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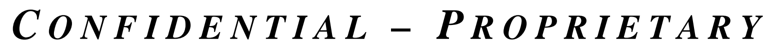
WHITE PAPER

COMMODITIES – IS IT THE RIGHT TIME?

NOVEMBER 2006



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Introduction

Commodities are increasingly accepted as an asset class by institutional investors. One of the reasons, of course, is that recent performance of commodities has been stellar after a 20-plus year bear market. Commodities have been in great demand due to a synchronized global recovery leading to an imbalance in supply/demand and a subsequent rise in prices. Historically, commodities have exhibited equity-like returns with higher volatility. Commodities have interesting characteristics that include a low correlation with stocks and bonds and play a crucial role as portfolio diversifiers. Additionally. they can potentially act as an inflation hedge. However, it is important to note that commodities' return trends are typically the opposite of stock returns. That is, when commodities perform well, stocks usually do poorly and vice versa. This white paper explores the role of commodities in a portfolio, ways to obtain exposure to this asset class, and whether now is a good time to invest in commodities. The white paper draws on extensive ground breaking research published in recent times, including:

- "Facts and Fantasies About Commodity Futures" by Gary Gorton and K. Geert Rouwenhorst
- "The Tactical and Strategic Value of Commodity Futures" by Charles Erb and Campbell Harvey
- "The Benefits of Commodity Investment: 2006 Update" – Center for International Securities and Derivatives Markets

What Are Commodities and Commodities Futures?

Commodities are raw materials, such as iron and copper, that serve as the inputs to finished products such as autos and domestic appliances. Commodities can also include agricultural products such as wheat, corn, sugar, and oranges used for consumption. Other commodities, such as gold and silver, may be used for industrial applications as well as a store of value.

Commodity markets have evolved from a simple barter system. In the distant past, farmers traded their goods in exchange for other things of value. Today, commodity markets are a highly advanced global financial system where commodities are traded on the global futures markets[1] without any physical exchange of the underlying items. Commodity futures are now used as investment vehicles as well as speculative tools to make money in the modern world. Futures are derivative instruments that give the buyer the ability to purchase a specific item for a specific price at a specific time in the future. Such contracts are intended to protect the buyers and sellers of commodities from the volatility of the spot prices of the underlying commodities.

Investors have the option to invest directly in commodities in the spot market[2], as well as to seek exposure to commodities indirectly using futures contracts. Investing directly in the spot market is difficult due to the inconvenience of storing the commodities. Investing in futures contracts requires constant renewal of contracts as they roll off every few months. Most investors are better off investing in instruments that track commodity indices. Two of the most popular commodities indices are the Goldman Sachs Commodity Index and the Dow Jones – AIG Commodities Index. For reasons outlined elsewhere in the report, Beacon Pointe prefers to use the Dow Jones-AIG Commodity Index.

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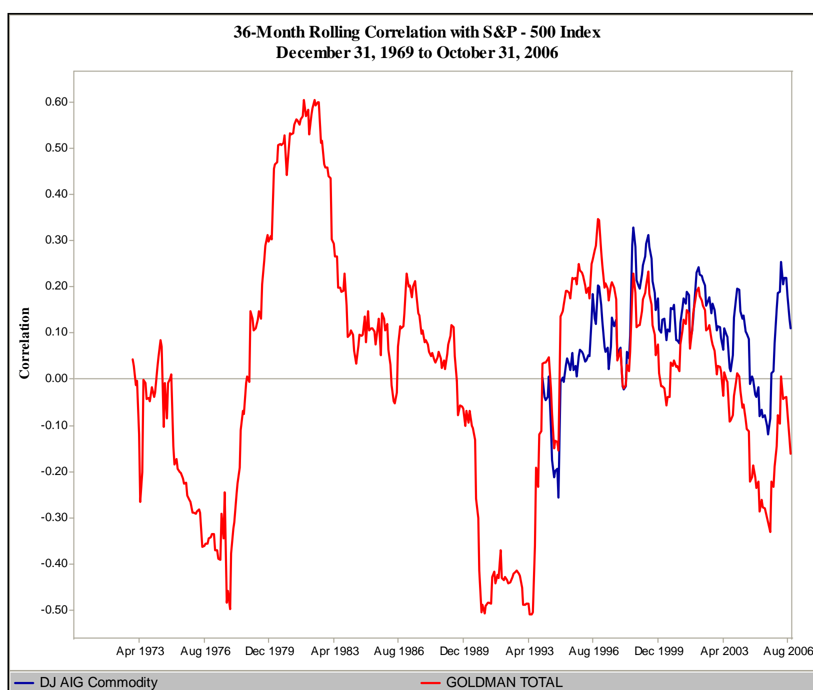
1 Futures Market - An auction market in which participants buy and sell commodity/future contracts for delivery on a specified future date. Trading is carried on through open yelling and hand signals in a trading pit.
[2] Spot Market - A commodities market in which goods are sold for cash and delivered immediately.

