

# Gold: Six Factors to Track In H2 2016

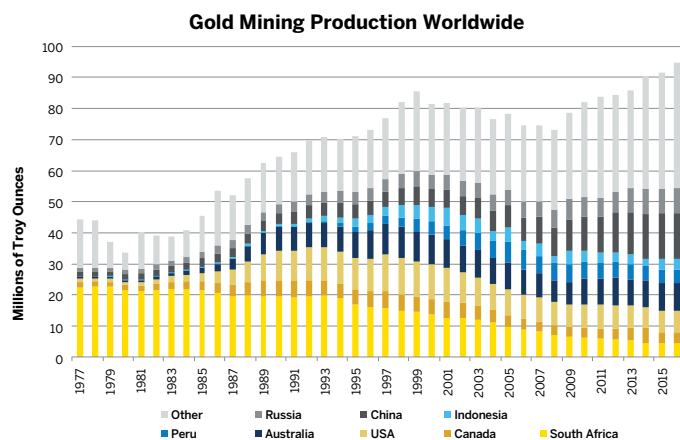


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## 1) Supply will likely continue to expand

Despite the decline in gold prices in 2015, gold mining production continued to increase, rising 1.4% to a record 91.7 million ounces (Figure 1). A rebound in prices to around \$1,290/ounce from the 2015 average price of \$1,158/ounce is likely to provide mining companies even more incentive to expand production this year, which research company CPM says could rise by over 3% to 94.7 million ounces in its 2016 Gold Yearbook.

**Figure 1: Gold Mining Supply Grew in 2015 for The 8th Year in a Row and 2016 May Make it Nine.**



Source: CPM Group Gold Yearbook 2016

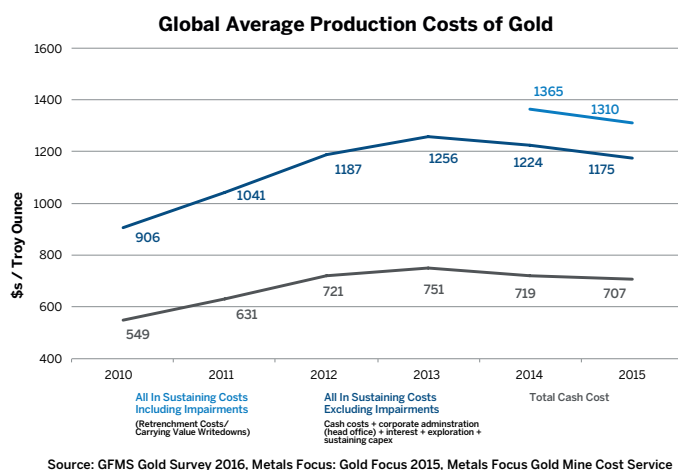
A number of factors lend credibility to CPM's forecast of a continued rise in gold mining supply. First, gold prices are still far above the costs of production. Analyst GFMS estimates the cash cost of producing an ounce of gold at \$707 in 2015<sup>1</sup>. If the cash cost of producing an ounce of gold stays unchanged in 2016, this implies that with gold at \$1,290 per ounce, the simple margin of the average gold producer is a very healthy 82.5% -- about 20% better than in 2015. Given the strongly positive cash flows, very few mining companies have an incentive to cut back on production, and many of them have an incentive to increase it further. What's more is that mining companies spent much of 2015 looking for ways to cut costs and are likely to further reduce the cash cost of producing gold in 2016.

The mining sector doesn't look so healthy from the perspective of all-in sustaining costs. These averaged \$1,175 in 2015, \$17 above 2015's average gold price<sup>2</sup>. All-in sustaining costs, which include expenses such as interest, corporate administration, exploration and sustaining capital investments, have been coming down sharply and should be expected to fall further in 2016. With the price at \$1,290, this is about 10% higher than GFMS's estimated all-in sustaining costs, excluding impairments. Currently, about 60% of the world's gold mines would be profitable by this metric. Here too, at current prices, there is not much incentive to cut back on production, and a great deal of pressure to find additional economies that will reduce costs.

