



Precious Metals



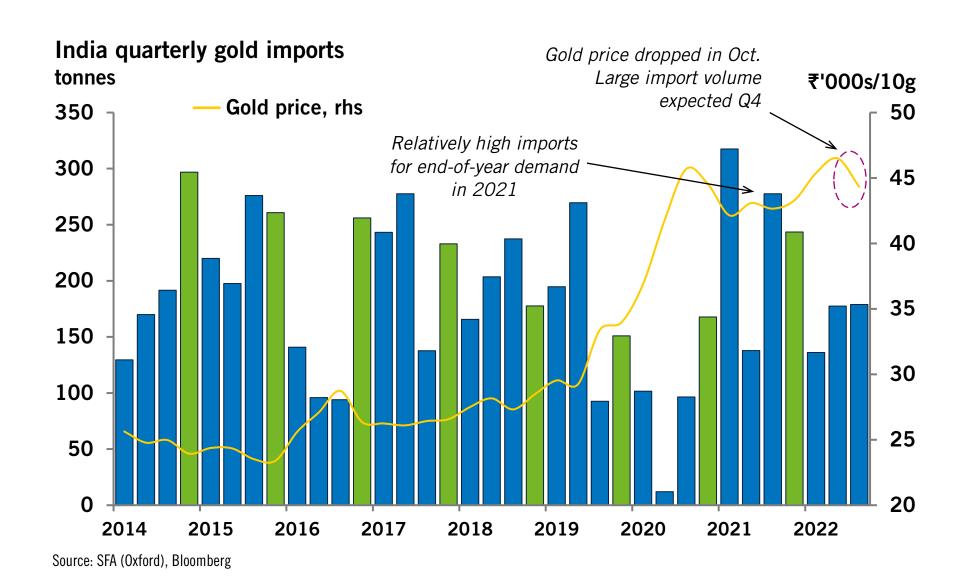
31st October 2022

- 01 MARKET SPOTLIGHT
- O2 GOLD
- 03 SILVER
- 04 PLATINUM
- 05 PALLADIUM
- 06 RHODIUM, RUTHENIUM, IRIDIUM
- 07 TRENDS AND INVESTMENTS
- 08 ABOUT HERAEUS

MARKET SPOTLIGHT Dhanteras, Diwali and dowries may well boost India's gold demand in Q4'22

The fourth quarter of the year tends to be the best for India's retail gold demand. In Q4'21, quarterly gold demand in India soared to a record 344 tonnes (source: World Gold Council) owing to festive season-driven buying and pent-up demand from the previous year when lockdowns postponed events. This was 44% higher than the average level of Q4 demand, although net gold imports were higher earlier in the year.

This year, the usual gold demand tailwinds of Dhanteras and Diwali, plus the winter wedding season, are meeting headwinds of greater economic uncertainty and higher import duties. Evidence from local organisations, however, suggests the pattern of elevated sales has returned this year. The wedding season starts in the fourth quarter and is typically a strong gold demand driver, as weddings are thought to account for nearly half of the country's total demand for gold (source: Royal Mint), which last year exceeded 797 tonnes.



Lower local gold prices, coinciding with the traditional gold buying season, are likely to have encouraged more sales recently. Since the beginning of October, the rupee gold price decreased by 3.6% from ₹45,130/10g to ₹43,509/10g before Dhanteras, and on the local market gold has been trading at a discount to London prices, offering further purchasing incentive for religious and marital events. Estimates from the All India Jewellers and Goldsmith Federation suggest gold sales were robust over the festival weekend, helped by the lower prices and diminishing Covid-19 infections.

Higher gold demand also follows stronger food production. This year's monsoon brought 6% more rainfall than the long-term average and this should provide support for rural incomes, potentially with a positive trickle down to gold demand. Gold coin and bar demand grows an estimated 0.7% for each percent of excess rainfall above the long-term average (source: World Gold Council).

