

January 30, 2017

Gold and Real Rate Reality

Summary

We believe the risk/reward in gold is to the upside in the coming months. Our upside target is \$1,370/oz and our downside target is the recent lows of \$1,130/oz. Our argument falls on the following:

- Gold has been trading in concert with long term real rates. We expect real rates to be contained or contract in the future as nominal Treasury yields are contained by still low foreign bond yields while inflation continues to grind higher.
- Gold's technical profile is showing continued strength and resilience. Several higher gold beta assets such as silver and gold mines have more obviously bullish profiles, suggesting that gold will catch up.
- Positioning has relieved most of the excess from the 2016 run-up.
- While some aspects of the Trump agenda are dollar supportive/gold negative, many facets of his agenda are constructive for gold (e.g. fiscal stimulus driving higher debt/GDP). It can't be forgotten that Trump has argued for a weak dollar; how that is achieved remains to be seen but it is a persistent facet of his narrative (and one that can actually be implemented). The downside case of a Trump agenda might well result in stagflation – an environment which we think will be highly constructive for gold.
- Political risk is on the rise in Europe and arguably geopolitical tensions are on the rise.

Technical resistance is at hand at the ~\$1,250/oz level. However, a push through that level should leave a relatively straightforward path towards the 2016 high levels of ~\$1,375 (roughly 12% higher). We believe we are currently close to significant support levels of \$1,130/oz.

We will be following up with specific, actionable trades on various facets of the gold complex (gold itself, gold miners, silver).

Correlations

- **Rates:** real not nominal
- **Duration:** long not short
- **FX:** Yen not the Euro

Gold's correlations with other asset classes is frequently very dynamic; what works perfectly for six months can stop working abruptly. As we can see in Chart 1, the highest and most stable correlations are not the Euro, nor the DXY, nor the 10 or 2 year nominal Treasury yields, but rather longer term real rates. We can see in Chart 2 that the bull trend in gold coincided with the massive drop in real rates from over 4.0% to less than zero at the life time peak in gold in 2011. The fact that gold subsequently went into a bear market as real rates increased is not a coincidence (Chart 1A). Gold also rallied in the first half of last year as real rates fell from ~70 basis points to about -10 basis points.

We also highlight the tight correlation of the Yen with gold (Chart 3). But this correlation is really a statement about how real rate differentials between the U.S. and Japan are defining the Yen's fate (Chart 4). It is not that a stronger Yen drives gold higher, but rather that the same factors driving Yen higher are (more or less) the same factors driving gold higher.

The relative stability of Japanese related correlations relative to Euro/Bund correlations makes sense given that Japan offers us a "cleaner" look at the dollar. In other words, the Euro has existential threats which Japan does not; hence political noise which weakens the Eurozone may drive both European based gold demand as well as the dollar. The weaker Euro correlation explains why the DXY is not as helpful a correlation (the Euro dominates the DXY with a nearly 55% weight).

We can also infer from Chart 1 how future Fed rate hikes are most likely secondary in determining gold's trajectory given the low level of 2 year real and nominal rate correlations.

Chart 1. Gold Correlation Summary

Gold R2 Summary				
	<u>1 Year</u>	<u>2 Year</u>	<u>5 Year</u>	<u>2010-2011</u>
10 Year Real Rate Differential				
Treasury-Bund R.R. Spread	0.46	0.17	0.80	0.58
Treasury - JGB R.R. Spread	0.71	0.80	0.79	0.85
FX				
Euro	0.34	0.18	0.27	0.17
Yen	0.68	0.73	0.86	0.82
DX	0.41	0.19	0.46	0.39
U.S. Rates				
10 Year Real Rates	0.78	0.76	0.76	0.81
10 Year Nominal	0.70	0.67	0.18	0.54
2 Year Real	0.18	0.35	0.49	0.32
2 Year Nominal	0.44	0.05	0.49	0.68

Note: based on daily closing values.

Chart 2.

