

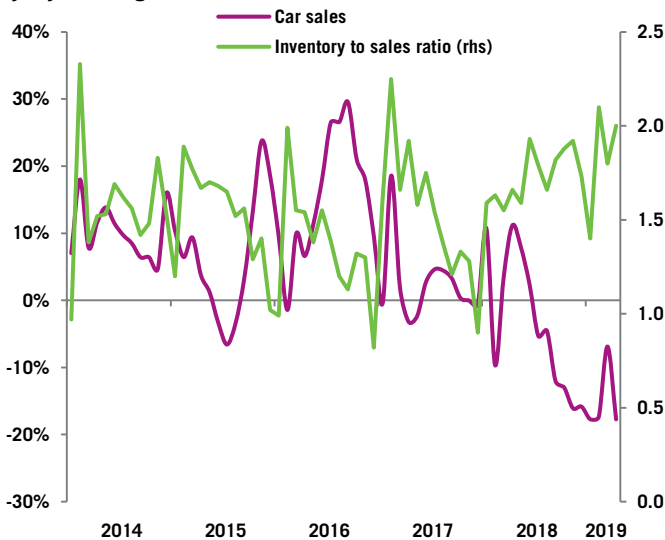
MARKET SPOTLIGHT

Palladium demand in China is not just about vehicle sales numbers

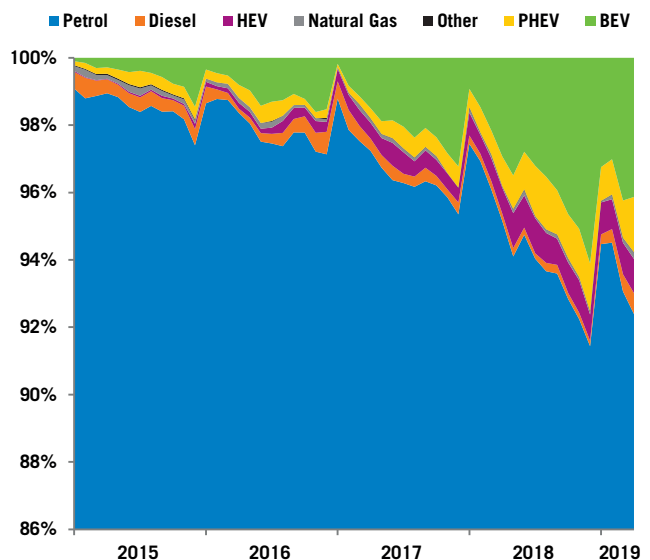
Passenger vehicle sales fell 17.7% year-on-year in China in April and are down 14.5% in the first four months of the year. China is the world's largest passenger car market, with sales of almost 24 million units last year. However, sales have now fallen year-on-year for the last 10 months.

Weak consumer confidence along with slower economic growth and uncertainty around trade may have contributed to this slowdown in auto sales. The Chinese government has attempted to support economic growth with various measures, including a cut in manufacturing VAT in April, which had been expected to lead to lower prices for cars and therefore lift sales.

Passenger car sales & inventory
y-o-y % change



Passenger car sales by powertrain



Source: China Automotive Information Net, Bloomberg, SFA (Oxford)

Near term palladium demand might be expected to ease. The slowdown in sales has meant that dealer inventories have increased. Automakers have had to resort to discounts to try to move stock, with little success so far. Automakers will therefore need to cut back on production at some point so vehicle stocks can be reduced. Overall car sales in China are expected to be more or less flat this year. However, increasing sales of electric vehicles mean that gasoline vehicle sales could decline, which, all else being equal, would reduce palladium demand.

