

PRECIOUS APPRAISAL



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MARKET SPOTLIGHT

Weak demand outlook dragging rhodium price down despite supply risks

The rhodium price has dropped by 79% from its record high in March 2021. The price is historically volatile and the current decline is not out of the ordinary. The present price descent is more similar to the 2000-2003 period than the extremely rapid price drop in 2008 which lasted a matter of a few months during which time the price fell by 90%.

The rhodium market appears to be tight this year but there are several factors that could be weighing on the price. Light vehicle manufacturing is recovering as semiconductor chip supplies are improving, enabling the ongoing rise in production with over 85 million units expected to be produced this year. The recovery in demand combined with constrained supply means that a deficit market for rhodium is anticipated this year.

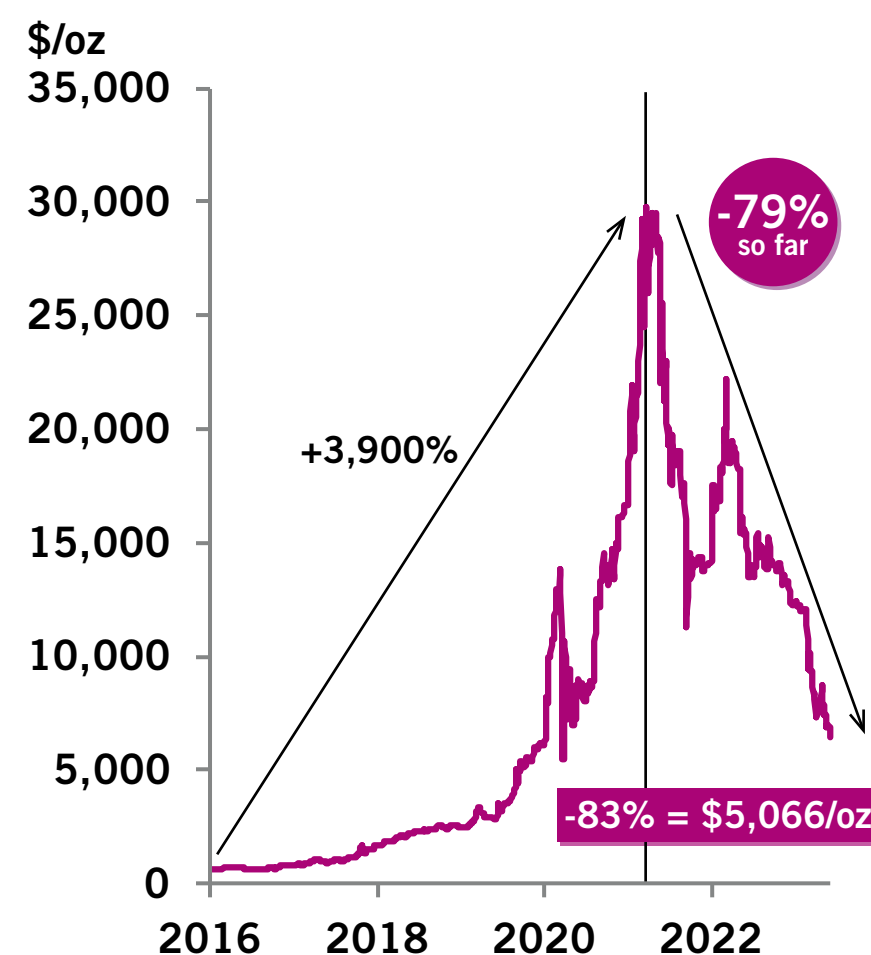
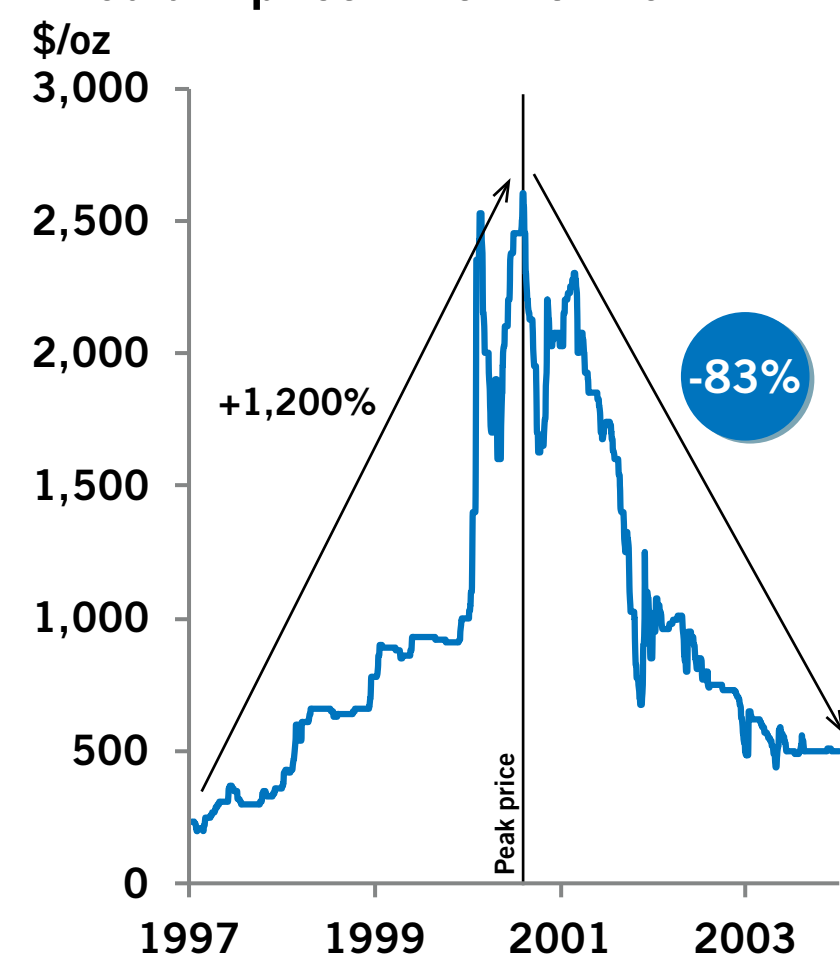
BEVs continue to gain market share, reducing the need for rhodium in autocatalysts. In China, BEV sales exceeded 5 million units last year which amounted to a 21% market share. Last year in the EU, the BEV market share hit 12% and in the US it was almost 8%. The BEV market share is expected to increase in all three regions this year.