<sup>1</sup> GFMS Gold Survey 2016

<sup>2</sup> GFMS Gold Survey 2016

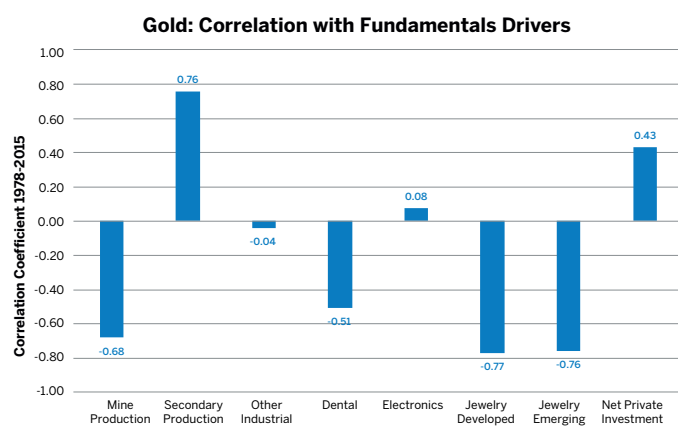
**Figure 2: At \$1,290/ounce Gold Mining is Still Significantly Profitable, Especially From a Cash-Cost Perspective.**



## 2) Mining supply is a major driver of prices, and prices drive secondary supply and consumption

If mining supply grows again in 2016, this will probably be bearish for gold prices. Gold mining production correlates negatively with the change in the real price of gold from year to year (Figure 3).

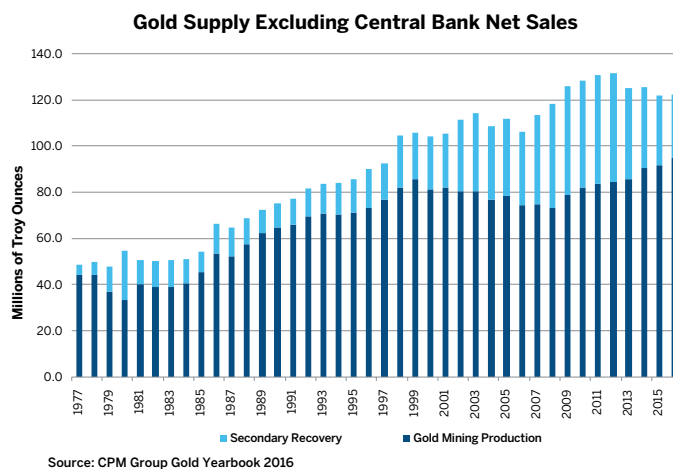
**Figure 3: Mining Production Drives Gold Prices in the Opposite Direction; Everything Else Reacts to Price**



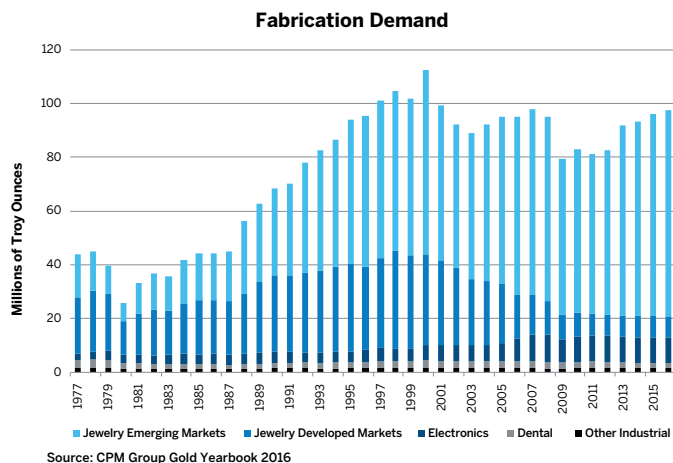
Secondary supply doesn't appear to influence the price of gold very much. Rather, it's the other way around. Higher gold prices incentivize holders of already mined and refined gold to recycle it. Moreover, the fact of gold prices having come down from their peak in 2011 should incentivize more demand from jewelry buyers and dentists, while having relatively little impact on industrial and electronics usage. Private investment is essentially trend-following. The recent bounce in gold prices might attract a bit of capital back into gold funds and ETFs but the effect might be short-lived if the gold rally is not sustained.

Indeed in 2015, secondary supply and jewelry demand reacted to the decline in gold prices over the course of the year just as our previous research suggested that they would. Secondary supply continued to contract, whereas jewelry demand rose (Figures 4 and 5). Given the rebound in prices thus far in 2016, those trends may reverse, unless the rally in prices isn't sustained, which might be the case given the increase in supply and the possibility that the Fed might signal a tightening. This brings us to the impact of Fed Funds expectations on gold prices.

