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Precious Metals: The foundations of price formation

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Precious metals and gold in particular have befuddled analytical attempts to explain and predict prices, perhaps because no single framework seems to work without fail over time.

While some might throw up their hands and avoid precious metals altogether, our response is twofold – first, that there are tried and true basic principles that can be applied to explain precious metals performance over the economic cycle, and second, that deviations from frameworks are useful learning opportunities in and of themselves.

In our *Precious Metals Handbook*, we explain that the first and most useful analytical prism is to quantify the dominant role of investment and jewellery fabrication, which declines as a share of demand progressively as we move from gold to silver, platinum and finally palladium.

Secular changes in investment for gold around the early 2000s are responsible for reversing the annual declines of -4% in real terms (1986-2000) to annual appreciation of +6% in real terms since 2000. After fifteen years of growth, gold producers began shrinking hedge books in 2000; gold ETFs started a new wave of investment growth in 2003; and central bank gold sellers were formally limited in 1999 before they collectively became buyers in 2010.

The balance of precious metals demand is made up by industrial production which is positively geared to economic growth and the business cycle, contrasting with investment and jewellery demand which is uncorrelated. As a result, we observe a contrast between gold and silver performance through the business cycle that can be exploited.

The second analytical prism is to score the supply side according to its potential to impact price formation. Larger inventory relative demand should translate into more price stability and less supply influence. Amongst the precious metals, gold inventory is the largest relative to demand, platinum and palladium the smallest.

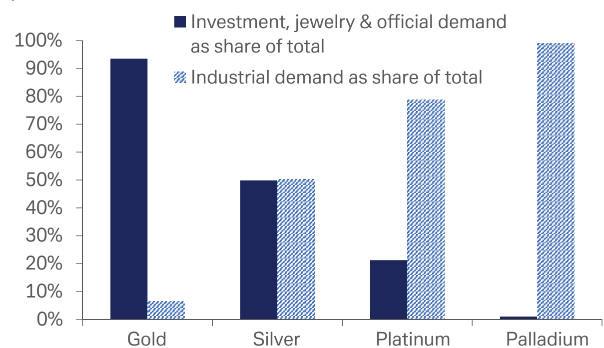
For mined supply, precious metals prices are the main determinant of revenue for gold, platinum and palladium mines, but silver is usually a by-product and less important than copper, zinc, and lead. Therefore mined silver supply is less apt to respond to the silver price.

Finally, we note that the production of gold and silver are geographically diffuse, while the majority of platinum and palladium is mined in just two countries – South Africa and Russia.

Altogether this means that platinum and palladium tend to be more vulnerable to supply concerns than gold or silver, a fact we have observed in the last two years with the Ukraine war and South African power supply issues.

The *Precious Metals Handbook* explores these ideas more fully and explores fair value modeling for gold and silver, and fundamental approaches for valuing platinum and palladium.

Precious metals investment-consumption spectrum



Source: World Platinum Investment Council, Metals Focus, World Gold Council, Silver Institute, Johnson Matthey, Deutsche Bank

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