

PRECIOUS APPRAISAL

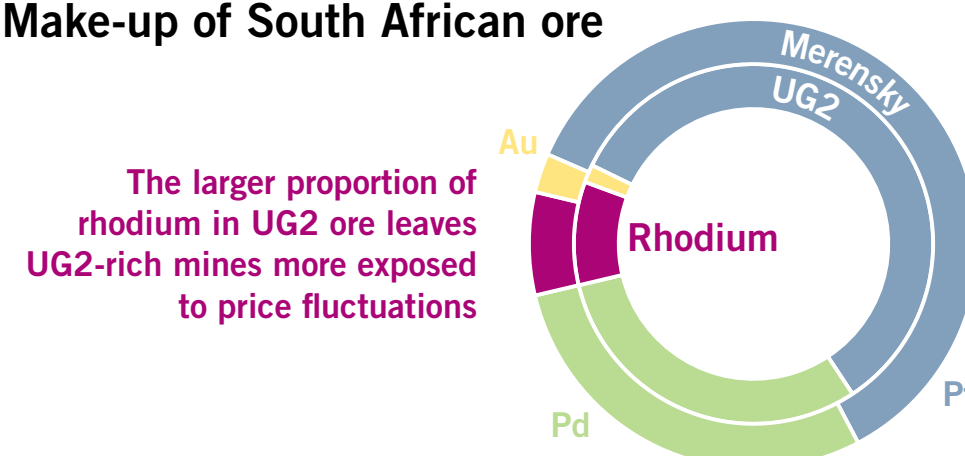


MARKET SPOTLIGHT

South Africa's PGM miners are treading water in a sea of rising costs

Falling palladium and rhodium prices have contributed to a sharp decline in PGM miners' revenues with the average basket price (metal production weighted average) falling by 66% since 2021 and approaching the average level during 2011-2019. South African ore is derived from two main 'reefs' of PGM-enriched rocks, UG2 and Merensky. The UG2 reef is typically richer in rhodium than the Merensky reef. The average basket price received for each 4E ounce of UG2 PGMs has declined the most at 70% in that period, mainly owing to the drastic fall in the rhodium price. Though the basket price remains higher for UG2 ore than Merensky ore, it has experienced a larger decline. Mines that produce a higher UG2:Merensky ratio have therefore lost a greater proportion of revenue.

