HERAEUS Precious Appraisal

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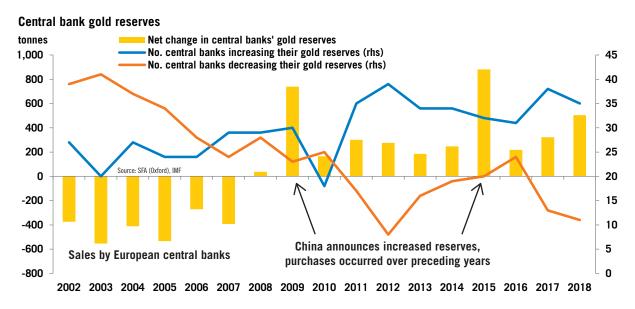
Geopolitical risks will keep central banks buying gold

IMF data shows that at the end of 2018 central bank gold reserves reached 33,800 t, the highest level since 1997. Central banks became net buyers of gold in 2008, prior to which European banks in particular had been reducing their gold holdings. Following the global financial crisis central banks recognised that gold was useful in crisis situations when currencies come under pressure as well as in normal times.

Central bank gold purchases increased to over 500 t in 2018 as Poland, Hungary, Mongolia, China, Kazakhstan, India and Turkey all bought 10 t or more. Some central banks have been consistently adding gold to their reserves for years, such as Russia, Kazakhstan and China, whereas others, like Poland, bought gold for the first time in many years.

Currently geopolitical risks and the dollar rank highly among the reasons for central banks to buy gold. While central banks may talk about buying gold to diversify their reserves and provide confidence and financial stability, gold is useful in extreme market environments, during structural changes in the international financial system and geopolitical crises. The Hungarian central bank acknowledged this when it announced it had added 28.4 t of gold to its reserves last year.

The Russian central bank made its largest total annual purchase of 274 t last year, the most of any country. Russia in particular is making a geopolitical statement by diversifying away from US\$ reserves having also significantly reduced its holdings of dollars and replaced them with yuan and euros. The Turkish central bank has also been diversifying its reserves away from the US dollar.



Central banks have become a large source of gold demand and are likely to continue to add to their reserves in 2019, given the ongoing economic and political tensions between the US and a variety of other countries.

PRECIOUS METALS REVIEW

Au

UU	IU
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		Close	Weekly change	High	Date	Low	Date
\$	/oz	1,331	1.10%	1,347	20/02/2019	1,321	18/02/2019
€	/oz	1,173	0.45%	1,187	20/02/2019	1,166	22/02/2019

Stock rebound has not harmed gold's prospects. Since the beginning of the year the gold price has risen 4.9% while the S&P 500 Index has risen 11.0%. The S&P 500 has experienced a rebound following a sharp sell-off towards the end of last year and has only just recovered to levels last seen in early December. Additionally, the dovish turn at the Federal Reserve, which has aided the gold rally, is also supportive of the stock market as the cost of borrowing stays lower for longer. The good year-todate returns in stocks have not resulted in a particularly strong risk-on/risk-off dynamic. Safe haven demand for gold seems solid, as evidenced by the 1.5 moz added to gold ETFs year-to-date. The gold price gained \$26/oz last week, to reach a 10-month high of \$1,347/oz, and its next major obstacle is the 2018 price high of \$1,363/oz.

4/	Ag <mark>S</mark> i	lver					
		Close	Weekly change	High	Date	Low	Date
	\$/oz	15.94	1.86%	16.22	20/02/2019	15.75	19/02/2019
	€/oz	14.06	1.19%	14.53	20/02/2019	13.65	18/02/2019

Limited upside for silver demand from solar, as the *BP Energy Outlook* report suggests only a moderate acceleration in annual installations. The IEA estimates solar power capacity in 2020 will be around 700 GW, up from 400 GW in 2017, as annual solar installations average ~100 GW per year. The latest edition of the *BP Energy Outlook* suggests that annual solar power production will increase three-fold from 2020 to 2030. This implies that approximately 1,300 GW will be installed between 2020 and 2030, about 130 GW of additions per year. However, silver loadings in solar panels are also expected to decline over this period, meaning that annual silver demand from photovoltaics is unlikely to grow much beyond the current rate of 100 moz per year.

Pt **Platinum**

_	Close	Weekly change	High	Date	Low	Date	
\$/o	z 843	5.62%	845	22/02/2019	805	18/02/2019	
€/o	z 744	4.93%	745	22/02/2019	712	18/02/2019	

Anglo American Platinum (AAP) announces a plan for increased production at Mogalakwena. AAP's total PGM production in 2018 was 5.19 moz of metal in concentrate, against guidance given at the start of 2018 of 4.75-5.0 moz. Platinum was the biggest outperformer: 2.48 moz was produced with guidance of only 2.3-2.4 moz. Production at AAP's largest mine, Mogalakwena, increased 7% last year, producing 495 koz of platinum and 541 koz of palladium. A new plan for mine optimisation is expected to raise annual production by 40 koz of platinum and 90 koz of palladium over the next decade.

