Lumber: Worth Its Weight in Gold
Offense and Defense in Active Portfolio Management

Abstract

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Abstract

Active portfolio management rests on the belief that it is possible to outperform the "market," either on an absolute or risk-adjusted basis, by executing a strategy that in some way deviates from a passive buy-and-hold portfolio. The Efficient Market Hypothesis (EMH) states that such outperformance through active management is largely impossible because prices incorporate and reflect all relevant information.[1] However, there are a number of market studies that have disproven the null hypothesis of this theory. Two of the strongest and most well-known anomalies are the "value" effect and the "momentum" effect.[2]

Such studies tend to be asset-class specific, documenting potential outperformance by looking for unique factors specific to the asset class being analyzed. In this paper, we take a different approach and look across asset classes to determine if there is information contained in one area of the investable landscape (commodities) that can be applied to another (equities). Specifically, we show how Lumber and Gold contain important information on macro fundamentals and how their relative movement/momentum impacts risk-seeking and risk-averse behavior in stocks.

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[1] See Malkiel (2003).
[2] See Asness, Moskowitz, and Pedersen (2013).

Lumber futures receive little attention as compared to industrial metals such as Copper which are often viewed as leading indicators of economic growth. Investors may be underestimating Lumber's importance, though, as housing and construction tend to be major components of the business cycle.[3] Housing greatly "influences the level of consumer spending" and is the "primary store of wealth for most Americans."[4] It should come as no surprise, then, that housing permits are one of the key leading economic indicators in the U.S., ranking ahead of the S&P 500 in their ability to signal a turn in the economy.[5] Leamer (2007) showed that housing is "the most important sector in our economic recessions" and residential investment is often "the first item to soften and the first to turn back up" before and after recessions.

Given that "an average new home built in the U.S. contains over 14,000 board feet of lumber," the demand for Lumber is uniquely sensitive to housing activity.[6] By extension, this makes Lumber futures highly responsive to anticipated construction activity. Rucker, Thurman, and Yoder

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[3] According to the National Association of Homebuilders, housing contributes 17% to 18% of GDP. See http://www.nahb.org/generic.aspx?genericContentID=66226.

[4] See Belsky and Prakken (2004).

[5] See Levanon, Ozyildirim, Schaitkin, and Zabinska (2011).

[6] *Lumber.* Retrieved in 2015 from http://www.wikinvest.com/commodity/Lumber

(2005) confirm this, showing that lumber futures react quickly to housing starts data released on a monthly basis.

Gold is also a particularly interesting commodity in the context of its historical role as a store of value and given the unique properties the precious metal has in terms of being an alternative asset. Lawrence (2003) showed that there is "no statistically significant correlation between returns on gold and changes in macroeconomic variables such as GDP, inflation, and interest rates…[and that] returns on Gold are less correlated with returns on equities and bond indices than are returns on other commodities." This makes Gold unique relative to cash which has more consistent counter-cyclical properties in bear markets or contractionary economic environments.

In addition to the historical non-correlation Gold has to stocks and bonds, the precious metal also tends to exhibit safe-haven characteristics. Baur and Lucey (2010) show that Gold "is a hedge against stocks on average and a safe haven in extreme stock market conditions...Furthermore, gold is not a safe-haven for stocks at all times but only after extreme negative stock market shocks." Additional studies show that "Gold...has a positive relationship with [stock market] implied volatility, supporting the idea that investors perceive precious metals as safe havens, to be purchased in anticipation of rising equity market volatility."[7]

The unique combination of Lumber and Gold is an intermarket relationship that has been anticipatory of future economic activity and risk appetite across asset classes outside of commodities. We find that when Lumber is leading Gold over the prior 13 weeks, expansionary conditions predominate and volatility tends to fall going forward. Such an environment is favorable to taking more risk in a portfolio or "playing offense." We also find that when Gold is leading Lumber over the prior 13 weeks, contractionary conditions predominate and volatility tends to rise. In this environment, it pays to manage risk in a portfolio or "play defense."

The gradual diffusion of information generated from the relationship of Lumber and Gold can help active investors manage risk and enhance returns. We find that executing a strategy that positions into defensive-leaning Treasuries when Gold is leading Lumber and aggressive-leaning Small Caps or Cyclical stocks when Lumber is leading Gold results in higher absolute and risk-adjusted returns with lower volatility and lower drawdowns. The strategy is robust to multiple time frames, through multiple economic cycles, and multiple periods of market stress.

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[7] See Jubinski and Lipton (2013).

For active managers, there is no more important question than when to play defense and when to play offense. Using the cyclical and non-cyclical relationship of Lumber and Gold provides an actionable answer that has been consistently effective over time.