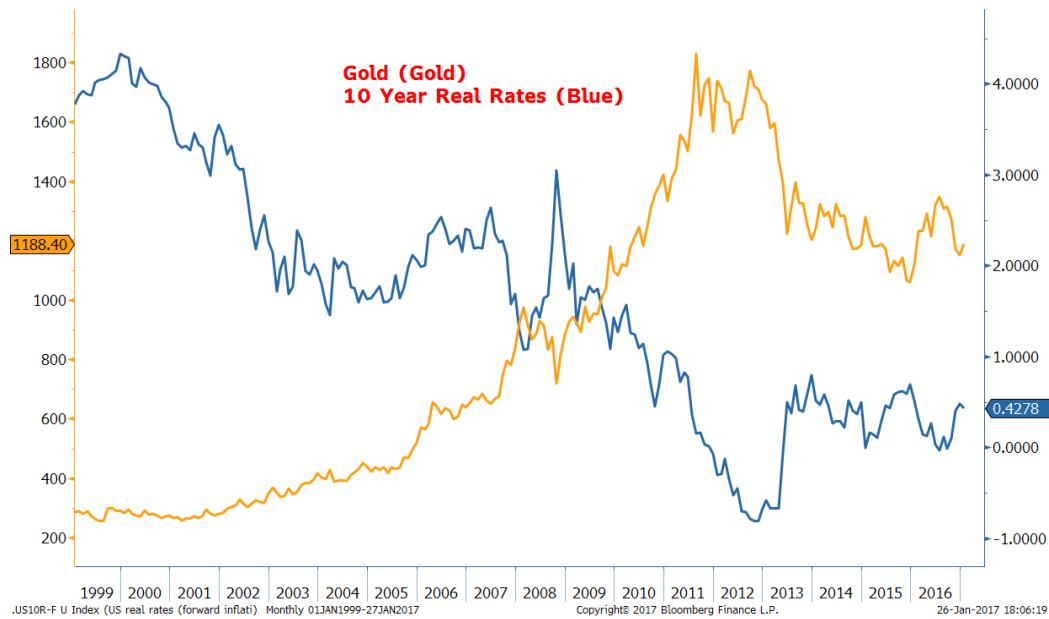
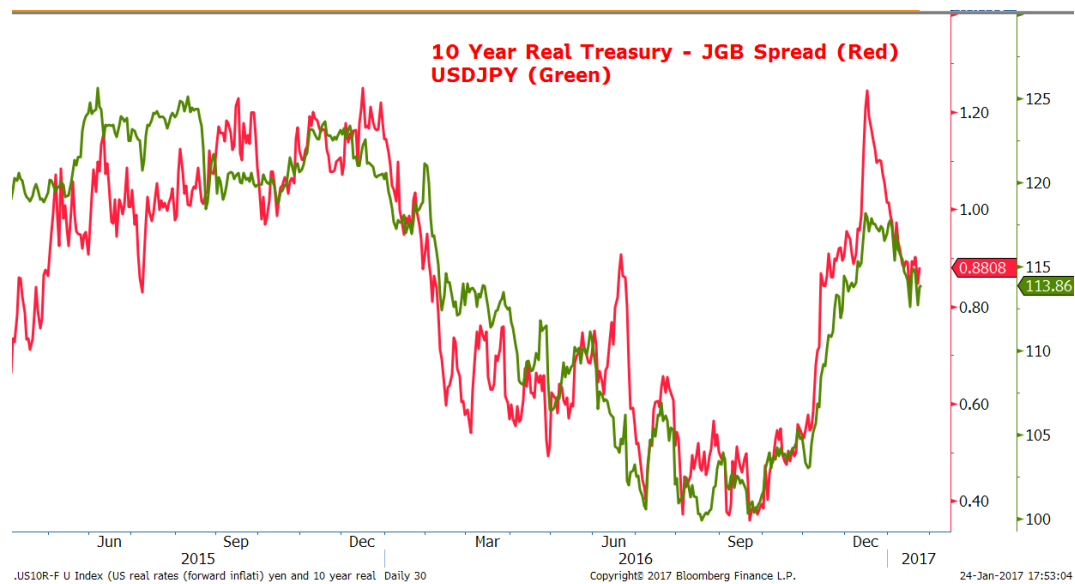


Chart 3.



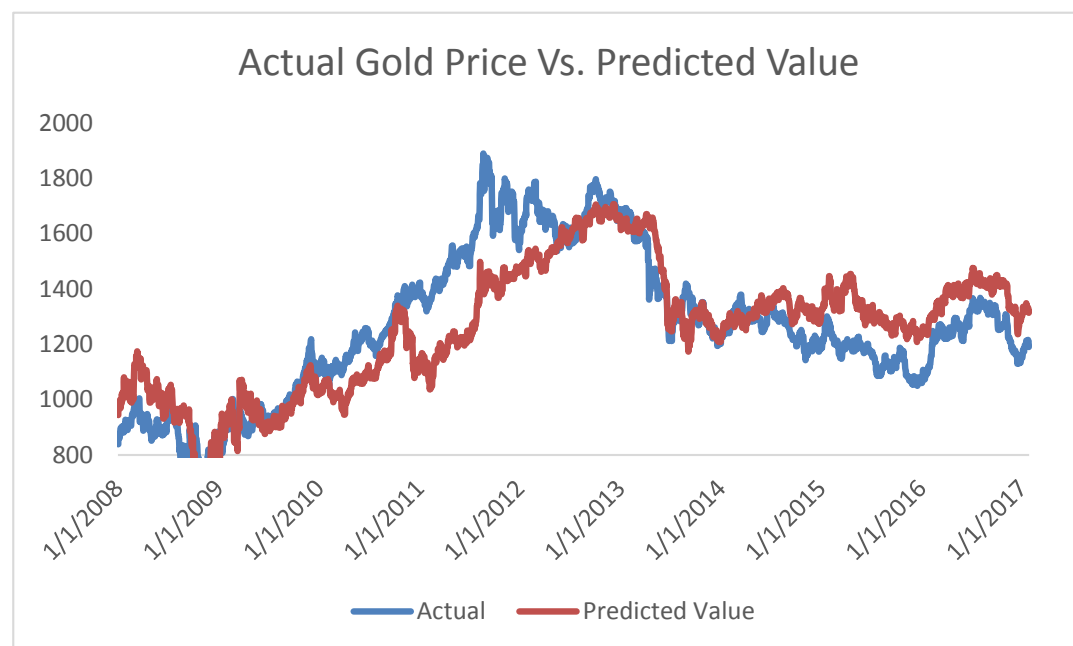
Chart 4.



