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## IT IS ALWAYS DARKEST BEFORE THE DAWN: FOUR ARGUMENTS FOR INVESTING IN COMMODITIES

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The commodity asset class has become a pariah to most investors, the victim of a 5-year swan dive, with cumulative losses totaling over 50%, as measured by the Bloomberg Commodity Index. Despite recent returns, we maintain that a strategic allocation to the commodity asset class still makes sense on a forward-looking basis, given its desirable combination of inflation protection and low correlation with the equity and fixed-income asset classes.

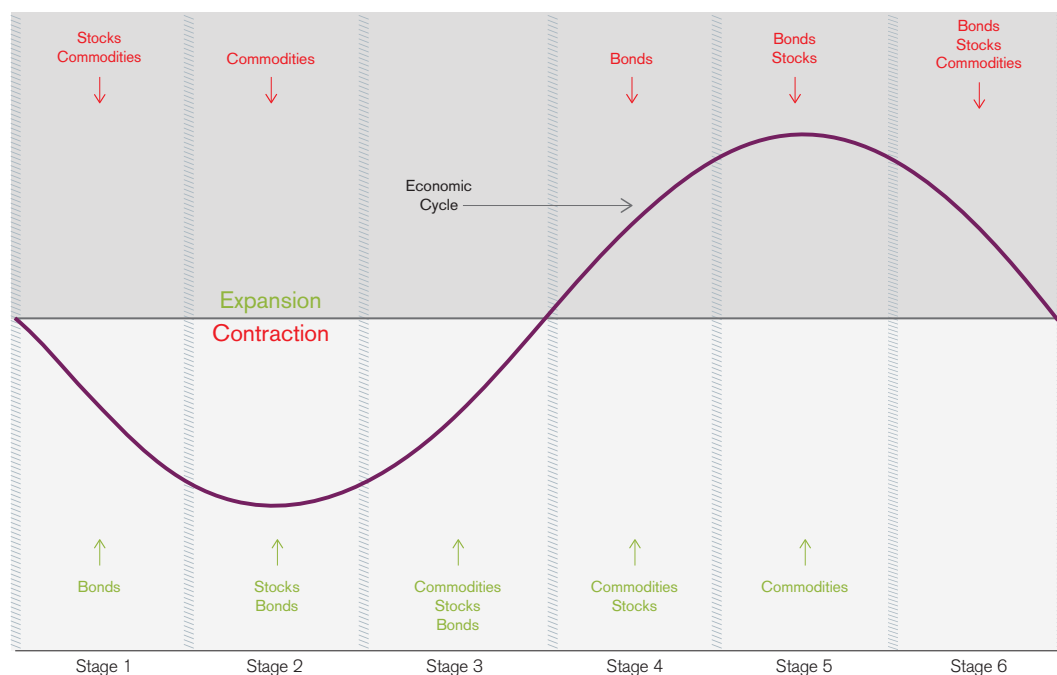
The recent poor performance in commodities raises the question of why any such allocation should even exist, given that over the last five years commodities have dropped, while both equities and bonds have risen. This argument ignores the fact that diversification is a tool for dealing with an unknown future, and always looks somewhat damaging in retrospect. Given asset class returns remain devilishly difficult to predict consistently, we believe diversification still provides the only free lunch in investing.

In this paper, we present four arguments that provide strong evidence for why investors who have stuck with the asset class should remain invested and why everyone else should consider the current environment as an opportunity to add commodity exposure to their portfolios. However, we note that while the observations below are somewhat tactical in nature, the strongest arguments for including commodities in a portfolio are for their strategic roles as a diversifying asset class and as a hedge against inflation.

►► DIVERSIFICATION

Commodity returns are directly tied to the economic cycle, due to their linkage with the prices of raw materials. This means that commodity returns typically trough simultaneously with the depth of an economic recession and peak at the height of an economic boom. This outcome is in contrast to both bonds and equities, which tend to have price movements that are offset from the economic cycle, with extreme valuations happening markedly before or after economic peaks and troughs. Figure 1 gives an idealized version of these price movements during the economic cycle, reflecting bonds' reaction to interest-rate levels, and the forward-looking nature of equities.