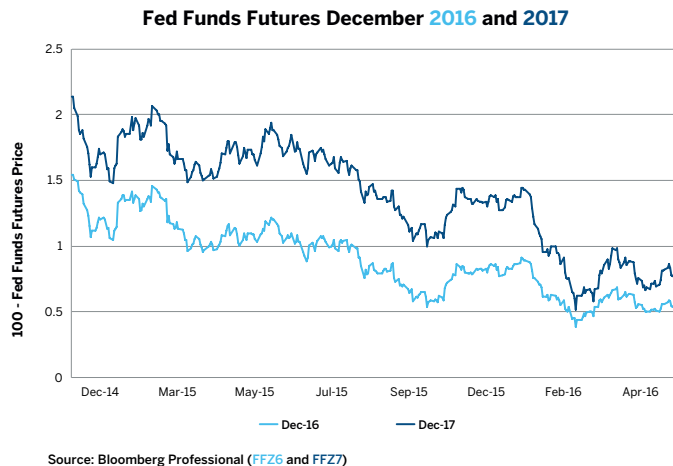
**Figure 4: Under Downward Pressure From Lower Prices, Secondary Supply Contracted in 2015.**



**Figure 5: Emerging Market Jewelry Sales Rose in 2015 But This Might Not Last if Prices Stay High.**



**Figure 6: Rate Hike Expectations Died and Have Largely Stayed Dead.**



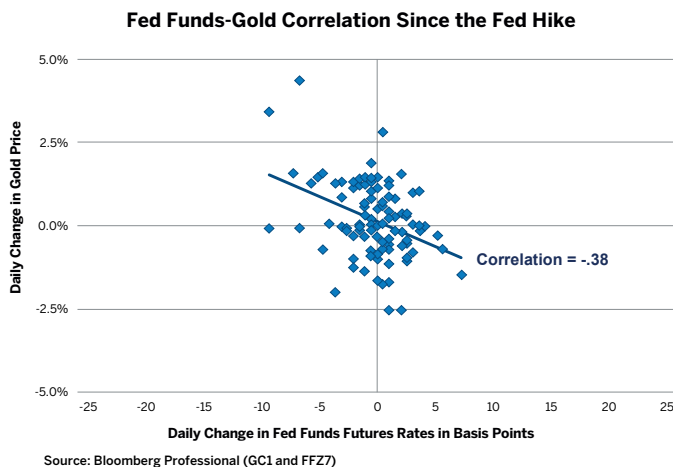
### 3) Reduced expectations of Fed tightening supported gold but the good times might end

Back in December when the Fed hiked rates for the first time since 2006, the Federal Open Market Committee's (FOMC) "dot plot" suggested that Fed members expected, on average, to hike rates four more times over the course of 2016. Markets were never fully convinced of this. But at the time of the rate hike, Fed Funds futures did price that the Fed would raise rates four times over the course of 2016 and 2017 combined –roughly one rate hike every six months.

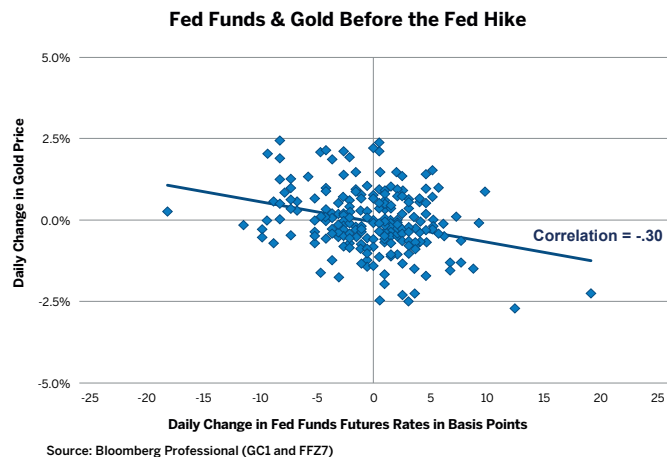
In January and February, however, commodity prices and equity markets swooned on the notion that China was slowing down, and that collapsing commodity prices would not only hurt earnings in the energy and mining sectors but would also cause a sharp increase in defaults, putting at risk bank profitability and the health of the overall economy. This led Fed Funds futures to de-price almost all of their rate hike expectations for 2016 and 2017. Currently, Fed Funds futures are pricing only about a 60% probability of even one move in 2016, and don't fully price a rate hike until the second half of 2017 (Figure 6). The subsequent rebound in equity and commodity markets did little to change this pricing.

Gold prices rejoiced the death of rate hike expectations. Since gold is a store of value that pays no interest, news that bank accounts -- a competing store of value -- probably won't be paying much more in the way of interest was well received by gold investors. Since the Fed rate hike, gold has correlated at -0.38 with movements in Fed Funds futures (Figure 7), stronger than their -0.30 correlation in 2015 prior to the rate move (Figure 8).

