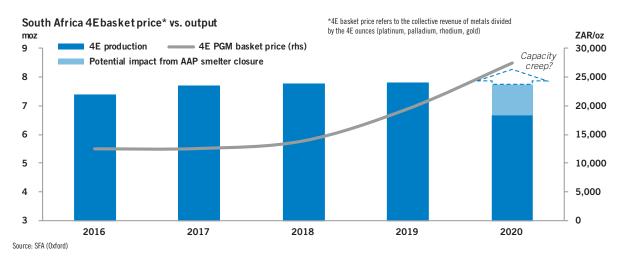


South African supply: short-term loss, long-term gain

Anglo American Platinum has declared a force majeure following the temporary shutdown of its converter plant at the Waterval smelter, which could result in a drop of up to 500 koz platinum, 300 koz palladium and 70 koz rhodium from refined production this year. The mining company has reduced its guidance on a 6E basis by 20%. However, there are several processing options that could be considered. Processing problems are not uncommon in South Africa, and producers rally around in order to minimise output disruption.

Moreover, a high PGM basket price in South Africa is incentivising mining capacity creep by postponing closures of marginal shafts. The rand basket price (4E) increased by 49% in 2019, buoyed by high palladium and rhodium prices and a weaker rand. Impala Platinum has postponed the planned closure of 1, 12 and 14 shafts at its Rustenburg mine after improved operational performance and higher mine revenues boosted company earnings in the first half of FY'20.



These marginal shafts will continue to operate while the basket price is supportive and remain operational until the market turns down or they deplete. Impala's 1 shaft will be mined for its remaining life of three years (originally due to cease operating last summer). Additionally, 12 and 14 shafts will be kept online for the foreseeable future, securing more than 10,000 jobs for the time being. The shafts were originally planned to close in April-June this year.

Mine supply creep will do little to relieve market tightness for palladium and rhodium but is a risk to the downside for platinum prices, although near-term supply growth is most needed for rhodium as an exceptionally tight market. Prices have risen by more than 100% so far this year owing to stronger automotive demand from higher loadings. Anglo American Platinum and Sibanye-Stillwater, two of the largest PGM producers, previously made it clear they are unlikely to expand production in 2020 to minimise oversupply of platinum. While a high basket price now means marginal shafts are economical, expanding mine supply only pushes the platinum market into even greater surplus, keeping the price suppressed.

From South Africa's wider perspective, high prices could motivate more supply from other producers over the next few years, but palladium and rhodium prices are expected to remain firm, with modest supply growth unable to balance the markets.

PRECIOUS METALS REVIEW

79 **Au**

Gold

	Close	Weekly change	High	Date	Low	Date
\$/oz	1,664	4.60%	1,690	06/03/2020	1,584	02/03/2020
€/oz	1,470	1.65%	1,496	06/03/2020	1,422	02/03/2020

Emergency rate cut lifts gold. The Fed announced an emergency 50 bp rate cut last Tuesday to 1.25%, only two weeks before the next FOMC meeting which is almost unprecedented. The previous week saw stocks plunge and Treasury bond yields fall to new lows. Safe havens benefitted from the news, with gold rising sharply to \$1,644/oz after the announcement. Treasury bonds followed suit, with the 10-year yield falling below 1% for the first time. Concerns remain over how effective a rate cut really is in the face of a pandemic. Nominal interest rates at 1.25% leaves very little room for further cuts and pushes real rates into more negative territory, which is price supportive for gold.

Are central banks becoming price sensitive? With the gold price at record highs in many currencies, central bank gold purchasing decreased by 57% in January year-on-year, to 21.5 t (source: World Gold Council). It was also well below the monthly average level of net purchases in 2019 (52.3 t). Monthly net purchases have been declining since August 2019. Turkey accounted for 75% of total purchases in January with 16.2 t. Central bank gold demand totalled 650 t in 2019, 1% lower year-on-year but still the second-highest level of annual purchases in the past 50 years. The recent trend of declining purchases could indicate that central bank demand may be down again slightly this year, although it is still early in the year.

Ag Silver

	Close	Weekly change	High	Date	Low	Date
\$/oz	17.15	2.26%	17.58	06/03/2020	16.65	02/03/2020
€/oz	15.17	-0.24%	15.59	06/03/2020	14.97	02/03/2020

The world's largest primary silver producer's output contracted by 11.6% last year. Fresnillo's primary silver production fell significantly short of expectations last year, declining to 54.6 moz owing to lower than expected ore grades. Production is predicted to stabilise this year, with a forecast of 51-56 moz, increasing from 2021. The Silver Institute estimates total silver supply

will grow by 2% in 2020, which would make it the first annual increase in five years. Primary silver supply is declining but is offset by growth in by-product supply (gold, lead/zinc, copper) which contributes more than two-thirds of metal to the market. Even with a rising price, silver underperformed gold last week which is not an encouraging sign.

Pt Platinum

Į			Close	Weekly change	High	Date	Low	Date
	\$/	0Z	894	3.18%	905	06/03/2020	857	02/03/2020
	€/	0Z	790	0.29%	799	06/03/2020	764	06/03/2020

Platinum price boosted by news of South African output problem. On Friday the platinum price jumped as much as \$32/oz on the news that Anglo Platinum had to close the converter plant at its Waterval smelter which would result in drop of 500 koz of refined metal production this year, with the pipeline stock that would build up as a result likely being processed in 2021. Even a cut

in platinum production of this magnitude would not come close to balancing the market this year (before investment). The platinum price is still down \$65/oz this year even after Friday's rally. The weak fundamental picture means the higher platinum price may prove to be temporary.



