

STRATFORD ADVISORY GROUP

Commodities: A Closer Look At a Tumultuous Asset Class

Synopsis: *Commodities have come to the fore of late as an integral part of broadly diversified investment portfolios. Commodities have experienced numerous boom and bust cycles, with the recent boom market garnering vast investment from investors seeking attractive returns and a hedge against inflation. Despite their heightened historical volatility, commodities exhibit attractive correlation (i.e. diversification) benefits that ultimately prove advantageous when viewed within a total portfolio context. As modern portfolio theory (MPT) suggests, the heightened volatility is mitigated by the low correlation to traditional equity and fixed income holdings. However, the underlying merits of commodities within an MPT construct aren't the focus of our discussion; instead, we will address the body of evidence outlining the fundamentals, strategies, pitfalls and case for investing in commodities.*

Background Commodities have three main components of return: spot return, roll yield, and collateral yield. The spot return is the gain/loss of the underlying commodity, or what the return of the commodity's price is over time. The roll yield is the difference between the futures price and spot prices, which can be either positive or negative over time. Positive roll yield is associated with markets that are trading in normal backwardation, which is when futures prices are trading below spot prices. This phenomenon occurs because speculators / investors demand a premium from producers for taking on the risk of price movements prior to the delivery of a commodity. Negative roll occurs when the market is trading in contango, or when futures prices are trading higher than spot prices. In contango markets, investors who have bought futures contracts will lose money as the futures prices fall to meet the spot price. This phenomenon occurs in instances where speculation is greater than the supply and demand characteristics of the underlying commodity. The final component of return, collateral yield, is the interest earned on the collateral used to purchase the futures contracts. Collateral yield is directly related to the level of short-term rates (e.g. T-Bills), and can serve as an inflation hedge as the investor rolls the collateral forward into new issues.

Strategies Commodities differ from equity and debt instruments in that they are not a financial instrument that pays out cash flows in terms of dividends or interest. Instead, commodities are priced relative to global supply and demand factors. Markets to trade in commodities were established to provide producers the ability to hedge away price volatility in the underlying commodity. There are three fundamental ways in which to achieve commodity exposure: direct ownership, indirect ownership, and derivatives markets.

Strategies
CONTD Direct ownership is just that; purchasing the physical commodity and storing it. For many investors, the logistics of storing a contract of corn (5000 bushels) or a contract of heating oil (42,000 gallons) is not realistic. Direct holdings of precious metals are the most common form of direct investment as there are minimal additional costs associated with storage, etc.

Indirect ownership is executed by holding equity shares in a producer of that good. Indirect investing is sometimes referred to as “pure play” investing, as the goal is to indirectly benefit from commodity price appreciation through company share price appreciation. The drawbacks to investing indirectly can be broken down into two main points. First, many companies that are direct producers hedge away most of their commodity exposure in an effort to smooth out the volatility associated with commodity prices. If the hedges are effective, any price changes (either good or bad) will not flow through to company performance and thus have little to no effect on share price. Another disadvantage to indirect investing is that investors are left with the task of stock selection, leaving them to evaluate which management team is going to outperform all others. Equity investing is better suited for dedicated equity managers who can vet companies on their business fundamentals rather than relative exposure to a commodity.

Investing via derivatives markets is the most common means for investors to obtain exposure to commodities. Investing in futures contracts through ETFs (Exchange Traded Funds), active commodity managers, CTAs (Commodities Trading Advisors), etc. provides investors exposure without the logistical issues of holding the physical commodities. ETFs and other index solutions are lower cost options that provide good liquidity and transparency, and are one of the easiest means of gaining exposure to commodities. CTAs differ from ETFs in that CTAs are managed pools of commodities that are typically in a hedge fund format with fees around 2% on assets and 20% on profits. CTA managers will be more active in managing their exposures than ETFs, with the ultimate goal of outperforming the broader indices.

