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PRECIOUS APPRAISAL



Precious Metals





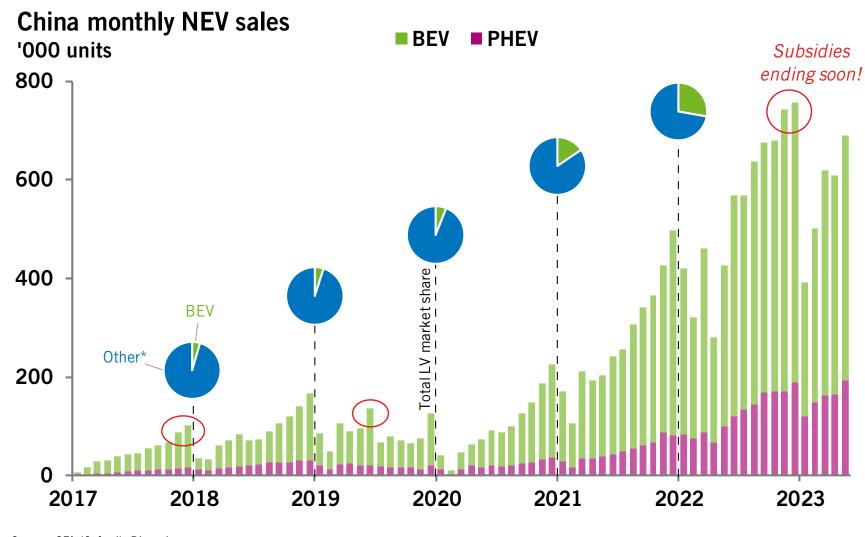
PRECIOUS APPRAISAL 26th June 2023

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MARKET SPOTLIGHT China BEV tax break extension increases risk to palladium demand

Last week the Chinese government allocated 520 billion yuan (\$72.3 bn) to extend tax breaks for NEVs (BEV+PHEV+FCEV), formerly intended to end this year, to 2027. Incentives will be worth up to 30,000 yuan per NEV in 2024 and 2025 before halving to a maximum of 15,000 yuan in 2026 and 2027. As the largest automobile market, China's rapid expansion in its BEV market share is already a threat to automotive palladium demand. Incentives to propel NEVs are not new in China. Both supply- and demandside stimuli have been used in the last decade on both a national and local level. Tax incentives, cash subsidies, free number plates and other enticements have been used.



Source: SFA (Oxford), Bloomberg

Tax break structure is likely to pull BEV demand forward. Before the benefits are reduced in 2026, there is likely to be a rush to purchase eligible NEVs. This effect was seen in 2017, 2019 and Q4'22 before incentives were previously lowered or phased out. The current top five selling EV models in China will all be eligible for the extended tax breaks.

China's light-vehicle sales market is forecast to be ~30 million units by **2027 when the new extension ends.** Chinese BEV sales equalled 5 million units in 2022, more than 21% of all light-vehicle sales. With the extension of incentives, BEV sales could overtake those of pure combustion engine light vehicles (excluding hybrids) by 2025 – a year earlier than previously forecast. Assuming the maximum tax break is applied to each NEV sold and 50% of the budget is allocated before 2026, more than 17 million NEVs could be subsidised from 2024 to 2027.

BEVs also continue to grow market share outside China. Electric light vehicles held 13.7% of the European market in the year to May, and 6.6% in the US. The share is expected to grow this year in all regions. This year's palladium autocatalyst demand in China is forecast to be in line with 2022 at 2.6 moz, before contracting as BEVs gather more momentum. The silver lining for PGM demand is that plug-in hybrid combustion and platinum fuel cell vehicles are also included in the tax breaks, which could help to preserve PGM demand. Year-to-date, plug-in hybrids with catalysts made up 28% of NEV sales in China.

Slowing growth could also put stress on the autos market and palladium demand. Recessions now look likely in the US and Europe this year. Extreme tightening in monetary policy in the last 18 months has driven up the cost of auto loans as average vehicle prices have inflated owing to reduced supply. China's economic growth has been below expectations year-to-date, hence the introduction of stimulus. Stagnant growth and BEV acceleration could curb palladium autocatalyst demand and push the price lower.