Figure 1: Idealized Behavior of Commodities, Stocks and Bonds Over an Economic Cycle

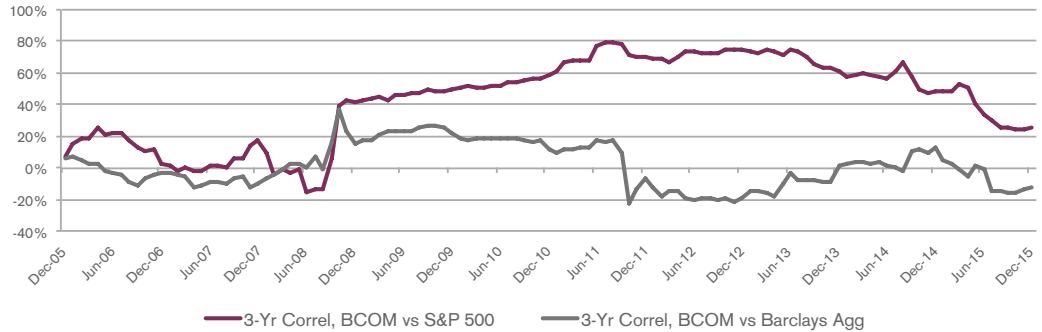


Source: Parametric, 2016.

This intrinsic offset between the cycle of returns for commodities and those of more mainstream asset classes means they are naturally diversifying to one another.

This is confirmed by Figure 2, which shows a persistently low correlation between commodities and U.S. equities, as well as between commodities and U.S. fixed income. More notably, these correlations have moved much closer to their historical norms after a period of elevated correlation following the 2008-2009 financial crisis.

Figure 2: Rolling Three-Year Correlation of Bloomberg Commodity Index, Versus S&P® 500 and Barclays Aggregate Index, 2005-2015



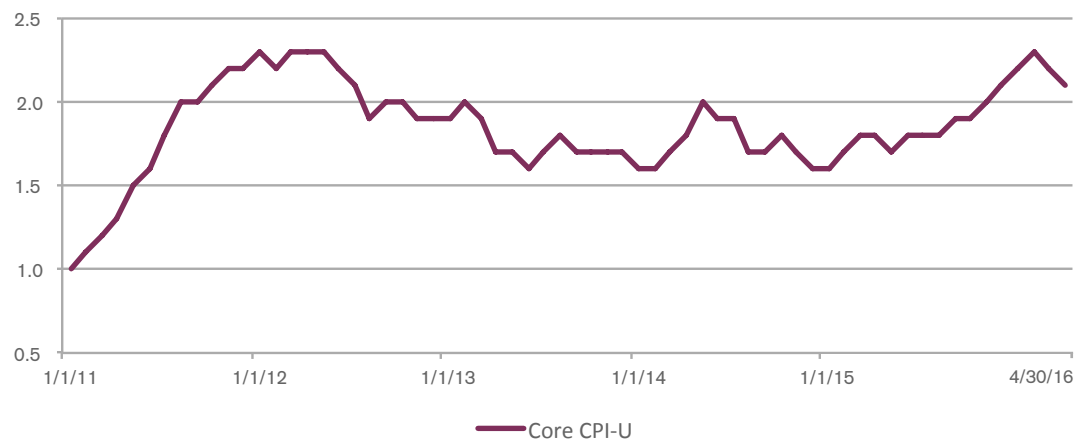
Sources: S&P, Bloomberg, Parametric, 12/31/2015. Index information provided for illustrative purposes. It is not possible to invest directly in an index. They are unmanaged and do not reflect the deduction of fees and expenses.

This persistently lower level of correlation with both equities and bonds delivers an expected diversification benefit at the portfolio level for most investors, as portfolios that include an allocation to commodities are able to produce higher expected returns with lower expected volatility than portfolios that do not contain such an allocation.

►► **REPORTS OF INFLATION'S DEATH MAY BE GREATLY EXAGGERATED**

A commonly stated thesis for holding commodities is for protection against inflation. The current zero interest-rate policies of many central banks, as well as slow growth in Europe and Japan, gave rise to a consensus view that inflation would be flat-to-falling over 2016. Recent inflation releases, however, have shown an upward movement in prices that counter this view, with April's release showing the highest increase in price levels in over three years.