**Figure 7: Since The Rate Hike Gold has Become Even More Negatively Correlated to Fed Funds Than Before.**



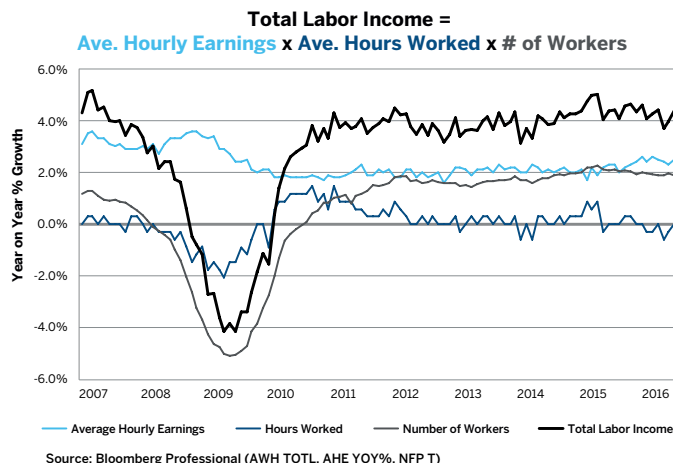
**Figure 8: Even Before The Rate Move Gold Feared Higher Rates And Celebrated Lower Rate Expectations.**



While gold bugs and other less passionate gold investors have every right to be pleased with the rebound in gold prices from \$1,050 to \$1,290, the good times might not last. For starters, Fed Funds doesn't have a great deal of additional rate hikes to de-price since they have already de-priced about three quarters of the rate moves they had expected for 2016 and 2017. Secondly, the U.S. economy still looks fairly robust. While reports were critical of the slightly-weaker-than-consensus April jobs numbers, Fed Funds futures barely moved.

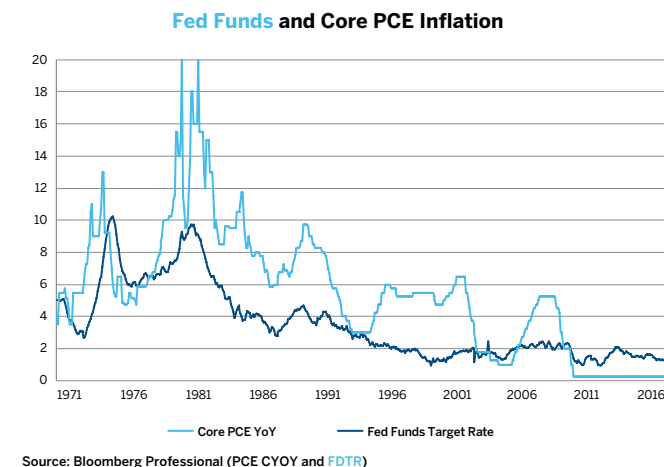
Fed Funds futures may have been right not to react. While the jobs number were a little disappointing (59,000 fewer-than-expected jobs net of revision isn't much in an economy that employs 143 million workers), average hourly earnings perked up to a 2.5% year-on-year pace of growth. This combined with total employment gains of 1.9% year on year, and no change to hours worked, implies a 4.4% growth in total labor income (Figure 9). This should be ample to sustain consumer spending and should give the Fed a strong argument to raise rates later in the year and possibly as soon as July, assuming that markets behave and that Britain's 'Brexit' vote in June doesn't cause financial chaos.

**Figure 9: Total Labor Income is up 4.4% Year on Year - Probably Large Enough to Sustain Growth.**



The Fed would like to hike rates again and get them closer to the core rate of inflation, which has been rising towards 2% (using the Fed's preferred measure, the core-PCE deflator), eventually bringing the experiment with negative real rates to an end (Figure 10). If market conditions permit, they may signal a rate hike that could move Fed Funds futures prices downward and rate expectations upward. If so, this could prove detrimental to gold, smothering the nascent rally in the crib.

