

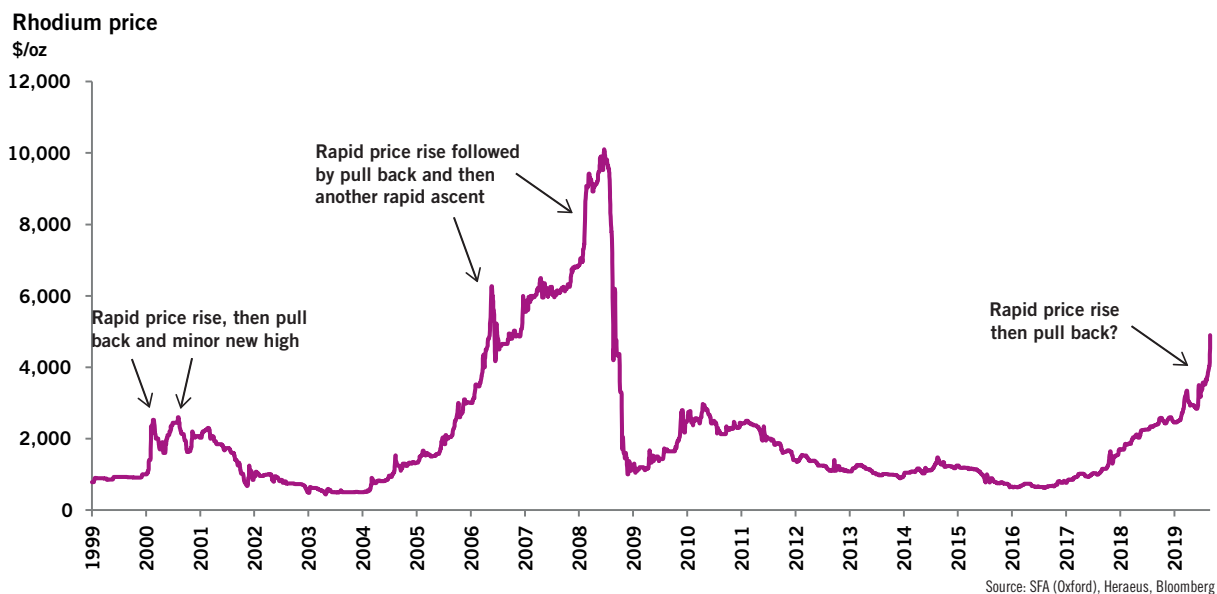


MARKET SPOTLIGHT

Is rhodium's rally over?

Tightening emissions legislation is lifting rhodium requirements for autocatalysts. Rhodium is the key metal for dealing with NO_x and all the major car markets are implementing reduced NO_x emission limits, resulting in higher loadings on autocatalysts.

Despite stronger demand, upward price acceleration will likely slow. Supply bottlenecks in South Africa have also contributed to market tightness, but these should ease over the next few months. China is the largest passenger car market and sales there have fallen by 11.4% in the first seven months of the year. US light-vehicle sales were down by 1.5% over the same period. European car sales were flat in July, but the market contracted by 3.1% in the first half of 2019. Despite this, the rhodium price has been on a remarkable run as the increases in loadings have been outweighing the fall in car sales, supporting demand. The rhodium price recently gained \$975/oz, or 23%, in a week and rhodium has doubled in price this year. History shows that rapid gains such as these are not sustainable.



More stringent NO_x emissions standards for all passenger cars came into force in Europe this month. The allowable limit will be reduced further for new models in January and that lower limit will be applied to all vehicles from January 2021. The US is also incrementally reducing the allowable level of NO_x emissions over the next few years. In China, the introduction of China 6b in 2023 will require higher rhodium loadings. However, with the introduction of China 6 being brought forward to this July in some cities, ahead of nationwide implementation in July 2020, some car manufacturers have moved to producing China 6b compliant vehicles early. With emissions standards being tightened in all the major car markets over the next few years, the rhodium market looks likely to tighten again and the price to rally further.



PRECIOUS METALS REVIEW

79 Au Gold

	Close	Weekly change	High	Date	Low	Date
\$/oz	1,521	-0.40%	1,557	04/09/2019	1,503	06/09/2019
€/oz	1,378	-0.88%	1,414	03/09/2019	1,362	05/09/2019

Gold price hits new high despite dollar strength. The gold price held up well last week, even with the dollar index hitting a new high for the year at 99. Gold ETF buying has been steady, and the speculative futures net long position edged down slightly, but remained high at 29.6 moz as of 27 August. The price is a little demanding at this level and so the rally may pause in the near term.