Sales should rise quarter-on-quarter, but the record demand figure for Q4'21 is unlikely to be matched. The unusually large appetite for gold purchases at the end of 2021 was due to the acute impact of the pandemic. Despite a wave of infections earlier this year, demand has not been as badly impacted, meaning the boost will be less pronounced this year. Annual demand in India could therefore be slightly lower year-on-year.

The gold price will be under pressure for the rest of the year owing to anticipated interest rate increases from central banks. The European Central Bank raised interest rates by 75 bp at the second meeting in a row last Thursday and interest rate futures put the chances of a 75 bp Fed rate hike at 84% for this week, as of Friday. Lower gold prices should encourage strong gold buying in India for the remainder of the year, although probably not quite as robust as in 2021.

2

31st October 2022

- MARKET SPOTLIGHT 01
- GOLD 02
- SILVER 03
- PLATINUM 04
- PALLADIUM 05
- RHODIUM, RUTHENIUM, IRIDIUM 06
- **TRENDS AND INVESTMENTS** 07
- **ABOUT HERAEUS** 08

PRECIOUS METALS REVIEW Gold

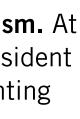
79 А	\u							
			CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
		\$/oz	1,640	-0.69%	1,675	26/10/2022	1,638	28/10/2022
		€/oz	1,651	-1.48%	1,682	24/10/2022	1,648	28/10/2022

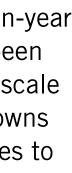
The Fed is likely to raise rates again to gold's detriment. The gold price rose slightly in the middle of last week, partly due to an easing of US dollar strength from recent highs. This was a reaction to the softening of monetary policy from Canada's central bank which decelerated its interest rate hikes to 50 bp from the anticipated 75 bp, despite Canada's CPI for September continuing to be elevated at around 7%. On Wednesday, the governor of the Bank of Canada said that the bank is nearing the end of its monetary tightening cycle with the prospect of a recession looming. The Federal Reserve's preferred indicator of recession, the 10 year-3 month Treasury spread, went negative last week as the return on shortdated bonds overtook those with decade-long maturity. This signal strongly suggests that the US will enter a recession in the next 12 months. The Fed could face increasing pressure to also shorten the tightening cycle heading into a recession, so as to minimise the severity of economic contraction. However, a reversal in monetary policy is not likely to happen in Q4'22 or early 2023 as the US CPI remains high, capping the gold price. The interest rate futures market put a high probability on a 75 bp hike from the Fed this week. Once interest rates and bond yields do begin to fall, gold could see some price upside.

Xi Jinping appears willing to sacrifice growth for zero-Covid absolutism. At the conclusion of the 20th Chinese Communist Party Congress, President Xi Jinping secured an unprecedented third term in office. By cementing his authority at the helm of the world's second largest economy, his mandate for zero-Covid policies is likely to remain. Since the major lockdowns in H1'22, which caused gold demand to fall 23% year-on-year for the period (source: World Gold Council), Covid infections have been flaring up in cities across China, spurring mass testing and smaller-scale lockdowns. By keeping the policy in place indefinitely, major lockdowns owing to infections spikes remain a risk, meaning further downgrades to next year's gold demand are possible.









31st October 2022

- MARKET SPOTLIGHT 01
- GOLD 02
- SILVER 03
- PLATINUM 04
- PALLADIUM 05
- RHODIUM, RUTHENIUM, IRIDIUM 06
- **TRENDS AND INVESTMENTS** 07
- **ABOUT HERAEUS** 08

PRECIOUS METALS REVIEW Silver

47 A	g							
- 1			CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
		\$/oz	19.10	0.00%	19.78	26/10/2022	18.79	25/10/2022
		€/oz	19.23	-0.76%	19.73	27/10/2022	19.04	25/10/2022

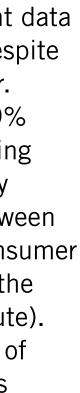
Cost pressures could put some silver production at risk. The producer price index (PPI) for the mining industry has grown 160% since the pandemic as a result of supply chain and consumables inflation. The silver price has generally maintained a good correlation with mining PPI, but since the pandemic this has broken down significantly. The impact to silver producers' bottom lines from rising costs has been compounded by the price falling to two-year lows. A large portion of primary silver supply comes from smaller-scale mines with narrower margins. If the silver price remains below \$20/oz for a protracted period, more than 10% of primary silver mines could become unprofitable, ultimately resulting in a possible

cut in global silver supply.