Figure 3: Core CPI, All Urban Consumers, 12-Month Percent Change, 12/31/2012 to 4/30/2016

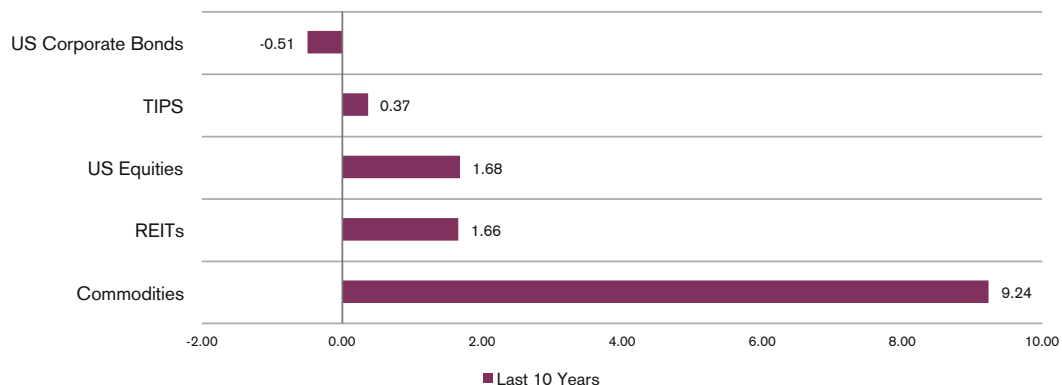


Sources: Bureau of Labor Statistics, Parametric, 4/30/2016.

Looking at Figure 3, U.S. inflation has been trending upward since mid-2015, and has posted annual rates above 2% for the last six months. It is also worth noting that CPI remained above 1.5% over the course of 2015, despite the crash in energy prices. Given the importance of energy prices to most aspects of a modern economy, the fact that core inflation remained in excess of 1.5% even while oil prices dropped by half indicates that inflation would have been much higher if energy prices had stayed flat in 2015. In other words, inflationary pressures in the U.S. economy may have been masked by the collapse in oil prices. If this theory is correct, inflation may be a larger concern than consensus has judged it to be (especially as energy prices appear to be on the rise in 2016).

Historically, commodities have performed strongly in times of inflation, while equities have struggled and fixed income has dropped. These characteristics are captured in the inflation beta figures below, which show how various asset classes have responded to a change in inflation rates.

Figure 4: Inflation Beta for US Asset Classes, 10 Years, as of 3/31/2016



Source: Parametric, 3/31/2016. Not a recommendation to buy or sell any security. Not to be used to make investment decisions.

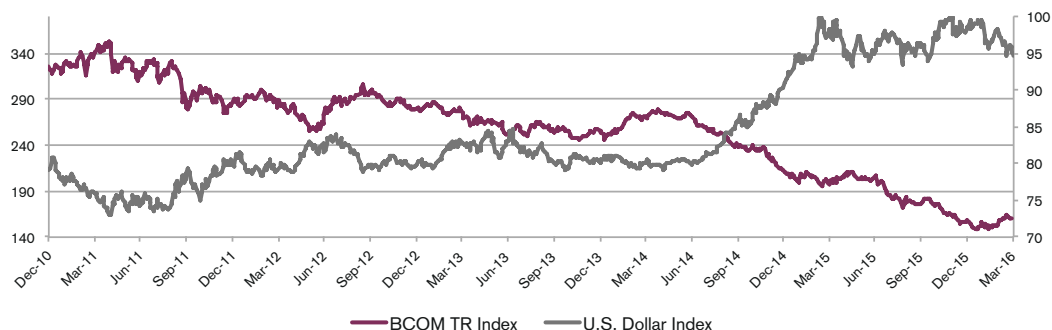
Note: The above numbers represent the slope of the regression line fitted to 10 years of monthly asset class returns versus U.S. CPI. It gives an indication of an asset class' sensitivity to inflation. The higher the inflation beta, the more inflation protection an asset class provides.

If inflation continues to rise, an allocation to commodities could prove beneficial to an investor's portfolio, and will likely provide far more inflation protection than many other mainstream asset classes.

►► **DOLLAR STRENGTH**

Historically, many commodity investors have noted a link between the strength of the U.S. dollar and the prices of commodities – as the dollar strengthens against other major currencies, commodity prices tend to fall, and vice versa. Figure 5 gives strong visual evidence of this dynamic over the past five years, where the U.S. Dollar Index measures the value of the U.S. dollar versus a basket of major developed-market currencies and the Bloomberg Commodity Index reflects the prices of a broad basket of commodity futures.

Figure 5: Bloomberg Commodity Index Total Return vs U.S. Dollar Index, 12/31/2010-3/31/2016



Sources: Bloomberg, Parametric 3/31/2016. Index information provided for illustrative purposes. It is not possible to invest directly in an index. They are unmanaged and do not reflect the deduction of fees and expenses.

