The Case for Commodities

August 2017

In the never-ending quest to improve the risk and return characteristics of our portfolios, we are always searching for new assets that are not perfectly correlated with the assets that we already own. For example, stocks and bonds behave differently than one another, and we often find that when stocks perform poorly, bonds perform well and we can achieve the appropriate balance in the portfolio. Stocks and bonds tend to have a very low or negative correlation which is ideal for risk management. Commodities can also offer this type of behavior, but unlike stocks and bonds, these instruments are not well known to many investors. What is a commodity and what instruments should we use to get that exposure? Here we provide some answers to those and other questions that may be important as investors think about constructing a diversified portfolio.

What Is a Commodity?

A commodity is a basic good used in commerce that can be interchangeable with other goods of the same type. In other words, a barrel of oil or an ounce of gold should be thought of as substantially the same regardless of the producer that supplied it. These and many other commodities are inputs to the production process of goods and services around the world. Like stocks, bonds, or real estate, they are also investment assets that can be included in our portfolios. These commodities trade on an exchange, and in order to be approved to trade in this manner, they must be of a minimum quality, or grade, which is determined by the exchanges that facilitate the trading. Commodities can be broken down into four basic categories:

- Metals (gold, silver, platinum, and copper)
- Energy (crude oil, heating oil, natural gas, and gasoline)
- Livestock and Meat (lean hogs, pork bellies, live cattle, and feeder cattle)
- Agriculture (corn, soybeans, wheat, rice, cocoa, coffee, cotton, and sugar)

While commodities may seem exotic to some investors, it is helpful to consider that almost every aspect of our lives depends on them and their prices impact most of the things we purchase. Commodity trading has likely been in existence since the dawn of civilization, although only recently have they become so easily accessible for investors. Today, there are hundreds of exchange traded funds (ETFs), mutual funds, and other vehicles that can be purchased on various exchanges to provide investors with commodity exposure.

How to Purchase Commodities

As with other securities, when we buy commodities for investment purposes, we usually purchase them in the form of a fund that provides some level of diversification. The top 10 commodity exchange traded funds as of June 2017 are as follows:

Table 1 : Largest Commodity ETFs

Fund	Ticker	Category	Assets ($thousands)
SPDR Gold Shares ETF	GLD	Metals	$34,106,459
iShares Gold Trust ETF	IAU	Metals	$8,270,248
iShares Silver Trust ETF	SLV	Metals	$5,573,988
United States Oil Fund	USO	Energy	$2,879,391
Powershares Commodity Index Tracking Fund	DBC	Broad Commodities	$1,729,211
ETFS Physical Swiss Gold Shares ETF	SGOL	Metals	$1,018,459
iShares S&P GSCI Commodity Indexed Trust	GSG	Broad Commodities	$990,265
Proshares Ultra Bloomberg Crude Oil	UCO	Energy	$855,248
iPath Bloomberg Commodity Index ETN	DJP	Broad Commodities	$718,370
Powershares DB Agriculture Fund	DBA	Agriculture	$667,675