**Pitfalls of ETFs
and Naïve Indexation**

ETFs and other passive index alternatives provide investors exposure to commodities at a low cost. However, these strategies and vehicles are not without their pitfalls. Take popular natural gas ETF, UNG. In 2009, UNG returned -56.5%, while the Henry Hub Index¹ returned 3.6% and the one-month futures contract returned -0.9%. How, an investor might ask, is this possible if UNG is geared to give investors exposure to natural gas? The return discrepancy can be broken down by the components of commodity returns. UNG purchases near expiration natural gas futures contracts in an effort to gain exposure to natural gas. The only problem with this strategy is that if the futures market is trading in contango, the futures contracts will be trading above the spot price (current & expected price of natural gas), resulting in a negative roll yield and losses to the investor (i.e. UNG). UNG’s predefined roll dates also had an adverse impact on returns as the fund was unable to dynamically invest when pricing was attractive.

¹ The Henry Hub is a natural gas pipeline hub in Louisiana that serves as the delivery point for New York Mercantile Exchange natural gas futures contracts and also serves as a benchmark for wholesale natural gas prices across the U.S.

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Figure 1.1 illustrates a clear example of how an investor can have the right view on a commodity, but the strategy does not result in the desired outcome.

Pitfalls of ETFs and Naive Indexation

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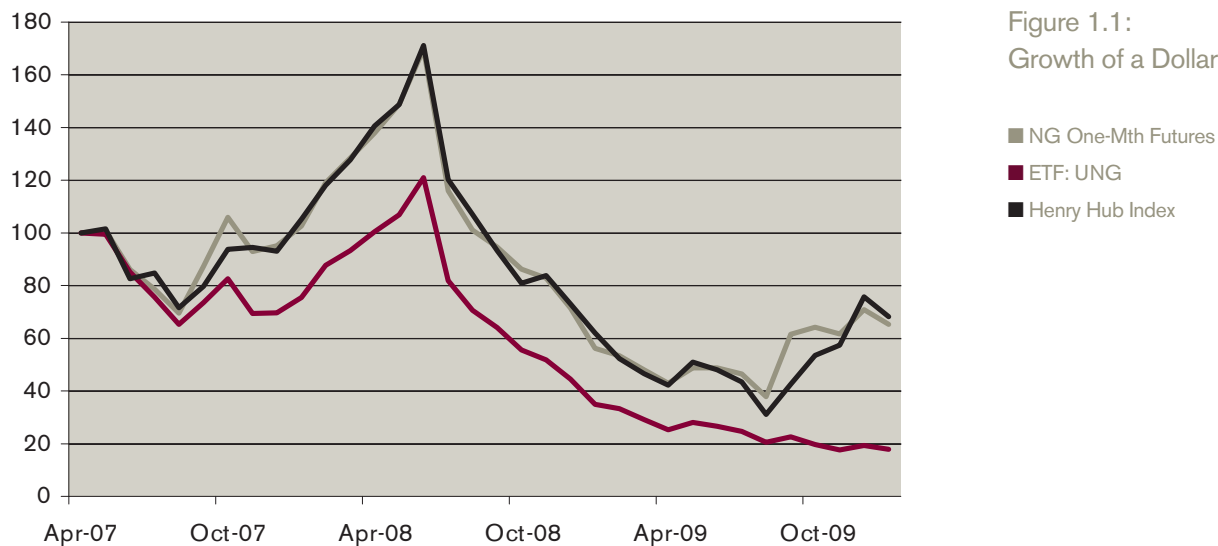


Figure 1.1:
Growth of a Dollar (Base 100)

Investors could argue that UNG is a clear case of too much concentration and that a broader mix of commodities through a larger index like that of the Dow Jones UBS or the S&P GSCI Commodity Index could alleviate the risks illustrated above.