Make-up of South African ore

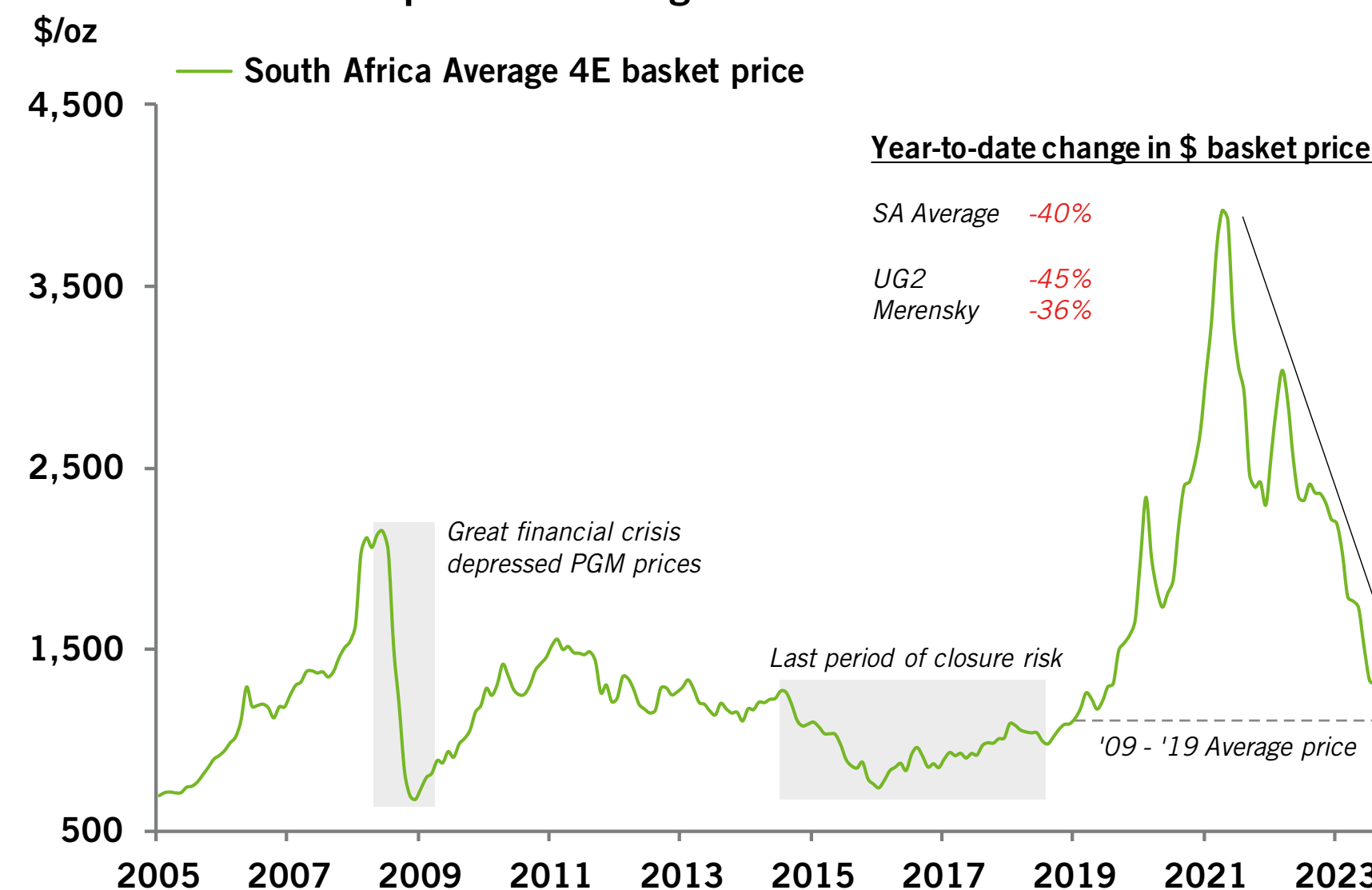


Source: SFA (Oxford). Note: refers to 4E PGM content

Simultaneously, costs are much higher. Inflation in South Africa has averaged 6.7% since January 2022, but mining inflation has been greater. In the same period, the rand has weakened from 15.84 to 18.77 per dollar, driving up dollar-based costs such as fuel and other consumables. Power supply instability has led to producers turning to diesel electricity generation to smooth out Eskom load-curtailment, also adding to operational costs.

Lower production could be the result. During the mid-2010s, South Africa's higher-cost mines were largely loss-making. A few mines closed and there were plans to close some old shafts, but rising rhodium prices provided a stay of execution. However, this time around the situation is different. Producers can cut overheads in the short term, but depleted ore reserves and much higher costs may finally see some of these older shafts shuttered.

South Africa basket prices returning to mean?



Source: SFA (Oxford), Bloomberg

The longer prices stay low, the more likely it is that shafts and unprofitable sections will close. It is probable that South African PGM mines with higher cost-bases are already loss-making. The tolerance of producers to using up cash reserves determines how long it takes to start the closure process. Any response is likely to be tailored to individual shafts, determined by their profitability and remaining reserves. The process could begin sooner this time, particularly in areas that do not have as much life left as they had in the previous down-cycle. The platinum market is forecast to be in deficit which could be supportive of the price in the longer term, but palladium and rhodium could move into surplus. Therefore the scale of cuts, particularly of UG2 production, will be most important for the rhodium market.

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Gold

79
Au

	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	1,927	0.36%	1,931	11/09/2023	1,901	14/09/2023
€/oz	1,805	0.70%	1,810	15/09/2023	1,774	14/09/2023

Higher US headline inflation strengthened the dollar and weighed on the gold price. The US dollar has been strengthening over the last six weeks, reaching its highest level since March and putting downward pressure on gold. The US labour market remains surprisingly healthy and headline inflation accelerated at the fastest rate in 14 months during August. Core inflation is trending lower but is unlikely to satisfy the Fed as the oil price has now risen 27% since mid-June and is likely to add to energy costs over the winter. Officials have commented that the strong data could indicate further tightening is required. However, the market expects that the Fed will keep the Fed Funds Target Rate unchanged at 5.25-5.50% this week, though a 25 bp hike should not be ruled out. Gold is likely to see pressure from the dollar strength and remain below its price highs from earlier this year until it becomes clear that the Fed is ending this rate hike cycle.

