

HERAEUS PRECIOUS APPRAISAL

Heraeus

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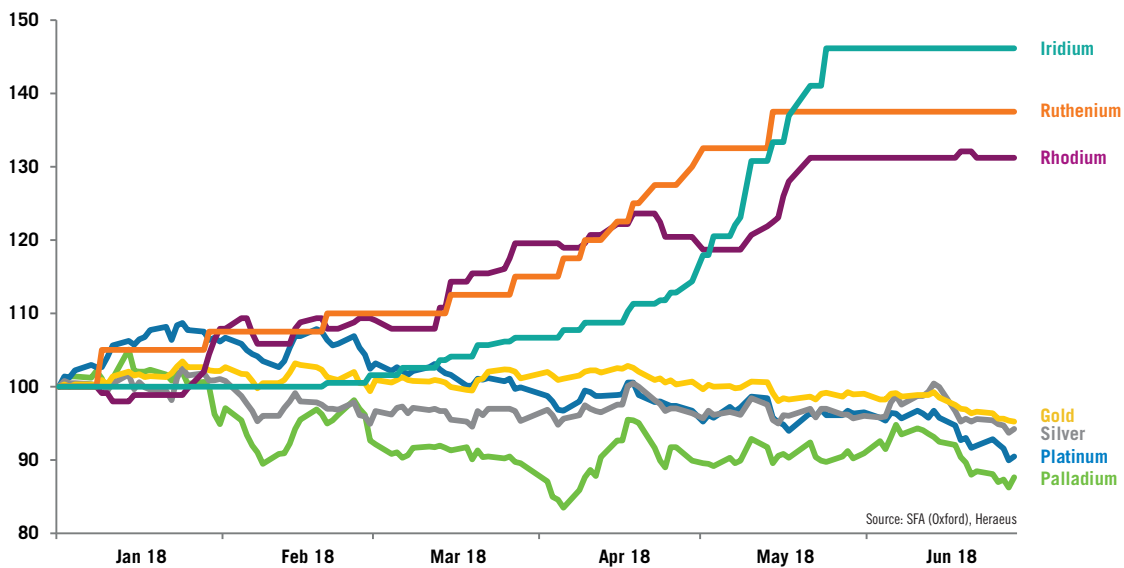


MARKET SPOTLIGHT

Iridium outperforms, palladium underperforms in H1'18

The small PGMs have been the outperformers, with rhodium, ruthenium and iridium prices climbing 31%, 35% and 45% respectively in the first half of the year. Electrochemical demand for iridium and ruthenium has strengthened and ruthenium electronics demand remains firm, as does rhodium buying for autocatalysts in China.

Indexed precious metal price performance



Source: SFA (Oxford), Heraeus

Gold and silver were down 5% and 6% respectively in the first half. A strong dollar and rising US interest rates have been surpassing any safe haven flows, spurred by escalating trade tariffs and political tensions. Inflation is picking up, but if dollar strength persists then gold and silver will struggle in dollar terms in the second half of the year.

The platinum price slipped by 10% in H1'18 as demand expectations were lowered for its two biggest end-use sectors of Chinese jewellery and Western European auto demand. Not only have futures traders gone net short, but also ETF investors have been selling off their holdings. Sentiment is weak but the price is oversold and so it could bounce in the short term. Longer term, platinum looks by far the weakest market.

Palladium is the surprise underperformer this year, as profit-taking has seen the price decline by 17% from its January high. US auto sales look set to slip again this year, although sales in China have been robust. However, the market remains tight and it would not take much additional buying interest for the price to resume its upward trajectory.

Supply cuts are likely in South Africa. While a weakening rand has given the PGM miners a revenue boost, the highest cost mine shafts are still loss-making and further production cuts could occur later this year. While this might stabilise the platinum market, it will reduce output for the other PGMs and restrict supply in already tight markets, giving palladium a boost. Meanwhile rhodium, ruthenium and iridium could continue to outperform the other better known precious metals.



PRECIOUS METALS REVIEW

79 Au Gold

	Close	Weekly change	High	Date	Low	Date
\$/oz	1,254	0.13%	1,261	04/07/2018	1,238	03/07/2018
€/oz	1,069	-0.39%	1,080	04/07/2018	1,064	03/07/2018

It seems investors are unsure what to think about gold as its perception as a safe haven has not matched with the reality of its reactions to news over the last several months.

Gold prices rebounded last week after reaching a new 2018 low of \$1,238/oz, within \$2/oz of the low reached in December 2017. It is still to be confirmed whether this is the start of a recovery or simply a pause before the price breaks below this support level. This follows three consecutive weeks of losses which saw the gold price drop 3.6% from \$1,299/oz to \$1,253/oz before hitting its low early on Tuesday. Gold saw a similar drop of a little over \$50/oz in April after which it stabilised for a month around \$1,300/oz. Silver also hit a new low for 2018 of \$15.77/oz, a loss of 9% from the \$17.32/oz peak less than three weeks earlier. Gold ETF holdings have also declined 3.3% (2.4 moz) since their peak in mid-May. While the US dollar remains strong the gold price will struggle, as it both depresses gold and attracts more safe-haven demand.