Reasons For Investing in Commodities – Low Correlation with Stocks & Bonds

Commodities, by virtue of having little to no correlation to stocks and bonds, play a vital role in a portfolio. Historical returns of stocks, bonds, and commodities show that very rarely do we see stocks and commodities having negative performance in the same year. In fact, since 1970, there have been only two years (1981 and 2001), where stocks and commodities have had negative returns at the same time. There were no such instances in the case of bonds and commodities having negative performance in the same year.

Lack of correlation of the GSCI and DJ-AIG Commodity Indices with domestic stocks and bonds are best illustrated by the three-year correlation with a) the stock market as represented by the S&P 500 Index and b) the bond market as represented by the Lehman Aggregate Bond Index, respectively. These are shown in Figure 1 and 2.

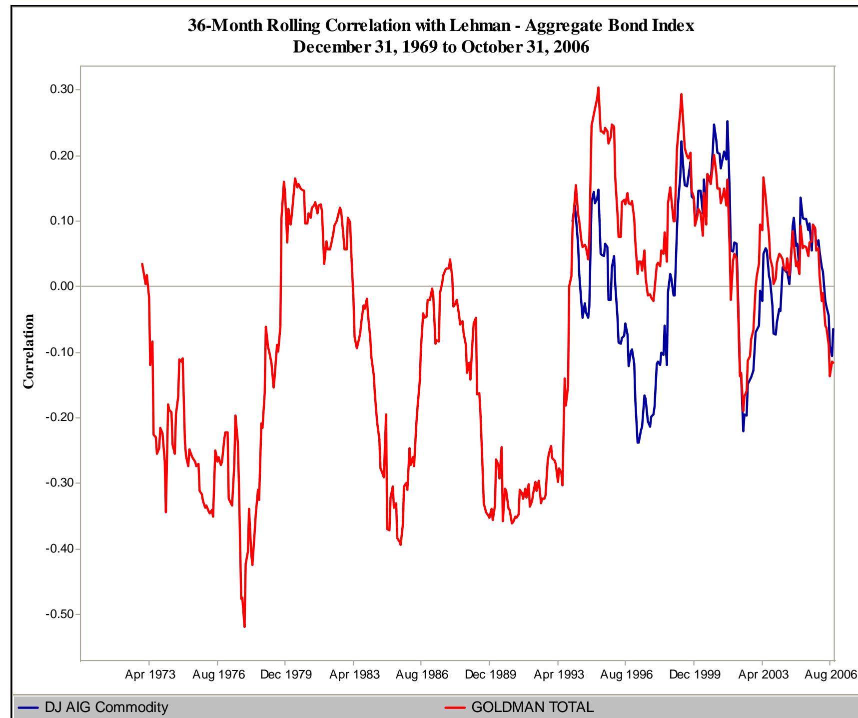
Figure 1



Correlation with S&P 500	GSCI	DJ-AIG
Minimum	-0.51	-0.26
Maximum	0.60	0.33
Average	0.02	0.09
Median	0.04	0.10
Std Deviation	0.26	0.11