The East-West gold price has diverged. The premium for gold on the Shanghai Gold Exchange against the price in the US has been rising since May and has been higher on a five-day average than at almost any other period, pointing to stronger physical demand for gold in the Chinese domestic market. This could be connected to the depreciation of the yuan against the dollar which has helped lift the Chinese gold price to near record levels as investors look for a store of value. If in the coming months it becomes clear that the US economy is weakening and China's outlook brightens, this trend could reverse.

The gold price found support just above \$1,900/oz last week, but should that give way the next support level may be \$1,810/oz.

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Silver

⁴⁷ Ag	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	23.18	1.06%	23.29	15/09/2023	22.30	14/09/2023
€/oz	21.72	1.41%	21.84	15/09/2023	20.93	14/09/2023

Silver is seeing an investment demand dip. Global silver ETF holdings have declined by 2.3% globally since the start of August, equal to 17 moz of metal reallocated. European funds have seen the largest proportional outflows of -2.38% an equivalent to 4.9 moz (~€103 million). Similarly, Perth Mint's sales of silver bullion products fell by 52% year-on-year to 0.79 moz in August. For Australian coins, Germany has historically been a large export market, owing to the preferential VAT rate on non-EU bullion coins. This advantageous tax regime ended at the start of this year, with non-EU coins now subject to 19% VAT. This appears to have acted as headwind to retail demand. The unprecedented interest rate hikes in the EU may also have impacted demand for silver as bond yields have risen this year. The ECB last week raised rates for a 10th consecutive meeting to 4%. It is possible this could be the final hike in this cycle as the Eurozone economy is starting to falter and the European commission last week downgraded growth expectations for 2023 and 2024. If the Eurozone tips into recession, there could be a resurgence in demand for bullion, as is often the case in times of uncertainty.

The silver price continued its downtrend last week, falling to a four-week low of \$22.30, but support above \$22 held before the price rose to the end of the week. In euro terms, silver strengthened more following the ECB decision as the value of the euro dropped.

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Platinum

⁷⁸
Pt

	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	930	3.97%	933	15/09/2023	895	12/09/2023
€/oz	872	4.36%	874	15/09/2023	835	12/09/2023

New York Platinum Week was held last week where attendees discussed the state of the market. The future for platinum in the hydrogen economy was a topic of discussion with the main question being how soon might it meaningfully support platinum demand (it may take some time). The collapse in PGM prices was also concerning attendees, with the possible impact of low prices on primary production being a key consideration. Of equal concern was demand for PGMs, with the future of ICE vehicles becoming less certain as BEVs gain market share. However, there was scepticism that the US would see the same level of uptake of BEVs that has occurred in Europe. The decline in autocatalyst recycling was also a concern. A recovery in 2024 is hoped for but there is little visibility in the near term. With much improved light vehicle production and new vehicle sales rising this year, the pressure on the second hand market should start to ease which suggests that there should be an improvement in due course as more older vehicles are scrapped.

At just over \$900/oz, the platinum price is now much lower than at London Platinum Week in May as it has followed its typical seasonal pattern.

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Palladium

⁴⁶ Pd	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	1,245	3.73%	1,277	15/09/2023	1,204	11/09/2023
€/oz	1,167	4.08%	1,198	15/09/2023	1,121	11/09/2023

Germany reduces BEV appeal. The German government ended subsidies for plug-in hybrids at the end of last year, leaving only subsidies for BEVs. As of 1 September, the company car sector is excluded from BEV subsidies of up to €6,750/car, which will now be available to private buyers. In 2022, business fleet vehicles made up 16.6% of total new registrations in Germany, though the proportion is likely higher for electric-only registrations. BEV registrations jumped by 171% year-on-year to 86,649 units in August in the run up to the legislation change. Federal incentives are scheduled to fall again at the end of 2023 for private buyers. The reduced support, along with the cost of BEVs being still much higher than ICE competitors, could see the pace of BEV sales growth slow which is positive for palladium demand. Germany aims to have 15 million BEVs on the roads by 2030, which could remove nearly 200 koz of palladium demand. Total BEV sales to date have been just over 1.5 million with 355,000 sold this year, so this looks ambitious.

The palladium price rose last week as support at \$1,200/oz held, but the price is now overbought so \$1,300/oz may provide resistance again.