Pd Palladium

	Close	Weekly change	High	Date	Low	Date
\$/oz	2,549	-2.47%	2,681	02/03/2020	2,418	04/03/2020
€/oz	2,251	-4.87%	2,416	02/03/2020	2,163	06/03/2020

China's car sales plunged 80% year-on-year in February, according to preliminary data from the China Passenger Car Association, and the vehicle inventory alert rose to 81.2 (>50 indicates market weakness). As expected, February fared even worse than January, despite a pick-up in sales towards the end of the month. Local authorities have started to put in place incentive plans to stimulate demand and some automakers have also turned to online platforms, enabling customers to view cars through virtual-reality technology and order online. Demand appears to be picking up slightly now, but the market consensus is for another two months of suppressed activity. Chinese autocatalyst demand is the largest palladium market (2.2 moz last year) and the fallout from the coronavirus outbreak is expected to wipe around 100 koz from Chinese demand this year. The short term easing of demand has been offset by the news that output of

300 koz of refined metal from Anglo Platinum is to be curtailed this year. That news caused the price to rally by \$92/oz on Friday although palladium didn't hold on to all of those gains. With conflicting demand and supply issues the price is likely to remain volatile.

 ${
m CO_2}$ piles pressure on carmakers. Average ${
m CO_2}$ emissions in Europe increased to 121.8 g/km last year from 120.5 g/km in 2018 (source: JATO). Despite growth in electric vehicle sales, the move away from diesel and higher demand for SUV models have meant ${
m CO_2}$ emissions increased. Automakers have an even bigger task ahead of them this year to significantly reduce ${
m CO_2}$ emissions in order to meet new European targets (95 g ${
m CO_2}$ /km). As a result, sales of petrol hybrids are expected to witness strong growth this year, supporting palladium demand.

Rhodium, Ruthenium, Iridium

 Rhodium
 Ruthenium
 Iridium

 Reporting week
 \$13,450/oz
 \$265/oz
 \$1,520/oz

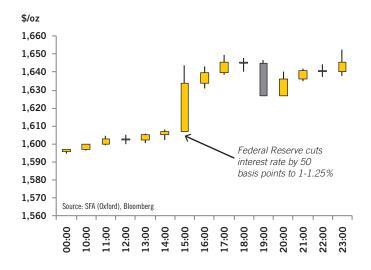
 Previous week
 \$13,000/oz
 \$265/oz
 \$1,520/oz

Ruthenium's price advantage sees it substituted for iridium. NGK, the largest spark plug manufacturer, has developed a new spark plug which uses ruthenium tips instead of iridium. Ruthenium has a significant price advantage over both platinum and iridium, as well as superior oxidation resistance, hardness and a high melting point. NGK's ruthenium spark plugs create more power while using less fuel, which is important for automakers who are under pressure to improve engine efficiency and help reduce CO₂ emissions. Other end-uses for ruthenium (excluding chemical, electrical and electrochemical) account for 14% of global demand, around 160 koz. Spark plugs are a small market but with strong growth potential due to price competitiveness (ruthenium is currently more than five times cheaper than iridium).

Rhodium availability tighter in the short term. The rhodium price was down \$800/oz last week (-6.15%), dragged down by an increasingly uncertain auto market outlook. Then Anglo Platinum's news of a supply problem saw the price rally to a new record on Friday. In the near term the market may tighten but Anglo will find a way to process its backlog of material because it represents too much revenue for it to sit in a stockpile while the plant is fixed.

Ruthenium and iridium prices were unperturbed by the news from Anglo, but there is likely to be some short-term impact on their supply from South Africa too.

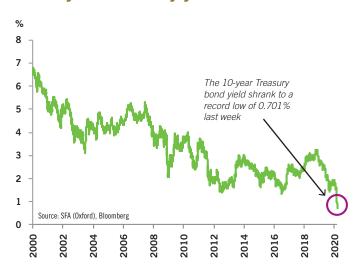
Intraday gold price 3 March



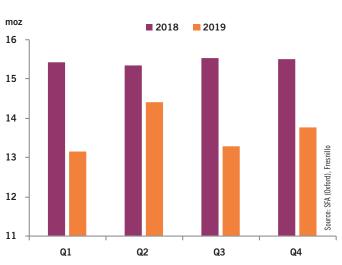
SA rand: US dollar exchange rate



US 10-year Treasury yield



Fresnillo silver production 2018-19



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 United States of America Phone: +1 212 752 2180 tradingny@heraeus.com

China

Phone: +86 21 3357 5658 tradingsh@heraeus.com

The **HERAEUS PRECIOUS** APPRAISAL produced in collaboration with:

SFA (Oxford) Ltd United Kingdom Phone: +44 1865 784366 www.sfa-oxford.com



The Oxford Science Park, Oxford, United Kingdom, OX4 4GA

www.herae.us/trading-market-report

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.

Prices quoted are interbank (offer) prices for gold, silver, platinum and palladium.

Prices quoted are interbank (offer) prices for gold, silver, platinum and palladium. Rhodium, ruthenium and iridium quotes reflect the Heraeus offer price at the time of writing.