Source: www.etfdb.com

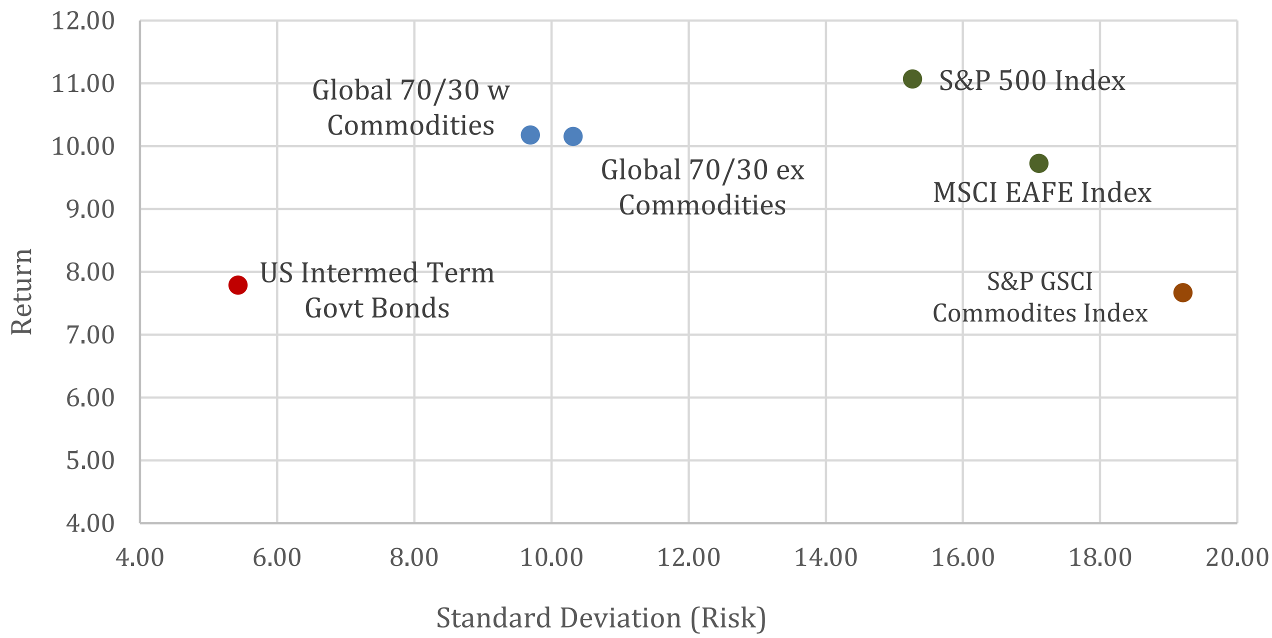
Most commodity funds invest in the commodity futures markets. Futures are financial contracts that obligate the buyer to purchase a commodity at a predetermined price and date in the future. Commodity funds typically purchase a ladder of futures contracts that mature at different times. In the case of broad commodities funds like the iShares S&P GSCI Indexed Trust, the fund also buys futures contracts on a variety of different commodities to provide further diversification. Many investors prefer to get exposure to a basket of commodities rather than purchasing just one sector. For example, the iShares S&P GSCI fund contains the following sector exposures: Energy (56.3%), Agriculture (18.6%), Metals (16.3%), and Livestock (8.8%)[1]. Energy tends to dominate this fund, but other funds have rules that cap the exposures to any one sector. The iPath Bloomberg Commodity Index, for example, is broken down as follows: Energy (28.9%), Agriculture (29.9%), Metals (34.4%), and Livestock (6.8%)[2].

[1] https://www.ishares.com
[2] http://ipathetn.com

The Investment Case for Commodities

To be attractive as an investment opportunity, a security must have the ability to positively influence the risk and return characteristics of a portfolio. This means that when it is added to a portfolio of assets it can reduce the risk for a given level of return or it can enhance the return without adding a commensurate amount of risk. Fortunately, commodities seem to have this property. Because they are not highly correlated with stocks and show almost no correlation at all with bonds, they can have a risk reducing effect when added to other risky assets in a portfolio. The chart below shows the average of rolling returns and standard deviations for all 10-year periods beginning any month between February 1970 and May 2017.

Chart 1: Rolling Ten-Year Returns and Standard Deviations
Feb 19070 - May 2017



Source: Morningstar DIrect

From the data, we can see that the portfolio including commodities experienced a lower risk and slightly higher return on average than the portfolio without commodities. Of particular note is that the risk of the commodities index alone is higher than that of any other component in the portfolio. Yet, when combined with the S&P 500, MSCI EAFE, and U.S. Intermediate Term Government Bonds, it reduces the risk of the overall portfolio[3]. This is the essence of modern portfolio theory and an important reason to consider commodities in a diversified portfolio. Commodities are also commonly thought of as a hedge against inflation. To investigate this, we took the data set above and isolated the averages to the periods of time when inflation, measured by year-over-year changes in CPI, was above 5%. This was the case for all ten-year periods in the study until January 1990. During those periods, we observed a return of 12.40% and a standard deviation of 9.76% for the portfolio including commodities and a return of 12.25% and a standard deviation of 10.51% for the portfolio excluding commodities. In this case, the return differential and the risk savings are slightly larger than those witnessed during the entire 47-year data set. However, it would be difficult to draw any conclusions here, because we do not have a period of sustained rising inflation anywhere in the data. Many investors are concerned about asset behavior in a rising inflationary environment. We conclude that at a minimum, commodities should help the portfolio under those conditions, but we cannot quantify the impact with the historical data available.

