

PRECIOUS APPRAISAL

No. 11
4th April 2022



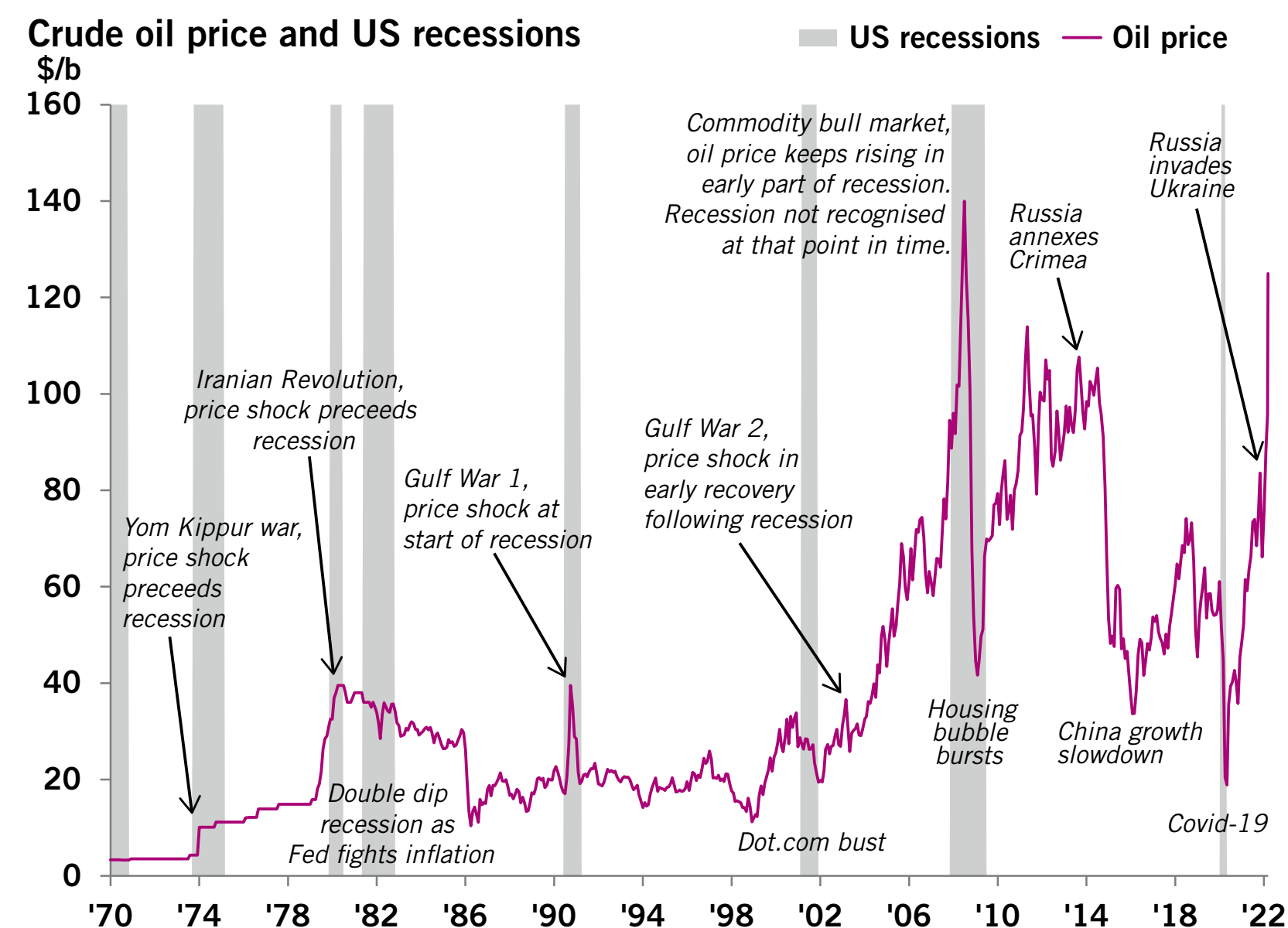
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MARKET SPOTLIGHT

Back to the 1970s: Oil price shocks and recessions

PGM demand is at risk from a recession in the US and Europe. Together, North America and Europe represent 24% of global platinum and palladium demand and 41% of rhodium demand. Slower economic growth could see that fall.

Oil price spikes can cause recessions. From the 1970s, jumps in the price of oil have boosted inflation and cut consumers' disposable income, leading to recessions in the US and Europe. In the 1970s, the price hikes led to a general repricing of oil, whereas later surges in the price were typically retraced during the recession that followed. Short-term price shocks occurred as the US entered recession in the early 1990s (Gulf War 1) and in 2008 following the commodity boom.



