William Blair

June 2016

Jason Moede
Portfolio Manager

Opportunities in Off-the-Run Commodities

Given the idiosyncratic nature of the highly volatile and less efficient "off-the-run" commodity markets—which are less frequented, nontraditional commodity futures markets such as electricity and freight forward agreements (FFAs)—we believe compelling alpha opportunities and diversification benefits are available for investor portfolios when accessed through specialist managers trading both long and short.

Compelling Opportunities in Off-the-Run Commodity Markets

As of 2014, the Investment Company Institute reported a total of 4,646 stock mutual funds with $8.3 trillion in assets under management (AUM) in the United States. This figure excludes thousands of other vehicles with equally awe-inspiring AUM figures: closed-end funds, exchange-traded funds (ETFs), unit investment trusts, and, last but not least, hedge funds.

While a fraction of these products have passive mandates, the vast majority are active managers seeking to outperform (and often struggling to do so)—and active investors seeking to capture alpha in crowded markets face a far harder time than investors in less trafficked markets.

This is true in any asset class. For example, because equity markets have been crowded for some time, the majority of active equity fund managers have underperformed their benchmark indices—and while fees are a central element of such underperformance, competition and crowdedness are also key factors.

Fundamental-based commodity managers—active investors and/or traders in futures markets who seek to predict and profit from commodity price movements based primarily on an analysis of supply and demand—are subject to these same trying conditions when markets are crowded with competition.

In their quest for alpha, some investors, such as hedge funds, with their often broad mandates, have implemented a distinctive smaller-cap bias for good reason: small-cap and midcap stocks have less Wall Street coverage (analysts, investors, etc.) than do large-cap and mega-cap stocks.

Quite simply, less coverage equals more alpha potential—and this analogy holds true for commodity markets.

Defining Off-the-Run Commodities

When most people think of commodities, a handful of products come immediately to mind. For the past couple of years, crude oil—West Texas Intermediate (WTI) or Brent—has dominated the headlines and investor consciousness as the price of WTI has dropped from north of $100 per barrel to sub-$30 per barrel for a period of time. From the onset of the Global Financial Crisis in late 2007 through the European sovereign debt scare of 2011, investors and speculators closely followed the price of gold, with its purported safe-haven status, as it rose from less than $700 per ounce to almost $2,000 per ounce. Gasoline prices, unleaded or diesel, are also never far from consumers' minds, and the fracking boom has made natural gas a regular topic of conversation. Lastly, Chinese growth and commodities seem inextricably linked and copper is often cited as the bellwether of that story, positive or negative.

While other commodities are mentioned from time to time, a total of seven (WTI crude, Brent crude, unleaded gasoline, diesel, natural gas, copper, and gold) dominate the commodity conversation. That is because these products represent a majority of the weight in predominant commodity indices, the S&P Goldman Sachs Commodity Index, or GSCI (64.9%), and the Bloomberg Commodity Index (50.0%). The S&P GSCI, a production-weighted index, is made up of a total of 28 commodities and tests a further 24 others for inclusion. The Bloomberg Commodity Index, a liquidity- and production-weighted index, includes 22 contracts and tests a total of 26 for inclusion.

Other commodities included in the indices are all recognizable. Examples include corn, wheat, aluminum, silver, coffee, and sugar. Those contracts tested but not included in one of the indices are also all recognizable, including coal, lead, tin, platinum, palladium, and cocoa.

However, the commodity futures markets extend beyond even these parameters. For example, both electricity and FFAs have active and liquid futures markets. Electricity futures typically cover the purchase of power at a specific time and a specific place. FFAs allow for the purchase or sale of cargo space on specific ship type (Capesize, Panamax, etc.) at a specific time, and for a specific ship route. Like most futures markets, electricity and FFA markets are typically cash-settled and there is no physical delivery of the actual commodity. These and other futures markets are designed to allow producers and consumers to hedge their exposure to price changes and price volatility in physical markets.

"Both electricity and FFAs have active and liquid futures markets."

