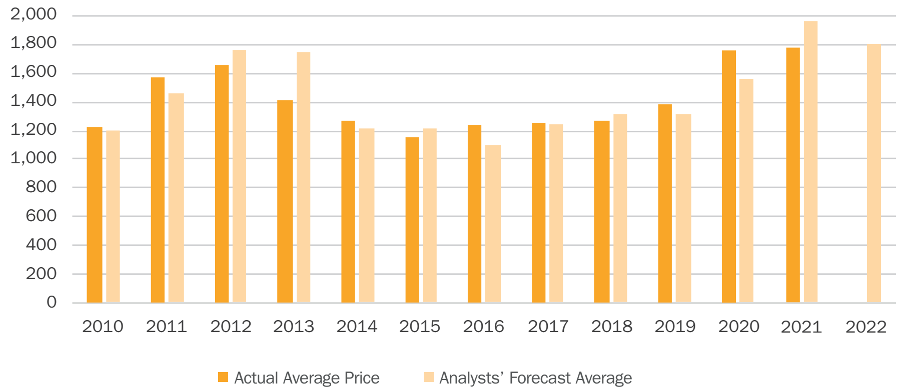


ACTUAL AVERAGE PRICE VS ANALYSTS' FORECAST AVERAGE 2010-2022

Au



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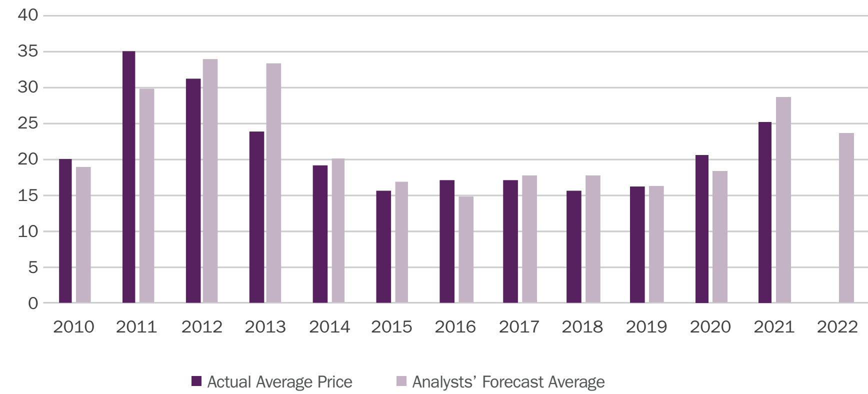

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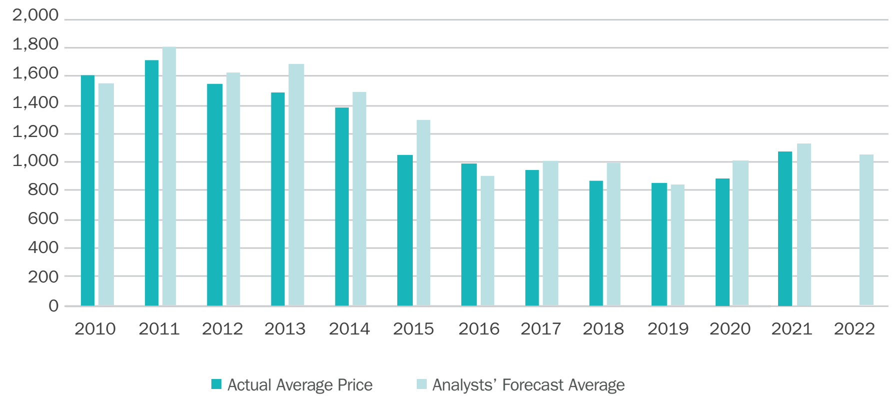

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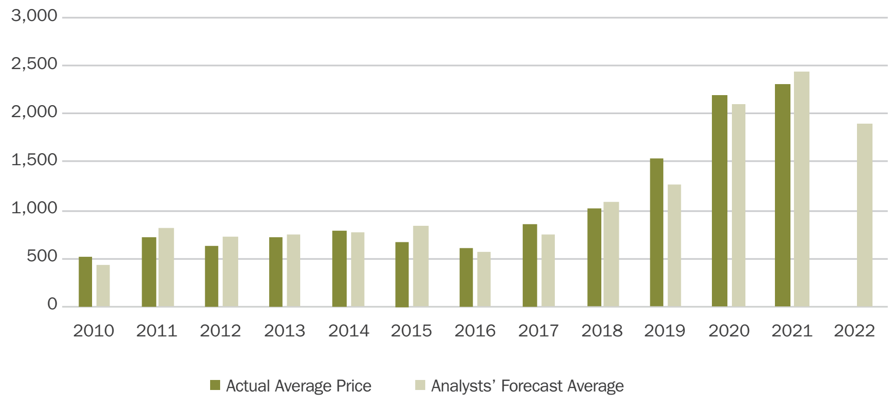

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