

# HERAEUS PRECIOUS APPRAISAL

Heraeus

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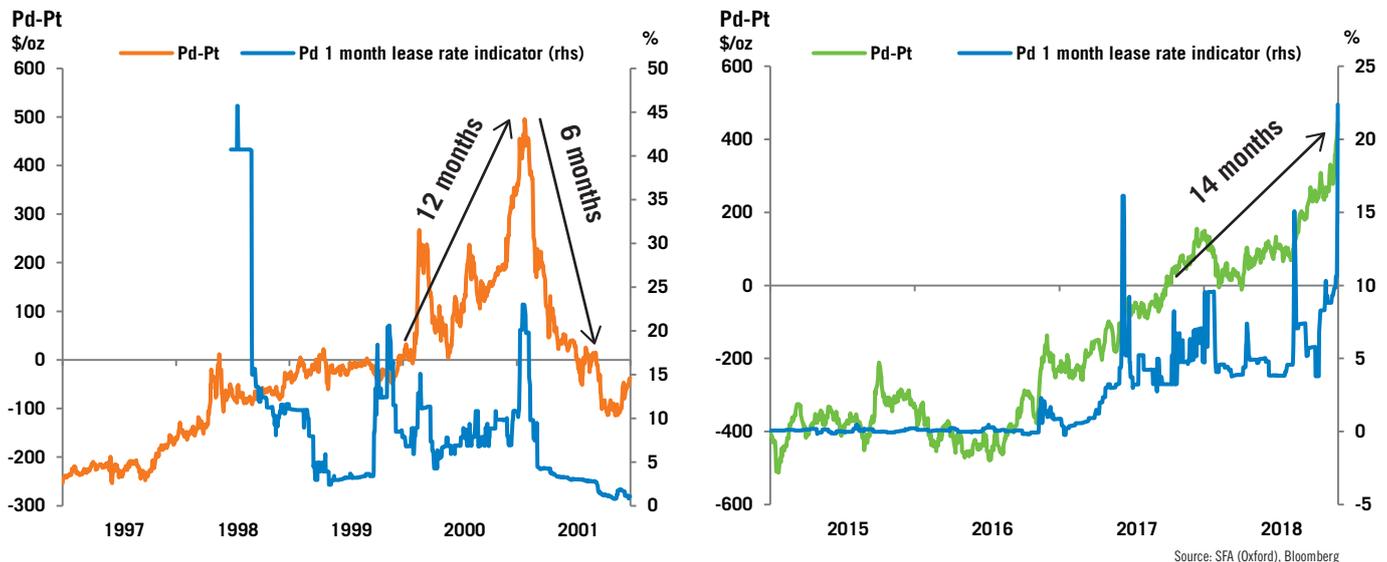


## MARKET SPOTLIGHT

### Platinum is in the adoption zone

**Palladium has traded at a premium to platinum since September 2017.** Palladium's premium jumped over \$100/oz in the last week of November from \$277/oz to \$383/oz and is now over \$400/oz. The palladium price is over \$1,200/oz, up 15% this year, and has even briefly overtaken gold. The last time palladium traded at a sustained premium to platinum was from January 2000 to January 2001. At that time, both palladium and platinum prices were rising and automotive demand for both was growing strongly too. This time the situation is slightly different.

**Palladium has seen strong demand growth.** Palladium's main end-use in gasoline vehicle autocatalysts now accounts for around 80% of total demand, as its rising price has led to thrifting and a decline in industrial and dental use. In contrast, the platinum market has seen falling automotive demand, as the diesel market share in Western Europe has shrunk, and declining jewellery demand in China, its two largest end-use regions. However, platinum's uses are more diversified than those of palladium. Jewellery and automotive demand are growing in other regions and industrial usage (~23% of demand) is also expanding.



**The price discount to palladium has put platinum in the adoption zone.** The palladium price spike in 2000/2001 resulted in lower palladium use in gasoline autocatalysts and caused a drop of two-thirds in electronics usage. Some automakers are again looking at putting more platinum into the catalyst formulations for gasoline vehicles and reducing palladium use. However, development and certification take time because the engines and catalysts have become increasingly complex as emissions standards have tightened.

Palladium lease rates have surged, indicating more market tightness. Years of deficit markets have drawn down stocks which are a third lower than in 2000, potentially making the higher price more sustainable. **In the short term, the palladium price could move higher and continue to widen the premium to platinum, but in the medium term, the cure for high prices is high prices.**



# PRECIOUS METALS REVIEW

## 79 Au Gold

|       | Close | Weekly change | High  | Date       | Low   | Date       |
|-------|-------|---------------|-------|------------|-------|------------|
| \$/oz | 1,246 | 1.99%         | 1,247 | 07/12/2018 | 1,228 | 03/12/2018 |
| €/oz  | 1,094 | 1.38%         | 1,095 | 07/12/2018 | 1,083 | 03/12/2018 |

**A flattening yield curve could be bad for the dollar, good for gold.** Long-term US Treasury yields have fallen while the shorter-term yields have remained steady, suggesting that investors have lower expectations for longer-term growth. The five-year and two-year Treasuries inverted, i.e. the two-year had a higher yield. This is notable as a yield curve inversion has historically preceded recessions (see chart on p.4) and the five-year/two-year spread is

at its lowest level since 2007. Comments from Federal Reserve officials have been taken to mean that there will be fewer interest rate rises, suggesting a weaker economic outlook. Lower Treasury yields and slower economic growth would likely mean a weaker dollar, which would be positive for gold. Although lower inflation is also implied, which is negative for gold, the impact of the dollar is likely to be greater.