The high rhodium price has incentivised thrifting in autocatalysts. Chinese automakers have more flexibility in the certification of catalysts which enables them to change the loadings more easily, and thrifting of rhodium in gasoline autocatalysts has been occurring.

The economic outlook is deteriorating. The rapid rise in interest rates has made auto loans and leases more expensive, adding to the already difficult situation for consumers as inflation eats into disposable income. With vehicle prices also rising this has made a new car less affordable. Economic indicators from China to the US and Europe have been weakening and a recession in the US and Europe is possible later this year.

The price is falling despite supply risks. South Africa's power utility, Eskom, has been implementing power cuts owing to a lack of electricity generation capacity as power stations are offline for maintenance. With a high demand period now arriving as the Southern Hemisphere winter arrives, more serious power cuts are possible. If miners have to reduce power use even further then this could impact PGM production which might lead to a temporary rally in the price. However, with recession on the horizon the demand outlook could deteriorate further and the price trend lower.

Rhodium price: Then vs. Now

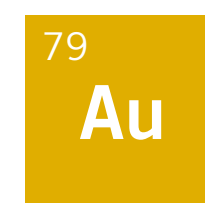


Source: SFA (Oxford), Bloomberg

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PRECIOUS METALS REVIEW

Gold



	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	1,962	0.00%	1,973	09/06/2023	1,938	05/06/2023
€/oz	1,826	-0.22%	1,842	06/06/2023	1,812	08/06/2023

Traders’ reassessment of Fed outlook is a headwind for gold. Canada’s central bank implemented a surprise 25 bp interest rate hike after a pause at its previous meeting. Short-dated yields rose as the likelihood of at least one more Fed hike grew. The market now sees a >50% probability of another hike by July. Higher yields and a stronger dollar are the likely outcome of further monetary policy tightening, which will weigh on gold. Also contributing to a falling gold price, the tailwind of uncertainty from a potential US government default has melted away. A hike this week could further pressure the gold price, and expectations for fewer cuts to the federal funds rate for the rest of the year will also likely add downside pressure, though it is unlikely to stop a rally once the Fed pivots. The current price correction could continue lower in the near term before the longer-term upwards trend resumes as policy loosens and real interest rates fall.