Smartphone shipments are still taking on water. The latest shipment data for China's smartphone market shows an 11% drop year-on-year, despite a slight recovery in absolute shipments to 70 million for the quarter. Outside of the Chinese market, the global smartphone market fell 9% in Q3, making it the worst third quarter since 2014. The deteriorating global economic outlook is likely to have caused consumers to delay major electronics purchases, thus increasing the length of time between handset upgrades. As the largest smartphone manufacturer and consumer market, electrical and electronic demand in China is the largest in the world, reaching a record 90 moz in 2021 (source: The Silver Institute). Electronic demand is likely to be lower this year owing to little sign of sales recovery and production downgrades from large manufacturers unwilling to be left with excess inventory.







31st October 2022

- MARKET SPOTLIGHT 01
- 02 GOLD
- SILVER 03
- PLATINUM 04
- PALLADIUM 05
- RHODIUM, RUTHENIUM, IRIDIUM 06
- **TRENDS AND INVESTMENTS** 07
- **ABOUT HERAEUS** 08

PRECIOUS METALS REVIEW Platinum

78	Þt							
- 1			CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
		\$/oz	947	2.78%	969	28/10/2022	908	25/10/2022
		€/oz	952	3.40%	970	28/10/2022	920	26/10/2022

South Africa's platinum supply short-circuits due to Eskom. Electricity supply curtailments in South Africa have been unprecedented this year, and with the Southern Hemisphere summer approaching, potential impacts could continue into 2023. While under high-intensity loadshedding by Eskom (government-mandated power outages) it may not be safe to operate deep platinum mines at normal levels, and so refining throughput may be reduced. Both large and small platinum miners have been affected by power issues in the last quarter, resulting in a build-up of above-ground unrefined metal. Royal Bafokeng Platinum, a smaller producer, saw a 7.6% reduction in platinum in concentrate production quarter-on-quarter in Q3'22, partly as a result of persistent loadshedding. Anglo American Platinum (which accounts for 48% of South Africa's refined platinum production) reported that Eskom power-outages in the quarter affected both production and concentrating/smelting. This resulted in an increase in work-in-progress inventory of 40,400 4E oz. In addition, the company is undergoing a smelter rebuild, causing a 31% reduction in refined production compared with Q3'21. Refined metal lost this year will arrive to the market early in 2023. Consequently, the platinum market is forecast have a smaller surplus in 2022 than anticipated, as estimated South African production has fallen by 180 koz to around 4.4 moz.

The platinum price rose by 2.8% last week, finding resistance around the August high of \$960/oz and finishing the week at \$947/oz.





31st October 2022

- MARKET SPOTLIGHT 01
- GOLD 02
- SILVER 03
- PLATINUM 04
- PALLADIUM 05
- RHODIUM, RUTHENIUM, IRIDIUM 06
- **TRENDS AND INVESTMENTS** 07
- **ABOUT HERAEUS** 08

PRECIOUS METALS REVIEW Palladium

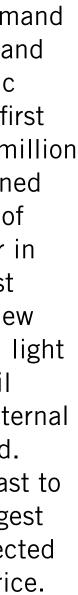
46	Pd							
- 1			CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
		\$/oz	1,908	-4.88%	2,058	24/10/2022	1,887	25/10/2022
		€/oz	1,920	-5.71%	2,087	24/10/2022	1,899	28/10/2022

Russian palladium supply is uninterrupted, for now. The outbreak of the conflict in Ukraine resulted in an extreme rally in the palladium price, and a new all-time high on fears that Nornickel would be sanctioned and its palladium supply would cease. That has not yet happened and the company increased palladium production 11% year-on-year in the first nine months of the year to 2.1 moz, mainly due to the low base in 2021 owing to mine flooding. The company maintains year-end guidance of 2.45-2.71 moz palladium, equivalent to approximately 40% of global production. However, many mine equipment suppliers have cut ties with Russia, making replacing and updating high-performance machinery more difficult, and may result in lower productivity and possible supply issues next year.