Indian gold imports fell in August. Unofficial reports suggest that Indian gold imports fell to around 30 t in August, which is lower than in July and much lower than in August 2018. The high gold price and slower economic growth have inhibited consumer purchasing and reduced demand in the second largest gold market.

47 Ag Silver

	Close	Weekly change	High	Date	Low	Date
\$/oz	18.76	2.08%	19.65	04/09/2019	18.03	06/09/2019
€/oz	16.99	1.58%	17.84	04/09/2019	16.35	06/09/2019

Silver beats gold again. With silver gaining 2% last week, the gold:silver ratio has dropped to 81. The silver price rally has not put off investors in Australia where the Perth Mint's silver bullion sales were 1.17 moz in August, well above the average this year of 800 koz/month. However, in the US, Silver Eagle coin sales dipped to 1.0 moz.

Silver imports to India surged in July. In India, the largest silver market, silver imports tripled year-on-year to 1,041 t in July. With the increase in import duty in July and the gold price hitting new highs, it seems that gold simply became too expensive and silver looked much more attractive. Around a third of India's silver demand is used for jewellery.

78 Pt Platinum

	Close	Weekly change	High	Date	Low	Date
\$/oz	964	3.00%	998	05/09/2019	925	02/09/2019
€/oz	873	2.48%	904	05/09/2019	841	06/09/2019

The platinum price rallied by 3% last week reaching \$998/oz, its highest level in more than a year, before pulling back. The fundamental outlook for platinum has not changed, so it is unclear what has caused the surge in the price.

Impala increased its refined platinum output. Impala, the third largest platinum miner, produced 1.53 moz of refined platinum in its financial year to June, up 4% year-on-year, and near the top end of guidance of 1.5-1.6 moz. Guidance for the next financial year shows that slightly lower platinum production of 1.45-1.55 moz

is expected, owing to restructuring planned for the Rustenburg operation. The high palladium and rhodium prices and weaker rand have helped to increase revenues. This means that formerly marginal sections are now profitable and will be mined for longer than previously planned. Production at Impala, and overall platinum production in South Africa, has been boosted this year by pipeline stocks being processed, so a dip in output next year is to be expected. However, with no improvement in demand, the platinum market remains in surplus and the price is predicted to ultimately head lower.



PRECIOUS METALS REVIEW

⁴⁶Pd **Palladium**

	Close	Weekly change	High	Date	Low	Date
\$/oz	1,552	0.82%	1,569	05/09/2019	1,519	06/09/2019
€/oz	1,406	0.38%	1,421	04/09/2019	1,381	06/09/2019

Substitution away from palladium in industrial applications is being accelerated by the high price (up 21% this year), particularly in dentistry and various electrical components. Along with softening industrial demand, high prices are also encouraging recyclers to process greater volumes of autocatalysts, boosting palladium supply. This increase in recycling volumes is supported by a rising number of vehicles being scrapped and higher loadings from Euro 5 catalysts. However, despite thrifting and increased recycling, the market remains in deficit, which is supportive of the high palladium price.

Car sales held up in Germany, despite the economic slowdown. In Germany, passenger car sales slipped 1%

year-on-year in August, but cumulative sales for the year are up 1%. Car sales over the first eight months of the year in the other four major European markets (France, Italy, Spain, and the UK) are all down. Cumulative sales in France, Italy and the UK were all 3% lower and in Spain the decline was 9%. Last year, sales were skewed by a sharp rise ahead of the introduction of the WLTP emissions testing regime in September and a drop-off following its introduction. Considering that this makes the comparison more difficult, this outcome is not so negative. Overall sales are expected to be slightly higher this year and continue to grow next year, expanding palladium demand.