**Figure 10: Central Banks Have Dreams, Too, And The Fed Dreams of Positive Real Rates.**



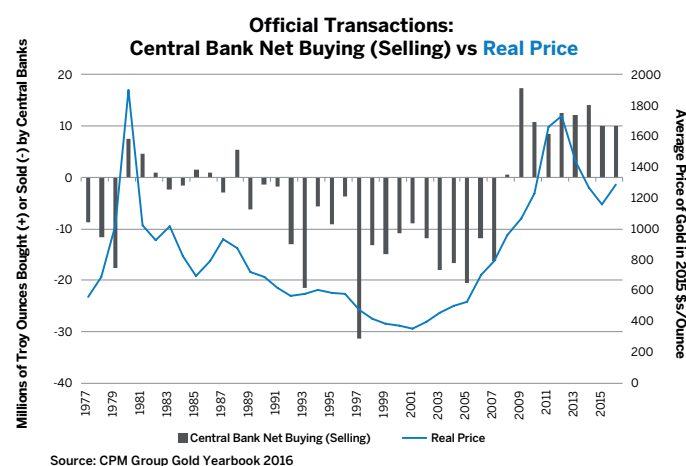
In the short term, however, the Fed might have a tough time signaling higher rates are coming. Both equity and commodity markets might be tempted to retest recent lows. If they do, this could actually be good for gold as it would likely diminish further any expectations for Fed rate hikes.

#### 4) Central bank buying might be the kiss of death for the gold rally

Ever since 2008, central banks have been buying gold. They probably bought about 10 million ounces in 2015 and may buy more in 2016. Naturally, central bank buying is welcome news to holders of gold as it tends to support the price. That said, long-term investors should not be overjoyed. Central banks have an abysmal track record of timing, tending to buy high and sell low. They were net buyers in 1980, when gold peaked in real terms, and then were net sellers during the 1990s and early 2000s when prices were at rock bottom (Figure 11). Only after gold prices rallied a few hundred percent off their lows did they get around to buying again. Current prices might seem low compared to their peak in 2011 and their inflation-adjusted 1980 high, but current levels are quite high by historical standards.

To the extent that central bank buying has inflated gold prices, this will only make gold miners more profitable than they would have been otherwise, and will increase mining supply to the likely future detriment of gold owners. In short, when central banks start buying gold, investors might want to seek out something else to invest in.

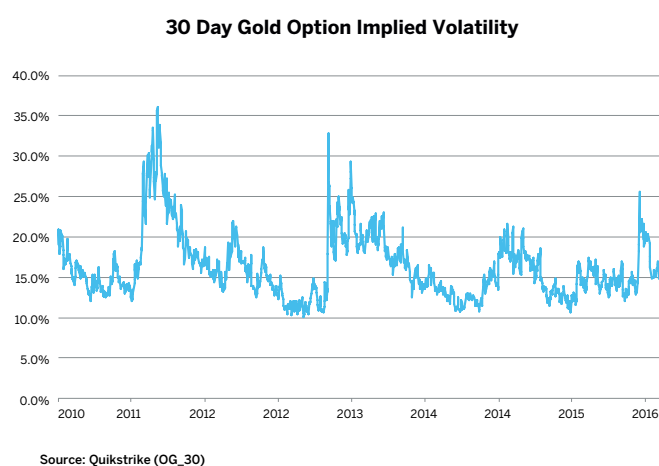
**Figure 11: Central Banks: The World's Worst in Market Timing.**



#### 5) If gold prices decline, options volatility could surge

Gold volatility is currently fairly low, with 30-day options trading near 16% implied volatility. This is well above the all-time lows around 10% but is a far cry from the highest levels of around 30-35% (Figure 12). Gold, like most assets, tends to be more volatile on the way down than on the way up. If gold implied volatility does revisit last year's lows at around 10%, gold options might be worth a look. At the moment, they might be inflated by the upcoming 'Brexit' vote in June when British voters decide on whether the U.K. remains in the European Union bloc or not.

**Figure 12: Gold 30-Day Option Volatility.**



#### 6) Negative rates may be the best thing on gold's side

Since gold is commonly priced in U.S. dollars (USD), the Fed has the most influence among central banks on gold prices. But, it's not the only one. While the Fed has been slowly moving towards tighter policy, most of the world's central banks have been easing and a number of them have taken rates into negative territory.

Negative rates from the European Central Bank (ECB) and the Bank of Japan (BOJ) have created highly counterintuitive outcomes in currency markets. Since the BOJ put rates into negative territory, the yen has rallied against USD. The same thing happened to the euro after the ECB initiated a negative deposit rate. Negative deposit rates act as a tax on the banking system and may actually tighten monetary policy, raising the value of negative interest rate currencies like the euro and yen versus positive interest rate currencies like the dollar. This could be supportive for gold since it not only weakens the dollar but also causes uncertainty for investors who may seek safe havens such as gold.

In contrast to the impact of negative deposit rates, negative central bank lending rates could push things back in the other direction, if they expand the quantity of a given currency in circulation, decreasing its value versus other currencies. This is what we imagine central banks intended to happen with negative rates: weaker currencies, not stronger. If the negative interest rate experiment goes awry, however, and boost the negative rate currencies versus the positive rate ones, this could support gold prices.

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