Nonetheless, palladium demand is projected to grow in China owing to the implementation of China 6 emissions legislation. Some cities are introducing China 6 in July this year, with it being applied nationwide from July next year. China 6 has much stricter limits on emissions and will require higher metal loadings in autocatalysts. China already uses more than 2 moz of palladium in vehicle autocatalysts with most of that being used for passenger cars, and the new standard will see demand grow quite rapidly. **Palladium remains a deficit market and automotive demand is expected to keep rising, so the price should ultimately move higher.**



PRECIOUS METALS REVIEW

79 Au Gold

	Close	Weekly change	High	Date	Low	Date
\$/oz	1,284	0.54%	1,287	23/05/2019	1,270	21/05/2019
€/oz	1,147	0.24%	1,154	23/05/2019	1,138	21/05/2019

The tit-for-tat trade war's impact on gold has been short-lived, as the gold price is approaching the 2019 lows set earlier this month at \$1,270/oz. President Trump's announcement that tariffs would be increased on \$200 billion worth of Chinese imports saw China retaliate by raising its own tariffs on US goods. This inspired a flight to safety and gold was bid up to \$1,300/oz as stock

markets fell. However, the initial rally was not maintained as the dollar strengthened and gold fell back. The yuan has weakened from 6.7 against the dollar in mid-April to over 6.9, and this has kept the gold price in China near its high for the year which could dampen demand in the largest gold market.

47 Ag Silver

	Close	Weekly change	High	Date	Low	Date
\$/oz	14.57	0.95%	14.65	23/05/2019	14.38	21/05/2019
€/oz	13.01	0.64%	13.12	23/05/2019	12.89	21/05/2019

The silver price is still underperforming gold, having reached a six-month low of \$14.38/oz. With silver being an industrial metal it is coming under pressure from the escalation of the trade war. Silver ETF holdings have dropped 4.2 moz (-0.8%) in the last two weeks. An ounce of gold will now buy over 88 oz of silver, up from

86 oz at the start of May, and the highest level since early 1993. As long as the trade war continues and growth of the global economy remains relatively low, the silver price will struggle. The price is edging closer to support at \$14/oz, which needs to hold or the price could quickly fall further.

78 Pt Platinum

	Close	Weekly change	High	Date	Low	Date
\$/oz	804	-1.86%	825	20/05/2019	797	23/05/2019
€/oz	717	-2.21%	739	20/05/2019	714	24/05/2019

Another bad quarter for European diesels. Diesel car sales in Europe were down 17.9% year-on-year in Q1'19 (source: ACEA) to 1.3 million from 1.6 million in Q1'18. In Q4'18 it appeared that the market may be stabilising as 13 of the 24 reporting EU countries showed a quarter-on-quarter increase in diesel market share. However, the quarter-on-quarter drop in Q1'19 of 1.9 percentage points is worse than the drop of 0.5 percentage points in Q4'18 and puts diesel's share under a third at 31.9%. Germany has been able to maintain its diesel market share over the last year but the other four major markets have all seen significant contractions. European automotive platinum demand stood at 1.2 moz in 2018 and is expected to fall another 0.1 moz this year based on the shrinking diesel demand.

Platinum thrifting in fuel cells continues but is not necessarily a bad thing. Bosch is moving into automotive fuel

cells in partnership with PowerCell. The new fuel cells should use the same amount of platinum (0.1-0.2 oz) as current diesel autocatalysts. Current automotive fuel cells use around 1-2 oz of platinum per vehicle. While this could be viewed as reducing the potential for future platinum demand, the thrifting of platinum in fuel cells has long been a requirement of successfully commercialising the technology. Low platinum use (per vehicle) makes widespread adoption much more likely and could result in higher total platinum demand than if content could not be reduced below 1 oz per vehicle.

Alstom to deliver 27 fuel cell trains to the Hesse region of Germany in 2022. Fuel cells are an ideal solution for reducing emissions where the electrification of train lines would prove to be too costly.