Source: Wilshire Compass

Figure 2

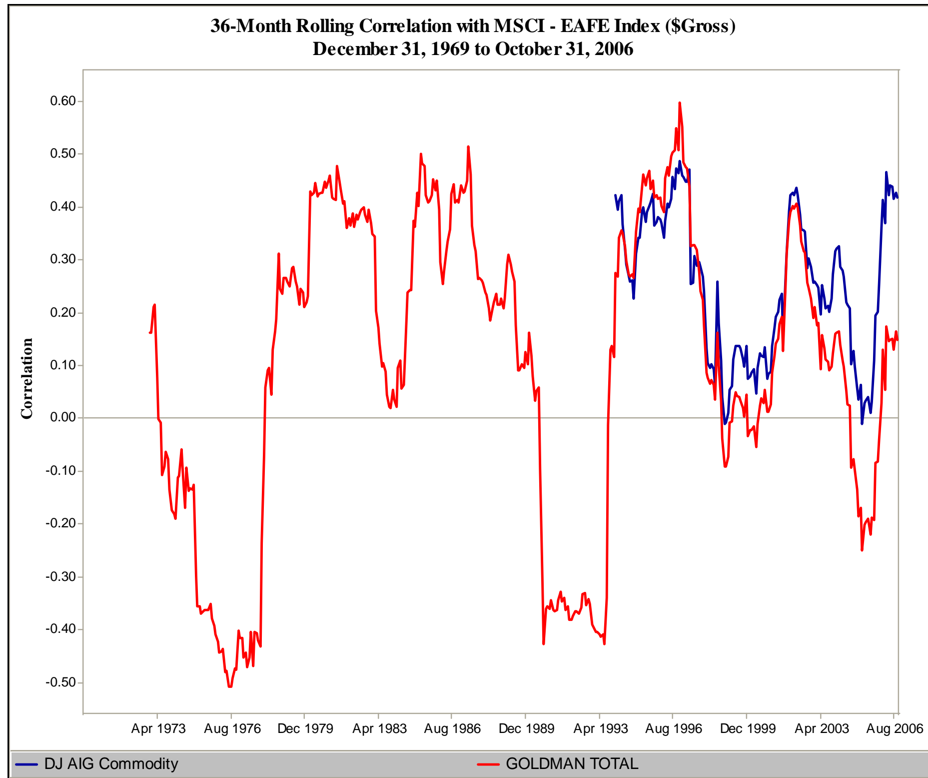


Correlation with LBAG	GSCI	DJ-AIG
Minimum	-0.52	-0.24
Maximum	0.30	0.25
Average	-0.07	0.01
Median	-0.02	0.02
Std Deviation	0.19	0.12

Source: Wilshire Compass

Similarly, commodities are non-correlated with international stocks and international bonds as shown in Figures 3 and 4.

