

PRECIOUS APPRAISAL

No. 38

21st October 2024

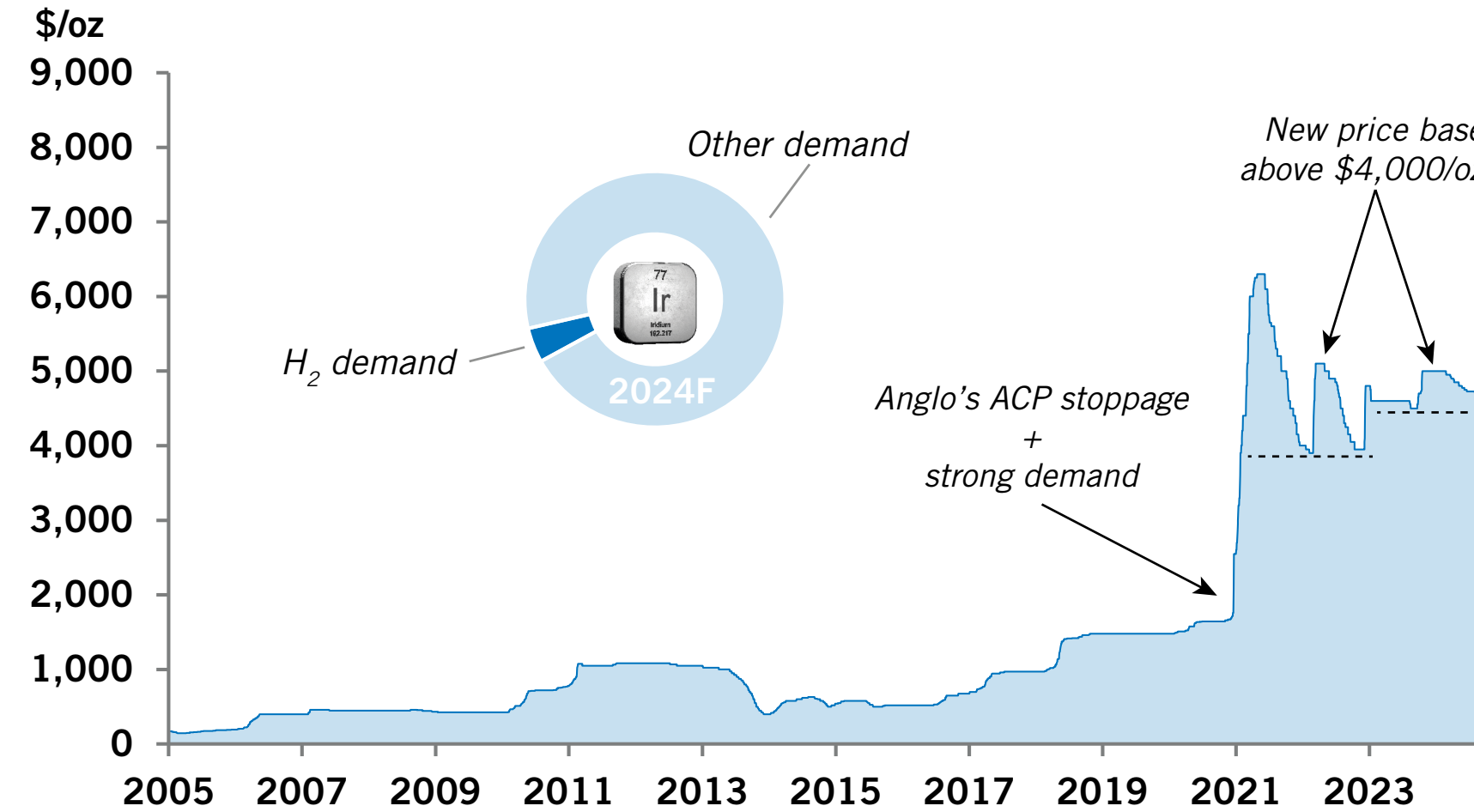
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MARKET SPOTLIGHT

Iridium's outlook linked to hydrogen economy wariness

Legislative uncertainty is one of green hydrogen's key sticking points. The EU has a domestic green H₂ production target of 10 million tonnes by 2030, plus an equivalent volume of imports. By this date, demand across all industries is estimated to be between 8 and 10 million tonnes (source: Hydrogen Europe). H₂ projects for steel decarbonisation are one of the largest potential end-uses for this green H₂ in the EU and North America. However, steel projects rely heavily on subsidies. France and Germany have provided €2.85 billion for green H₂-based steel projects in the last year. How successful a more widespread implementation of H₂-based steel production is likely to be is contingent on additional spending of tax dollars. In the US, uncertainty over the rulebook for Inflation Reduction Act 45 V subsidies adds to project investment, and iridium demand, ambiguity over the next few years as projects face delays as a result.

