HERAEUS Precious Appraisal

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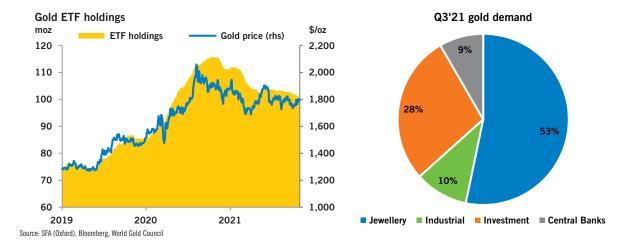
Heraeus



Lacklustre investment is restraining gold demand

ETFs have been the weak spot for investment demand, while bar and coin demand has remained robust in 2021. Bar demand has continued to be strong all year and even with coin demand weakening as the year has progressed, it is still higher than last year. Bar and coin sales were up 36% in the first three quarters at 857 t, whereas ETF holdings fell by 156 t.

Given the above, global gold demand was 7% lower year-on-year at 831 t in Q3'21 (source: World Gold Council). Over the first three quarters of the year global gold demand was 9% lower than last year at 2,663 t.



Promisingly, jewellery demand has recovered from the last year's slump but was still below 2019 levels at 1,323 t in the first three quarters, compared to 891 t and 1,534 t in the same period last year and in 2019, respectively. Gold jewellery sales should be robust in the fourth quarter owing to seasonal purchases in many regions helped by economies recovering from the pandemic. In India, festivals and the wedding season mean that gold jewellery demand is usually strong in Q4. China also tends to have a strong end to the year with jewellery sales boosted by spending during the National Day holiday in October.

Central bank demand has also been supportive, with purchases so far this year of 393 t. The Russian central bank stopped its regular gold purchases last year but has bought some gold this year. Industrial demand was back to pre-pandemic levels in the first three quarters of the year (245 t) and should benefit in Q4 from the ongoing economic recovery.

While ETF investment remains weak, total demand for the year may not match last year's 3,732 t, even with a good fourth quarter for other demand. Interest rate rises still appear to be a long way off for the Fed and the ECB, but **if inflation continues to run hot, then investors could return to gold as a safe haven.**

PRECIOUS METALS REVIEW

Au Gold

	Close	Weekly change	High	Date	Low	Date	
\$/o	z 1,778	-0.42%	1,811	28/10/2021	1,772	29/10/2021	
€/o	z 1,540	0.29%	1,559	28/10/2021	1,524	29/10/2021	

Overall gold supply is marginally higher so far this year at 3,530 t (source: World Gold Council). Gold mine production was 2,679 t, up 5%, in the first nine months of the year, but recycled gold slipped by 12% to 851 t owing to the lower gold price.

The ECB is gradually reducing its asset purchases and the Fed is expected to announce it will also begin to reduce its asset purchases at its meeting next week. The gold price has still not broken out of its trading range. The slow progress towards interest rate hikes seems to be priced in.

g <mark>Si</mark>	lver					
	Close	Weekly change	High	Date	Low	Date
\$/oz	23.91	-1.40%	24.62	25/10/2021	23.66	29/10/2021
€/oz	20.70	-0.70%	21.20	25/10/2021	20.35	29/10/2021

A change to the labour law in Mexico has impacted silver production. Fresnillo is the world's largest primary silver producer. Its third-quarter production was 11.8 moz, down 16% from 14.1 moz in the second quarter owing to the difficulty in transitioning to new staffing arrangements from 1 September. Output in the first three quarters was

37.7 moz. The company has maintained its guidance of 51-56 moz but that looks difficult to achieve as the labour issues were not fully resolved at the end of Q3. The silver price's upward momentum has stalled at a similar level to that in August, and the price is not likely to push higher while gold is range-bound.

et Platinum

ę		Close	Weekly change	High	Date	Low	Date
	\$/oz	1,018	-2.78%	1,066	25/10/2021	1,006	29/10/2021
	€/oz	881	-2.10%	918	25/10/2021	866	29/10/2021

M&A activity has picked up in South Africa. Impala Platinum is in advanced talks to buy Royal Bafokeng Platinum (RBP). RBP's mines are adjacent to Impala's Lease Area towards the northern end of the Western Limb of the Bushveld Complex. If the deal is agreed, the combination should provide operational and processing synergies. Impala's annual refined platinum output is ~1.1 moz. RBP is in the process of ramping up production from the Styldrift mine and is on track to produce ~310 koz of platinum this year.