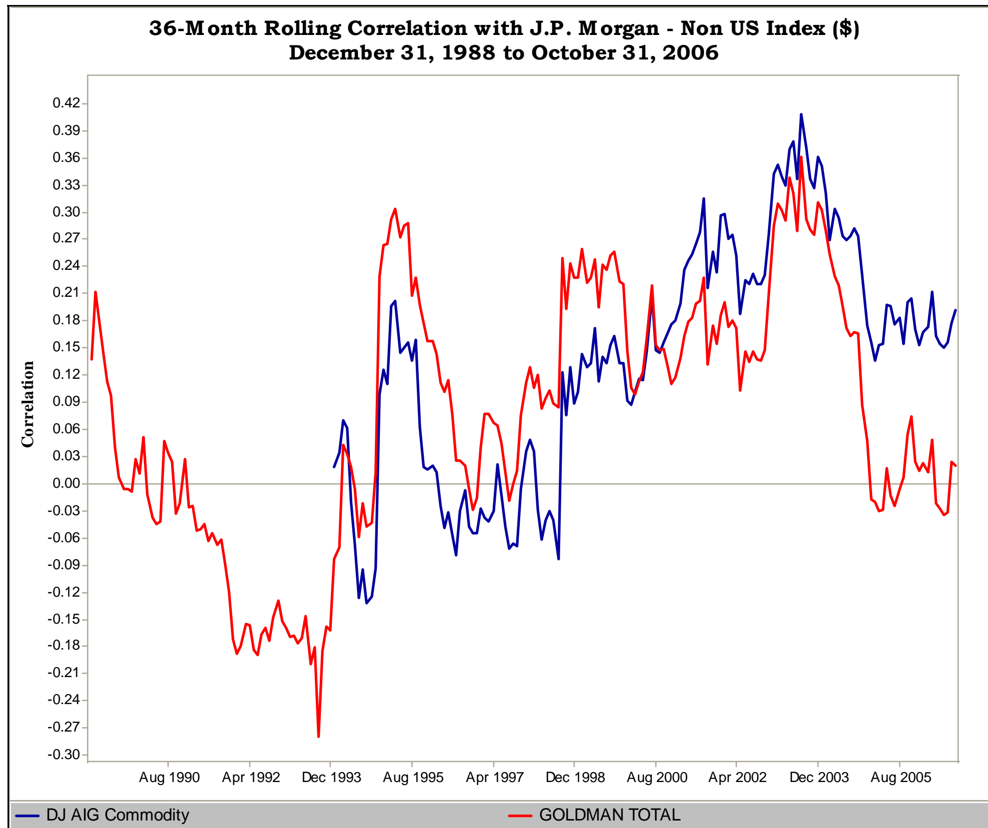
Figure 3



Correlation with MSCI EAFE	DJ-AIG	GSCI
Minimum	-0.01	-0.51
Maximum	0.49	0.60
Average	0.25	0.10
Median	0.26	0.15
Std Deviation	0.14	0.29

Source: Wilshire Compass

Figure 4



Correlation with JP Morgan – Non US Bonds	DJ-AIG	GSCI
Minimum	-0.13	-0.28
Maximum	0.41	0.36
Average	0.14	0.08
Median	0.15	0.08
Std Deviation	0.13	0.14

