HERAEUS PRECIOUS APPRAISAL

Heraeus

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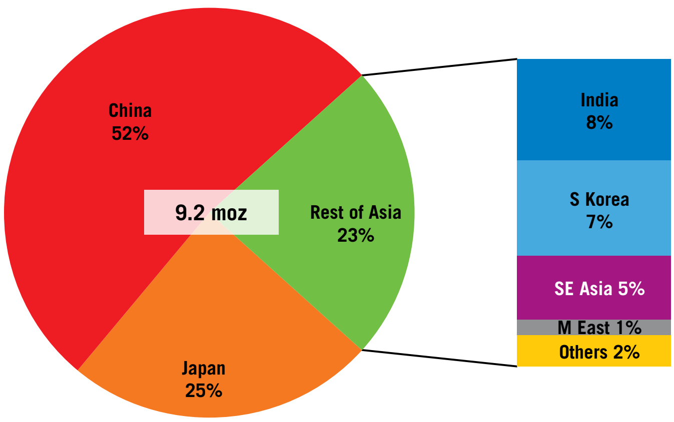
MARKET SPOTLIGHT

China's PGM demand to grow by >20%; Heraeus opens facility

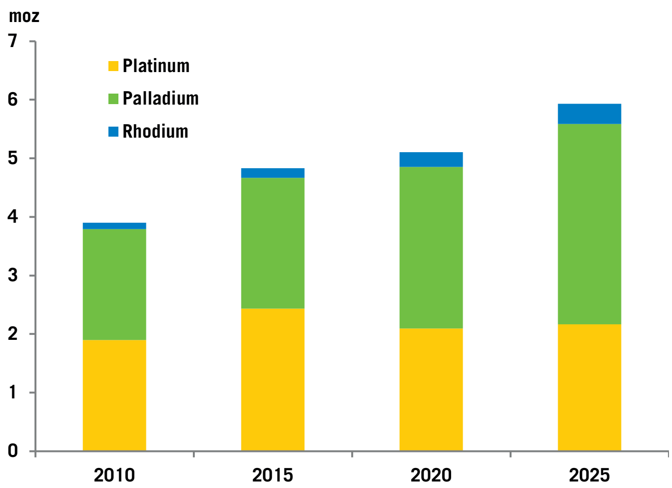
In September, Heraeus opened a $120 million precious metals factory in Nanjing, China. Combining advanced technologies and processes from the company's other plants in Germany, South Africa and China, the Nanjing facility is the world's most advanced precious metals factory. With this new facility, Heraeus is extending the base for its business in China and consolidating its position as a trader, processor and recycler of precious metals for China's growth industries. The 84,000 square metre facility, located in the Nanjing Jiangbei New Material Science and Technology Park, will significantly enhance the company's capacity to refine and recycle precious metals, especially platinum-group metals (PGMs), as well as produce chemical products.

Over the next decade, the requirement for PGMs in China is forecast to grow by 20%. China accounts for half of Asia's PGM usage of 9.2 moz, which in itself accounts for half of global demand for PGMs. The country is the largest consumer of palladium (2.5 moz, 28%) and platinum (2.1 moz, 25%) and the second largest market for rhodium (210 koz, 20%).

Asia PGM demand in 2017: by region



China PGM demand outlook



Source: SFA (Oxford)

China's overreliance on palladium imports was a strong motivation for Heraeus to build its new facility. Over the last couple of years, China and Hong Kong's imports of palladium have been close to 1.7 moz p.a., while local ore supply meets only a tiny fraction of China's requirements. Palladium is set to become increasingly strategic as China's requirements are projected to increase by over 30% over the next decade. The new Heraeus factory is designed for growth and so its capacity can be expanded accordingly.

Recycling will become increasingly important to service Chinese clients. With the new factory, Heraeus is well positioned to recycle chemical and other catalysts and manufacture precious metals products for the chemicals, pharmaceutical, oil, petrochemicals, agro-chemical, and silicones industries, as well as to provide coatings for the ceramics and glass industries.

PRECIOUS METALS REVIEW

79 Au Gold

	Close	Weekly change	High	Date	Low	Date
$/oz	1,196	-0.07%	1,211	21/09/2018	1,192	21/09/2018
€/oz	1,019	-0.79%	1,033	19/09/2018	1,015	21/09/2018

Gold tracking dollar closely as trade war escalation only makes small waves. The White House confirmed that the tariffs on $200 billion of Chinese goods will take effect from 24 September and China quickly responded with $60 billion of its own tariffs. While this marks a clear escalation of the trade war, the rates of 10% and 5-10% for the US and China's tariffs, respectively, were below the feared levels of 25% and 10-20%. Consequently, the markets largely shrugged off the news; the Dollar Index dropped 0.7% last week while gold only moved -0.1%. The correlation between the dollar and gold has strengthened in this flat period over the last few weeks. The dollar, gold's driving impulse, now seems hemmed between 'fear of heights' (its sharp rise this year) on the one hand and the economy's relative strength, continuing trade tensions and a 10-year Treasury yield above 3% on the other. On the 10th anniversary of the 2008 financial crash, some commentators are recommending that investors switch from equities to gold and, given the stretched valuation of equity markets, this is understandable. However, gold, remember, rose after 'The Crash', mainly thanks to the fear that 'unconventional' monetary policy would stoke inflation. This time, there is no chance that a repeat of that policy would stimulate inflation fears and a flight for gold.