Following three consecutive years of decline, Luk Fook, the second-largest Chinese jeweller, reported revenue growth of 13% in its annual report for FY2018 (year ended 31 March 2018).

Chinese gold jewellery demand already accounts for over a sixth of global gold demand, according to the World Gold Council. Wealth growth in the country over the next 5-10 years should increase luxury spending and result in improving gold jewellery sales. Luk Fook, Chow Tai Fook and Chow Sang Sang make up the big three Hong Kong listed jewellers, and they have now all reported growth in the market. Luk Fook reported that gold pieces remained the product of choice but gem-set jewellery had outperformed, increasing 17.4% year-on-year compared to 10.2% for gold and platinum products, to make up 45% of revenue. Luk Fook reports continued strength at the beginning of FY2019. The company is optimistic in the long term from the growth of the middle classes, but highlights short-term uncertainty around the US-China trade war and geopolitics.

47 Ag Silver

	Close	Weekly change	High	Date	Low	Date
\$/oz	15.98	-0.93%	16.15	04/07/2018	15.77	02/07/2018
€/oz	13.62	-1.44%	13.83	04/07/2018	13.58	03/07/2018

Sales of silver and gold coins from the US Mint have been poor in the first half of 2018. Sales of silver coins in June came to just 435 koz, a reduction of 56% from last year. Year-to-date (YTD) this brings sales to 6.8 moz, down 44% year-on-year and the worst H1 performance since 2007. Gold has performed little better, down 40% YTD to 116 koz in H1'18 and, again, the poorest sales figure since 2007.

Global semiconductor sales recorded the highest monthly total on record in May, according to the Semiconductor

Industry Association. Sales reached \$38.7 billion, a hike of 21% year-on-year and the 14th consecutive month that sales growth has been above 20%. This also represents a 49% increase on May 2016. As well as direct demand, the rise in semiconductor sales is also an indicator for the silver demand segment of brazing alloys and solder, which are used in the production of electronics. The World Semiconductor Trade Statistics, which compiles the sales data, expects semiconductor sales to grow 12.4% in 2018, with expansion in all market sectors and regions.

78 Pt Platinum

	Close	Weekly change	High	Date	Low	Date
\$/oz	843	-1.33%	848	05/07/2018	798	03/07/2018
€/oz	718	-1.86%	726	03/07/2018	686	03/07/2018

Total automotive platinum demand from China could be lifted by 300 koz in 2021 as China introduces its new China VI emissions standards. Assuming that the legislation will be strictly enforced and implemented on time, all new heavy goods vehicles (HGVs) after July 2021 will have a diesel particulate filter (DPF) installed. HGVs

currently make up over 20% of platinum demand from the automotive sector and the requirement for DPFs will increase the average loadings of platinum per vehicle. China has the highest annual sales of HGVs at over two-fifths of the global total.



PRECIOUS METALS REVIEW

⁴⁶ Pd **Palladium**

	Close	Weekly change	High	Date	Low	Date
\$/oz	950	-0.50%	954	03/07/2018	938	02/07/2018
€/oz	810	-0.98%	820	03/07/2018	803	06/07/2018

US auto sales grew 5.2% in June compared to June 2017 and sales in the first half of 2018 are up 1.9%.

All of the major automakers saw growth for the month as light trucks outperformed cars and even counteracted declines in car sales. The popularity of this vehicle type is still primarily based on a strong US economy and low unemployment. However, sales in the second half of the year face many headwinds. Firstly, tariffs on aluminium and steel could drive up vehicle prices. Second, high gasoline prices may also start to take a toll if they are

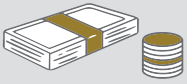
sustained and could disincentivise new sales, particularly in trucks which could result in lower palladium demand. Third, rising interest rates will make vehicle financing more expensive and may result in some consumers being priced out of the market. Finally, possible tariffs on European vehicle imports may also affect sales. It is possible that sales could fall enough to put the annual figure in decline, which could then lead to further weakness in the palladium price.

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

	Rhodium	Ruthenium	Iridium
Reporting week	\$2,250/oz	\$270/oz	\$1,415/oz
Previous week	\$2,250/oz	\$275/oz	\$1,425/oz