The Case for Commodity Long-Short Investing

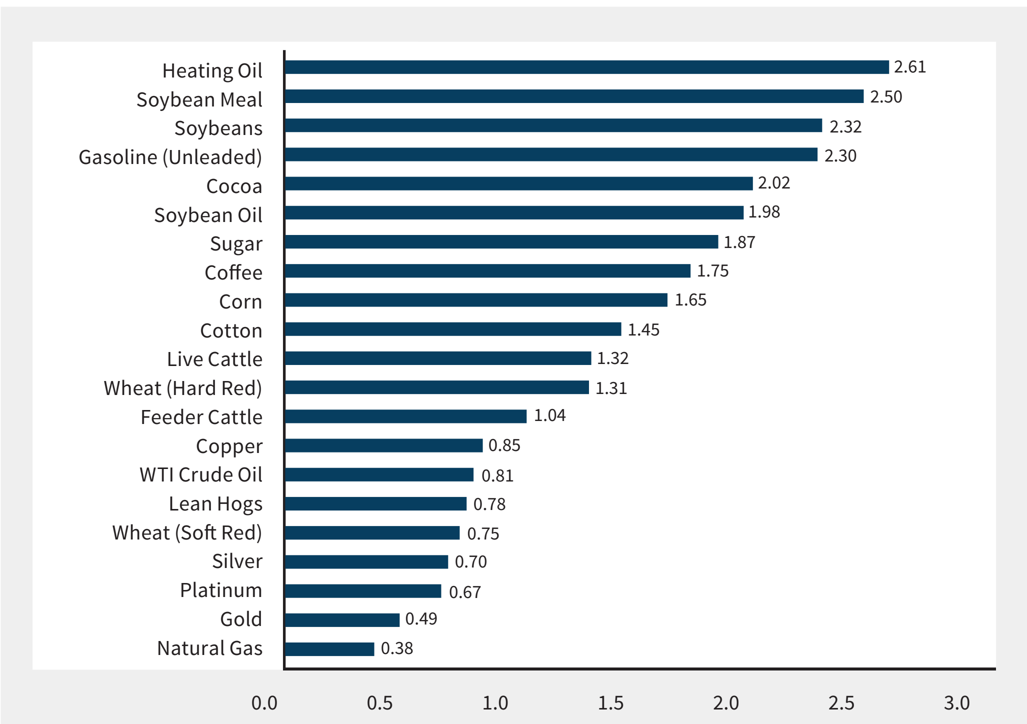
Many institutional investors seeking to add commodities to their portfolios typically follow a similar process: establish a real asset or commodities policy target, allocate to a long-only commodity investment, and then hope that commodity prices go up. We believe there are a number of problems with this approach. Most investors like long-only commodity exposure for its inflation-hedging potential, but this is only a single component of long-only commodity returns. Commodity prices in real terms actually tend to be deflationary over time because of technological advances (such as fracking). In addition, returns from long-only commodity investments are dependent on both the shape of the forward curve (namely, backwardation versus contango) and any interest income that can be generated on the underlying collateral. Real price declines from technological change and contango may even overwhelm the inflation-hedging benefit at times, especially in the absence of interest earned on collateral in a low-interest-rate environment. Conversely, a long/short approach can provide the desired commodity exposure while positioning itself to capitalize on opportunities created from price dislocations, supply-demand imbalances, and/or heightened levels of volatility.

Alpha Potential

Much like hedge funds plumb smaller-cap equities for alpha, we believe the most attractive alpha opportunities in fundamental-based commodity trading lie within off-the-run markets. What qualities define an off-the-run market? We believe there are two key characteristics that must be present.