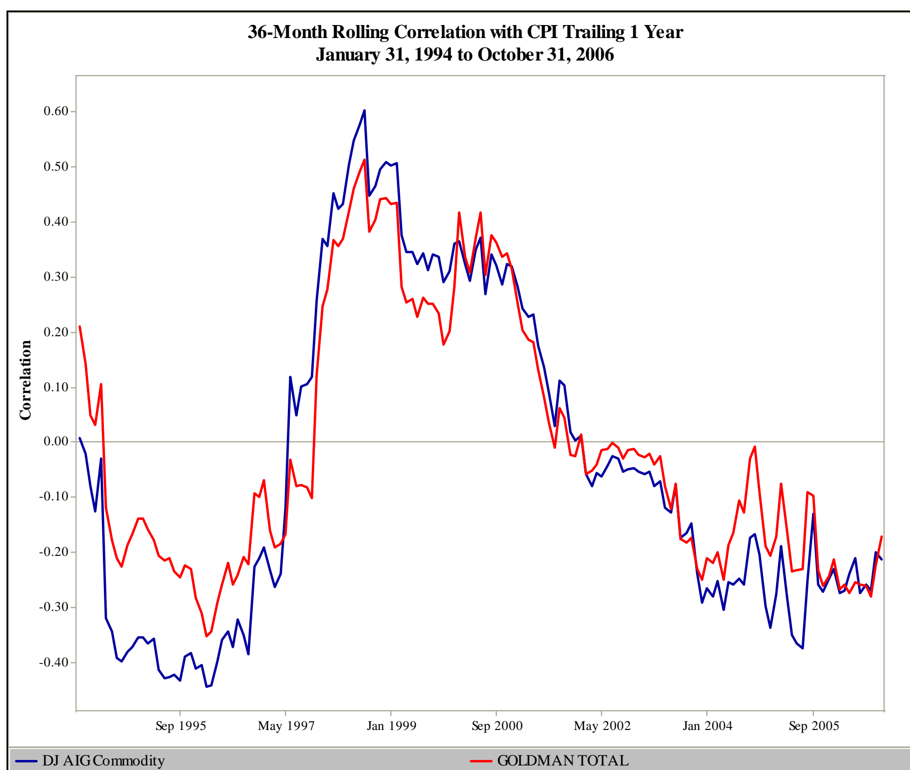
Source: Wilshire Compass

From these correlation figures and numbers, it is evident that there is little to no correlation between commodities and domestic or international stocks and bonds. This makes the asset class an ideal portfolio diversifier as low or negative correlation can actually increase a portfolio's returns while lowering the overall risk of the portfolio.

Reasons For Investing in Commodities – Possible Inflationary Hedge

The case for investing in commodities as an inflationary hedge is actually not as strong as its negative/low correlation to stocks and bonds and thus not an ideal portfolio diversifier. Rolling correlation analysis of the GSCI and DJ-AIG CI with the one-year trailing CPI Index does not support the use of commodities as an inflationary hedge. Figure 5 below shows the correlation of the commodity indices with the trailing one-year CPI. The statistics in the table below do not warrant the use of commodities as an inflationary hedge.

Figure 5



Correlation with One-Year Trailing CPI	DJ-AIG	GSCI
Minimum	-0.44	-0.35
Maximum	0.60	0.51
Average	-0.04	-0.01
Median	-0.12	-0.08
Std Deviation	0.30	0.23

Source: Wilshire Compass

Reasons for Investing in Commodities – Growth of Emerging Markets

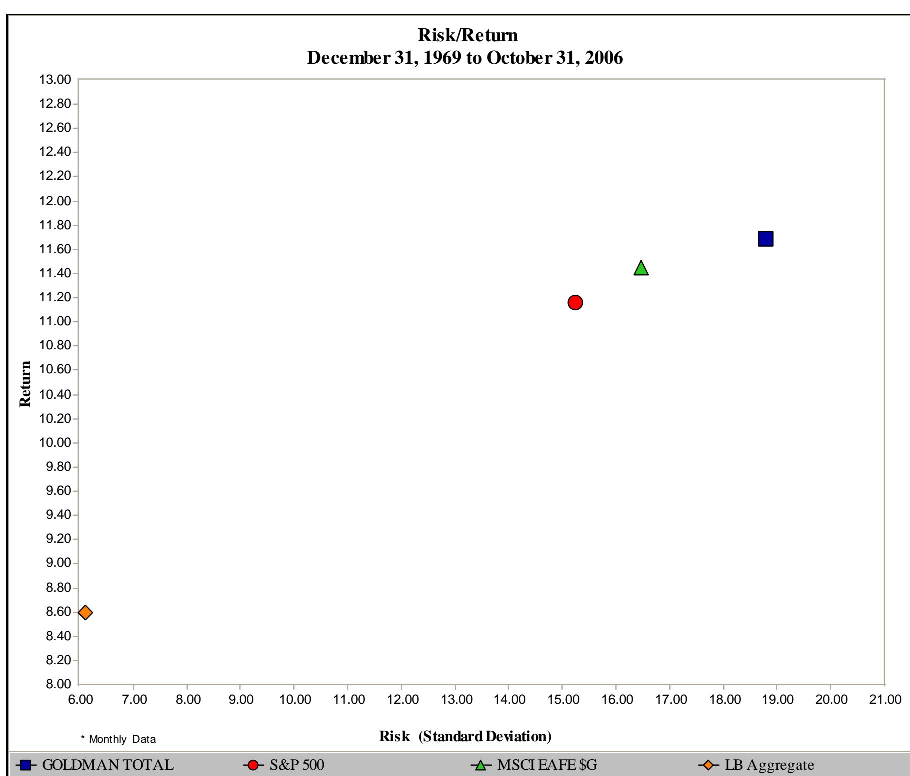
Proponents of commodities investment have been touting the increase in demand from emerging market countries such as Brazil, Russia, India, and China (known collectively as BRICs). China in recent times has consumed 25% of the world's metal consumption, up from 7% in 2003. Furthermore, China consumes 10% of the global oil consumption and that number is growing. In addition, over 50% of the cement is consumed by China to help support its ongoing infrastructure build-out. China has turned from