Using Real Rates to Predict Gold Prices

We can develop a simple but reasonably accurate regression model using 10 year real rates over the past 10 years. Chart 5 shows our model predicted values (R2 of .78). The gaps below and above predicted value are arguably explained by sentiment being excessively bullish or bearish.

Chart 5. Actual gold vs model predicted gold price



Gold is currently trading at a roughly 9% discount (~\$135/oz discount) to predicted value. The upper and lower 95% confidence intervals are currently from \$1,310 to \$1,327/oz.¹

We can use our regression model to predict gold prices under different real rate scenarios. Chart 6 shows gold as a function of different 10 year real rates (second column). In the second column we can see that even if real rates were to remain the same, but gold were to recover the discount to predicted value (essentially trade “up to the line” on the regression) we would have a healthy 10 to 12% gain. If you consider a reduction in real rates to the 10 to 20 basis point level you can see that we can trade through the 2016 to the \$1,400/oz level for an 18 to 20% gain.

As compelling as the long term and short term regression models are, pinpointing gold prices using regression models are of course subject to various assumptions. As stated above, the premium or discount to actual trading levels appears to trend with the gold price; when investors

¹ Regression based on 10 year daily closing values. R2. Of .78, correlation of 0.88, P values of 0. Standard error is \$141. 10 Year real rates determined by subtracting 10 year break even inflation rates from nominal 10 year Treasury yield.

are making money on the long side, the discount shrinks and then goes to a premium (as during the run up to the 2011 life time high in gold). Last year, when gold starting accelerating, we saw this discount contract to the 4 to 5% region.

To construct a more conservative case as to where gold can be headed, we assume that the 1 year average discount of about 8.8% is applied to our theoretical valuations to arrive at our “adjusted price” shown in the 6th column. We can see here that even assuming now contraction to the line, a move to 20 basis points in real rates can still generate high single digit returns.

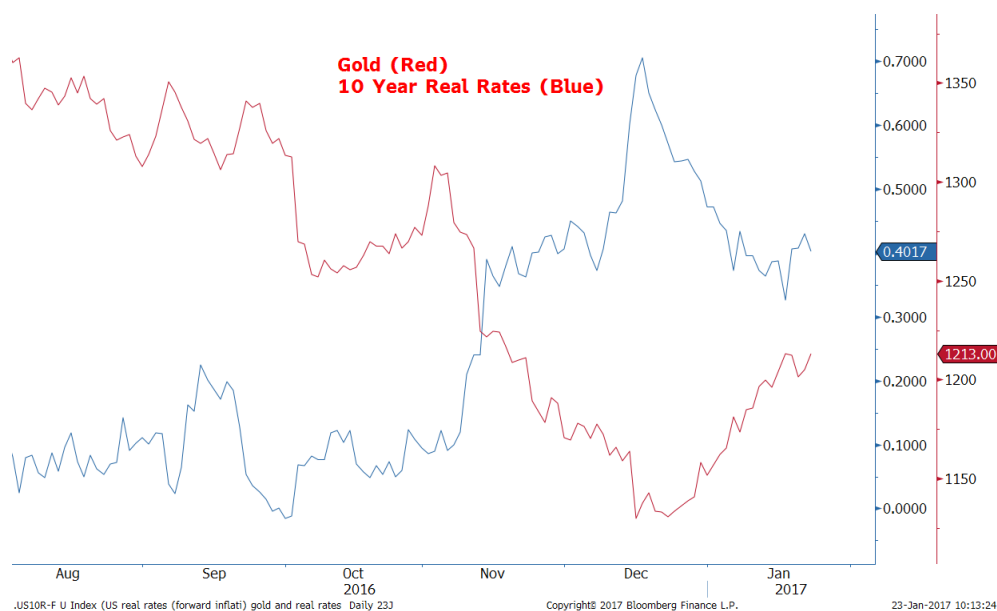
Chart 6.

10 Year	Non Adjusted	Non Adjusted	1 Year	1 Year	Adjusted	Adjusted
Real Rate	Predicted	Predicted Value	Avg. Pred.	Avg. Pred.	Predicted Value	Predicted Value
(BIPs)	Value	Inc./((Dec.)	Premium (%)	Premium (\$)	Predicted Value Less	Inc./((Dec.)
		From Current Level			Average Premium	From Current Level
-	1,446	21.8%	-8.8%	(127.8)	1,318	11.0%
0.05	1,431	20.5%	-8.8%	(126.5)	1,303	9.8%
0.10	1,416	19.3%	-8.8%	(125.1)	1,288	8.5%
0.15	1,401	18.0%	-8.8%	(123.8)	1,273	7.3%
0.20	1,386	16.8%	-8.8%	(122.5)	1,259	6.0%
0.25	1,372	15.5%	-8.8%	(121.2)	1,244	4.8%
0.30	1,357	14.3%	-8.8%	(119.9)	1,229	3.5%
0.35	1,342	13.0%	-8.8%	(118.6)	1,214	2.3%
0.40	1,327	11.8%	-8.8%	(117.3)	1,199	1.0%
0.45	1,312	10.5%	-8.8%	(116.0)	1,184	-0.2%
0.50	1,297	9.3%	-8.8%	(114.6)	1,170	-1.5%
0.55	1,282	8.0%	-8.8%	(113.3)	1,155	-2.7%
0.60	1,268	6.8%	-8.8%	(112.0)	1,140	-4.0%
0.65	1,253	5.5%	-8.8%	(110.7)	1,125	-5.2%
0.70	1,238	4.3%	-8.8%	(109.4)	1,110	-6.5%
0.75	1,223	3.0%	-8.8%	(108.1)	1,095	-7.7%
0.80	1,208	1.8%	-8.8%	(106.8)	1,080	-9.0%
0.85	1,193	0.5%	-8.8%	(105.5)	1,066	-10.2%
0.90	1,178	-0.7%	-8.8%	(104.1)	1,051	-11.5%