Gold bullion demand from national mints drops in May. A decline in the gold price and rising real yields (owing to lower inflation readings) are likely drivers of the apparent reduction in retail gold investment demand. Gold Eagle coin sales at the US Mint fell 50% month-on-month in May, however, year-to-date sales are slightly higher year-on-year at 691 koz (2022: 689.5 koz). The Perth Mint also registered 3% lower sales month-on-month of 73 koz. ETF holdings diverged from bullion sales in May, increasing net global holdings by 693 koz (+0.7%), worth ~\$1.38 bn. Traction in institutional buying has softened so far in June, with funds having shed 278 koz thus far taking total global holdings to ~93.9 moz. Investor sentiment towards gold is likely to improve later in the year owing to expectations of a price rally once the Fed does finally pause or pivot.

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PRECIOUS METALS REVIEW

Silver



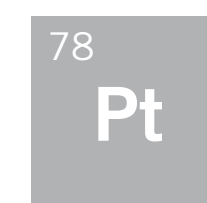
	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	24.35	2.51%	24.53	09/06/2023	23.25	05/06/2023
€/oz	22.66	2.28%	22.77	09/06/2023	21.38	06/06/2023

Silver production could face a shortfall this year. Peru’s silver output in 2022 was 109 moz, 8.7% lower than the previous year. Social unrest was a factor in reducing mine output as protests disrupted production. The country’s largest copper-silver mine, Antamina, saw a 31% reduction in silver output in the first four months of the year that pushed the country’s overall production down by 7% to 32.6 moz (925 tonnes) in the year to April. On an annualised basis, production could be 10% lower year-on-year and return silver production to pandemic levels. Average grades are lower across some of the larger mines. Peru is the world’s third largest silver producer after Mexico and China and accounted for 13% of global supply last year. Potentially of greater consequence to global silver supply, Newmont suspended operations at its Peñasquito mine in Mexico last week, the world’s second largest silver mine, due to industrial action. In 2022 the mine produced 29.6 moz (3.6% of global supply). The mine avoided strikes last year by agreeing to increased profit sharing with employees. The labour unions are now demanding this share (10%) be doubled. A month of lost production at Peñasquito could result in ~1.8 moz production shortfall.

Net consumption is also expected to drop – led by falling jewellery and investment demand. The market is forecast to be in a top-line deficit this year even as consumption slows (source: The Silver Institute), however, above-ground stocks ought to provide ample liquidity for end-uses. Weakening industrial end-use demand and a highly liquid market could result in silver’s underperformance to gold during the remainder of the year and will push the gold:silver ratio higher.

PRECIOUS METALS REVIEW

Platinum



	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	1,013	0.38%	1,049	07/06/2023	1,001	09/06/2023
€/oz	943	0.18%	979	07/06/2023	930	09/06/2023

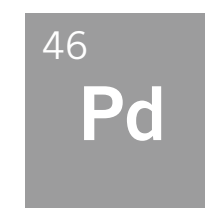
South African funds still betting on supply shortages despite recent dollar price decline. The dollar platinum price has declined 7.6% since 21 April, meanwhile in rand terms, the platinum price hit a new all-time high of ZAR21,309/oz. In that time period, global ETFs have seen inflows of 129 koz to South African funds, bringing regional year-to-date inflows to 419 koz. Momentum was maintained following the four-year record inflows in April. The platinum price could see volatility as South Africa enters the winter season and stress on Eskom’s power output intensifies, potentially impacting mine production. Platinum is expected to be in deficit this year, so unexpected cuts to production could support the price.