## 47 Ag Silver

|       | Close | Weekly change | High  | Date       | Low   | Date       |
|-------|-------|---------------|-------|------------|-------|------------|
| \$/oz | 14.58 | 2.87%         | 14.67 | 04/12/2018 | 14.35 | 06/12/2018 |
| €/oz  | 12.80 | 2.23%         | 12.88 | 04/12/2018 | 12.63 | 06/12/2018 |

**Silver investors are buying on the low price.** Silver coin sales at the US Mint in November were 1.65 moz, up 17% month-on-month, and the fourth consecutive month of improvement on 2017. In the four months since the silver price dropped below \$15.50/oz, the US Mint has sold 7.5 moz of silver coins. In the previous four months the Mint sold only 2.6 moz so some interest is returning to silver. However, demand is still low compared to historical levels. The peak year for silver coin sales in the US was 2015 when monthly sales averaged 3.9 moz and the price averaged \$15.72/oz.

**The gold:silver ratio hit 86 in November, the highest since 1993.** The silver price has been firmly range-bound between \$14/oz and \$14.75/oz since the beginning of September. This is in contrast to gold which has been gaining, albeit slowly, and reached a five-month price high of \$1,242/oz last Monday. Silver demand is split between investment and industrial uses and neither has been strong enough to pull the price up. The industrial side is not being helped by slowing economic growth and increasing trade barriers. If the US and China can continue to progress towards resolving the trade dispute then the silver price could see some upside. A break above the 100-day moving average and then above the \$14.75 resistance level would be a good start.

## 78 Pt Platinum

|       | Close | Weekly change | High | Date       | Low | Date       |
|-------|-------|---------------|------|------------|-----|------------|
| \$/oz | 791   | -1.47%        | 815  | 03/12/2018 | 784 | 06/12/2018 |
| €/oz  | 695   | -2.04%        | 717  | 03/12/2018 | 690 | 06/12/2018 |

**Diesel market share in Germany was the highest in a year, but car sales fell.** In November the diesel market share improved to 34.0%, up from 31.8% in October. However, as overall car sales were down 9% year-on-year the overall number of diesel cars sold fell. Germany is the largest Western European auto market with car sales expected to total around 3.4 million this year. A stabilisation in diesel sales would help to support Western European platinum demand, which is expected to contract by around 4% next year.

**The German government is trying to support diesel.** The government has announced a doubling of the funds available to help improve air quality and avoid more cities banning diesels. Retrofitting enhanced exhaust systems is also being supported, but if there is any extra platinum demand it could be quite small. Scrapage schemes have also been announced by VW, Daimler and BMW recently, which could lift sales a little. These various initiatives will need to significantly improve consumer sentiment towards diesel to help platinum demand. However, it may be a case of too little too late, considering the contraction in diesel sales that has already occurred.



# PRECIOUS METALS REVIEW

## <sup>46</sup> Pd **Palladium**

|       | Close | Weekly change | High  | Date       | Low   | Date       |
|-------|-------|---------------|-------|------------|-------|------------|
| \$/oz | 1,225 | 3.11%         | 1,262 | 05/12/2018 | 1,189 | 06/12/2018 |
| €/oz  | 1,076 | 2.51%         | 1,117 | 05/12/2018 | 1,045 | 06/12/2018 |

**Palladium briefly became the most precious metal** as it overtook gold for the first time in 16 years and reached a peak of \$1,262/oz. The price has been on a rapid rise, increasing by \$392/oz (+46%) in four months. However, the industrial metal then dropped more than \$35/oz by the end of the week to fall back below gold. The palladium rally may not be over yet as lease rates have jumped above 20%, futures contracts are in backwardation and the market is still in a deficit.

**China has fewer than one car for every seven people, leaving plenty of room for future expansion.** The number of passenger cars in China reached 187 million in November from 146 million in 2016, according to China's Ministry of Public Security. This corresponds to 135 and 106 cars per thousand people, respectively. That figure is approximately 550 for Europe and 750

for the US. China is unlikely to reach these levels of car ownership owing to different factors such as urbanisation arising from the country's later development. However, even relatively conservative estimates for the maximum level of car ownership suggest that the number of cars in China could triple from current levels. Chinese vehicle sales have been weak this year, down 1% at 19.3 million in the first 10 months of 2018, but are expected to resume growth next year. Loadings are also forecast to increase with tightening emissions standards. Consequently, over the next decade annual automotive palladium demand from the region has the potential to increase by another 50% from its current level of approximately 2 moz. This means global demand is predicted to continue to rise and for sizeable deficits to continue, likely pushing the palladium price higher.