47 Ag Silver

	Close	Weekly change	High	Date	Low	Date
$/oz	14.32	1.33%	14.43	21/09/2018	14.07	17/09/2018
€/oz	12.21	0.65%	12.51	18/09/2018	11.65	18/09/2018

New fears of an entrenched trade war hurt silver demand. The latest round of US trade tariffs and the rapid Chinese response tend to reinforce the notion that there is no imminent route to trade peace that would 'save face' on both, determined sides (Alibaba Chairman, Jack Ma, suggested the trade war could continue for 20 years). Forecasts of global GDP growth, key for industrial metal prospects, including silver, are consequently being revised down. The gold:silver ratio has calmly been maintaining a level above 83 for the last 15 days. This, and the steady widening of the net short position by large speculators in futures markets, suggests buyers are becoming accustomed to a silver price near its cheapest relative to gold for 23 years.

78 Pt Platinum

	Close	Weekly change	High	Date	Low	Date
$/oz	826	3.02%	839	21/09/2018	792	17/09/2018
€/oz	704	2.32%	713	21/09/2018	681	18/09/2018

Strong EU vehicle sales growth in July and August but diesel still falling. Last week the European Automobile Manufacturers Association (ACEA) reported 10.5% and 31.2% year-on-year growth in July and August, respectively. These are the two highest growth rates since March 2017, but are not wholly representative of underlying strength in the market. The introduction of the new WLTP emissions test from 1 September led retailers to offer large discounts and pre-register vehicles before the deadline. The ACEA has also revealed that diesel's market share in Q2'18 fell to 36.3% from 45.2% for the same period in 2017. Additionally, electrically chargeable vehicle sales grew 46%, although they still only make up 1.7% of the market. Overall, this is a negative picture for platinum demand as diesel continues to rapidly decline, but is mostly to the benefit of palladium for now.

A $163 million Chinese investment in Ballard is another sign of Chinese FCEV demand growth. The investment, by Weichai Power, includes the creation of a joint venture with the aim of supporting the growing Chinese fuel cell vehicle market. The technology relating to a new fuel cell stack designed for heavy duty vehicles, which Ballard revealed just last week, is being shared with this JV suggesting a focus on the lorry and bus markets. This is a logical application of hydrogen fuel cells due to their long range and quick centralised refuelling. As part of the agreement, Ballard is to supply at least 2,000 fuel cell modules to Weichai Power by 2020. Furthermore, Air Liquide recently partnered with STNE which operates 500 fuel cell trucks in China and aim to grow that number to 7,500 by 2020. Fuel cells have the potential to become a significant long-term source of platinum demand, as the announced numbers of just these two deals suggest demand in the order of a few koz.

PRECIOUS METALS REVIEW

46 Pd Palladium

	Close	Weekly change	High	Date	Low	Date
$/oz	1,054	6.94%	1,058	21/09/2018	976	17/09/2018
€/oz	899	6.37%	900	21/09/2018	839	17/09/2018

Sibanye-Stillwater's acquisition of Lonmin receives recommendation from South African Competition Commission. Approval from the Competition Tribunal in South Africa is the last major hurdle before the merger goes to a shareholder vote and the green light from the Commission makes this likely. The recommendation came with conditions aimed at limiting the impact of retrenchments and continuing Lonmin's social and labour commitments. The CEOs of both companies welcomed the announcement and were accepting of the conditions, one of which is that Sibanye-Stillwater should embark on certain short-term mining projects subject to improvements in the platinum price and viable mining costs. Should the deal be completed, which now seems probable, output of palladium and platinum from Lonmin's mines is likely to be curtailed as their high mining costs put them at the top end of the cost curve. The conditional mining projects might reduce the impact of cuts but, as the platinum price is not expected to recover soon, they are unlikely to be fully developed. As with Impala, any cuts would likely be spread over several years making the immediate impact small but expanding within a few years. Over the next few years, the potential reduction in supply from Lonmin and Implats would shift the market towards balance.

Palladium has broken back above $1,000/oz for the first time since 18 June. The move on last Tuesday also broke above the 200-day moving average and palladium went on to gain $53/oz by the end of Wednesday, finishing the week at $1,054/oz. Platinum also gained, but only by $23/oz over the same period, which resulted in palladium's premium increasing to $220/oz and the platinum:palladium ratio dropping below 0.8 to the lowest level since early 2001. This trend is unsurprising given palladium is in a deficit market and platinum has a surplus. Non-commercial traders have been unwinding their short positions in palladium futures which were 0.39 moz as of 11 September, down from 1.00 moz on 21 August, and below the year-to-date average of 0.45 moz.