A High Ratio of Hedgers to Speculators. When hedgers enter a market, they are most often a non-economic participant. That is, regardless of prices being high or low, hedgers value certainty. For example, if an oil producer knows it can sell its oil at an exact price per barrel at a specific point in the future, this makes operational and capital investment decision-making much easier. This hedging pressure, as it is best known, can push prices away from fundamental equilibrium and thus provide opportunities for speculators to profit. Using the Commitment of Traders (COT) data in figure 1, we can observe the ratio of producer, merchant, processor, and user activity in futures markets to money-manager (those managing money on behalf of clients) activity. Using a recent 12-month window of COT data for 21 well-known contracts, we can observe and rank the relative attractiveness of markets for alpha opportunities. For example, cocoa looks to be an attractive market as producers (plus merchants, processors, and users) trade two contracts for every contract that speculators trade. On the flip side, gold appears less attractive as speculators trade two contracts for every producer contract.

Fig. 1: Ratio of Producer Activity to Money Manager Activity



Source: William Blair, Commodity Futures Trading Commission (for the period January 6, 2015, through February 9, 2016).

> "We believe the most attractive alpha opportunities in fundamental-based commodity trading lie within off-the-run markets."

Product and Market Idiosyncrasies. Off-the-run commodity markets usually possess idiosyncratic product or market features. Such peculiarities may offer even better opportunities for fundamental traders, especially where expertise is required to understand specific pressures on prices. Examples of such features include:

- *Weather-sensitivity.* Commodities that are weather-sensitive (such as agricultural products, power and electricity, and softs) not only are less linked to the business cycle, but also offer opportunities for traders who have a better understanding of the effects of weather on supply and demand.
- *Transportation and storage issues.* Transportation and storage costs not only make up a significant portion of physical prices, but also help determine the shape of futures prices curves (contango versus backwardation). Commodities that have limited or expensive storage (such as natural gas and crude oil), locally inelastic supply (imagine building a cargo ship on short notice), or are difficult to transport may be subject to significant price volatility. Understanding the mechanics of storage and transportation in a given commodity can potentially provide significant edge.
- *Perishable products.* Commodities have a wide range of perishability. On one end of the spectrum, energy products (such as crude oil and gasoline) do not degrade over time. On the other end, some commodities cannot be stored at all (such as electricity). At the most perishable end of the spectrum, the unavailability of inventory to cover short-term supply disruptions or demand surges can create potential opportunities for an astute trader.
- *Regulatory considerations.* Government regulations may have unintended consequences. For example, in many European power markets, renewable power sources (such as solar) have priority access to electricity grids and may sell all power production at a fixed price. As a result of the fixed price and priority access, producers of renewables do not need to hedge; there is always a market for their product. This mechanism creates a great deal of price volatility as prices approach spot. Furthermore, markets then persistently over-price forward electricity costs to allow for maintenance issues and/or weather volatility. At a minimum, this offers a small arbitrage to speculators. More interestingly, a trader with an edge in short-term weather forecasting or a better understanding of up and down time at power plants may be able to profit from both the available arbitrage and the excessive volatility.

"Off-the-run commodity markets usually possess idiosyncratic product or market features."

Diversification Potential

Historically, diversification away from traditional asset classes (and inflation hedging) has drawn investors to long-only commodity products. We, however, tend to think of commodity markets offering two layers of diversification: market and manager.

"We … tend to think of commodity markets offering two layers of diversification: market and manager."

Market diversification is demonstrated by the lack of correlation of long-only commodity indices to traditional asset classes. For example, since 1994, the correlation of the Bloomberg Commodity Index to stocks (as represented by the S&P 500 Total Return Index) has been 0.32 and the correlation to bonds (as represented by the Barclays U.S. Aggregate Total Return Index) has been 0.05. In effect, an investment in a long-only commodity index alone offered a fair amount of diversification over this period.

Long/short commodity traders offer a second layer of diversification, referred to as manager diversification. Using the Morningstar Commodity Long/Short Index[1] as a crude proxy for a portfolio of discretionary long-short commodity managers, each trading a different individual commodity, we find that the correlation to stocks falls to -0.10 and

[1] A fully collateralized commodity futures index that uses the momentum rule to determine if each commodity is held long, short, or flat.

the correlation to bonds falls to -0.07 over the same period. Manager diversification offers a powerful second layer of protection to investors, as this second layer reduces already modest correlations to effectively zero (and possibly slightly negative).