Source: SFA (Oxford), Bloomberg

The oil price shock and yield curve inversion have put the US economy on recession watch. Last Tuesday, the 10-year-2-year US bond yield spread briefly inverted as the 10-year yield fell below that of the 2-year bond. This pattern has been a precursor to every US recession since the late 1970s, usually occurring 18-24 months before growth reverses.

Europe is vulnerable too. Supply chain problems and reliance on Russian energy exports make Europe more at risk of a recession than the US. The Eurozone economy is expanding more slowly than the US and that puts it closer to stall speed. Rapidly rising energy and food costs will cut disposable incomes, slowing growth in other regions too.

A recession in 2023 could put PGM demand back to 2020 levels. Economic contractions cut PGM demand from the automotive sector as car sales fall, and similarly reduce jewellery and industrial demand. Global light-vehicle production numbers have already been downgraded from 93 million to 91 million for 2023. This stems from lower Russian production, and European plants being impacted by the ongoing semiconductor chip shortage and supply chain issues resulting from the war in Ukraine. If light-vehicle production were to return to 2020 levels of 75 million units, this would result in a loss of demand (vs. 91 million units) of 1.6 moz of palladium, 570 koz of platinum and 180 koz of rhodium, moving the palladium and rhodium markets into large surpluses. As long as there is uncertainty over the export of Russian PGMs the prices could remain volatile, but a recession would see palladium and rhodium prices reset lower.

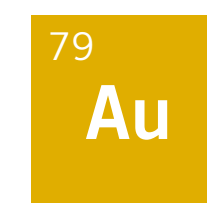
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PRECIOUS METALS REVIEW

Gold



	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	1,926	-1.54%	1,950	31/03/2022	1,890	29/03/2022
€/oz	1,744	-2.03%	1,775	28/03/2022	1,699	29/03/2022

Ten straight weeks of inflows for gold ETFs amid geopolitical risks and rising inflation. Investors have stayed loyal to gold this year with safe-haven demand prompting 7.7 moz of additions to their investments, taking total holdings to 105.6 moz. This has been the longest streak of weekly gains in ETF holdings since March to August 2020, during which time more than 21 moz was added to gold ETF holdings and the gold price reached its record high. The gold price struggled last week, dropping by just over 1.5% to \$1,926/oz. Despite this, elevated investor interest has pushed the yellow metal's price up 5.4% in the first quarter. Safe-haven demand may ease if peace talks between Russia and Ukraine are successful, but inflation looks set to remain elevated which could continue to support the gold price. Inflation in Germany reached 7.6% year-on-year in March, the highest level since 1981, and the ECB has yet to decide when it might start increasing interest rates. The Fed has made the first move and the futures markets are pricing in the Fed funds rate being over 2 percentage points in 12 months, but that looks likely to leave it well below inflation.

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Silver



	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	24.74	-2.71%	25.18	28/03/2022	23.97	29/03/2022
€/oz	22.40	-3.22%	22.98	28/03/2022	21.57	29/03/2022

Silver held around \$25/oz last week, after plunging 5.7% during Monday and Tuesday, with the intraday price bottoming out at a March low of \$23.97/oz. The silver price followed gold down on optimism that Russia and Ukraine were coming closer to a resolution to the war in Ukraine following the latest round of peace talks. Unlike gold ETFs, silver ETFs have been subject to outflows. Last week, holdings lost 3.0 moz. That brought total outflows for March to 12.8 moz with total holdings standing at 893 moz, still high by historical standards but over 12% lower than the all-time high of 1,021 moz. March's outflows have reduced the gain in holdings seen since the start of the year to 5.8 moz. If the price is to make further gains, stronger investor interest will be needed.

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Platinum

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Pt

	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	990	-1.57%	1,006	30/03/2022	958	29/03/2022
€/oz	897	-2.03%	913	28/03/2022	861	29/03/2022

South Africa's platinum production set to hold at 4.5 moz in the medium term, thanks to mine replacement and expansion plans. Northam Platinum is continuing to ramp up production at its operations which, along with other producers' plans, will help to steady South African output.

Northam's full-year production for 2021 totalled 387 koz of platinum, roughly 8% of South Africa's total production. Between this year and 2026, Northam aims to increase platinum output to approximately 600 koz through expansion and ramp-up of production at the Zondereinde Western Extension, Booyendal South and Eland operations. Impala Platinum and Anglo Platinum have recently announced plans to extend the lives of the Marula and Mototolo mines by 17 years and 30 years, respectively.