As shown, the strength of the dollar and the price level of commodities are practically mirror images of one another, with the pronounced strengthening of the U.S. dollar over the past 18 months being accompanied by a dramatic sell-off in commodities. The future direction of currency markets is unknown, but it would be heroic to assume that a rally in the U.S. dollar will repeat itself over the next three years. Even if the dollar were to simply move sideways, it would remove one of the more severe headwinds to price appreciation in commodities. Furthermore, if the dollar were to weaken dramatically, it could provide a strong tail wind to commodity prices for the U.S.-based investor.

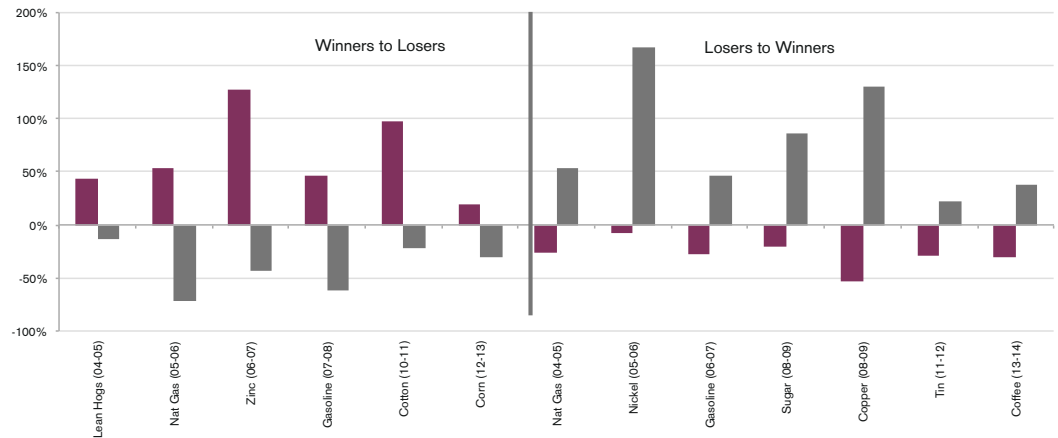
#### ► THE CURE FOR LOW PRICES IS LOW PRICES

Many consider commodities to be the one asset class where price reversals are the norm. This is due to the following dynamic between prices and supply:

- A shortage of supply causes an increase in prices. As prices rise, more producers are incentivized to dedicate resources to capitalize on this increased demand.
- Given the amount of time needed to increase production, the resulting supply tends to overshoot the true demand, and the market turns to an oversupplied condition.
- As a result, prices eventually drop, and commodity producers reduce their output or decrease their efforts directed toward discovering and extracting new supplies.
- This, in turn, causes a decline in supply, which also overshoots the mark of true demand, to the downside. This causes the cycle to start anew, with price increases coming about due to inadequate supplies.

History is littered with examples of powerful reversals for a host of different commodities due to this dynamic, as demonstrated in Figure 6.

Figure 6: Examples of Reversals in Commodity Returns, 2004-2015



Sources: Bloomberg, Parametric; 3/31/2016. Not a recommendation to buy or sell any security. Not to be used to make investment decisions.

Note the magnitude of the reversions in Figure 6, which shows the large swings in commodity prices that can be seen over a relatively short amount of time.

Given the scale of the drop in commodity prices over the past five years, producer reaction to these price signals has been extreme. Recent news headlines detailing mine closures, reduced acreage in crop plantings, and declining rig counts in the natural gas and petroleum fields of North America seemingly provide evidence that any recovery, when it comes, will be sharp and long-lasting, given the amount of production that has been sidelined and the amount of time that will be required to bring adequate supplies back online.

### ►► CONCLUSION

Commodities have become one of the most shunned asset classes over the past five years, as the recent bear market has been notable for both its length and magnitude. This decline has caused many investors to either exit, or reduce their strategic allocation to commodities. In this brief we have laid out supporting arguments that should assist in motivating an investment in commodities. They remain a powerful diversifier to an investor's portfolio; recently observed increases in CPI make its inflation-protection properties appealing; recent returns for the asset class have been diminished by currency impacts, which are unlikely to be repeated; and the size and severity of the last downturn may predicate a sharp recovery when it occurs. Investors should look past recent returns and, instead, make a decision based on the future potential of this asset class.



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