Iridium price history



Source: SFA (Oxford), Bloomberg, Heraeus

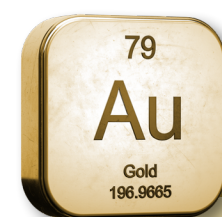
The cost of production and implementation is also under the spotlight. Places where green H₂ can be substituted for existing fuels/feedstocks are generally more expensive when using the green alternative, and this means projects require subsidies and incentives to become cost-competitive. A recent study in the journal Joule highlighted that the cost of using green H₂ to abate CO₂ emissions in various industries may be double or triple recent estimates. The study suggests that even if production costs – of which PGMs are a relatively significant component – come down, it will do little to bring down the overall cost of using green H₂, owing to high ancillary costs. If the costs of the implementation of green H₂ in industry and transport remain prohibitively high, the attrition rate of projects and the delay to iridium demand growth are likely to grow.

Therefore, the risk for iridium has flipped to the demand side. The ability of South Africa to supply sufficient iridium for green H₂ demand has been a primary concern over the last few years, and much R&D has been carried out, notably by Heraeus, to reduce metal loadings in proton exchange membrane (PEM) electrolyser catalyst membranes. However, under current market conditions, the risk has shifted to demand performance. PEM deployment has barely grown since 2022, whereas total electrolyser deployment has more than doubled. PEM remains the most popular electrolysis technology in Europe and North America (~60% of capacity), though it is less popular in the rest of the world (~25% of capacity) (source: Hydrogen Council).

The hydrogen economy has the potential to drive iridium demand. Iridium's excellent catalytic properties mean it is difficult to replace in electrolysers, and despite what is a relatively high price by historical standards, it is expected to remain a key component as a result. Demand growth is still likely to come from this sector. However, H₂ demand accounts for only ~5% of total iridium demand this year, so growth comes from a low base. If hydrogen market development continues to see delays, demand growth will not be as strong as anticipated, and the iridium market may take longer to tighten up.

PRECIOUS METALS REVIEW

Gold



	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	2,715	2.11%	2,720	18/10/2024	2,638	15/10/2024
€/oz	2,501	2.94%	2,505	18/10/2024	2,423	15/10/2024

Gold demand is expected to rise as China enters peak buying season.

Gold withdrawals from the Shanghai Gold Exchange (SGE) rose by 12.8% month-on-month in September, following the seasonal trend as wholesalers stocked up for the Golden Week holiday in early October. Withdrawals from the exchange represent gold demand from wholesalers and banks within China. As we move deeper into Q4, consumer gold demand is expected to stick to its seasonal pattern and pick up. The saving rate of the Chinese population is near record highs, while consumer confidence is near record lows, implying there is cash to be spent but not the willingness to spend it. If government stimulus raises consumer sentiment, consumer spending could rise – a portion of which is likely to be directed at jewellery and luxury goods. The high gold price is likely to be impacting absolute levels of demand, but the trend is still there. While withdrawals from the SGE are improving, they are doing so at a lower level compared to 2023 and the 5-year average. Given that SGE withdrawals were down 31% year-on-year in Q3'24 at 305 tonnes, annual gold demand could contract in China this year – even with withdrawals on the rise. Q4 consumption would have to outperform 2023, which looks unlikely even with stimulus efforts.

Gold hit another new all-time high last week, managing to push above \$2,700/oz for the first time ever, despite the US dollar showing continuing strength. The ECB cut interest rates for a third time last Thursday as the emphasis for the central bank shifts from inflation-focussed to growth-focused. Continuing monetary easing in Europe should weaken the euro relative to other major currencies and support the euro gold price, which also reached another all-time high last week. The gold price has risen by almost a third this year, so far just beating-out its 2007 full-year performance of 30.9%. 2024 is certainly an historic year for gold, and is shaping up to be the best year in terms of price performance in 45 years.