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PRECIOUS METALS REVIEW Gold

79 A	\u							
			CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
		\$/oz	1,921	-1.79%	1,959	19/06/2023	1,910	23/06/2023
		€/oz	1,765	-1.45%	1,792	19/06/2023	1,744	22/06/2023

Consumer demand for gold may be softening. Consumer sentiment seems to be wavering in some of the largest markets. In China, March's \$44/oz premiums on gold have been wiped out, and SGE gold currently changes hands at a slight discount, suggesting weaker domestic demand. Yearon-year growth in retail sales of precious metal jewellery appears strong, but this is compared to a low base caused by Covid lockdowns last year. Domestic retail sales slowed to 24% year-on-year in May, versus 44% in April. China is the largest gold user, having consumed 825 tonnes in 2022, and 276 tonnes in Q1'23 (source: World Gold Council). Chinese consumer demand is expected to be lower quarter-on-quarter in Q2.

Investors also appear less keen on gold after the price failed its third attempt to breach \$2,000/oz in May. Outflows from global gold ETFs have averaged 49 koz a day so far in June. Holdings are falling mainly in US- and UK-based funds. The gold price may have further to fall. Weaker consumer and investment demand plus breaking a technical support level signal that the price could decline further from current levels. Expectations for another 25 bp hike in US interest rates could also add pressure as that should strengthen the dollar.

The gold price has been 'spinning its wheels' since mid-May, trading in a tight range between \$1,940/oz and \$1,980/oz. Last week it broke down from the 100-day moving average, which had been a support level, and now sits ~\$20 above \$1,900/oz.







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PRECIOUS METALS REVIEW Silver

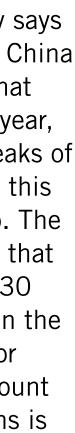
47 Ag							
		CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
	\$/oz	22.34	-6.94%	24.15	19/06/2023	22.11	23/06/2023
	€/oz	20.53	-6.61%	22.09	19/06/2023	20.21	23/06/2023

India's silver consumption has slowed. Silver demand in India soared last year as fabricators restocked, and incomes and consumption returned to pre-pandemic levels. India was a significant driver in global silver industrial demand, reaching an all-time high of 557 moz. Demand (inferred from net imports) has fallen steeply so far this year. Imports of silver totalled 27 tonnes in May. Excluding the pandemic period, this is the lowest level of imports since 2006, and 92% lower than the five-year average. In 2022, India was the largest market for silverware (1,667 t) and jewellery fabrication (3,472 t), and the second-largest market for bar and coin investment (2,470 t) (source: The Silver Institute). Lower implied demand in H1'23 plus the threat of El Niño monsoon disruption to rural incomes later in the year mean demand in India is likely to decline year-on-year, though it will remain one of the largest end-users of the metal.

The solar sector continues to shine. China's National Energy Agency says the country added 12.9 GW of solar panels in May. So far this year, China has increased its installed capacity by 61.21 GW to ~453 GW. At that rate, installations could reach 147 GW by the end of the year. Last year, installations totalled 85 GW as manufacturing was stalled by outbreaks of Covid. Silver usage in solar panels is forecast to show strong growth this year as demand for renewable energy escalates outside of China too. The EU has last week approved its revised 'Renewable Energy Directive' that requires the bloc to increase the share of renewables to 45% by 2030 (previously 32.5%). Local production in the EU is likely to expand in the next few years as it also attempts to reduce dependency on China for its raw material and energy needs. Despite efforts to reduce the amount of silver paste in solar cells, government-aided growth in installations is unlikely to be offset, and net solar demand will grow.







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PRECIOUS METALS REVIEW Platinum

78	Pt							
- 1			CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
		\$/oz	924	-5.85%	986	19/06/2023	920	23/06/2023
		€/oz	849	-5.46%	903	19/06/2023	842	23/06/2023

Fuel cells provide solution for grid issues. Plug Power is to provide 8 GW of fuel cell power systems to a California company that will provide power from green hydrogen during wildfires and times of grid unreliability. The installation will be the largest of its kind in the US. Fuel cells containing platinum can be used in static applications as well as in the automotive sector. The 8 GW system described is the equivalent of 62.5 typical fuel cell cars, more than double the number of Toyota Mirai fuel cell cars sold in Germany in May. Fuel cell platinum demand is a relatively small demand sector for platinum at present. However, it is expected to see rapid growth in the next decade, particularly as more heavy-duty vehicles adopt fuel cell powertrains, and may support the platinum price over the longer term.