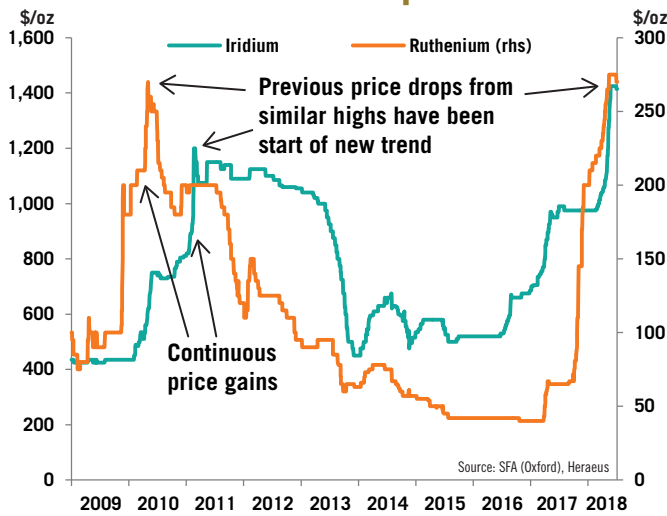
Iridium and ruthenium prices slipped \$10/oz and \$5/oz, respectively, on Monday of last week, the first time either metal has seen a daily decrease in their price for over nine months. During this period, iridium and ruthenium saw 24 and 27 price increases, respectively. At the risk of reading too much into a small price movement, previous occasions that prices have dropped from a peak were a sign of a trend change. Ruthenium

peaked at \$270/oz in May 2010 and then dropped by 33% to \$180/oz by October of that year, seeing only one increase of \$5/oz on the way. In comparison, iridium reached a high of \$1,200/oz in February 2011 but then moved sideways in a range between that price and \$1,075/oz for a year and a half. From August 2012 to December 2013 it then declined by 58% to \$450/oz without interruption.

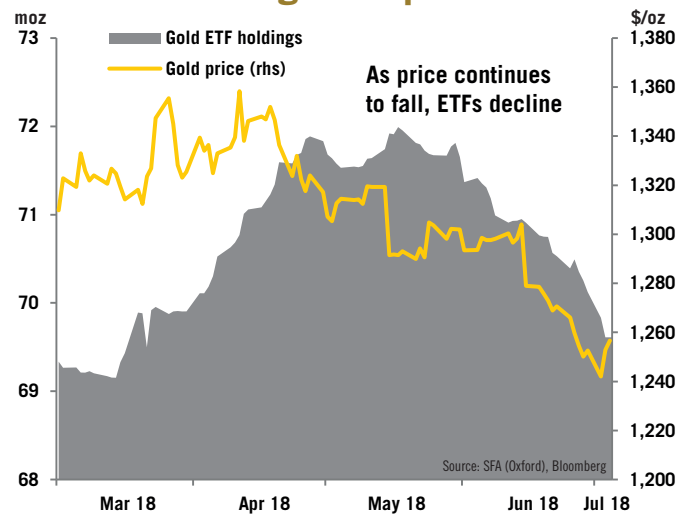


TRENDS AND INVESTMENTS

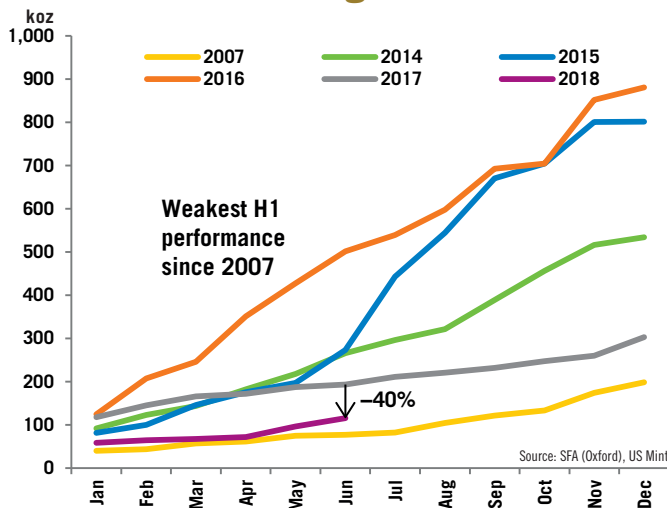
Iridium and ruthenium prices



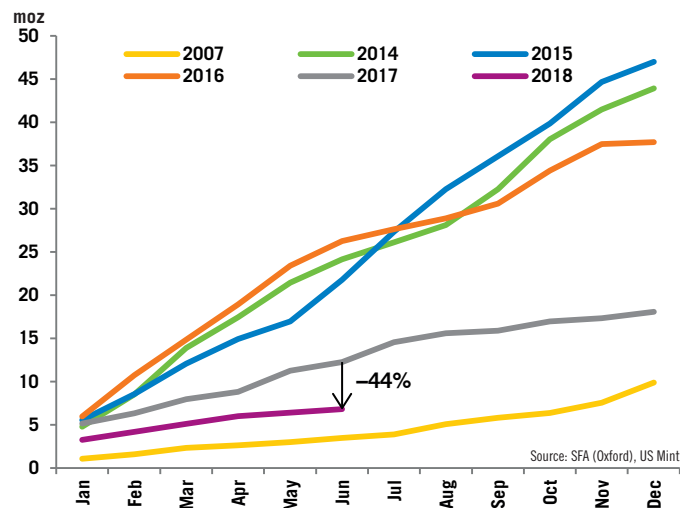
Gold ETF holdings and price



US Mint cumulative gold coin sales



US Mint cumulative silver coin sales



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