The South African rand significantly strengthened week-on-week as it corrected from an all-time low against the dollar. Fundamentals remain poor and investor sentiment will stay low as the economic outlook continues to be bleak for South Africa. Though a weaker rand boosts miner’s revenue from PGM sales, it will eat away at their bottom line as input costs purchased in dollars will rise.

The platinum price rose slightly last week, and closed the week at \$1,013/oz.

PRECIOUS METALS REVIEW

Palladium



	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	1,314	-7.26%	1,452	05/06/2023	1,307	09/06/2023
€/oz	1,222	-7.51%	1,357	05/06/2023	1,216	09/06/2023

Key gasoline market is expanding but still below baseline. Light vehicle sales in the US grew by 23% in May (source: US Bureau of Economic Analysis) as supply side constraints decrease and inventories improve. New vehicle sales reached 1.36 million units, a significant improvement on 2022 figures. Nonetheless, sales are still 13% lower than in 2021, reflecting the impact of higher interest rates and average vehicle prices depressing sales. US car sales accounted for 1.5 moz of palladium demand last year, and the relatively strong start to the year means that demand is expected to grow moderately this year to around 1.6 moz. Poor seasonality in the second half of the year presents a downside risk to palladium demand. If a recession hits the US late in the year as predicted, this effect could be compounded.

US autocatalyst recyclers are struggling to find feed. Recyclers have been struggling to source used vehicles, however signs of a recovery are beginning to show. Sibanye-Stillwater reported a 55% drop in average daily autocatalyst feed into its recycling facilities in Q1'23. US used vehicle prices declined in May (source: Cox Automotive), and used sales are estimated to have fallen 11% last month, possibly an indicator that supply of scrapped vehicles may start to grow. However, this does not guarantee recyclers autocatalyst feed, meaning recycled supply is likely to remain relatively tight in the short to medium term.

Declining PGM prices encourage recyclers to retain catalysts in the hope of a price reversal and thus result in lower recycled PGM supply than would be expected from vehicle scrappage rates.

China to continue NEV tax exemptions to boost vehicle demand amid its underwhelming post-pandemic recovery. The purchase tax exemption currently applies to NEVs (battery electric and hybrid gasoline vehicles). Incentivising non-combustion engine vehicles presents a downside risk to palladium autocatalyst demand, however the scheme is already in place and the extension simply erodes any palladium demand upside that may have occurred as a result of it ending. China's autocatalyst demand is forecast to remain stable this year at 2.6 moz, as although light vehicle production is expected to grow, platinum for palladium substitution and a growing electric vehicle market share negates any increase in palladium demand.

Palladium was testing support at the 2020 crash level last week, and broke down below \$1,300/oz. \$1,360/oz has been a strong support level since February and this could open the palladium price up to further downside in the near term.

PRECIOUS METALS REVIEW

Rhodium, Ruthenium, Iridium



	RHODIUM	RUTHENIUM	IRIDIUM
Reporting Week	\$6,950/oz	\$525/oz	\$5,150/oz
Previous Week	\$7,550/oz	\$525/oz	\$5,150/oz

Iridium crucible purchases delayed by weak consumer demand. The most recent forecast for the smartphone market in 2023 is for a 3.2% decline in shipments, a downward revision from earlier in the year. A weaker economic outlook and persistently high inflation across numerous large markets hampers demand for new phones. Upstream demand for components such as surface acoustic wave (SAW) filters is expected to be lower as a result. Lithium tantalate crystals are an essential input for SAW filters and are cast in iridium crucibles. Lower demand for SAW filters for smartphones translates to lower replacement demand for these crucibles in the short to medium term. Though 2023 demand is expected to be weak, the smartphone market is forecast to pick up again in 2024 with 6% year-on-year growth and should consequently result in a growth in iridium crucible demand.

Future iridium catalyst demand pipeline bolstered by the US. The US Department of Energy published its hydrogen roadmap last week, laying out how hydrogen will contribute to decarbonisation goals by 2050. The report complements the 'clean' hydrogen production credits set out in the Inflation Reduction Act. A key goal outlined is to bring the levelised cost of hydrogen production to \$1/kg of clean hydrogen in the next decade.