## <sup>45</sup> Rh <sup>44</sup> Ru <sup>77</sup> Ir **Rhodium, Ruthenium, Iridium**

|                | Rhodium    | Ruthenium | Iridium    |
|----------------|------------|-----------|------------|
| Reporting week | \$2,585/oz | \$285/oz  | \$1,480/oz |
| Previous week  | \$2,585/oz | \$285/oz  | \$1,480/oz |

**US car sales in November fell around 2%**, but were above estimates, suggesting some mild upside to the annual forecast of 17.2 million units. The US is the largest consumer of rhodium at around 200 koz of annual automotive demand (23% of total auto demand). Following a meeting with the US administration last week, the heads of European automakers were optimistic that tariffs would not be implemented as they are willing

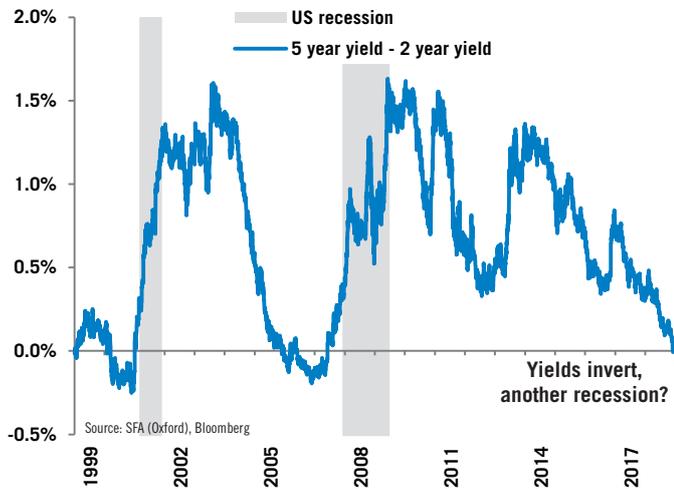
to increase investment in the US. This suggests no let-up in demand for rhodium and that the price can keep rising.

All three metals ended the week at the same price as at the start. The rhodium market, in particular, remains tight and lease rates are in double digits.

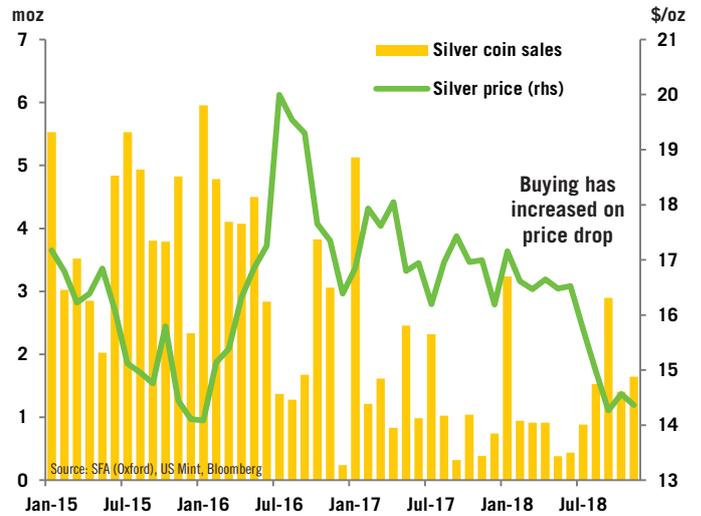


# TRENDS AND INVESTMENTS

## US Treasury yields and recessions



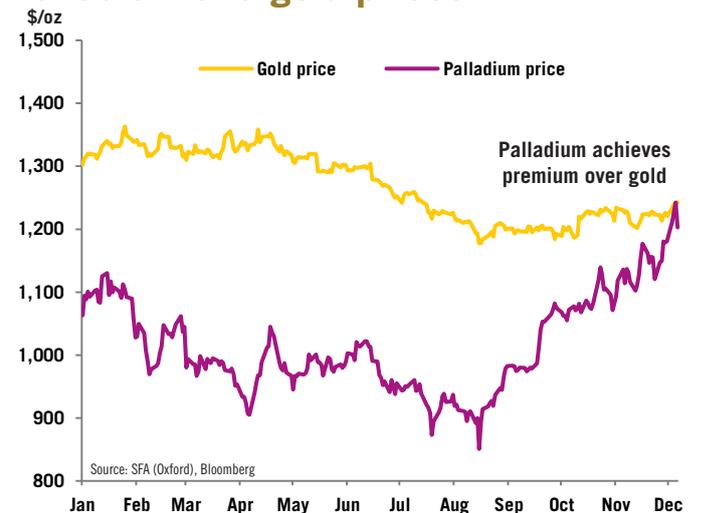
## US Mint silver coin sales



## Silver price



## Palladium and gold prices



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