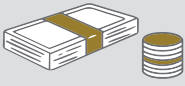
⁴⁵Rh ⁴⁴Ru ⁷⁷Ir **Rhodium, Ruthenium, Iridium**

	Rhodium	Ruthenium	Iridium
Reporting week	\$4,450/oz	\$250/oz	\$1,460/oz
Previous week	\$5,150/oz	\$250/oz	\$1,460/oz

The commercialisation of MAMR maintains ruthenium use in HDDs and should support the ruthenium price. Western Digital will soon launch its new ruthenium-based HDD technology and the company, the second largest hard disk drive (HDD) manufacturer, announced that it will begin shipping samples of its next-generation, ruthenium-based HDD technology over the next four months, with volume shipments expected to follow from H1'20. This new technology, microwave-assisted

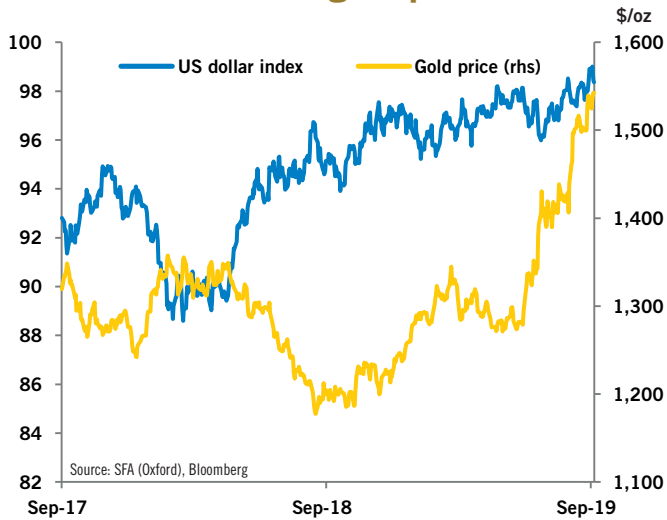
magnetic recording (MAMR), will initially be utilised in the fast-growing enterprise (data centre) sector, which requires high-capacity, multi-disk HDDs (more disks equals more metal).

Rhodium's rapid rally ended last week as the price dropped by \$700/oz. Ruthenium and iridium prices continued to be untroubled by the volatility in the other PGM prices and were unchanged.



TRENDS AND INVESTMENTS

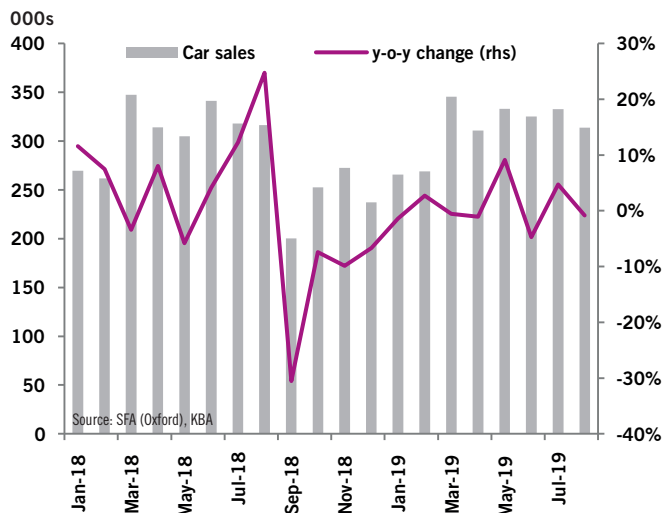
US dollar index and gold price



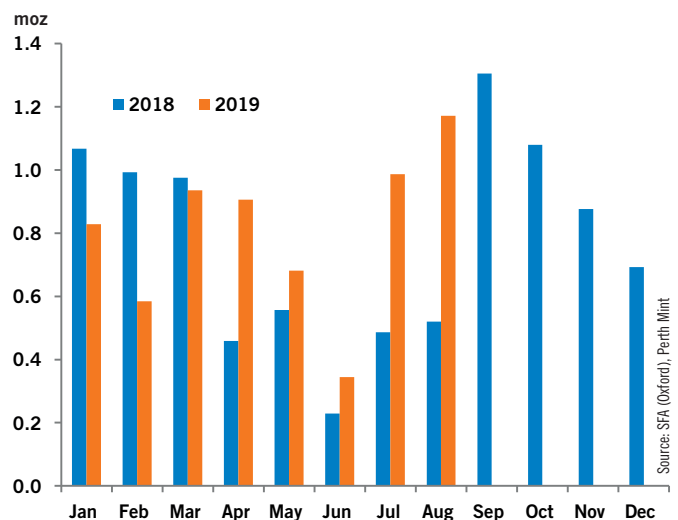
Platinum price



German car sales



Perth Mint silver bullion sales



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