For proton-exchange membrane (PEM) electrolyser hydrogen production, this will require thrift of iridium to lower levels to offset the capital expenditure required for electrolyser installation. In the last week, Japan also announced its revised hydrogen strategy which included a six-fold increase in hydrogen production targets to 12 million tonnes a year by 2040. While its likely a fraction of this will be green hydrogen produced via PEM electrolysis, this strategy and funding from the US and EU provide the incentives needed to enable the rollout of PEM electrolysis and guarantee future iridium end-uses.

The rhodium price declined by \$600/oz last week. The fall in the rhodium price is in contrast to the static quotes for both ruthenium and iridium. Both metals have seen no price movements since early March and again finished the week at \$525/oz and \$5,150/oz respectively.

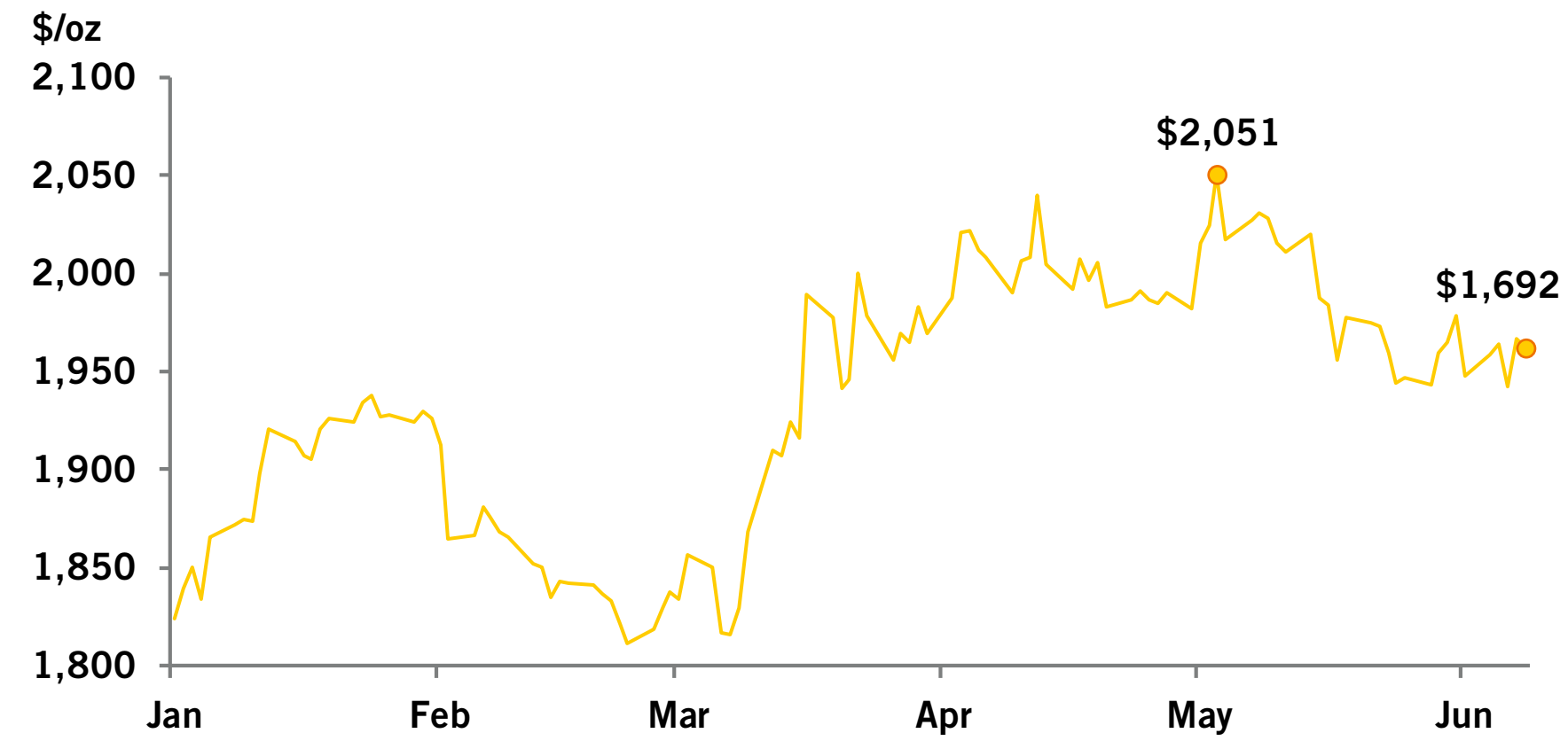
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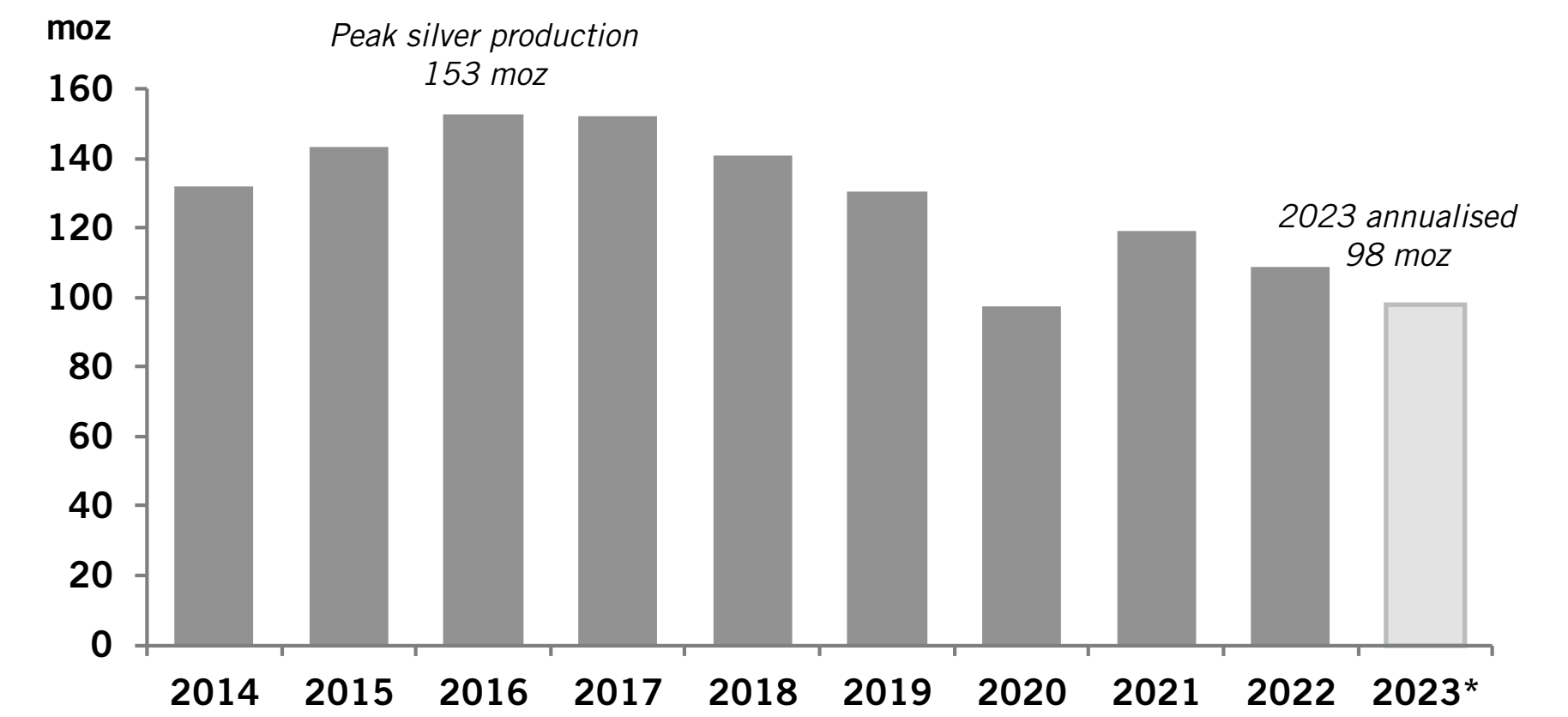
TRENDS AND INVESTMENTS