EU CO₂ targets for trucks to drive fuel-cell uptake. The European Union has agreed a target to reduce CO_2 emissions from trucks by 15% by 2025 and 30% by 2030. Trucks are already relatively fuel efficient for economic reasons and alternatively powered trucks will need to be sold "en masse" to meet the targets, according

to the European Automobile Manufacturers' Association (ACEA). If battery-powered trucks become the primary alternative then platinum demand could drop. Light-duty and heavy-duty goods vehicles ("trucks") in Western Europe accounted for almost 500 koz of platinum demand in 2018, 40% of total automotive demand for the region and 6% of total global demand. Battery trucks are not very practical over long ranges owing to the weight of the battery packs and their long recharging times. Consequently, these CO₂ targets could create support for fuel-cell trucks. Platinum loadings in fuel-cell trucks are currently higher than in diesel trucks so even limited uptake could result in an increase in platinum demand from the commercial vehicles sector. Thrifting in fuel cells could close that gap in the long term, but platinum demand would still be higher than in a scenario in which battery trucks are the sole diesel alternative.

PRECIOUS METALS REVIEW



Palladium

		Close	Weekly change	High	Date	Low	Date
\$	j/oz	1,493	4.19%	1,505	20/02/2019	1,440	18/02/2019
•	/oz	1,316	3.69%	1,325	20/02/2019	1,274	18/02/2019

The palladium price reached \$1,505/oz following a \$100/oz gain over five days, but it hit some resistance and dropped to \$1,493/oz by the end of the week. The price is now looking somewhat overextended, despite structural market deficits, and an easing in purchasing demand could see the price come off to around \$1,300/ oz. However, there is potential for further gains in the short term, particularly as a one-week strike has been announced at Lonmin's South African PGM mines beginning on 28 February. The demand outlook continues to weaken against expectations. The decline in Chinese car sales continued to accelerate in January, falling 17.7% year-on-year, while US sales also fell by 1.9% for the same period. Weakness in palladium's key demand regions could eventually allay fears of metal availability.

German car exports to the US could drop by 50% if a 25% import tariff is introduced, according to the ifo

Institute. There is a reasonable likelihood it could happen in the next 90 days. Around 1 million cars are exported from Europe to the US. If half of those are lost then palladium demand could fall 70 koz, some of that decline would be offset by increased local buying but not all of it. A US report into the threat of imported cars has been concluded and the results have been given to President Trump who now has 90 days to decide what action to take. Trump stated that if a trade deal with the EU is not made then tariffs on cars will be introduced. However, ongoing negotiations with China and political difficulties with the Mexican border wall give some cause to doubt whether car tariffs will be tackled at this time. If tariffs are introduced, prices would go up as margins are too small to absorb the extra cost. As the US produces only about two out of three cars it sells, price increases on foreign cars would result in a fall in total sales.

hodium. Ruthenium. Iridium

Rh ⁻		,		
RII		Rhodium	Ruthenium	Iridium
	Reporting week	\$2,700/oz	\$275/oz	\$1,460/oz
	Previous week	\$2,600/oz	\$275/oz	\$1,460/oz

Rhodium has extended its rally to new highs. Rhodium gained \$100/oz last week, continuing the rise which saw it set a new record the week before. The price move was the largest one-week gain since September last year. Ruthenium and iridium prices are unchanged for now, but all three metals could be lifted by strike action at Lonmin. The producer accounts for around an eighth of rhodium, ruthenium and iridium supply.

HDD shipments in Q1'19 are expected to be weak, reducing ruthenium demand. Nidec, the primary manufacturer of motors for HDDs, has revised down its Q1'19 expectations for global HDD shipments from 85 million to 78 million. Reporting on Q4'18 performance, it estimated shipments at 87 million against an expectation of 95 million. The 8% total loss in shipments over these two quarters from the revision is equivalent to approximately 3 koz of ruthenium.

TRENDS AND INVESTMENTS

\$/oz 3,200 1.400 Stock and gold S&P 500 Index have been climbing together. Gold price (rhs) 3,000 1,350 ...but S&P only back at Dec level 2,800 ,300 2,600 1,250 2.400 1.200 Source: SFA (Oxford), Bloomberg 2.200 1.150 Feb Jul Aug Sen Oct Nov Dec Jan

Mogalakwena platinum production koz 600 300 koz added over 500 the last 10 years, 50 koz expected to be 400 added over next 10 300 200 100 Source: SFA (Oxford), Anglo American Platinum n 1993 1996 1999 2002 2005 2008 2011 2014 2017

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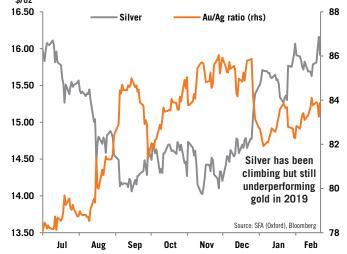
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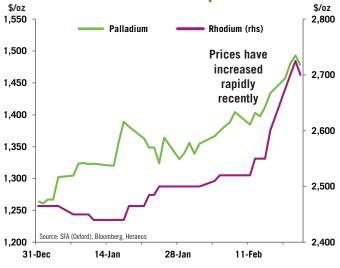
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Silver price and gold:silver ratio



Palladium and rhodium prices



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Gold price and S&P 500 Index