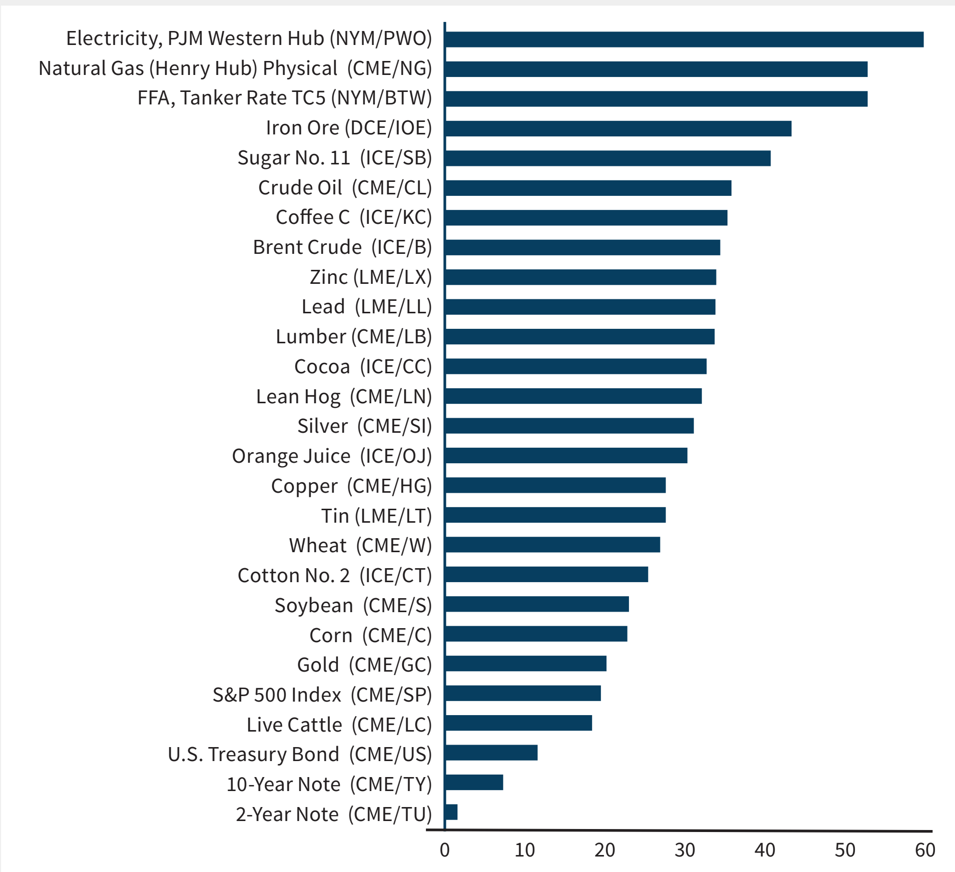
Conclusion

For investors in search of alpha and diversification, we believe off-the-run commodity markets offer excellent potential. At the end of the day, the qualities that define an off-the-run market in any asset class manifest as price volatility. (Revisiting the example of small-cap stocks versus large-cap stocks, for example, since January 1994, the small-cap Russell 2000 Index has averaged annual volatility of 19.3% versus only 14.9% for the large-cap S&P 500 Index.) Figure 2 highlights the annualized volatility levels for many of these off-the-run markets.

We believe fundamentally driven specialist managers that understand the idiosyncratic mechanics of these markets are extraordinarily well positioned to profit from this additional volatility. For these managers, volatility is synonymous with opportunity.

Furthermore, off-the-run markets offer correlation benefits at both the market and manager level. A portfolio of off-the-run commodity managers offers both compelling return potential and minimal correlation to other traditional portfolio constituents (stocks, bonds, and hedge funds, for example).

Fig. 2: Higher Annualized Volatility for Off-the-Run Commodities



Source: William Blair, Bloomberg, and Quandl as of March 31, 2016.

“We believe fundamentally driven specialist managers that understand the idiosyncratic mechanics of these markets are extraordinarily well positioned to profit from this additional volatility.”

