Using Broad Commodities strategies in portfolio allocations

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It is often easy to think of different portfolio building blocks or asset classes in isolation. While important, this risk missing a fundamental truth about the vast majority of investor portfolios: The majority of investor portfolios are not solely in stocks or solely in bonds or solely in commodities—they represent a diversified mix of these, sometimes including even more asset classes.

Commodities have been underperforming traditional asset classes

Now, human perception frequently focuses on competition and comparison. This is especially apparent in portfolio decisions. It tends to be very easy to discuss asset classes that have been performing particularly well, very difficult to discuss asset classes that have been underperforming, and it is nearly impossible to discuss asset classes that have had negative returns for extended periods.

No substitute for broad-based commodity allocations

We would also pause here to make a critical note, as we have discussed both commodity-related equities and managed futures with investors. At times, these allocations can compete for the sleeve of the portfolio where commodities may fit. However1:

- Commodity-related equities tend to have greater sensitivity to the broader equity markets than pure, diversified commodity investments. Additionally, businesses have earnings that are influenced by other factors than simply the movement of commodity prices.
- Managed futures investments, depending on how they are structured, might have a high degree of dependence on the manager—or at the very least the algorithmic approach that selects and weights the exposures. Some of these approaches can go either long or short, but again, properly managing this process is not simple and the return profile could look quite different than what would be implied by the movements of commodity prices alone.

Correlation: The critical building block for effective diversification

Thinking only about relative performance, however, risks making a significant oversight. Within a portfolio, one of the most critical elements regards how the different asset classes or sleeves move in relation to each other.

If we admit that we don't know the direction or behaviour of the market ahead of time, having a portfolio of assets that tend to move with lower correlation could be quite valuable, as this would be one way to

lower the overall volatility of the investment experience. Figure 1 indicates a few important reasons why commodities can serve this purpose:

- The Bloomberg Commodity Index had a correlation of 0.47 to the MSCI ACWI Index over the period, and the Bloomberg Commodity Index had a correlation of 0.34 to the Bloomberg Barclays Global Aggregate Index over the period. These figures indicate the potential to lower the volatility profile when added to these traditional asset classes.
- It is even more interesting to consider the correlations of the sub components of the Bloomberg Commodity Index to both the MSCI ACWI Index and to the Bloomberg Barclays Global Aggregate Index. Livestock, for example, tended to be the lowest. Industrial Metals tended to be the highest against the equities, whereas Precious Metals tended to be the highest against the fixed income.
- If one could accurate predict the top-performing sub component of the Bloomberg Commodity Index, then it would make sense to allocate in that direction. Since it is so challenging to do this, one of the best aspects to a broad-based commodity allocation becomes clear. Using Energy as one example, we can see that the highest correlation of returns was to Industrial Metals at 0.35. This makes sense—the dynamics impacting prices in the Energy sector would be unlikely to impact the dynamics in the other sectors in the same way.

Figure 1: Measuring the correlation building blocks of a Broad Commodities allocation

Source: Bloomberg, 31 January 1999 to 31 March 2019. You cannot invest directly in an index.

Historical performance is not an indication of future performance and any investments may go down in value.

Has adding diversified commodity exposure helped risk-adjusted returns?

The problem with terms like "correlation" is that it can be exciting, but without a statistics background it can seem abstract. For this reason, there is no substitute for a direct test where we look at a given portfolio of stocks and bonds and see if adding a diversified commodity exposure helped, measured by improved risk-adjusted returns.

In Figure 2:

- The "Base" portfolio represents 60% allocated to the MSCI World Index and 40% allocated to the Bloomberg Barclays US Aggregate Index, which has a longer available return history than the Bloomberg Barclays Global Aggregate Index.
- The "Base + Commodities" portfolio represents 55% allocated to the MSCI World Index, 35% allocated to the Bloomberg Barclays US Aggregate Index, and 10% allocated to the Bloomberg Commodity Index. This is far from the sole way to add commodities to a portfolio, but we started here for illustrative purposes and moved 5% from each of the other asset classes in the allocation.

The Sharpe Ratio allows us to look at the return in excess of the risk-free rate per unit of standard deviation over each period. A higher Sharpe Ratio is what we take to indicate a stronger risk-adjusted return. For the purposes of the calculation, the Risk-Free rate is taken as the ICE BofA ML 3-Month Treasury Bill Index.

Figure 2: Sharpe Ratio comparison of different allocations

Source: Bloomberg, 31 January 1978 to 31 March 2019. The Pre 2008-09 Global Financial Crisis period is from 31 January 1978 to 31 December 2007. The post 2008-09 Global Financial Crisis period is from 31 December 2008 to 31 March 2019. Includes Backtested Data. The MSCI World Index began live calculation on 31 March 1986. The Bloomberg Commodity Index began live calculation on 14 July 1998. The Bloomberg Barclays US Aggregate Index began live calculation on 1 January 1986. The Bloomberg Commodity Index began live calculation on 14 July 1998.

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How much weight should be placed on the post 2008-09 Global Financial Crisis period?

We ask this question because we know a few key details about what global central banks did in response to the Global Financial Crisis of 2008-09. Quantitative easing and the lowering of interest rates has had an influence on the returns of traditional asset classes, pushing them higher. However, there hasn't yet been a consequence of higher inflation, which is a factor that would push the returns of commodities higher.

- During the full period of the analysis in Figure 2, we can see that the Sharpe Ratio of the Base and the Base + Commodities portfolios were extremely similar. Adding the commodities manifested a lower standard deviation by 0.3% per year, 9.4% for the Base, and 9.1% for the Base + Commodities.
- During the Pre 2008-09 Global Financial Crisis period, the Base + Commodities portfolio actually outperformed the Base portfolio on the basis of Sharpe Ratio, and this was accomplished by both a higher return and a lower standard deviation.
- During the Post 2008-09 Global Financial Crisis period, the Base portfolio delivered a stronger Sharpe Ratio than the Base + Commodities portfolio. The main factor was that the Bloomberg Commodity Index had a negative return over this period, whereas the other two indices were quite strong.

What do investors think of when they look at diversified commodity strategies today? The Post 2008-09 Crisis period is what is freshest in mind, and it is a fact that since the other asset classes have done so well, it is difficult for some to think that adding diversified commodities could be helpful. However, this may be a great time to make this consideration, as it is frequent that the coming decade rarely mirrors the past decade when considering the returns of different asset classes.

1 "Understanding Investing: Commodities." PIMCO. 2017.

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