Real Rates – Where Can They Go?

If long term real rates are the dominant variable in determining the fate of gold prices, we need to consider where nominal rates and inflation expectations are likely to go in the coming months. As we can see in Chart 7, 10 year real rates surged 60 basis points since the election, subsequently gave back more than half of these gains and then have recently increased.

Chart 7.



As we discussed in our 2017 market framework (December 22, 2016), Treasuries, in most scenarios, would remain supported by virtue of still very low bond yields in foreign markets. Not only have nominal and real rate differentials widened since the election, but they have also increased on an FX adjusted basis (FX hedging costs had increased substantially in 2016) for Japanese and Euro based investors. But we can see in Chart 8 that FX adjusted nominal yield differentials have increased demonstrated significant stability at these higher levels. This suggests that given the continuation of QE from the ECB and BOJ, we should continue to see support for Treasuries.

In fact, we are already seeing signs of the “old regime” of Treasury yields being dominated by foreign bond yields. Over the past year, 93% of the movements in 10 year Treasury yields correlated with the movements in JGB and Bund yields. We can see that model broke down just after Trump factors drove up yields (and in turn the USD) – Chart 9. However, since then the gap between actual trading and JGB/Bund predicted values has contracted.

We also highlight the extreme short biased speculative positioning in Treasury futures as another indication that short covering will be an added form of Treasury support in the near term. Chart 10.

Chart 8.

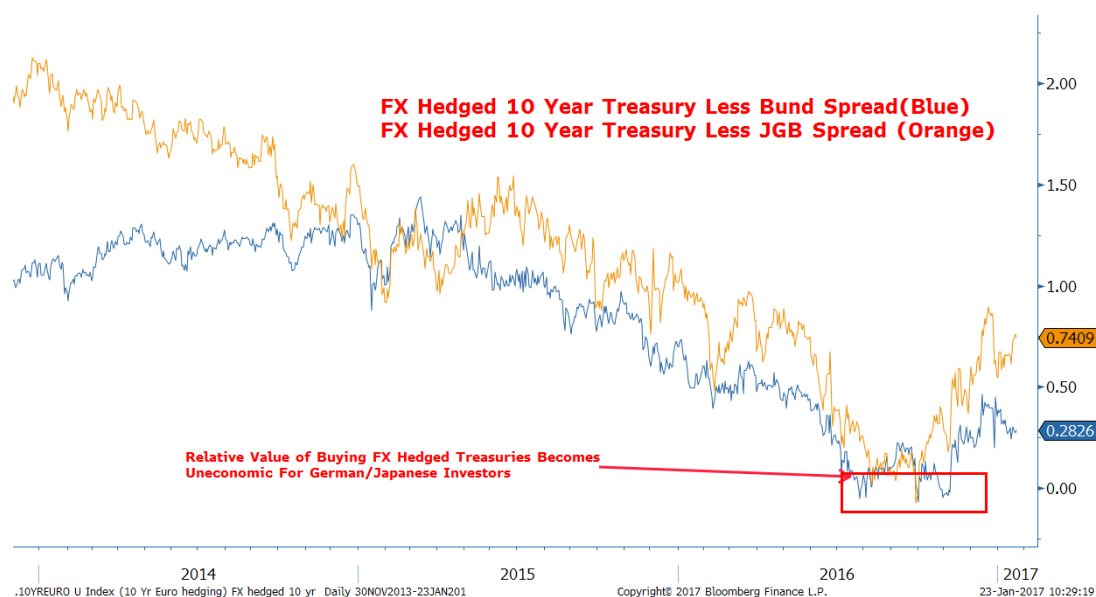


Chart 9.