The sale of the Bokoni mine which is jointly owned by Anglo Platinum and Atlatsa Resources is reported to be concluding, with African Rainbow Minerals as the purchaser. The mine is currently on care and maintenance and the new owner is expected to put it back into production, which could take around 24 months. Peak production from the mine was just over 100 koz of platinum.

Global platinum supply is predicted to be close to 2019 levels this year, at 6.1 moz. That puts the market into a substantial surplus (ex. investment) and the platinum price is likely to remain subdued.

PRECIOUS METALS REVIEW



Palladium

	Close	Weekly change	High	Date	Low	Date
\$/oz	1,966	-2.39%	2,080	25/10/2021	1,942	29/10/2021
€/oz	1,703	-1.67%	1,785	25/10/2021	1,678	29/10/2021

South African supply has returned to normalised operating levels, even with additional Covid safety measures. Sibanye-Stillwater's South African mines look to be on track to exceed palladium production guidance. Palladium output was up 7% at 154 koz in the third quarter. It totalled 431 koz in the first three quarters, which is 78% of full-year upper guidance. The fourth quarter is usually a strong one. However, the company's US palladium production was flat quarter-on-quarter at 112 koz. Guidance for the year was unchanged at 480-500 koz of palladium, which looks rather optimistic considering output for the first three quarters was 342 koz. Overall, the company is on track to produce more than 1 moz of palladium this year. Globally, palladium supply is forecast to increase by 6% this year to 6.7 moz, but that is still well below 2019 levels owing to the mine flooding incident that has cut Nornickel's output.

France is maintaining its BEV subsidy at the current level (€6,000) until July 2022 and not reducing it in January as previously planned. Subsidies in many European countries have helped to lift BEV sales this year. In the EU, BEVs nearly doubled their market share in the third quarter, reaching 9.8% of the market with sales of 212,582 units (source: ACEA). With ongoing subsidies and growing numbers of models to choose from, BEV sales in the EU are predicted to rise by around two-thirds next year to 1.4 million units. As noted in a recent market spotlight, increasing BEV sales at the expense of ICE vehicles could reduce global palladium demand by as much as 350 koz next year. The semiconductor chip shortage has done more than rising BEV sales to cut palladium demand this year and the palladium price could slip further.

⁴⁴ Rhodium, Ruthenium, Iridium

Rn		Rhodium	Ruthenium	Iridium
	Reporting week	\$15,550/oz	\$595/oz	\$4,750/oz
	Previous week	\$15,350/oz	\$645/oz	\$4,850/oz

Small PGM production from RBP is rising. The company's mining rate is being increased and the ore mix is shifting from the Merensky Reef to the UG2 Reef, which has higher grades of the small PGMs. As a relatively minor producer, the company is on track for a modest increase

in iridium and ruthenium output of ${\sim}2$ koz and ${\sim}10$ koz, respectively, this year.

The rhodium price recovered by \$200/oz, but the iridium and ruthenium prices both declined last week.

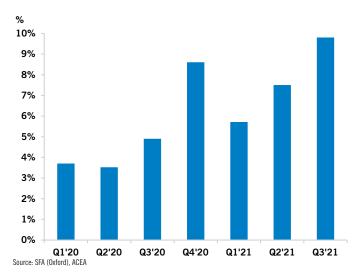
RENDS AND INVESTMENTS

Sibanye-Stillwater Pt & Pd production

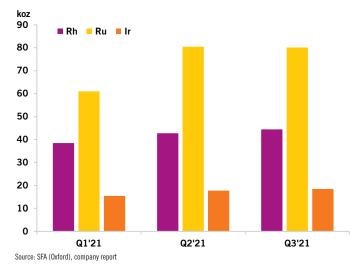
koz Pt Q4=Q3 Palladium Pd Q4=Q3 Platinum 1,400 Pt upper guidance: 1.24 moz 1,200 Pd upper guidance: 1.06 moz 1,000 800 600 400 200 0 Q1'21 Q2'21 Q3'21 Q4'21

Source: SFA (Oxford), company report

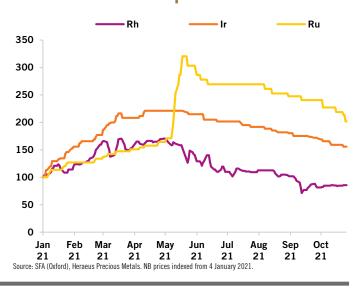
EU BEV market share



Sibanye-Stillwater small PGM production



Indexed small PGM prices



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