PRECIOUS METALS REVIEW

⁴⁶ Pd **Palladium**

	Close	Weekly change	High	Date	Low	Date
\$/oz	1,327	0.64%	1,339	21/05/2019	1,300	22/05/2019
€/oz	1,185	0.35%	1,201	21/05/2019	1,167	22/05/2019

Tightness in the palladium market has eased somewhat as the one-year lease rate has stabilised in single digits. The price briefly dipped below \$1,300/oz, but immediately reversed and has traded in a range between \$1,300/oz and \$1,360/oz for the last two weeks. Futures prices remain in backwardation, but speculative interest is muted with the non-commercial net long position on NYMEX being cut to 0.8 moz, an eight-month low. In the near term, further downside would not be a surprise with the trade war hotting up, as trade tensions have been a headwind for industrial metal prices. However, the fundamental market deficit should mean industrial demand will ultimately pull the price higher.

Trump declares car imports a threat to US national security but has delayed tariffs for 180 days to allow for talks. The main targets are the EU and Japan whose exports make up 7% and 10% of the US car market, respectively. If a 25% tariff is introduced in mid-No-

vember, when the 180 days expire, EU exports to the US could fall 50%, according to Ifo Institute estimates. This would be equivalent to around 70 koz of annual palladium demand. Production could move to the US, but the disruption would result in some lost sales. The US auto market uses around 2.3 moz of palladium, approximately a fifth of global demand.

Western Europe's car sales fell 1% in April to 1.2 million, the eighth consecutive monthly decline. Sales in the UK dropped 4.1% year-on-year amid Brexit turmoil while Germany also saw a 1.1% decline (source: ACEA). The other major markets of Spain, Italy and France all saw some growth. Europe is currently forecast to see marginal sales growth of 0.6% in 2019, but in the first four months of the year sales are down 2.6%. Western Europe's automotive demand consumes 1.7 moz of palladium annually, so if sales fail to pick up then annual demand could disappoint by around 50 koz.

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

	Rhodium	Ruthenium	Iridium
Reporting week	\$2,800/oz	\$260/oz	\$1,460/oz
Previous week	\$2,885/oz	\$260/oz	\$1,460/oz

Small PGMs to benefit from increasing chlor-alkali production. Ruthenium and iridium are used to coat electrodes in the chlor-alkali process and are in constant demand due to periodic recoating and the construction of new capacity. The metals catalyse the reaction but are also able to last in the harsh operating conditions. The industry constitutes around a quarter of total iridium demand and a seventh of total ruthenium demand. In its Q1'19 results, Olin (the largest chlor-alkali producer)

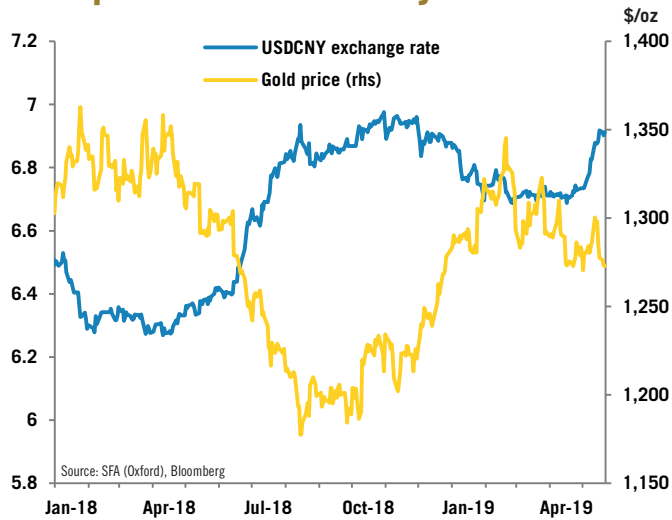
included a forecast that global chlor-alkali production would increase in 2019. Aluminium production is a major end-use for chlor-alkali products and demand for the metal is forecast to grow by 2-3% in 2019, according to Norsk Hydro.

The rhodium price has fallen to \$2,800/oz from \$2,975/oz at the start of May. Ruthenium and iridium prices remain unchanged.