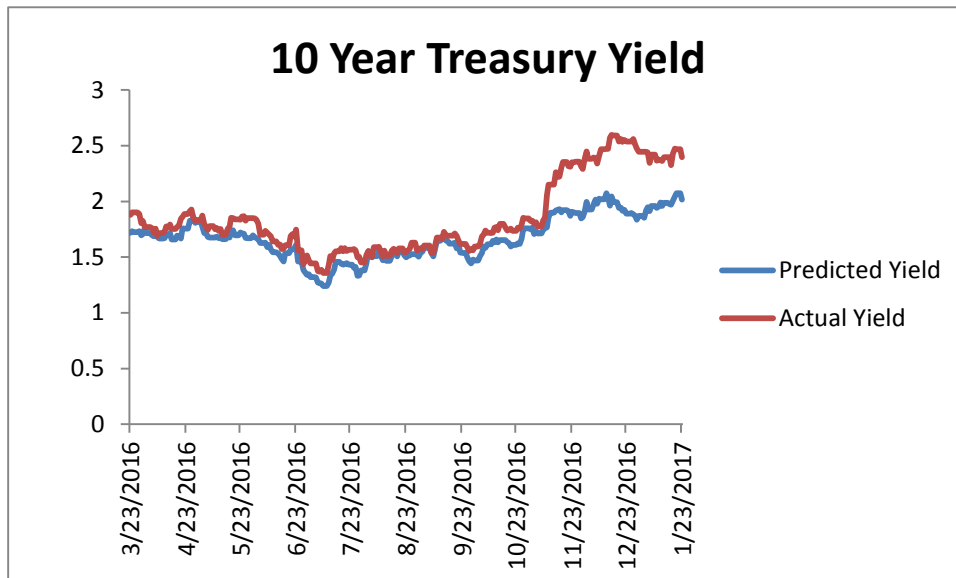
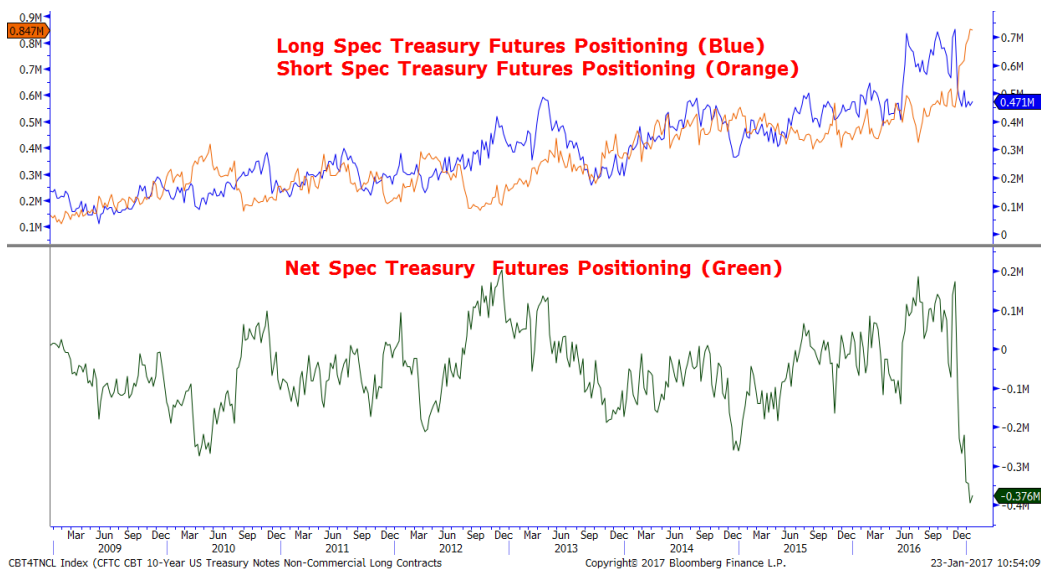


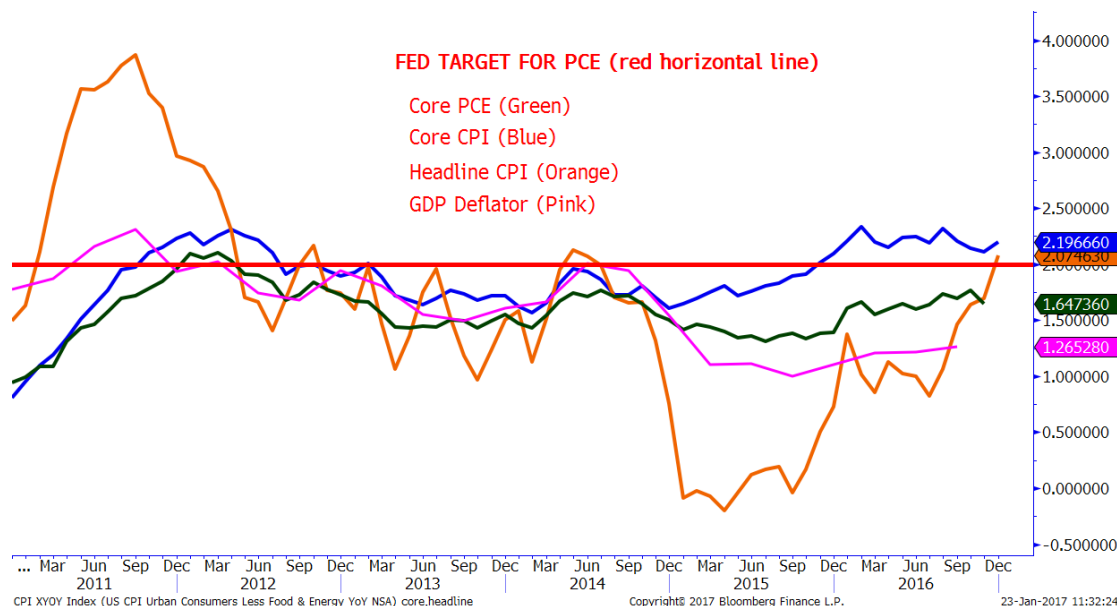
Chart 10.