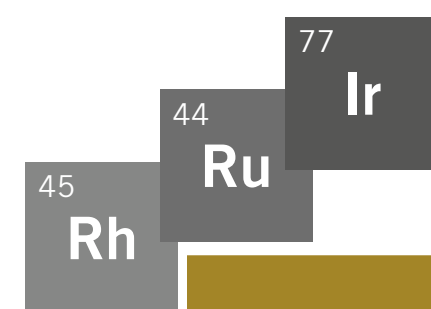
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Rhodium, Ruthenium, Iridium



	RHODIUM	RUTHENIUM	IRIDIUM
Reporting Week	\$4,650/oz	\$475/oz	\$4,950/oz
Previous Week	\$4,650/oz	\$475/oz	\$4,950/oz

The fuel cell vehicle market has been weak outside China and the US. Worldwide, FCEV sales dropped by 9.6% year-on-year in the first seven months of 2023 to just 9,619 units (source: SNE Research). This is but a drop in the ocean for the global light-vehicle market. Japan saw a 63% fall in sales from January to July this year, which has resulted in many fuelling stations closing as the number of operating cars is lower than expected. Fuel cell vehicles require the fuelling infrastructure to operate and fuelling stations need customers – a vicious cycle acting as a headwind to demand. The bright spots are the US and China, where sales have grown year-to-date, and combined make up >56% of the global market. Western nations are beginning to invest more heavily in fuel cell development, particularly in the heavy-duty sector, and China is attracting automotive fuel cell manufacturers. Heavy-duty applications are considered the most promising for widespread adoption and are supportive of ruthenium demand in the cells and iridium for electrolytic production of hydrogen.

The price of all three small PGMs remained steady over the last week.