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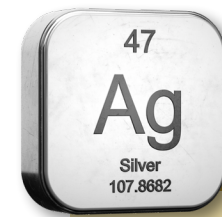
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Silver



	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	32.65	3.31%	32.69	18/10/2024	30.76	15/10/2024
€/oz	30.08	4.13%	30.11	18/10/2024	28.23	15/10/2024

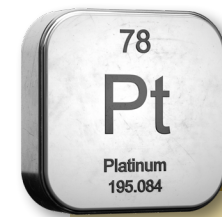
Silver ETF holdings have been expanding but still have room to grow.

Despite silver prices hanging on to a level just below a 10-year high, silver ETF holdings remain similar to 2023 levels. This is despite net inflows of 30 moz so far this year, and an upswing from cumulative net sales of 19 moz as recently as June. Total holdings currently sit at 730 moz. On balance, this seems to be a relatively muted response to the silver price reaching a decade-high this month. At their peak, silver ETF holdings reached more than 1 billion ounces, while the silver price was 15% lower than today. Silver has some significant tailwinds at the moment, which could help it to break out above \$32/oz. Lower real interest rates support capital allocation into bullion, and China's efforts to stimulate economic growth also lend support to silver from the industrial sector. Based on historical levels, investors have the capacity to increase holdings from the current base, but it will likely take a clear breakout to new highs to prompt this.

Friday saw gold close above \$2,700/oz for the first time ever, and silver followed it higher, marking the highest close since 2012. This may be the start of a break-out for silver, but more closes above \$32/oz will be needed to confirm it.

PRECIOUS METALS REVIEW

Platinum



	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	1,009	2.59%	1,015	18/10/2024	977	14/10/2024
€/oz	930	3.50%	935	18/10/2024	894	14/10/2024

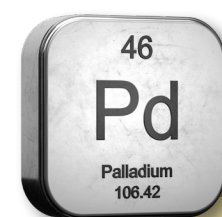
South Africa’s platinum output likely fell in Q3 but should rise in Q4.

In advance of the producer reporting season that begins this week, statistics from the South African government suggest that PGM output fell quarter-on-quarter in Q3’24. Total PGM production declined by 1.4% quarter-on-quarter, though it was nearly 5% stronger year-on-year in August which offset a larger year-on-year decline in PGM production in July. There has been no disruption to PGM mining operations from load-shedding in the last six months, which should have ‘cleared the runway’ for the drawdown of excess stocks built up in 2023. South African refined platinum production is forecast to fall marginally this year to just below 4 moz, matching contraction in primary supply across all other regions, which contributes to a tight platinum market in 2024. For now, South African miners’ reductions in operating and capital expenditure have enabled them to avoid further production cuts. The risk remains, however, of larger production curtailments going forward if PGM prices do not improve. In the short term, refined platinum production is expected to ramp up in Q4. Producers tend to lift output towards the end of the year in order to improve calendar-year production numbers and offset lower output during and following the Christmas holidays in South Africa.

The platinum price was dragged higher by gold as it rallied late last week. The closing price of \$1,009/oz was the highest weekly close since the beginning of July.

PRECIOUS METALS REVIEW

Palladium



	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	1,078	0.74%	1,080	18/10/2024	1,002	15/10/2024
€/oz	993	1.57%	995	18/10/2024	918	15/10/2024

France pumps the brakes on electrification subsidies. Subsidies for electric vehicles have been reduced for 2025 as part of wider budget cuts by the French government. The pot of subsidies available for French drivers will be cut from €1.5 billion this year to €1.0 billion from 2025. Subsidies of up to €7,000 are available for new BEV, FCEV and PHEV prices under €47,500 and that emit <50 g CO₂/km driven, alongside BEV leasing schemes for low-income households. Subsidies have played a critical role in driving the market share of electric vehicles in Europe, and when cuts have pulled the plug on new sales. When Germany abruptly ended its subsidy scheme at the end of 2023, BEV sales slumped, and as of August were down 32% year-on-year. Sales of catalysed vehicles have picked up the slack from BEVs in Germany. Plug-in hybrid sales are up 9.2% year-on-year, and petrol and diesel powertrain sales are up 5% and 4%, respectively, to August. The phased reduction in the budget available in France is likely to have less of an impact on BEV sales than in Germany, but it effectively means that fewer cars can receive funding year-on-year, BEV penetration could slow, and sales of catalysed vehicles would be supported.