Inflation is the other half of the real rates discussion. But while we see signals that nominal yields have limited upside, we believe inflation, both realized and forecasted, will continue to stay sticky at higher levels, and likely to grind higher.² Consider the following:

- While core PCE has shifted lower in the last print, most U.S. inflation metrics continue to grind towards and above 2.0%. Chart 11.
- Wage inflation continues to grind higher. Chart 12.
- Foreign inflation expectations have continued to increase, notably in Europe, and German CPI has recently shot up to 1.7%. In Japan, foreign inflation measures have increased, but at a less steady rate (note however falling inflation in Japan has helped strengthen the Yen, which ties back to gold – USDJPY correlation). In China, CPI has been flat but PPI, supported by higher commodity prices, has soared. The significance of global inflation acceleration is especially important as it is the foreign deflationary trends which have weighed so heavily on U.S. inflation. Charts 13 and 14.
- Oil prices have not surged to \$60/bbl but the increased stability of oil at the \$>\$50/bbl level supports y/o/y gains in inflation (throughout the world). Chart 15 shows the tight correlation between crude and forward inflation which erupted since the oil collapse began in Q3 2014.

Chart 11.



²In our real rate calculations we use 10 year forward break inflation rates.

Average Hourly Earnings (Gold)
Employment Cost Wage Private Industry Workers (Blue)
Employment Cost Compensation Civilian Workers (Green)

ECVSPVYY Index (Bureau of Labor Statistics Employment Cost Wage Private Industry)

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German 10 Year Forward Inflation (Red)
French 10 Year Forward Inflation (Blue)
Italian 10 year forward inflation (Orange)

1.600
1.400
1.200
1.000
0.800
0.600
0.400

1.320
1.068

1.000
0.525

Sep 2014 Dec 2014 Mar 2015 Jun 2015 Sep 2015 Dec 2015 Mar 2016 Jun 2016 Sep 2016 Dec 2016 Jan 2017

FRGGBE10 Index (France Breakeven 10 Year) euro break evens Daily 20SEP2014-23JA

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Chart 14.

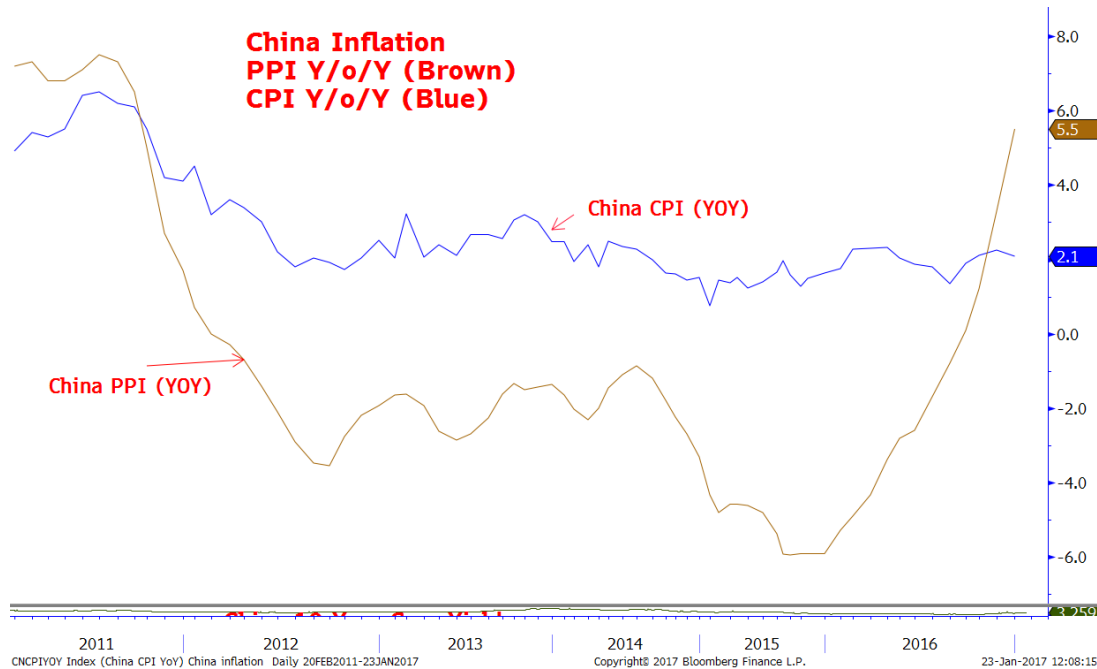
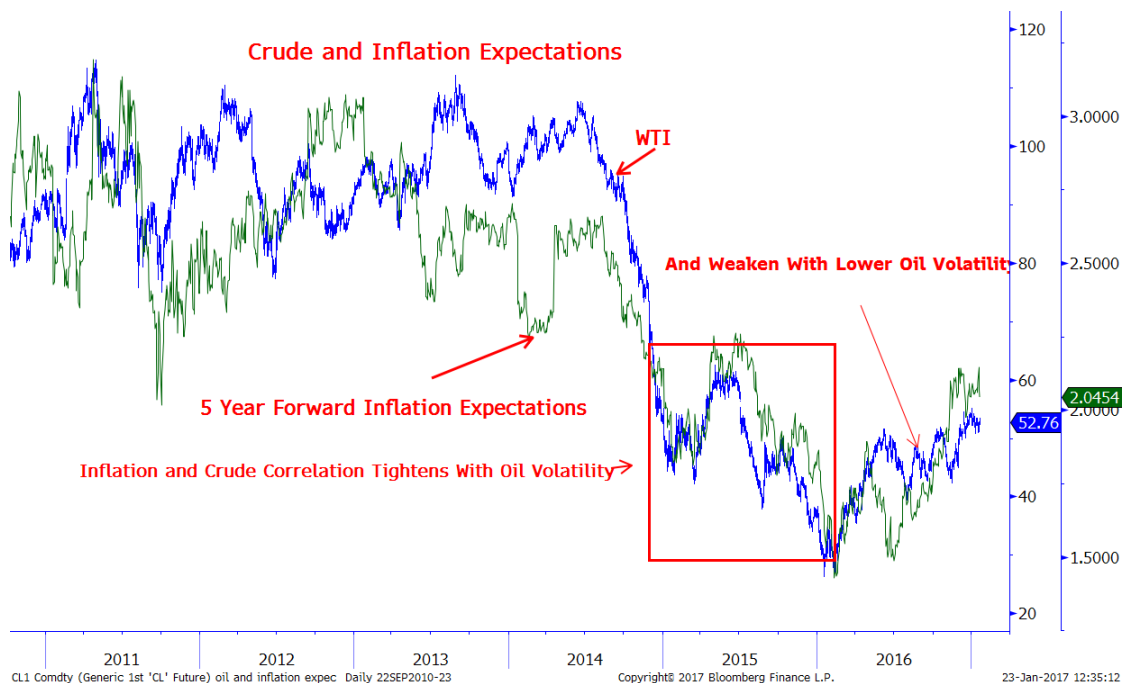