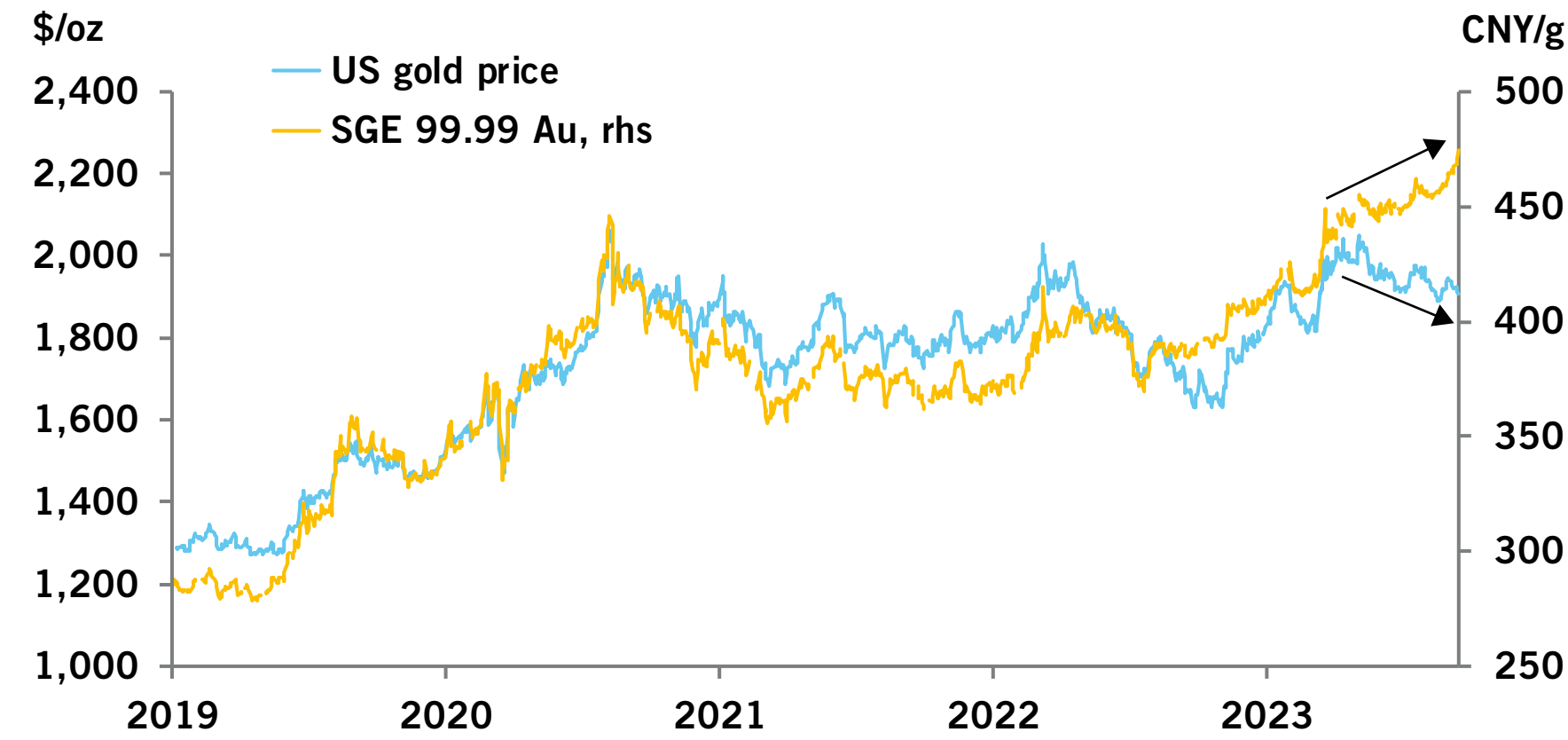
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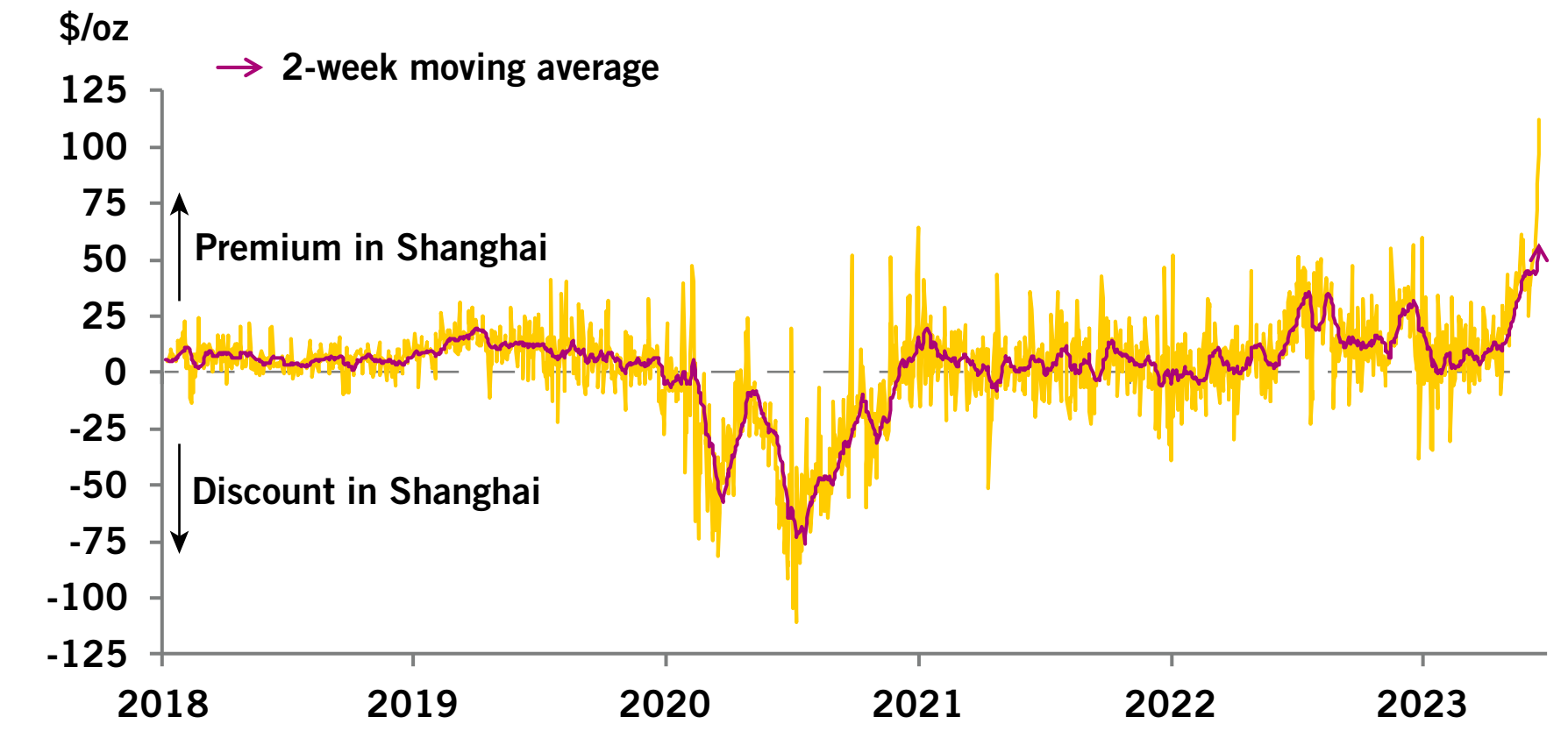
TRENDS AND INVESTMENTS