Although this is positive for palladium demand in the short term, it clashes with the EU’s passenger car emissions targets for 2025. From next year, automakers will be fined for failing to meet fleet average CO₂ emission limits. For every 1 g CO₂/km over each automaker’s prescribed target that a fleet reaches, the automaker will be fined €95 for each car sold that year – whether BEV or not.

This is the ‘stick’ to the ‘carrot’ of subsidies that has been employed to this point in order to encourage BEV uptake. Both OEMs and government ministers have opposed the penalty system. Notably, the French Economy Minister called for flexibility from the EU, as currently BEV volumes are too low and ICE vehicle volumes too high to meet the targets. One issue for European automakers’ BEV sales is competition from Chinese competitors. Chinese OEMs were out in force at the Paris Motor Show last week, displaying a huge range of attractively priced BEV models. The EU has proposed duties of up to 45% on imported Chinese BEVs to encourage sales of domestically produced cars. This year, Western Europe’s palladium autocatalyst demand is forecast to fall by 6% to just over 1 moz, but with automakers forced to either sell more BEVs or pay the penalty, demand is at risk of falling below this level soon.

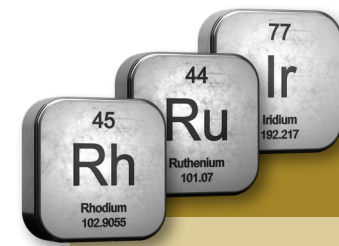
The palladium price continued to trade in the same range last week, but finished slightly higher week-on-week at \$1,078/oz.

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PRECIOUS METALS REVIEW Rhodium, Ruthenium, Iridium



	RHODIUM	RUTHENIUM	IRIDIUM
Reporting Week	\$5,225/oz	\$525/oz	\$5,100/oz
Previous Edition	\$5,225/oz	\$525/oz	\$5,100/oz

Rhodium autocatalyst demand in North America is holding up for now. This year, rhodium autocatalyst demand is forecast to fall 2.5% year-on-year as the trend toward BEVs continues albeit at a slower than expected pace. The autocatalyst sector makes up almost 90% of rhodium demand, and therefore rhodium is the most exposed of all the PGMs to the rise of BEVs. In the US, continued rollout of Tier III emissions standards this year helps to maintain rhodium demand in the short term. From 2026, California and 12 other states will introduce minimum 35% BEV sales requirements that are a risk to rhodium demand going forward. This year, however, the expectation is for contractions in both automotive demand and supply, resulting in a tight market which has helped to support the price at current levels.

Last week, all three small PGM prices remained stable.