Although diversification among agriculture, precious metals, industrial metals, energy, etc. improves the prospects for investment, evidence from the Economist's Industrial Commodity Index (Figure 1.2) suggests that industrial commodities prices have declined at an annual rate of -0.22%, or a cumulative 30%, over the last 160 years. In addition, the

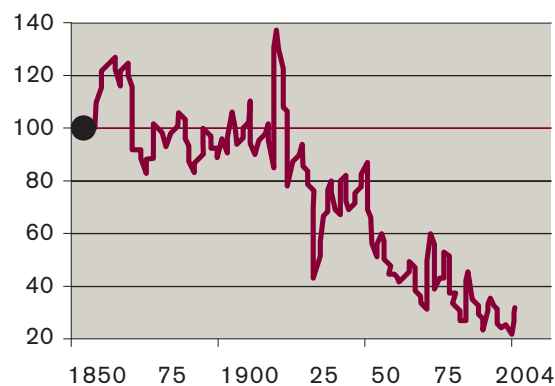


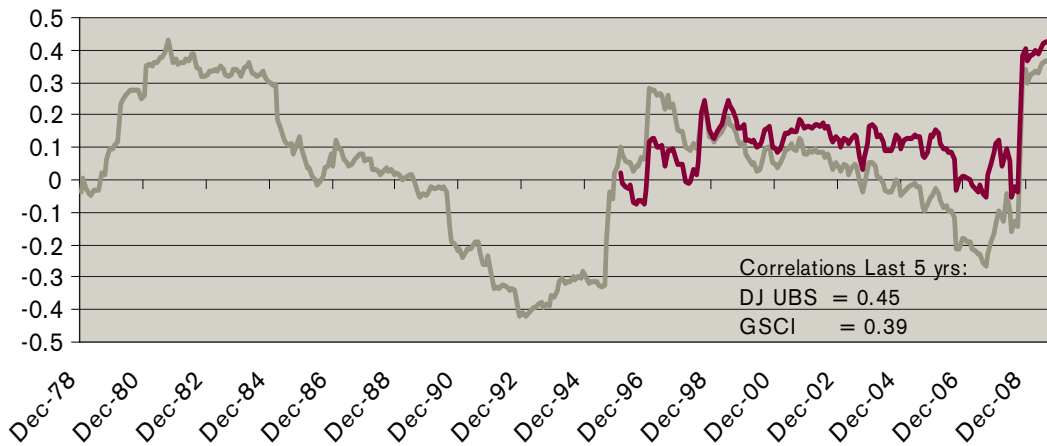
Figure 1.2:
A century of decline
The Economist industrial
commodity-price index

Real \$ terms, 1845-50=100
Adjusted by US GDP deflator

Source: *The Economist*

correlation benefits of commodities continue to decline as correlations to equity and debt continue to grow more positive, further diminishing the added benefits of including commodities in an investment portfolio. Figure 1.3 illustrates the increasing correlations of commodities relative to a 60/40 equity/debt portfolio. To note, correlations range from -1 to 1, with correlations between 0 and 1 considered positive. As correlations approach 1 the diversification benefits of including an asset class in the portfolio diminishes. The opposite is true for negative correlations, which range from 0 to -1. As correlations approach -1, the more attractive the diversification benefits become.

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Pitfalls of ETFs and Naive Indexation

CONT'D

Figure 1.3:
Correlations of 60/40 Portfolio
vs. Commodities

■ GSCI Commodity Index
■ DJ UBS Index

Commodity bulls argue that the current boom will continue due to increased demand from China and other emerging countries. Although we do not refute the strong case for increased global demand for resources going forward, we don't believe that demand is so insatiable and current supplies so insufficient as to warrant the euphoric sentiment surrounding the long-term prospects for commodities. Granted, commodity bulls will argue that peak production (oil, gold, etc.) will result in shortages causing commodity price appreciation. Although this may be an issue in the short-term, we view the argument for "peak" production as valid only if technological advances and/or substitutes do not provide viable solutions to alleviating the supply/demand imbalances mentioned above. We believe that many of the bottlenecks will be short-lived, providing investors a small window of opportunity to reap short-term gains. In the long run, we believe that technology and viable substitutes will ease supply constraints and that real returns will continue to be insignificant in the long run.