Gold price



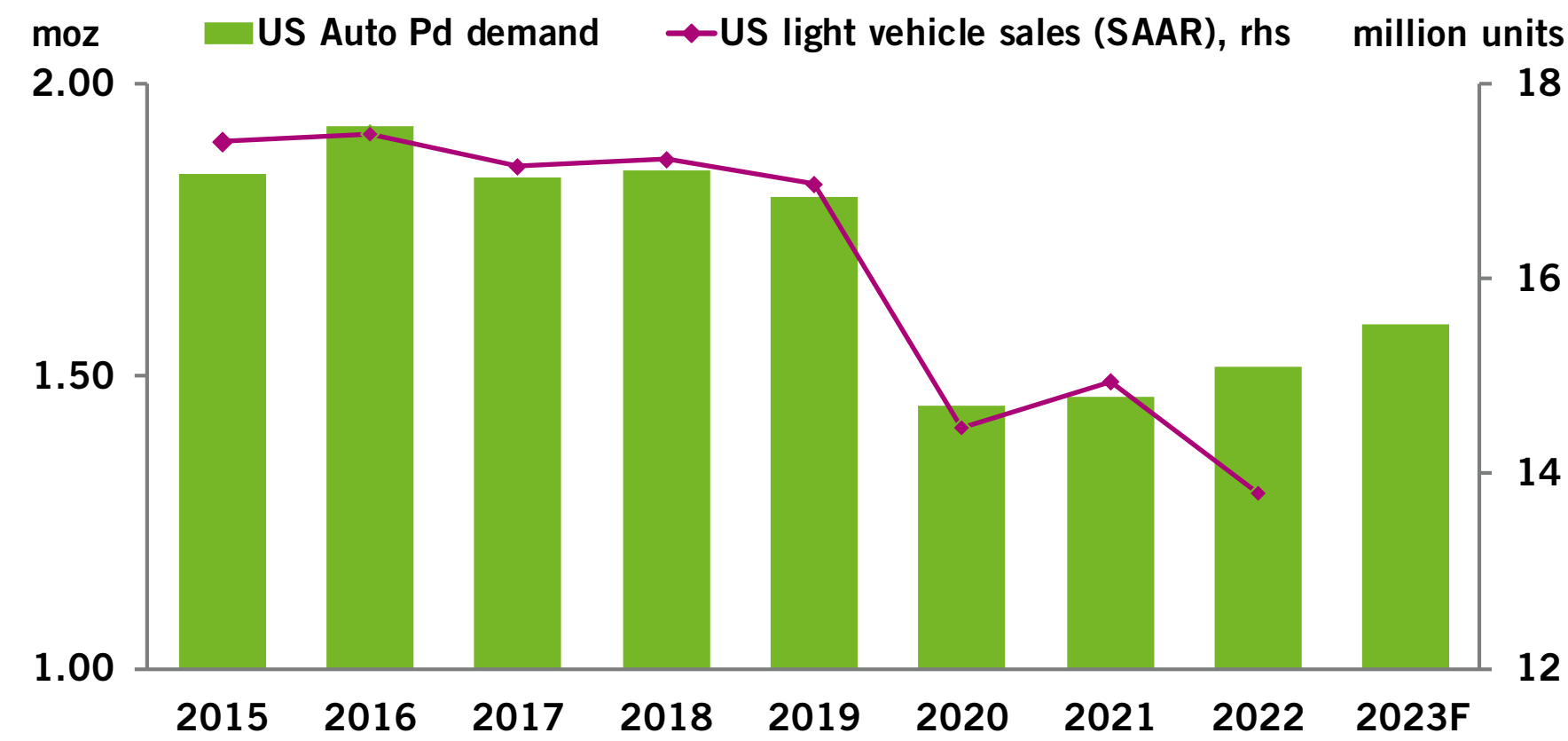
Source: SFA (Oxford), Bloomberg

Peru silver production



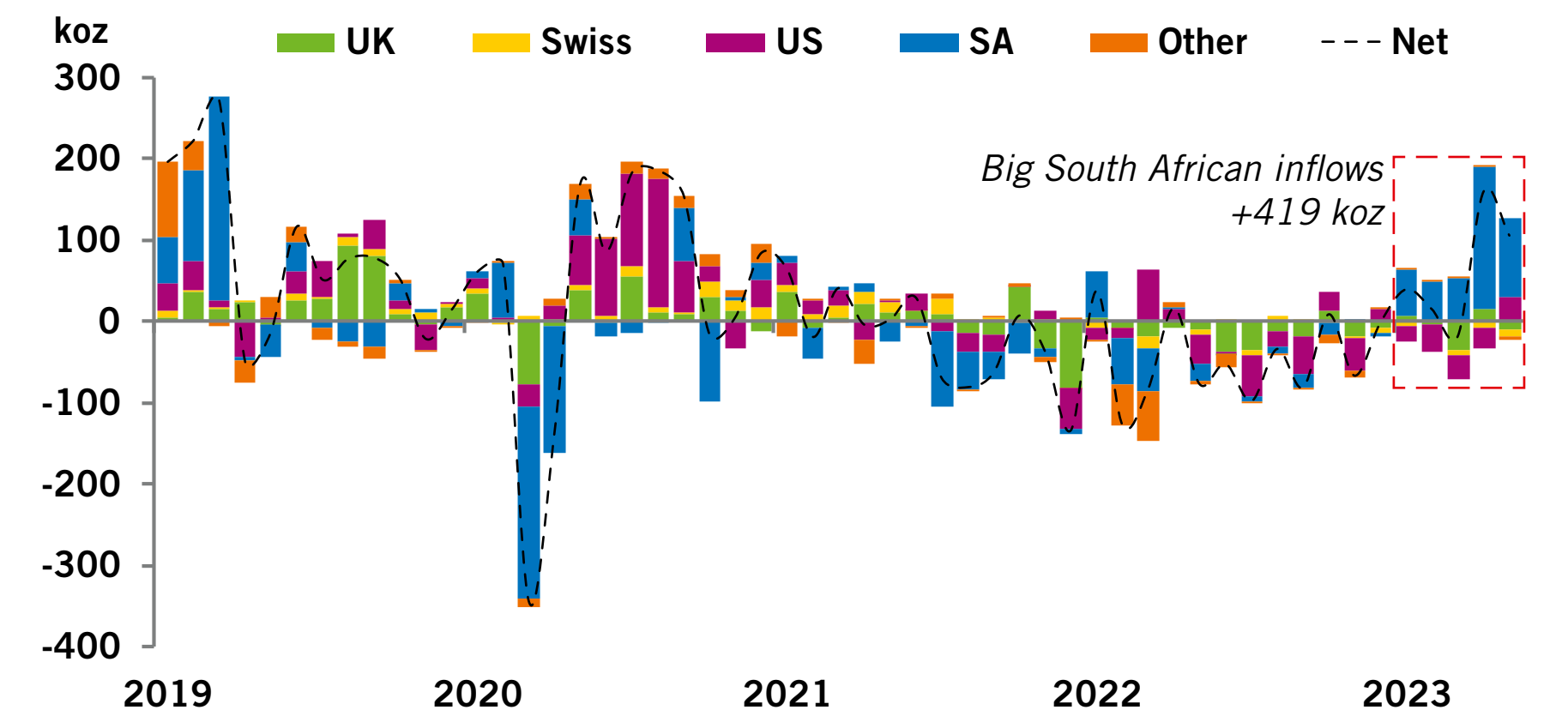
Source: SFA (Oxford), Peru Ministry of Energy and Mines. Annualised production.

US automotive palladium demand vs. LV sales



Source: SFA (Oxford), US Bureau of Economic Analysis

Global platinum ETF flows



Source: SFA (Oxford), Bloomberg

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