Northam's interim results indicated refined platinum production in the second half of 2021 was slightly hampered by the smelter rebuild, falling 2.7% year-on-year. The downtime of the furnace has led to the build-up of a stockpile of 685 kt of ore that will be processed in the first half of 2022. This should add momentum to production and ensure that the company hits its guidance of 680-710 koz 4E, of which approximately 420 koz will be refined platinum.

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Palladium

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Pd

	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	2,258	-5.84%	2,347	01/04/2022	2,040	29/03/2022
€/oz	2,045	-6.75%	2,124	28/03/2022	1,840	29/03/2022

Palladium price plunged by 6% last week as the demand outlook weakened further. Palladium closed last week at \$2,258/oz after a fourth consecutive week of falling prices. Supply worries are easing as tentative progress appears to be made in peace talks between Russia and Ukraine, and automotive demand is yet to show signs of recovery in the short term. Last week, another 96,000 vehicles were cut from production quotas, 79,000 from European car and truck manufacturers alone (source: AutoForecast Solutions). This adds to the total anticipated reduction of vehicle production of more than 1.2 million thus far for 2022. In the near term, more price volatility is likely. Over the next few months as supply chains stabilise and the outlook becomes clearer, the palladium price should find support. With the market now looking likely to be in surplus this year, that could be at a lower level than current prices.

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Rhodium, Ruthenium, Iridium



	RHODIUM	RUTHENIUM	IRIDIUM
Reporting Week	\$20,950/oz	\$695/oz	\$5,750/oz
Previous Week	\$20,350/oz	\$695/oz	\$5,750/oz

Small PGMs see big jump in yield at Northam's South African operations.

Refined iridium production from Northam was 11 koz for the second half of 2021. This was up 51% year-on-year from H2'20 which was still impacted by Covid mitigation measures, taking the 2021 total to 22 koz. Production was 56 koz for rhodium and 89 koz for ruthenium. Both metals saw strong growth year-on-year in H2'21, posting increases of 25% and 46%, respectively. Booyendal South mine is set to continue ramping up output as it exploits three areas on the UG2 Reef and one on the Merensky Reef. Overall rhodium production should increase as the mill feed favours the small PGM-rich UG2 Reef over the platinum-rich Merensky Reef. Overall output of rhodium, iridium and ruthenium from South Africa is predicted to slip slightly this year because last year's output was boosted by Anglo Platinum's stock being processed.

The iridium and ruthenium prices remained steady for the second week in a row, while rhodium continued its gradual upward trend of this year, gaining \$600/oz on the previous week and closing trading at \$20,950/oz.