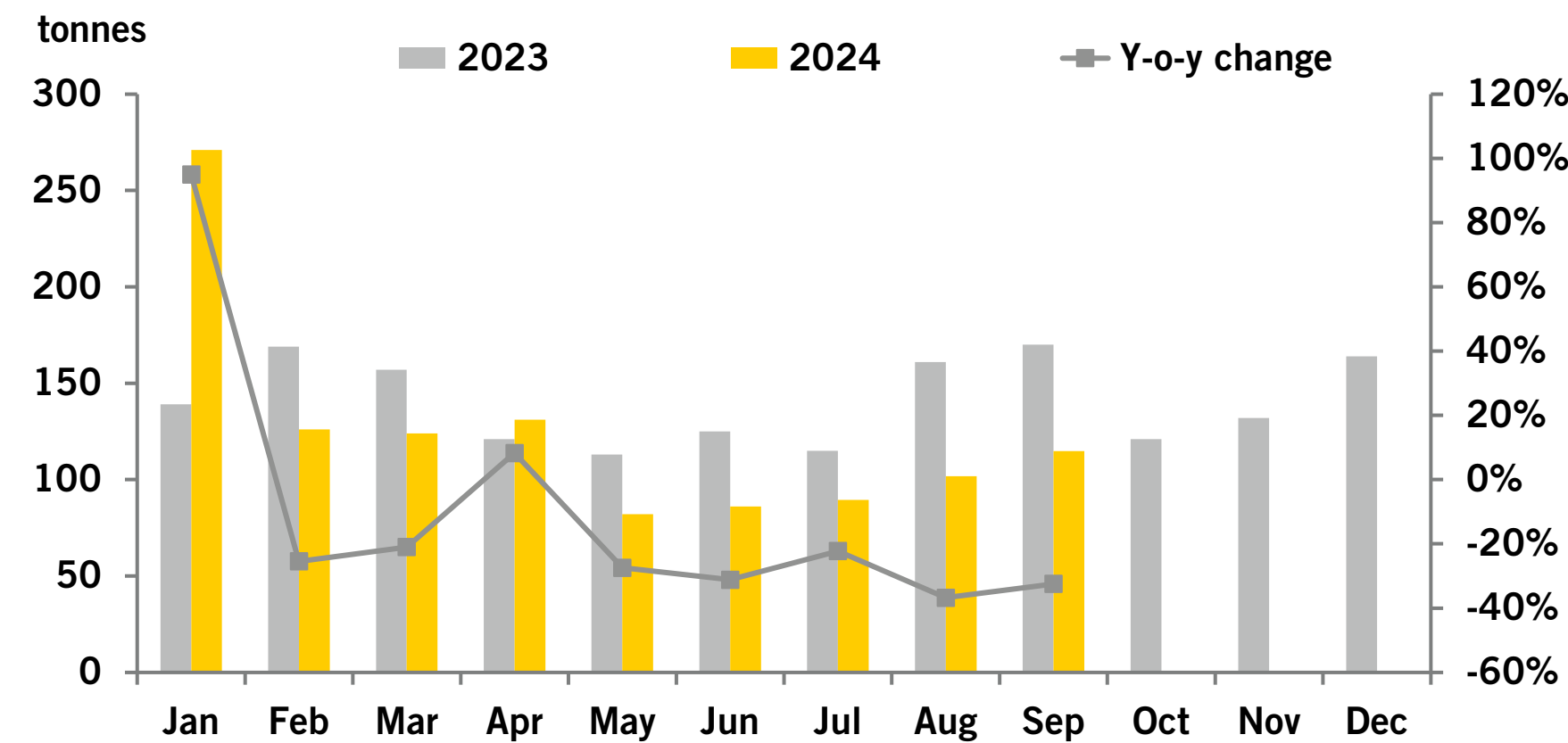
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