Shanghai vs. US gold price



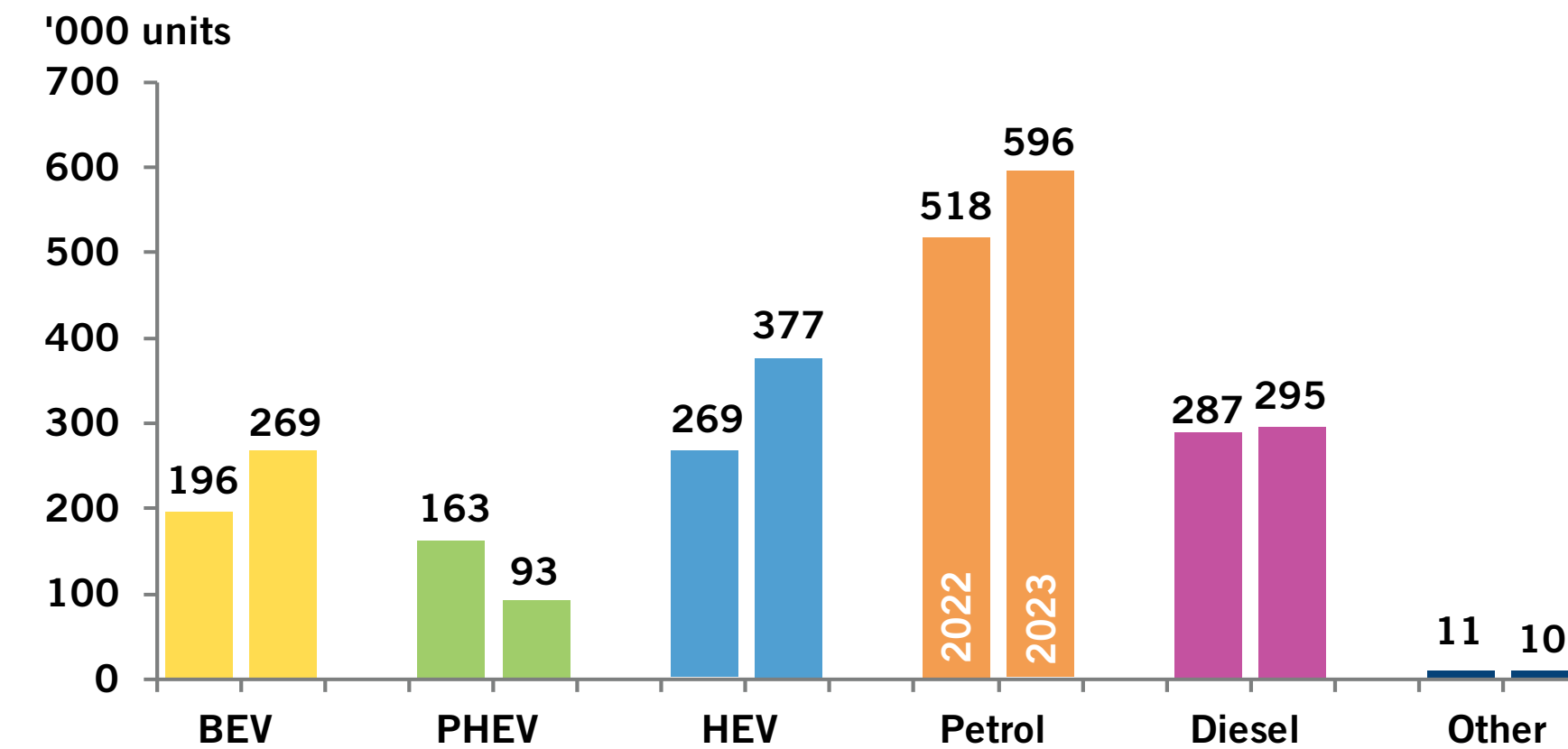
Source: SFA (Oxford), Bloomberg

Shanghai-London gold premium/discount



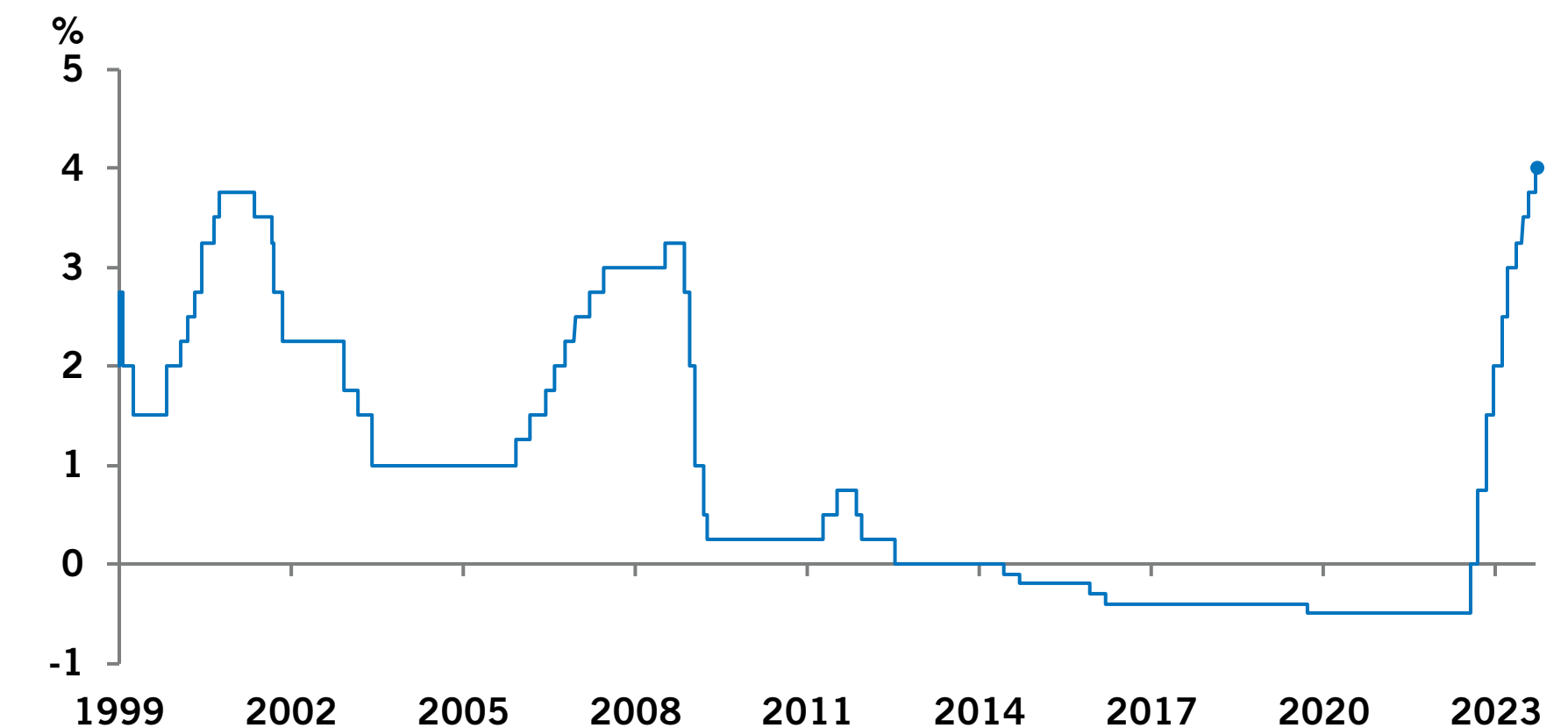
Source: SFA (Oxford), Bloomberg

Germany passenger car sales Jan-Jul



Source: SFA (Oxford), ACEA

ECB deposit facility interest rate



Source: SFA (Oxford), Bloomberg

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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

USA

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

www.sfa-oxford.com

The Oxford Science Park,
Oxford, United Kingdom, OX4 4GA



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