China beats the West in light vehicle sales rebound. Palladium demand for autocatalysts is forecast to grow by 3.4% this year to 7.8 moz and see a slight decline in 2023 on the back of a widespread economic slowdown. Global sales figures for light vehicles fell by 2% in the first nine months despite 2021's low base, from 60.7 million to 59.5 million units (source: LMC Automotive). China's automotive market remained robust however, supported by the temporary tax cut for purchases of new passenger vehicles. Sales reportedly grew 26.4% year-on-year in September, resulting in an 8.2% year-on-year expansion in the first nine months, despite severe disruption in H1'22. In September, new energy vehicle (NEV) sales in China reached a record 27% of total light vehicle sales. The purchase tax exemption has been extended until December 2023, which will continue to support NEV sales over internal combustion engine vehicles, potentially eroding palladium demand. Despite this, China's autocatalyst palladium consumption is forecast to grow in 2023, albeit by just 1.5% to 2.6 moz, and remain the largest area of palladium demand. However, the palladium market is expected to move into surplus next year which will likely result in a lower price.







31st October 2022

- MARKET SPOTLIGHT 01
- GOLD 02
- SILVER 03
- PLATINUM 04
- PALLADIUM 05
- RHODIUM, RUTHENIUM, IRIDIUM 06
- **TRENDS AND INVESTMENTS** 07
- **ABOUT HERAEUS** 08

PRECIOUS METALS REVIEW Rhodium, Ruthenium, Iridium



Green hydrogen tops the agenda at European Hydrogen Week. As part of the inaugural European Hydrogen Week, the Executive Vice President of the European Commission reiterated the importance of developing investment in green hydrogen production in the EU. A move towards the previously announced REPowerEU commitments will begin in November when €3 billion in funding will be allocated to various sectors of the hydrogen economy. The ambitious commitments aim to establish 10 million tonnes of green hydrogen production a year by 2030. This will require a significant amount of investment in and development of PEM electrolysers containing iridium catalysts. Currently, iridium demand for hydrogen is relatively small, but the targets set for production could result in significant electrolyser (and therefore iridium) demand growth.

The iridium and ruthenium prices all remain unchanged week-on-week. Price movement was limited in the rhodium market until Friday, when the price rose 1.3% to \$15,450/oz.

HODIUM	RUTHENIUM	IRIDIUM
15,450/oz	\$505/oz	\$4,050/oz
15,250/oz	\$505/oz	\$4,050/oz



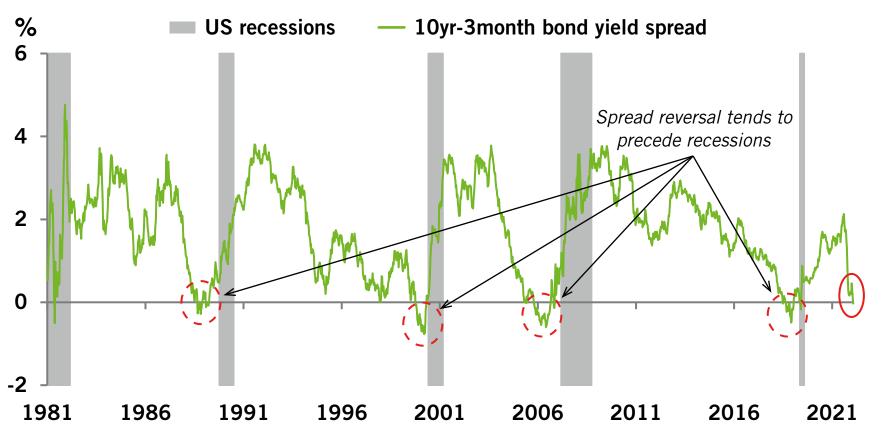


31st October 2022

- **MARKET SPOTLIGHT** 01
- GOLD 02
- SILVER 03
- PLATINUM 04
- PALLADIUM 05
- RHODIUM, RUTHENIUM, IRIDIUM 06
- **TRENDS AND INVESTMENTS** 07
- **ABOUT HERAEUS** 08