Half of platinum accumulated by funds in April-May has been sold back to the market. During April and May, 265 koz of platinum was added to South African ETF funds as institutional investors began to rotate away from mining stock to commodities. Funds have now sold 133 koz of their holdings in June. The Eskom power generation situation looked much worse earlier in the year. However, the South African winter has been warmer than anticipated so far and load-shedding intensity has reduced, meaning the risk to platinum production has also reduced and thus upside price risk is lower. Most sales appear to have been at a loss, as the average rand price so far in June is 8% lower than in May. The platinum price fell by a further 4% in rand terms last week and by more than 5% in dollar terms to below \$950/oz.





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PRECIOUS METALS REVIEW Palladium

46 P	Pd							
- 1			CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
		\$/oz	1,288	-9.22%	1,423	19/06/2023	1,275	22/06/2023
		€/oz	1,183	-8.90%	1,304	19/06/2023	1,165	22/06/2023

A 10-month growth streak for new light-vehicle sales in Europe. Data for May shows that light-vehicle sales in the EU grew by 18.5% year-on-year, adding to the nine previous consecutive months of growth. Total car sales reached 4.4 million units in the year to May, also up 18% year-on-year. However, this is still significantly lower than pre-pandemic sales of 5.7 million units over the same period. Palladium autocatalyst demand is forecast to be almost 600 koz lower in 2023 than in 2019, at 1.1 moz, and is expected to fall year-on-year despite the strong growth seen so far in 2023. This is mainly due to the expansion of BEVs into the market, and some loss of demand due to substitution to platinum in catalysts. BEV sales growth massively outpaced those of petrol and diesel cars in May. Sales showed 71% growth, compared to petrol vehicles that saw a rise of just 12.6%. Declining palladium demand could lead to a weaker price, and the poor macroeconomic outlook in the US and Europe could lead to auto market underperformance in late 2023 and 2024.

The palladium price fell to a new cycle low last week of \$1,275/oz. The shorts have been getting their way as the price moves lower. Market speculators' short position has risen from 0.24 moz in September last year to 0.98 moz as of the latest Commitments of Traders (COT) report, and their net position is now at a record short.







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PRECIOUS METALS REVIEW Rhodium, Ruthenium, Iridium

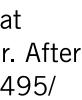


Long-awaited hard-drive tech threatens some ruthenium demand. The current generation of MAMR (microwave-assisted magnetic recording) hard drives use ruthenium. Seagate has begun shipping the first units of its next-generation heat-assisted magnetic recording (HAMR) hard drives that do not use ruthenium-plated disks, and Western Digital says it could be 12 months away from shipping its version. The benefit of this technology is a greater density of data storage. It improves on the storage capacity of current generation drives by more than a third. Seagate plans to roll out the HAMR drives early next year, which could lead to lower ruthenium demand as HAMR gradually gains market share. That said, the overall market is growing and MAMR production will continue to support ruthenium demand for some time. Hard disk demand for ruthenium accounts for ~5% of total demand.

HODIUM	RUTHENIUM	IRIDIUM
6,350/oz	\$495/oz	\$5,150/oz
6,950/oz	\$495/oz	\$5,150/oz

The rhodium price continued to fall last week, and finished trading at \$6,350/oz – \$17,000/oz below its last peak price in March last year. After falling in the previous week, ruthenium stayed stable last week at \$495/ oz. Iridium also maintained the same price week-on-week.