Chart 15.



Political Considerations

Trump's "American first" narrative suggests a more closed economy, which would tend to support the dollar and put pressure on gold. But higher fiscal spending on the other hand would suggest that budget deficits and debt/GDP are likely to increase, at least for the foreseeable future (U.S. CDS have increased notably since the election and have held on to these gains, but are far short of where they were during the budget ceiling crises). Further, it can't be overstated that Trump wants a weak dollar to fight an FX war, and further, despite higher inflation, Yellen has made it clear she is dollar sensitive and as far as we can tell, is still in the "dovish when needed" camp.

There is also a still nascent, and hard to evaluate, discussion regarding about tariffs/border taxes. If put in place, either or both of these would further accelerate inflation. Undoubtedly this would help support a Treasury sell off, but what is less clear is whether this increase or decrease real rates. Given that border taxes would most likely not result in an increase in productivity, we estimate that real rates would not, at the margin, be increased due to border taxes.

European politics are another consideration. This year we will see key elections in Holland, Italy (probably), France and Germany. The populists batting average has been quite strong if we consider Brexit, Trump and the Italian referendum (and even lesser political events such as the ascendancy of the Pirate Party in Iceland). As it relates to gold, we most political outcomes as neutral to positive. If Euro-sceptic parties gain ground, the EU is more seriously threatened, which would drive the dollar higher but would also, we think, drive gold higher as the world's second most important currency becomes destabilized. Even if the populists fail, we suspect higher geopolitical tension and a higher chance of FX wars will support gold demand.

Technicals, Positioning Volatility

Technical Conditions

- Mid term down channel was broken in early 2016. The recent sell off bounced right off the upper band of the down channel (bullish). Note the down channel violation in February, 2016 helped set up the subsequent surge through \$1,200/oz. Chart 16.
- Fibonacci levels have been relevant. Chart 17 show the Fibonacci retracement levels drawn from life time high in 2011 to the low in 2016. We can see that gold bounced right off the 38.2% retracement, suggesting that the 23.6% retracement \$1,252/oz will provide near term resistance. This ~\$1,250 level is also significant in that it is the point of intersection of the downtrend from last summer and the current uptrend trajectory. Chart 18.
- However, if the \$1,250/oz level is broken, that would suggest a move back up to the 2016 highs of \$1,380 can happen, and suddenly.
- A failure to break this channel would suggest downward momentum would accelerate, and potentially to the \$1,150/oz. It would likely require a huge surge in U.S. real GDP, without a proportional pickup in inflation, to lift real rates high enough so that gold went through the December lows of \$1,125/oz.

Positioning

- Gold ETFs holdings are highly sensitive to the price of gold. As we can see Chart 19, gold ETF holdings are highly sensitive to gold's ability to hold above it's 200 day moving average. Currently, gold is beneath its 200 DMA while ETF ounces held is above it. This suggests that ETF holders have been giving gold the benefit of the doubt recently, at least with respect to this metric over the past three years when gold oscillated above and the 200 DMA. Thus, a failure for gold to recover above the 200 DMA in near future could unearth more ETF selling and put downward pressure on gold.
- If ETFs suggest a modest overhang, the more important gold futures speculative positioning metrics are still quite bearish. Gold net speculative positioning is much closer to multi year lows than to its recent very elevated levels (a key factor in the gold roll over in the past few months). Chart 20.