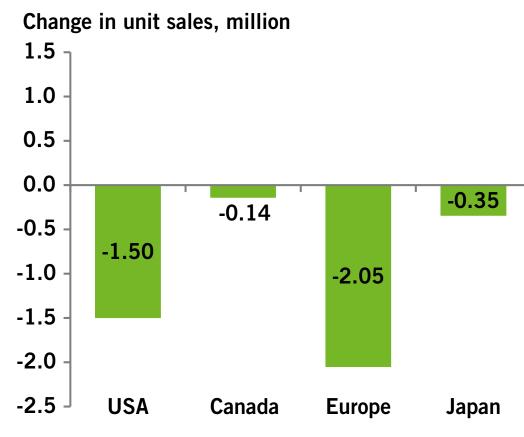
TRENDS AND INVESTMENTS

Inversion of the 10-year-3-month bond yield spread

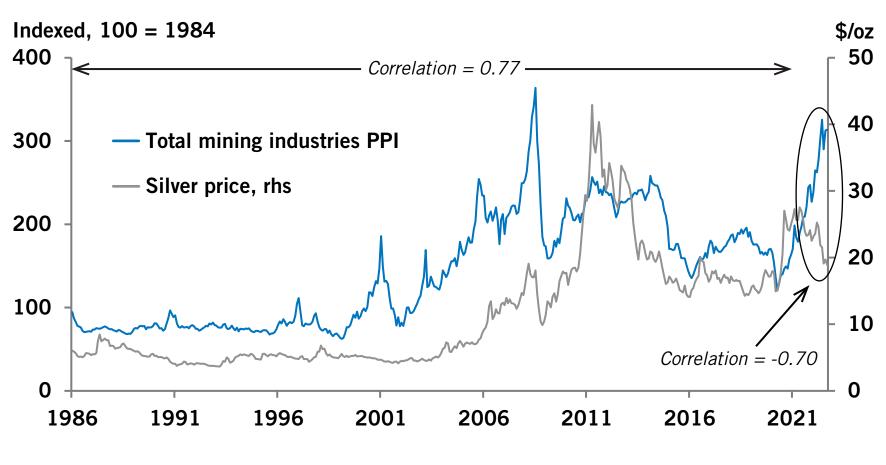


Source: SFA (Oxford), Bloomberg

Light-vehicle sales recovery first 9M '21 vs. '22



Mining price inflation vs. silver price



Source: SFA (Oxford), Bloomberg, US Federal Reserve

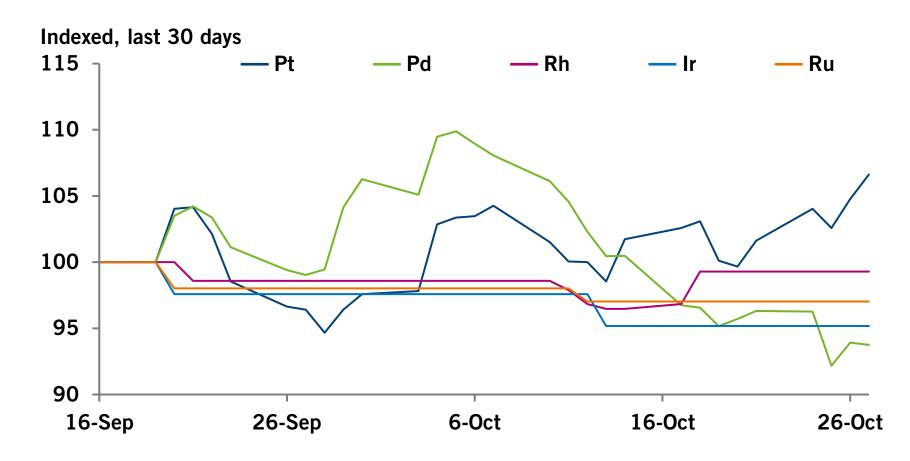
1.47

China

1.42

Other





-0.08

Korea

Source: SFA (Oxford), Bloomberg



31st October 2022

- 01 MARKET SPOTLIGHT
- 02 GOLD
- 03 SILVER
- 04 PLATINUM
- 05 PALLADIUM
- 06 RHODIUM, RUTHENIUM, IRIDIUM
- 07 TRENDS AND INVESTMENTS
- 08 ABOUT HERAEUS

ABOUT HERAEUS

Learn more about important trends in the precious metals markets on a weekly basis with our Heraeus Precious Appraisal. **Please subscribe:** <u>www.herae.us/trading-market-report</u>.

Heraeus Precious Metals

Europe, Middle East, Africa & other regions Phone: +49 6181 35 2750 edelmetallhandel@heraeus.com

South East Asia Phone: +852 2773 1733 tradinghk@heraeus.com

USA Phone: +1 212 752 2180 tradingny@heraeus.com

China Phone: +86 21 3357 5658 <u>tradingsh@heraeus.com</u>

Heraeus, the technology group headquartered in Hanau, Germany, is a leading international family-owned portfolio company. The company's roots go back to a family pharmacy started in 1660. Today, the Heraeus group includes businesses in the environmental, electronics, health and industrial applications sectors. Customers benefit from innovative technologies and solutions based on broad materials expertise and technological leadership.

Heraeus Precious Metals is a leading provider of precious metals services and products. We combine all activities related to our comprehensive expertise in the precious metals loop – from trading to precious metals products to recycling. We are one of the world's largest refiners of platinum group metals (PGMs) and a leading name in industrial precious metals trading.



The Heraeus Precious Appraisal is produced in collaboration with:

SFA (Oxford) Ltd

United Kingdom Phone: +44 1865 784366 <u>www.sfa-oxford.com</u> The Oxford Science Park, Oxford, United Kingdom, OX4 4GA