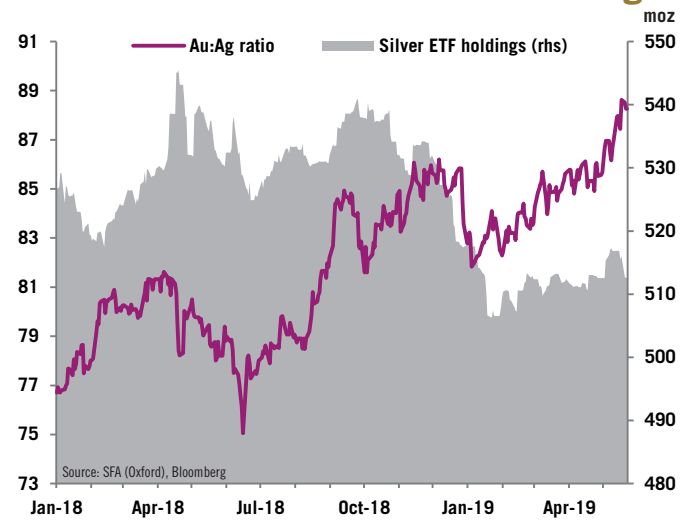


TRENDS AND INVESTMENTS

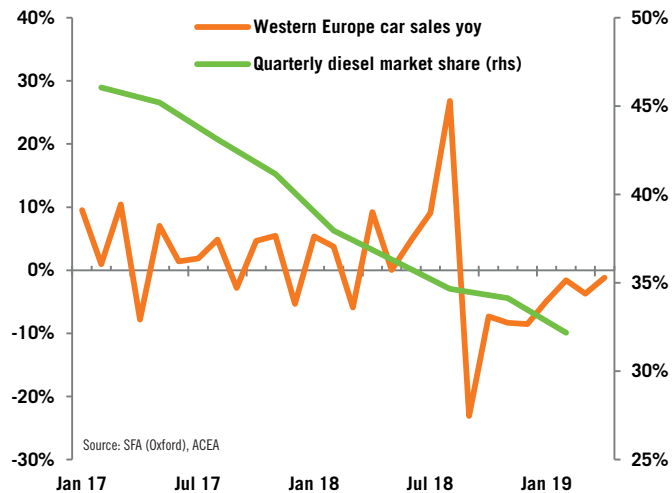
Gold price and Chinese yuan



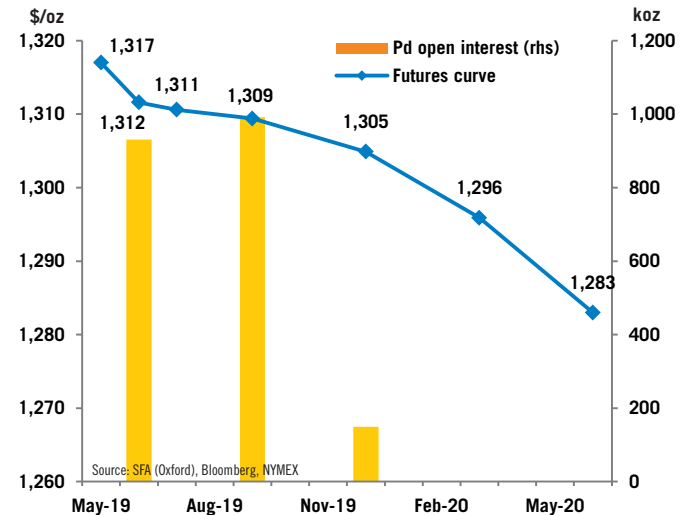
Gold:silver ratio and silver ETF holdings



Europe car sales and diesel share



Palladium futures curve



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

www.herae.us/trading-market-report

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

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

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SFA (Oxford) Ltd
 United Kingdom
 Phone: +44 1865 784366
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The Oxford Science Park, Oxford,
 United Kingdom, OX4 4GA

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