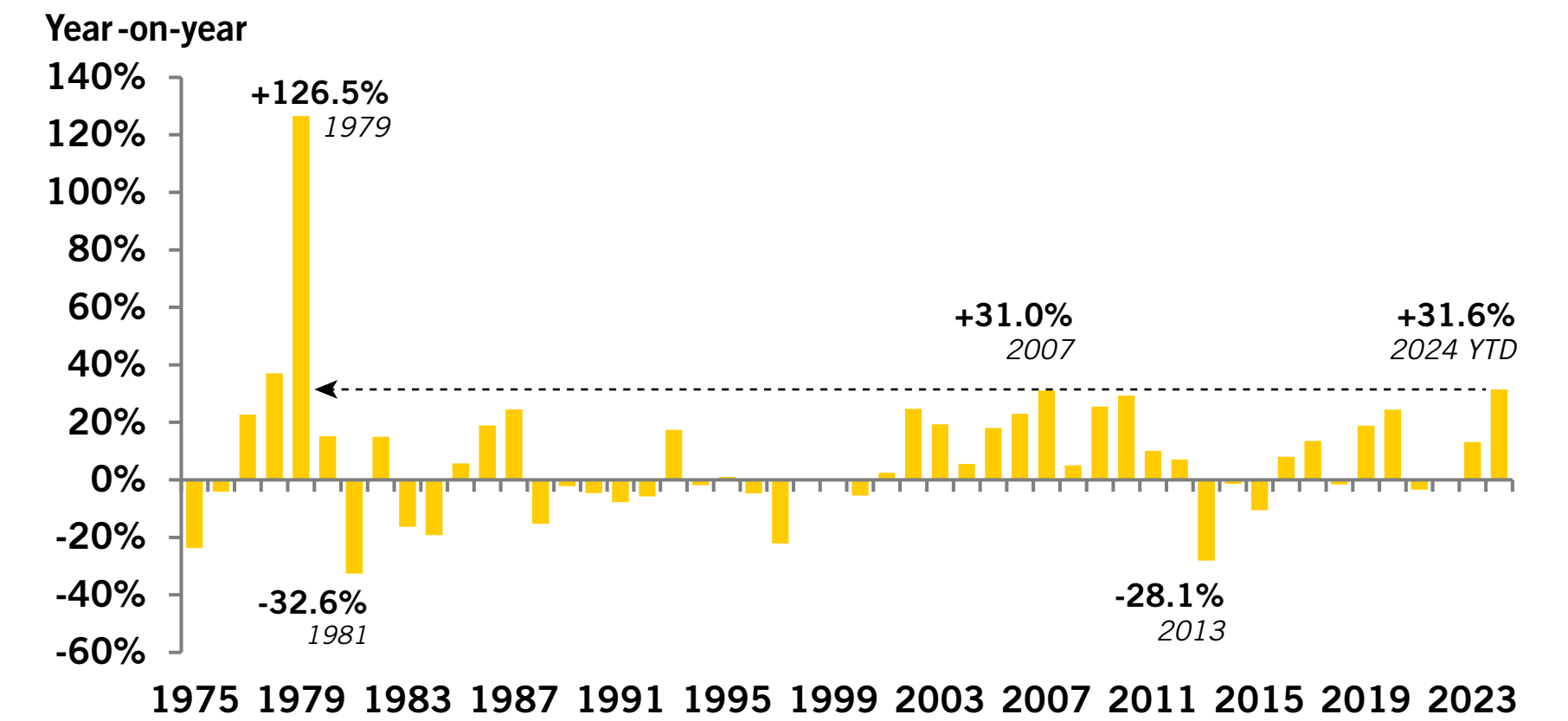
TRENDS AND INVESTMENTS