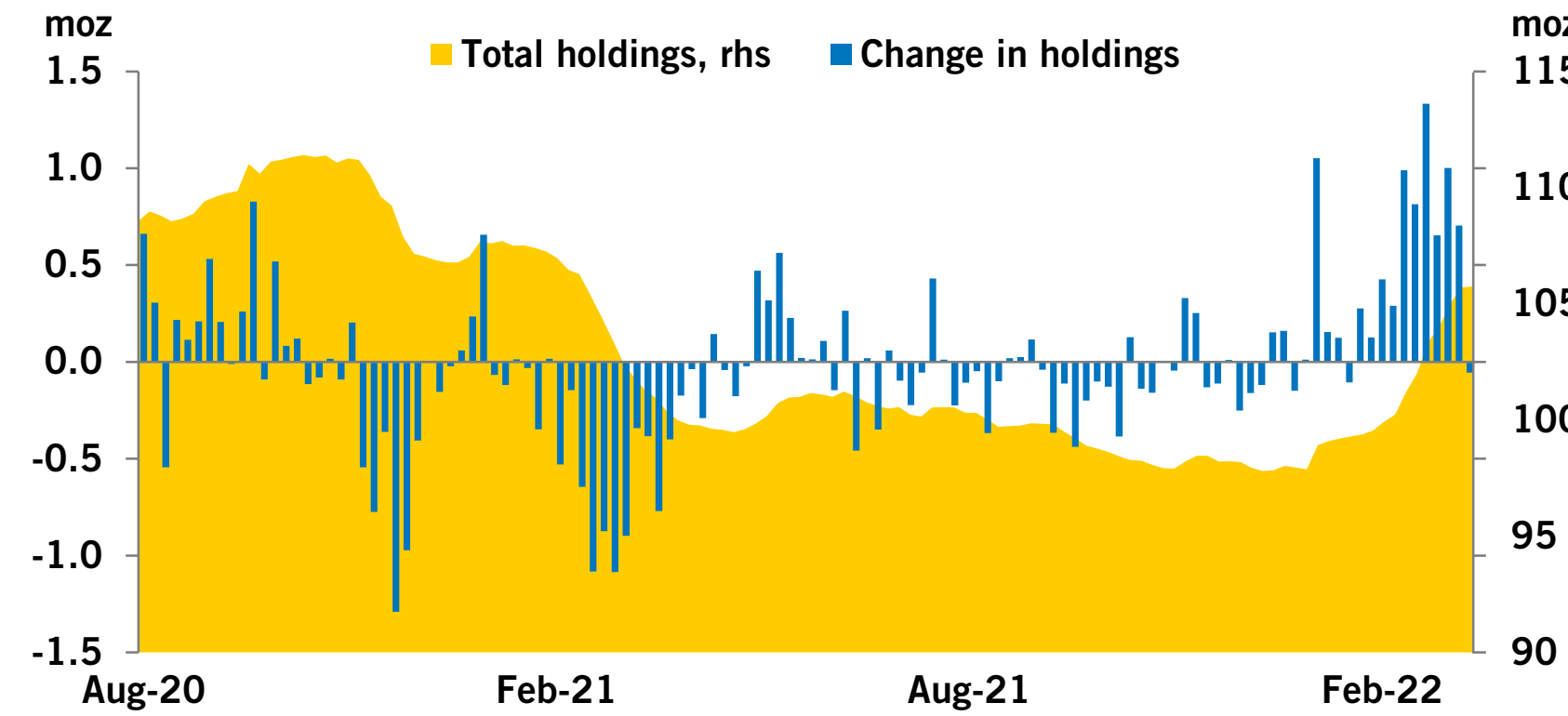
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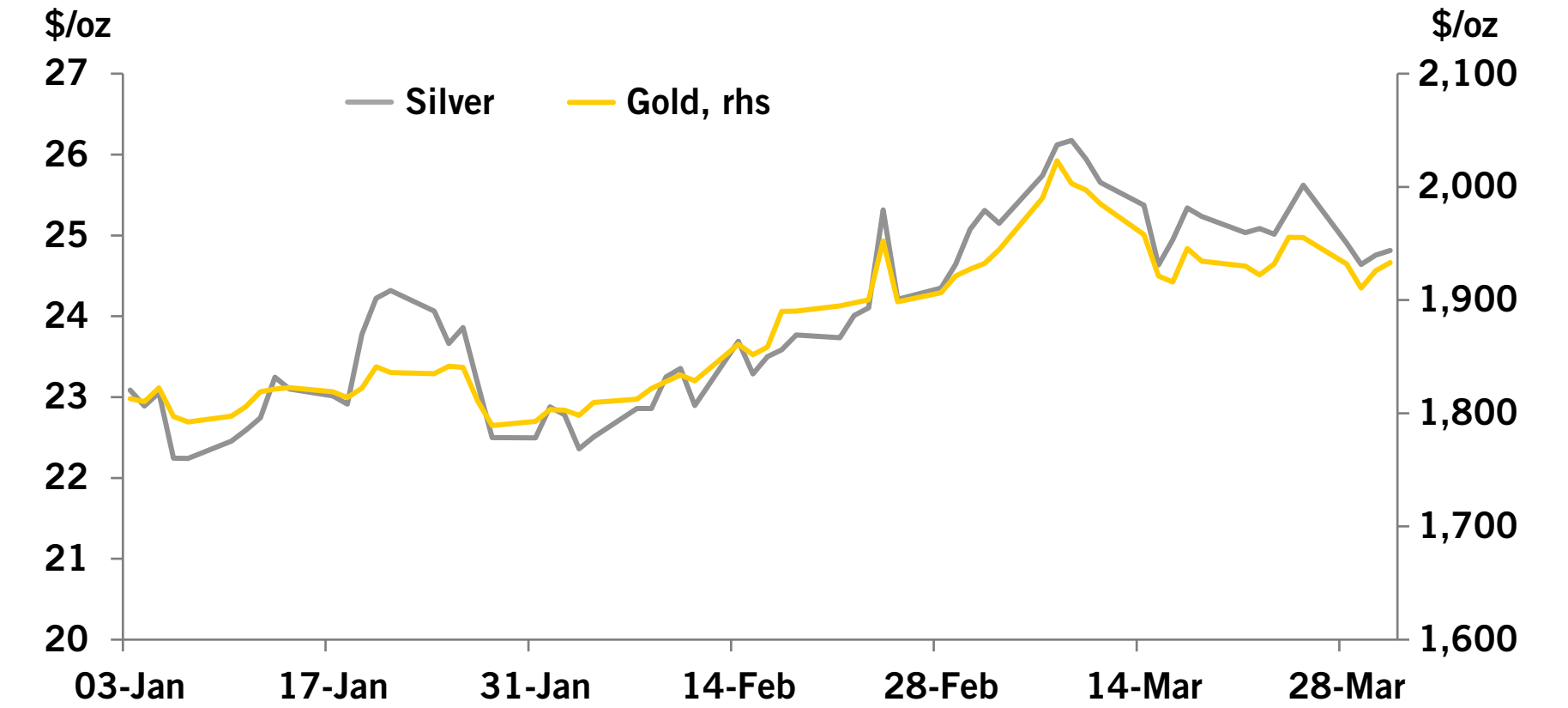
TRENDS AND INVESTMENTS