Implied Volatility

- Gold implied volatility is at 12 month lows and extremely close to decade long lows. As we can see in Chart 21, these lulls frequently precede many price surges (though of course aggressive sell offs support gold volatility as well).

Chart 16. Gold daily



Chart 17. Gold daily and Fibonacci series from 2012



Chart 18.



Chart 19. ETF ounces held, gold and 200 dma.



Chart 20.

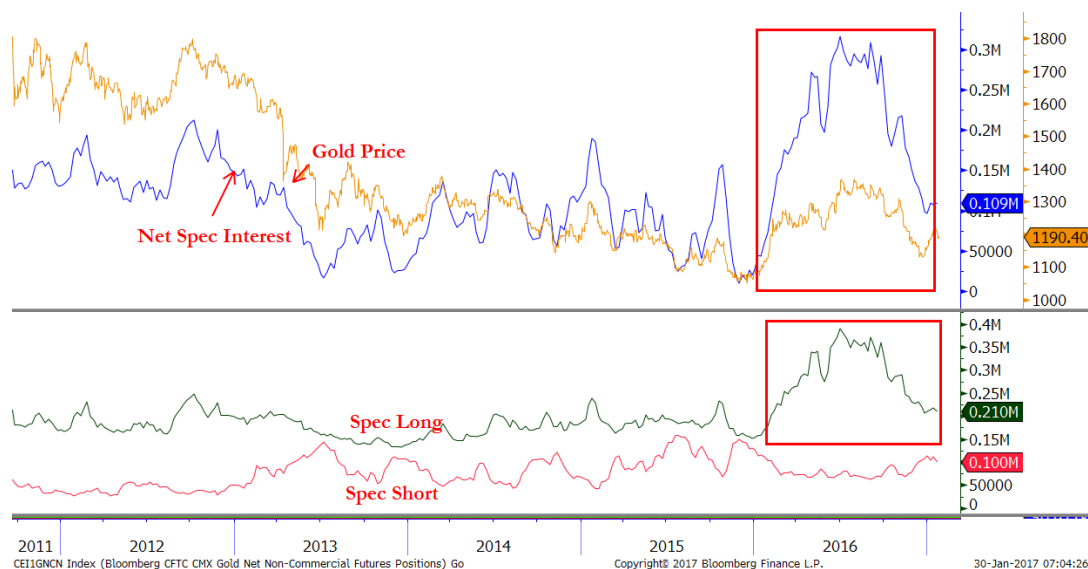
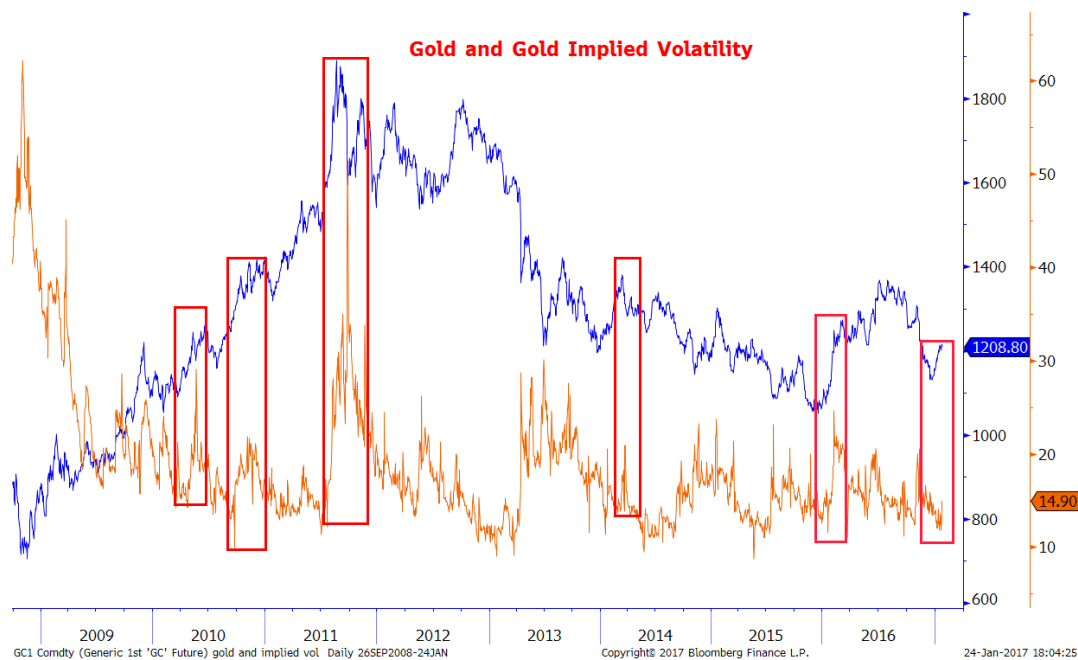


Chart 21. Gold and gold implied volatility



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