About the Author

Jason Moede is a portfolio manager and member of the William Blair Hedge Fund Strategies investment committee. He conducts manager research and strategy evaluation and is responsible for portfolio construction. Before joining William Blair in September 2011, Jason was a portfolio manager and quantitative strategist with TradeLink, LLC, where he managed both proprietary and hedge-fund portfolios in the systematic futures space. Before joining TradeLink, he was co-founder and managing director of Constellation Investment Group, LLC (a JV partner of TradeLink). At Constellation, he was responsible for the research, development, and management of the company's equity market neutral hedge fund. Before launching Constellation in June 2003, Jason was a director at BCG ValueScience, a subsidiary of Boston Consulting Group, which focused on shareholder value creation and management strategies for Fortune 500 companies. Before joining BCG ValueScience in May 2000, Jason served as business development manager at a subsidiary of Bechtel Enterprises from March 1997 to May 2000, and was an economist at Skadden, Arps, Slate, Meagher & Flom from September 1994 to March 1997. Jason has been in the investment industry since 1994. Education: B.A., economics, Carleton College.

About William Blair

William Blair is committed to building enduring relationships with our clients and providing expertise and solutions to meet their evolving needs. We work closely with private and public pension funds, insurance companies, endowments, foundations, sovereign wealth funds, high-net-worth individuals and families, as well as financial advisors. We are 100% active-employee-owned with broad-based ownership. Our investment teams are solely focused on active management and employ disciplined, analytical research processes across a wide range of strategies, including U.S. equity, non-U.S. equity, fixed income, multi-asset, and alternatives. As of March 31, 2016, William Blair manages $64.3 billion in assets. William Blair is based in Chicago with an investment management office in London and service offices in Zurich and Sydney.

William Blair Investment Management, LLC and the investment management division of William Blair & Company, L.L.C. are collectively referred to as "William Blair."

Disclosures

This material is provided for information purposes only and is not intended as investment advice or a recommendation to buy or sell any particular security. Any discussion of particular topics is not meant to be comprehensive and may be subject to change. Data shown does not represent the performance or characteristics of any William Blair product or strategy. Any investment or strategy mentioned herein may not be suitable for every investor. Factual information has been taken from sources we believe to be reliable, but its accuracy, completeness or interpretation cannot be guaranteed. Information and opinions expressed are those of the author and may not reflect the opinions of other investment teams within William Blair. Information is current as of the date appearing in this material only and subject to change without notice.

The issuers referenced are examples of issuers William Blair considers to be well known and that may fall into the stated sectors. William Blair may or may not own any securities of the issuers referenced and, if such securities are owned, no representation is being made that such securities will continue to be held.

This material is distributed in the United Kingdom and the European Economic Area (EEA) by William Blair International, Ltd., authorized and regulated by the Financial Conduct Authority (FCA), and is only directed at and is only made available to persons falling within articles 19, 38, 47, and 49 of the Financial Services and Markets Act of 2000 (Financial Promotion) Order 2005 (all such persons being referred to as "relevant persons"). This document is intended for persons regarded as professional investors (or equivalent) and is not to be distributed to or passed onto any "retail clients." No persons other than persons to whom this document is directed should rely on it or its contents or use it as the basis to make an investment decision.

This document is distributed in Australia by William Blair & Company, L.L.C. ("William Blair"), which is exempt from the requirement to hold an Australian financial services license under Australia's Corporations Act 2001 (Cth) pursuant to ASIC Class Order 03/1100. William Blair is registered as an investment advisor with the U.S. Securities and Exchange Commission ("SEC") and regulated by the SEC under the U.S. Investment Advisers Act of 1940, which differs from Australian laws. This document is distributed only to wholesale clients as that term is defined under Australia's Corporations Act 2001 (Cth). This document is not intended for distribution or dissemination, directly or indirectly, to any other class of persons. It is being supplied to you solely for your information and may not be reproduced, forwarded to any other person or published, in whole or in part, for any purpose.

4434452 (06/16)