Shanghai Gold Exchange withdrawals



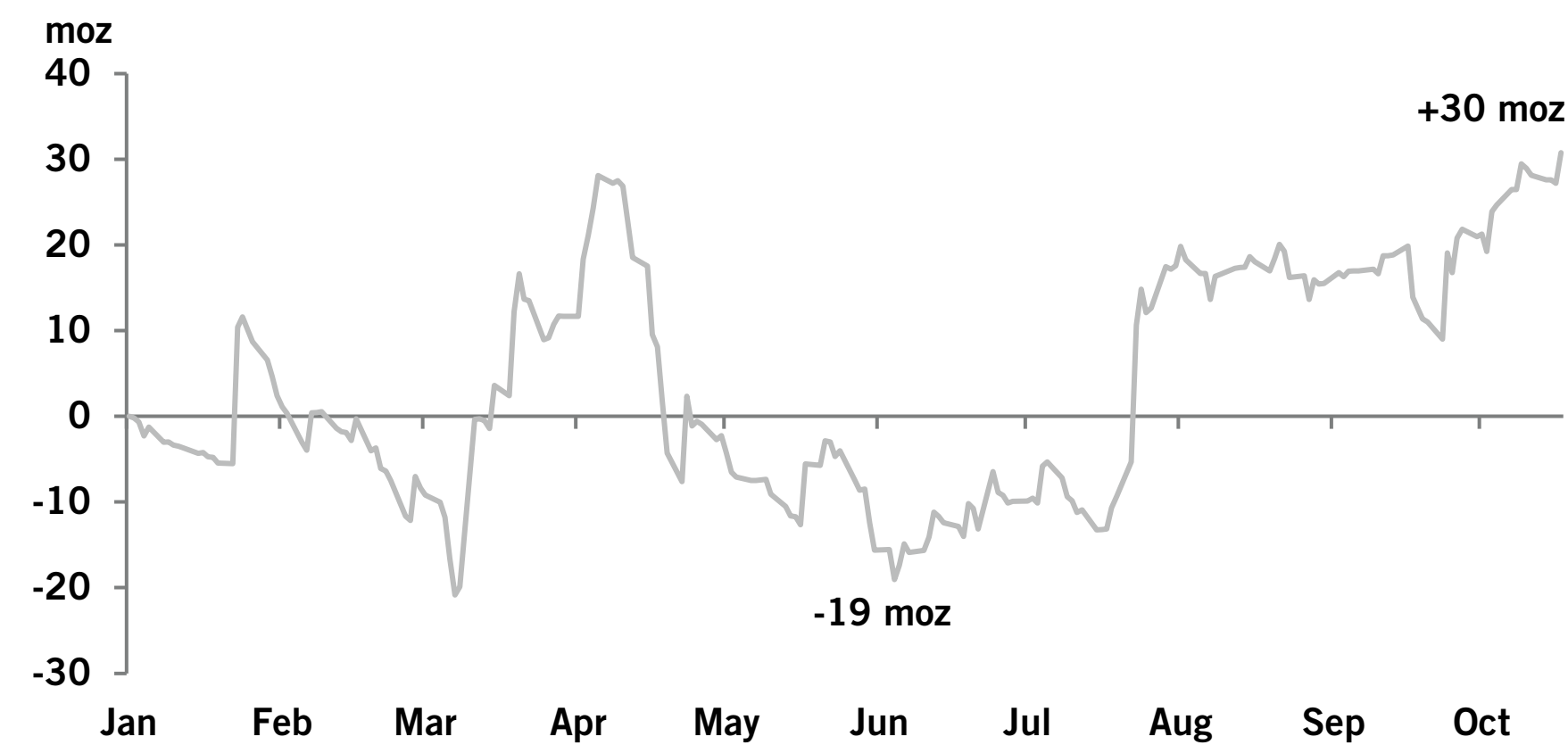
Source: SFA (Oxford), SGE

Annual gold price performance, 1975-2024 YTD



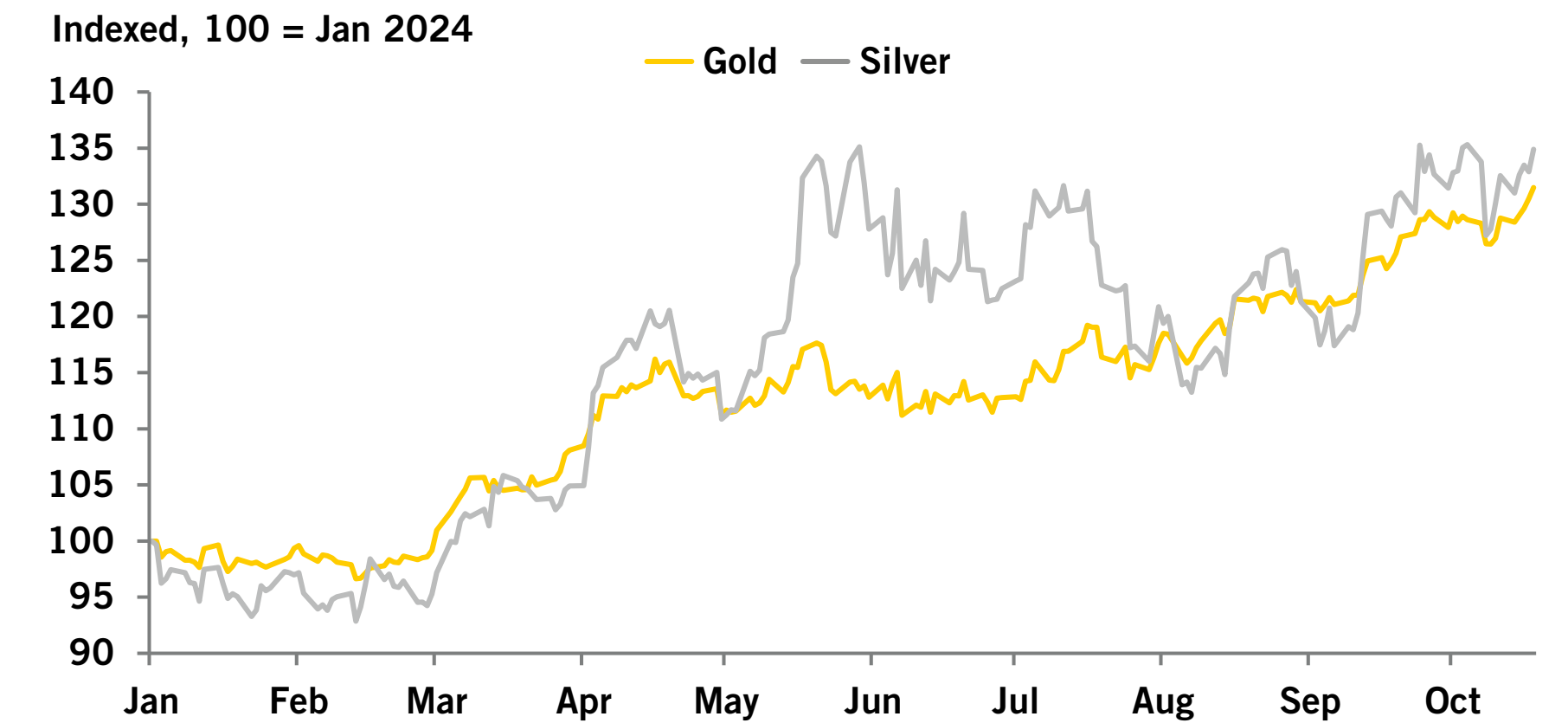
Source: SFA (Oxford), Bloomberg

Cumulative change in Silver ETF holdings, 2024