consulting analysts in tomorrow's commodities and technologies

Disclaimer

This document is being supplied to the recipient only, on the basis that the recipient is reasonably believed to be a professional market participant in the precious metals market. It is directed exclusively at entrepreneurs and especially not intended for the use of consumers.

The material contained in this document has no regard to the specific investment objectives, financial situation or particular need of any specific recipient or organisation. It is not provided as part of a contractual relationship. It is not and should not be construed as an offer to sell or the solicitation of an offer to purchase or subscribe for any investment or as advice on the merits of making any investment.

This report has been compiled using information obtained from sources that Heraeus and SFA (Oxford) Ltd ("SFA") believe to be reliable but which they have not independently verified. Further, the analysis and opinions set out in this document, including any forward-looking statements, constitute a judgment as of the date of the document and are subject to change without notice.

There is no assurance that any forward-looking statements will materialize. Therefore, neither SFA nor Heraeus warrants the accuracy and completeness of the data and analysis contained in this document.

Heraeus and SFA assume no liability for any losses or damages of whatsoever kind, resulting from whatever cause, through the use of or reliance on any information contained in this document. However, in so far as a liability claim exists under German law, Heraeus and SFA shall have unlimited liability for willful or grossly negligent breach of duty.

Unless expressly permitted by law, no part of this document may be reproduced or distributed in any manner without written permission of Heraeus. Heraeus specifically prohibits the redistribution of this document, via the internet or otherwise, to non-professional or private investors and neither Heraeus nor SFA accepts any liability whatsoever for the actions of third parties in reliance on this document.

9