77 Ir 44 Ru 45 Rh Rhodium, Ruthenium, Iridium

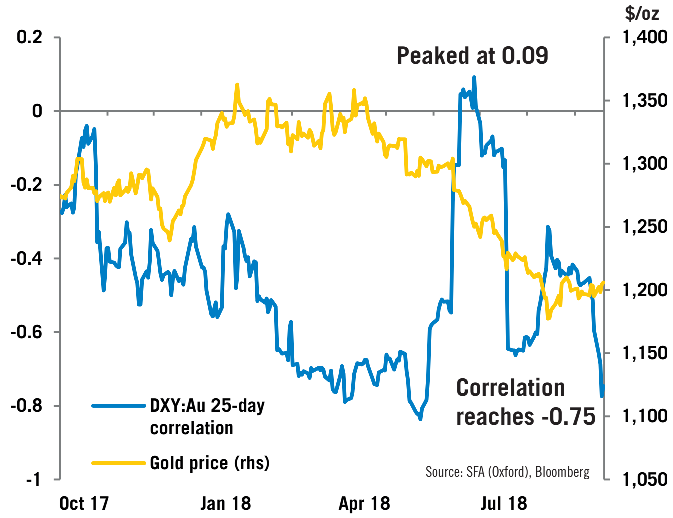
	Rhodium	Ruthenium	Iridium
Reporting week	$2,585/oz	$285/oz	$1,470/oz
Previous week	$2,425/oz	$280/oz	$1,470/oz

South African supply cuts are a greater concern for small PGMs than for platinum. At New York Platinum Week in the second week of September, one of the messages being heard was that consumers of iridium and ruthenium were worried about the future availability of metal. The market is already tight and the expected supply cuts over the next few years could yet push the prices higher. Consequently, the impacts of the cuts on the small PGM markets are likely to be felt much sooner than for platinum and are possibly a factor already.

Rhodium jumped up $160/oz to $2,585 and ruthenium gained $5/oz to $285/oz which, in relative terms, is a 7% and 2% increase respectively. The rate of price gains appears to be picking up again; rhodium, ruthenium and iridium have gained 10%, 6% and 3%, respectively, in the last month having moved only 5%, -2% and 4% in the preceding three-month period.

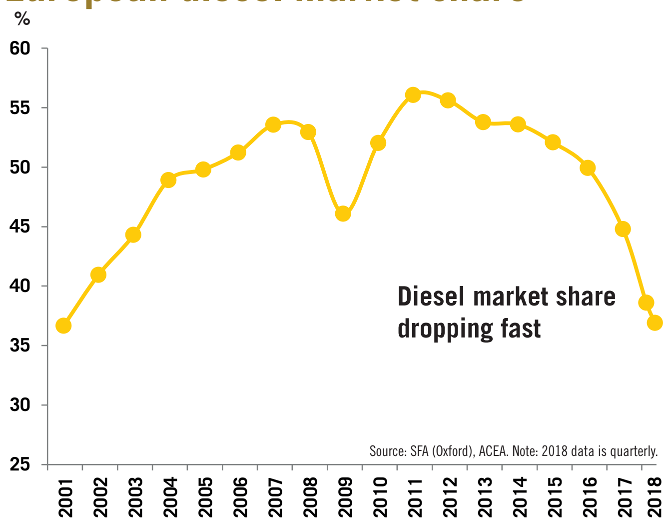
TRENDS AND INVESTMENTS

Gold and dollar index correlation

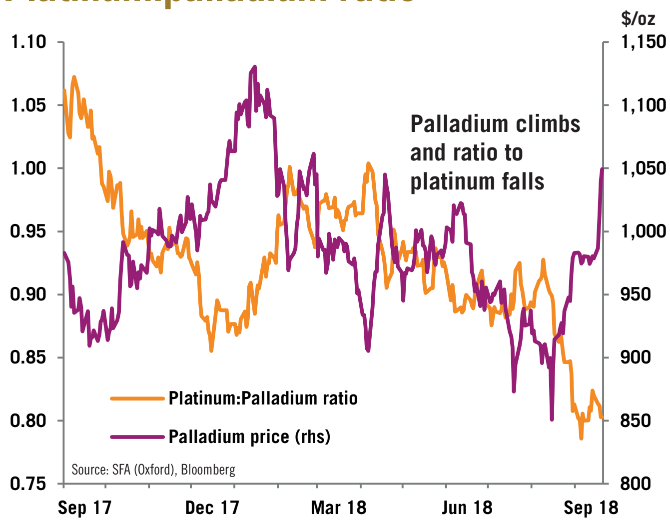


Gold:silver ratio

European diesel market share



Platinum:palladium ratio



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