Incorporating Commodities into your Asset Allocation

While commodities appear to help manage risk in the portfolio, it is important to understand the differences between the types of instruments that are available. For example, depending on the particular supply and demand for commodities futures contracts, the investment vehicles that are typically used may not track the actual, or "spot", prices of the underlying commodities very closely. This can impact returns positively or negatively, and that randomness is not appealing to some investors. For now, commodity futures funds remain the most popular way to invest in these instruments, but there may be other ways to accomplish the same objective.

The chart below shows the performance of the Bloomberg Commodity Spot Price Index, the Bloomberg Commodity Index, the S&P GSCI Index, and the S&P North American Natural Resources Index between January 1997 and May 2017. After 2005, the Bloomberg Commodity Index began to fall behind the index of spot prices, and although the returns were highly correlated with the spot index thereafter, the performance continued to lag for those who invested during the entire period. Interestingly, we can also see that the S&P North American Natural Resources Index followed the index of commodity spot prices rather closely and provided a better return opportunity for investors during the period. The natural resources index tracks the stock performance of a basket of commodity producers instead of using futures. At each rebalancing, the index is allocated as follows: Energy (45%), Metals and Mining (35%), and Agriculture (20%).

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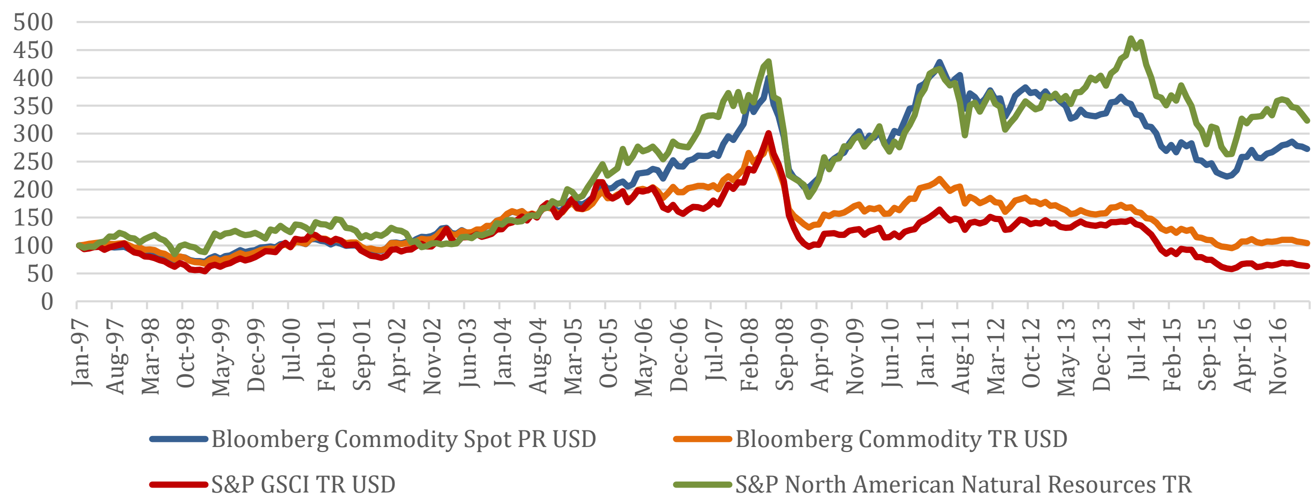
Chart 2: Cumulative Returns
January 1997 - May 2017



Source: Morningstar Direct

Depending on their preference for futures or their desire to overweight certain sectors, investors have a number of options when it comes to commodities We believe that the potential diversification benefits alone justify a position in commodities as part of a globally balanced portfolio. It may also be the case that commodities provide a positive impact in the face of sustained rising inflation as we are likely to experience at some point in the future. In the coming years, we will continue to explore the best vehicles to provide this exposure as we strive to manage risk effectively and help our investors achieve their long term financial goals.