Source: SFA (Oxford), Bloomberg

Gold and silver price performance YTD



Source: SFA (Oxford), Bloomberg

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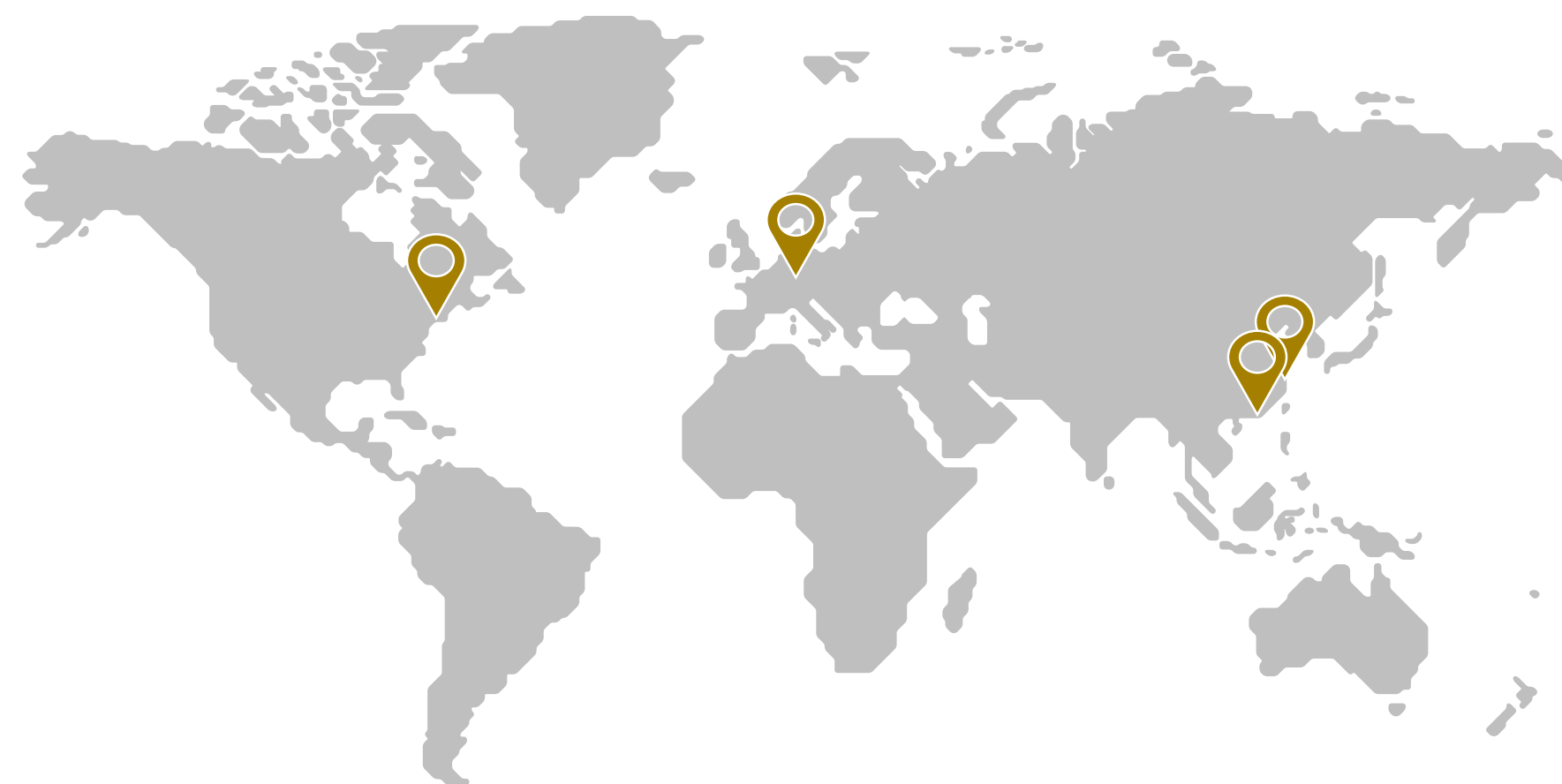
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