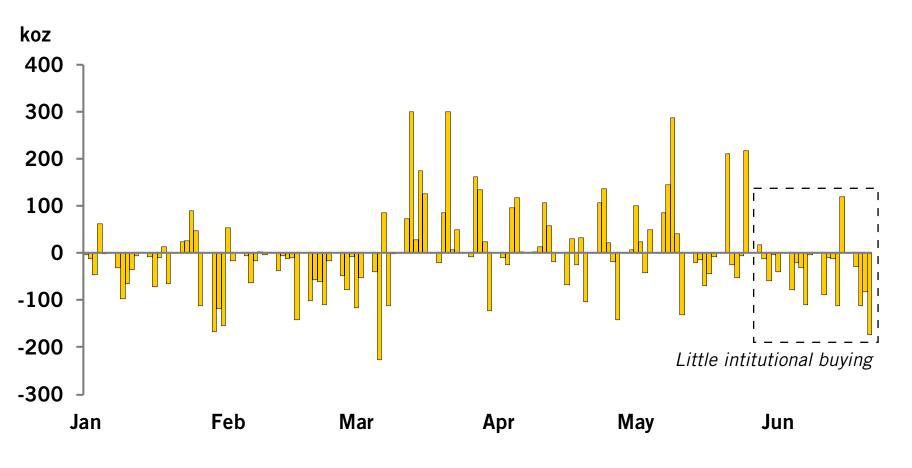


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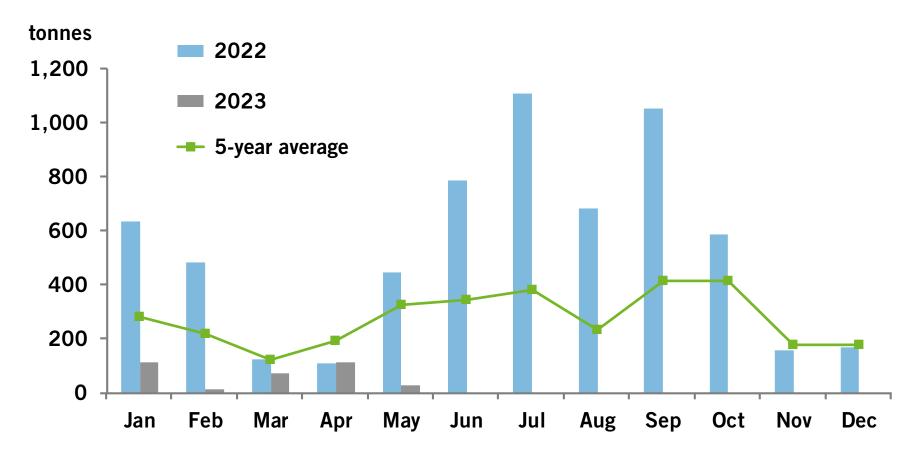
TRENDS AND INVESTMENTS

Global gold ETF flows



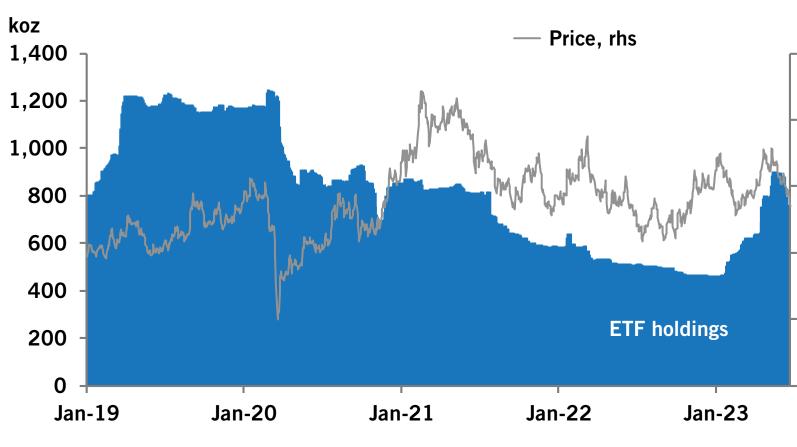
Source: SFA (Oxford), Bloomberg

India silver imports



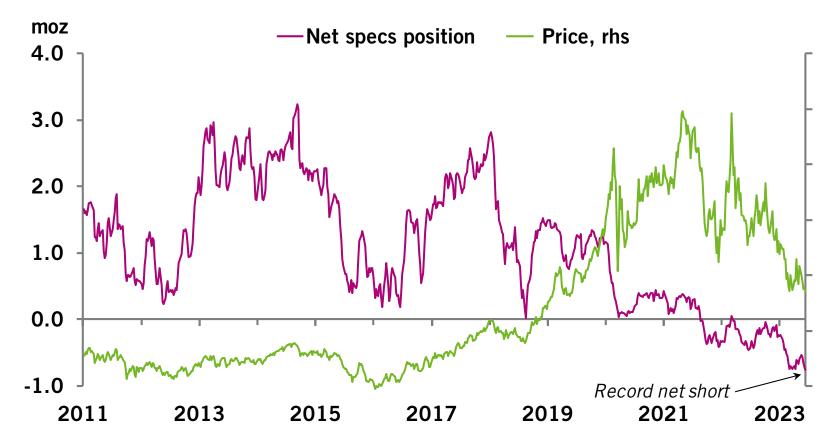
Source: SFA (Oxford), Bloomberg

South Africa platinum ETF holdings

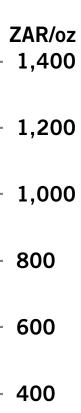


Source: SFA (Oxford), Bloomberg

NYMEX palladium futures



Source: SFA (Oxford), Bloomberg





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