About Metals Focus

• Independent & specialized; focused only on precious metals

• Large, highly experienced team of analysts: 25 in seven countries

• Extensive travel program to gather data & information
Silver now holding in a higher range

Source: Bloomberg
Headwinds from equites, but safe haven demand also rising

Source: Bloomberg

![Graph showing the relationship between Bonds ($Trn) and S&P 500 from October 2017 to October 2019. The Bloomberg- Barclays global investment grade aggregate is represented by a red line, and the S&P 500 is represented by a blue line. The graph indicates that bonds and the S&P 500 have been rising, with the S&P 500 outperforming bonds, especially from February 2019 onwards.](image-url)

Source: Bloomberg
German yields reach new low, while VIX also remains low

Source: Bloomberg
Negative yielding debt has surged
Silver had also started to outperform gold

Source: Bloomberg
Base metals weakness had been a problem for silver

Source: Bloomberg
But the ratio remains historically high

Source: Bloomberg
Investor positioning has improved noticeably

Source: Bloomberg

Source: Bloomberg
ETP holdings at close to record highs

Source: Bloomberg
At start of 2019, several key producers forecasting increased production which, following three years of losses, had potential to support a return to growth for silver mine supply.

However, community protests and strikes across South America, a blockade at Peñasquito and lower than expected grades at Uchucchacua, Fresnillo and Saucito have weighed on global output.
Mine production eases back further in 2019

- Production expected to fall 0.7% to 849.3 Moz.
- However, major uncertainties remain for Q4 and the annual total will be dictated by the resumption of disrupted operations and key mines achieving grade targets.
- Declines from Peru (-13 Moz), Mexico (-4 Moz) and Indonesia (-3 Moz) to offset growth from Australia (+5 Moz), Argentina (+4 Moz) and the US (+4 Moz).

Source: Metals Focus
All-in Sustaining Costs – Primary Silver Mines

- H1.19 AISC rose 32% y/y to $10.85/oz.
- Costs up partly due to higher input costs (wages, electricity, fuel, grinding media, sodium cyanide), along with lower by-product credits due to lower base metal prices.

Note: costed production = c.80% of primary silver supply.

Source: Metals Focus – Silver Mine Cost Service
The impact of weaker FX less of an issue in 2019 vs 2018

- Mines still seeing cost inflation in key inputs. Increased gold by-product credits and the exit of high cost supply will benefit industry costs towards end-2019.
- Most important though is the impact of higher H2.19 silver prices.

Y/Y impact (weighted currencies & CPI)

Source: Skarn Associates, Bloomberg

Source: Metals Focus – Silver Mine Cost Service
Global supply summary

Source: Metals Focus

<table>
<thead>
<tr>
<th>Year</th>
<th>Scrap</th>
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Source: Metals Focus
Industrial demand – the trade war takes its toll

Source: Bloomberg
Automotive offtake: the new star in emerging uses?

- rising global incomes lift sales of upper end cars
- infotainment systems’ spread down the price scale
- adoption of new devices (e.g. sensors)
- battery electric vehicles’ novel demand

Source: Metals Focus, Precious Metals Commodity Management LLC, LMC Automotive.
* passenger and light commercial. ** excludes conductive pastes in demisting applications.
Photovoltaics - still a clear success story

Source: Metals Focus, various
Industrial Demand – remains near record highs

Source: Metals Focus
Jewelry & silverware’s dependence on India

Source: Metals Focus
Bar and coin investment still short of recent peaks

Source: Metals Focus
Global demand summary

Source: Metals Focus
Silver remains in surplus

Source: Metals Focus
As the surplus grows in 2019, stocks continue to rise.
Gold Forecast, 2019: $1,400, +10%

Source: Metals Focus
Silver Forecast, 2019: $16.20, +3%

Source: Metals Focus