A Case for Commodities?

In addition to supply and demand imbalances, advocates also point to the long-term performance of commodities relative to inflation. Although there is insufficient evidence commodities will provide ample protection in all inflationary environments (e.g. hyperinflation), we prescribe to the theory that global monetary policy, and thus inflation, is closely linked to commodities performance. Over the last 100 years, commodity cycles can be linked to monetary policy and money supply. The commodity boom between 1906 and 1923 was promptly followed by a decline between 1923 and 1933, corresponding to a steep contraction in money supply over the latter period. Following 1933, another 20-year commodity boom ensued as demand for commodities was strong (wars) and Roosevelt took America off of the gold standard. In the 70s, the boom was aided by inflationary pressures, but restrictive monetary policy by Paul Volcker in the 80s stymied continued appreciation. Only since 1999 have commodity prices begun to ascend once more, again on global supply and demand factors in addition to loose monetary policy (first Greenspan in the early 2000s and now Bernanke in 2008 through ??). Another driving factor of performance can be attributed to the dollar's link to global commodities. If the Fed keeps rates low and deflates the currency, dollar denominated commodities will become cheaper to foreigners, which directly pushes up the dollar price of commodities.

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Investors should assess what their liquidity needs are and whether or not a commodity investment makes sense within their portfolio. Although we wouldn't consider ourselves overly bullish on the asset class, we do believe that the merits of investing in commodities warrants consideration. We would advise clients to abstain from investing in passive naïve strategies such as ETFs that although inexpensive, have a proven inability to provide the level of exposure desired by investors. CTAs and other hedge fund-like strategies are attractive, but are very expensive (2% mgmt and 20% of profits), less liquid, and less transparent than traditional strategies. For investors interested in commodities, we would suggest active or semi-active management, which provides adequate exposure, diversification, liquidity, and transparency at a more reasonable cost. Active management also allows for managers to source the most attractive pricing among commodities and among contracts/securities in order to maximize investor profits.

Conclusion

Commodities Performance During Periods of Significant Equity Drawdowns

	Date	Cumulative Return During Equity Drawdowns						
		DJ-UBS	S&P/ GSCI			US Equities	US Treasuries	
			Total Return	Energy ¹	Non-Energy ¹			Gold
1968 Recession	Nov 68 to Jun 70		-9.12%	21.74%	-10.95%	-29.25%	2.63%	
1972 Oil Embargo	Dec 72 to Sep 74		139.46%	183.99%	139.46%	137.47%	-42.63%	6.06%
1976 Oil Embargo	Dec 76 to Feb 78		15.72%	6.83%	15.72%	33.33%	-14.13%	2.97%
1980 Stagflation	Nov 80 to Jul 82		-19.70%	-5.11%	-19.70%	-44.84%	-16.91%	24.02%
1987 Black Monday	Aug 87 to Nov 87		1.78%	-0.25%	3.87%	8.39%	-29.53%	2.36%
1990 Gulf War	May 90 to Oct 90		43.51%	96.45%	-2.95%	3.45%	-14.69%	4.05%
1998 Russian Financial Crisis	Jun 98 to Aug 98	-11.98%	-13.30%	-15.60%	-11.07%	-6.44%	-15.37%	2.88%
2000 Dot-Com Bubble	Aug 00 to Sep 02	5.24%	-7.88%	-8.62%	-8.55%	15.28%	-44.73%	24.84%
2007 Financial Crisis	Oct 07 to Feb 09	-41.02%	-53.40%	-60.33%	-35.32%	18.51%	-50.95%	13.30%

¹ Commodities performance represents S&P/GSCI Total Returns whenever applicable; prior to index inception (Jan '83 for S&P/GSCI Energy and Jan '70 for S&P/GSCI Non-Energy), commodities performance is represented by price returns.

Source: Goldman Sachs, Datastream, Bloomberg, Barclays Capital, Ibbotson, CRB, Bureau of Labor Statistics