Gold ETFs since all-time high



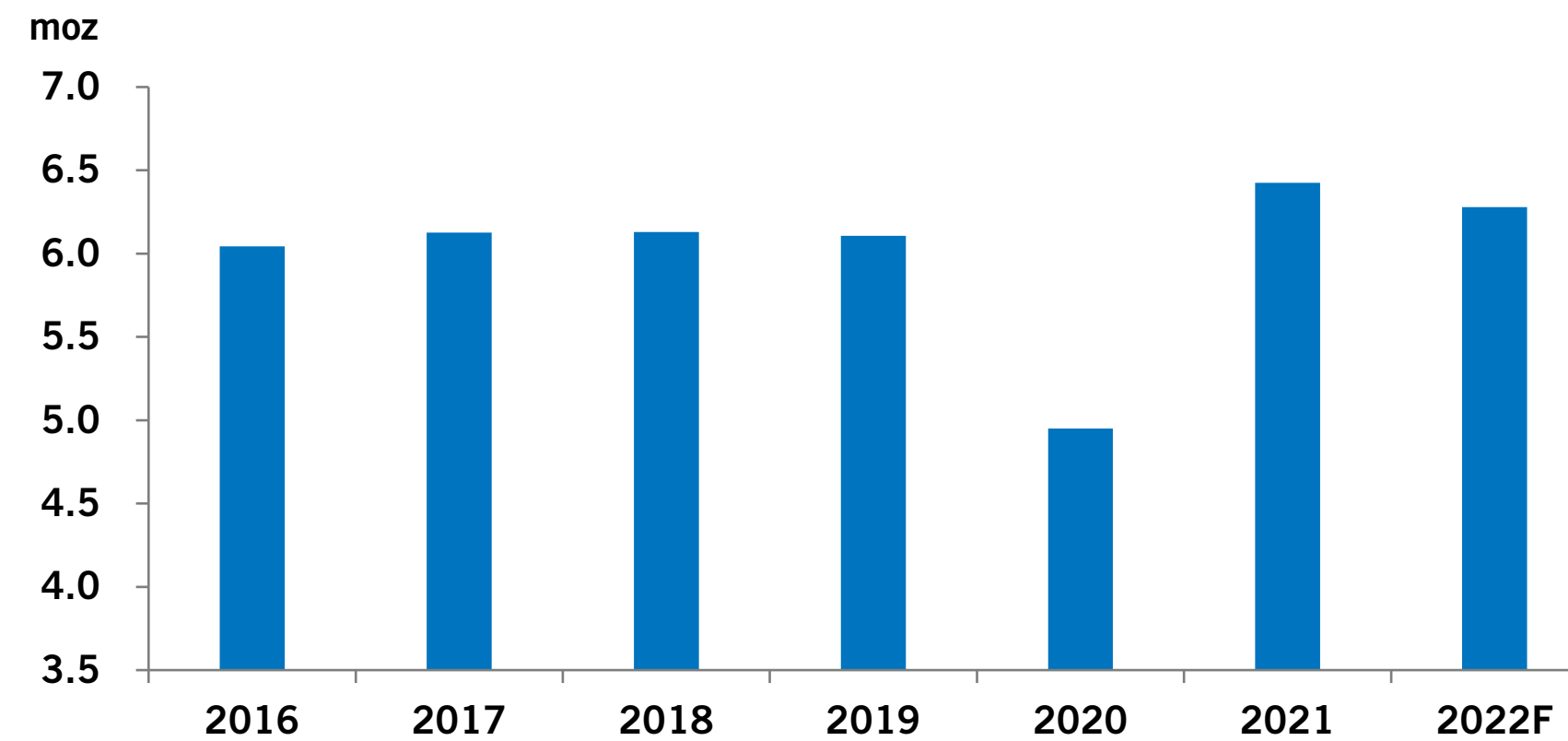
Source: SFA (Oxford), Bloomberg

Gold price vs silver price



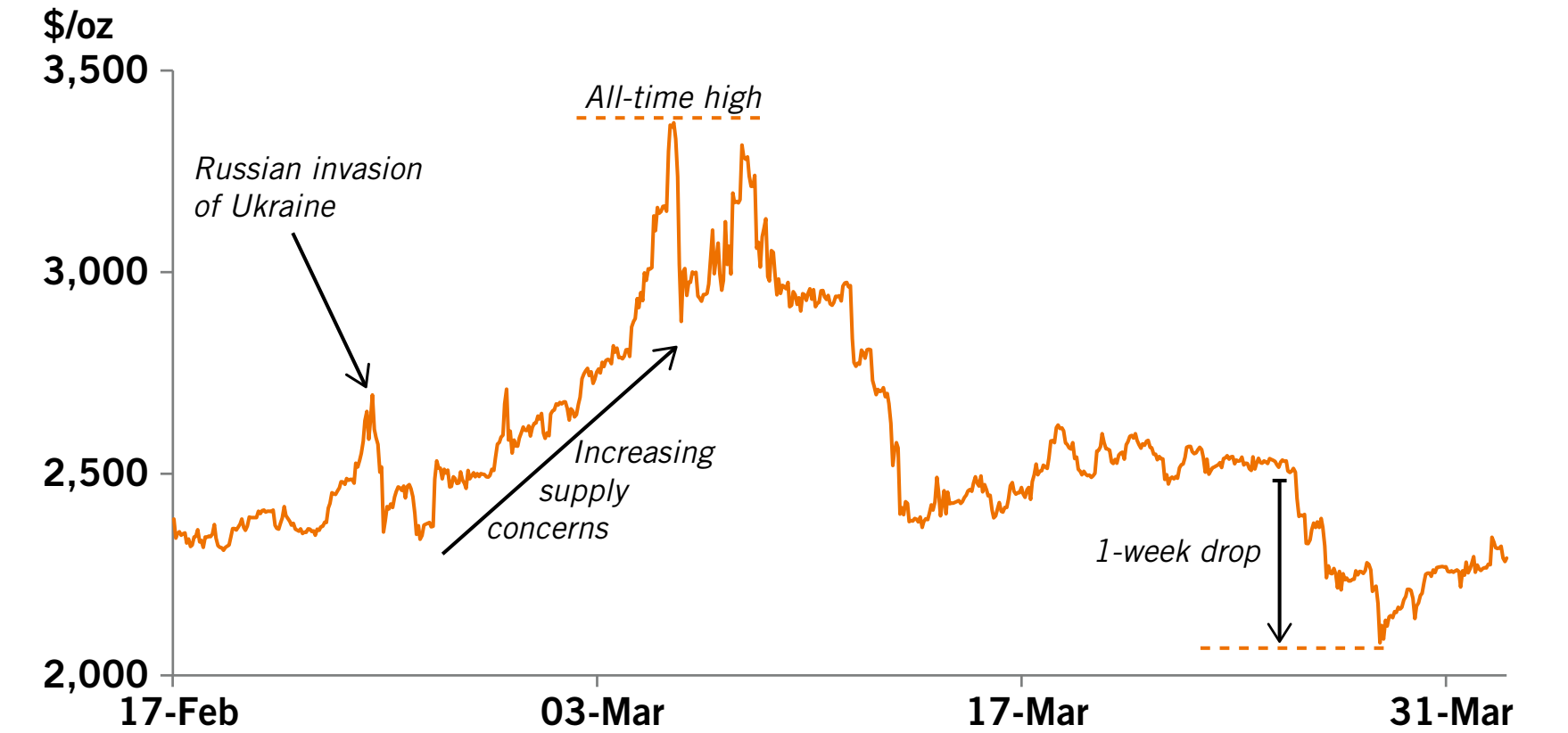
Source: SFA (Oxford), Bloomberg

South African platinum supply



Source: SFA (Oxford)

Palladium price



Source: SFA (Oxford), Bloomberg

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