a net exporter to a net importer, primarily due to its strong GDP growth in excess of 8%. According to data from various sources including UBS, AME, Brook Hunt, and IEA, China's share of global consumption of steel is 33.4% and is expected to grow in the high single-double digits rate on a year-over-year basis. India and China are expected to grow at 6%, twice the rate of the developed world for the next ten years.

Reasons For Investing in Commodities – Strong Equity-Like Returns

Contrary to popular notions, commodities have equity-like returns if the standard indices are used as a basis for investments (see Figure 6 below). Although the spot markets in commodities have produced anemic returns, investing via the futures markets has resulted in strong returns as the roll yield and collateral returns have contributed handsomely to the overall returns. In a later section, Beacon Pointe illustrates the three components that drive the returns for commodities investments.

Figure 6



Risk-Return for Indices (12/31/69-10/31/2006)	Return	Risk
GSCI	11.68	18.79
S&P 500	11.16	15.25
MSCI EAFE	11.45	16.48
Lehman Aggregate	8.59	6.12

Source: Wilshire Compass

Note: Other indices used in the correlation analyses not used because of their limited history.

Since the returns of commodities have been as high as equities over a long period of time, it can be said that rather than just reducing the risk of the portfolio, commodities actually improve the return profile of

the portfolio as well. Studies have proven that adding commodities to a portfolio comprised of only stocks and bonds enhances returns by over 50 bps, which, over an extended period of time, can add up to a substantial amount.

Commodities – The Three Component of Returns

Although spot prices of commodities have been in a bear market for a long time, investors seeking exposure to commodities via commodity futures have (perhaps surprisingly) achieved equity-like returns. The reason for this is that investors in commodity futures have three components of returns that make the overall returns quite appealing. These include: change in spot prices, roll return, and collateral yield.

Change in spot price + Roll Yield + Collateral Return = Total Return

<u>Spot Price Movement</u>: Historically, price appreciation of the various commodities has been minimal, if not negative. During certain parts of the economic cycle or the occurrence of an event negatively impacting the supply of commodity, it is possible to see some pick up in spot prices.

<u>Collateral Yield</u>: When an investor seeks exposure to commodities, he or she typically enters into a futures contract that requires no purchase of the underlying assets. Since the futures positions are fully collateralized, investors can use their capital in safe instruments such as short-term Treasury bills or TIPS, while seeking exposure to the underlying commodities' price movement. This return from the available capital called collateral yield is primarily dependent on the prevailing interest rates.

<u>Roll Return</u>: To maintain exposure to commodities when an existing futures contract expires, it becomes necessary to roll forward to newer contracts. These newer contracts with a later maturity date are typically lower priced than the soon-to-expire contracts. This is typical in a backwardated market. Before the contracts expire, investors close out the contracts and buy later-dated contracts that are cheaper. The differential in the pricing of the expiring contracts and the newly invested contracts results in what is known roll yield. However, in a contango market where the later dated contracts are priced higher than expiring contracts (due to shortage of the commodity), investors incur roll loss. This happens infrequently as most of the returns from commodity investing come from roll yield. Spot price appreciation is typically minimal while collateral yield also contributes to the total return in commodity investments.

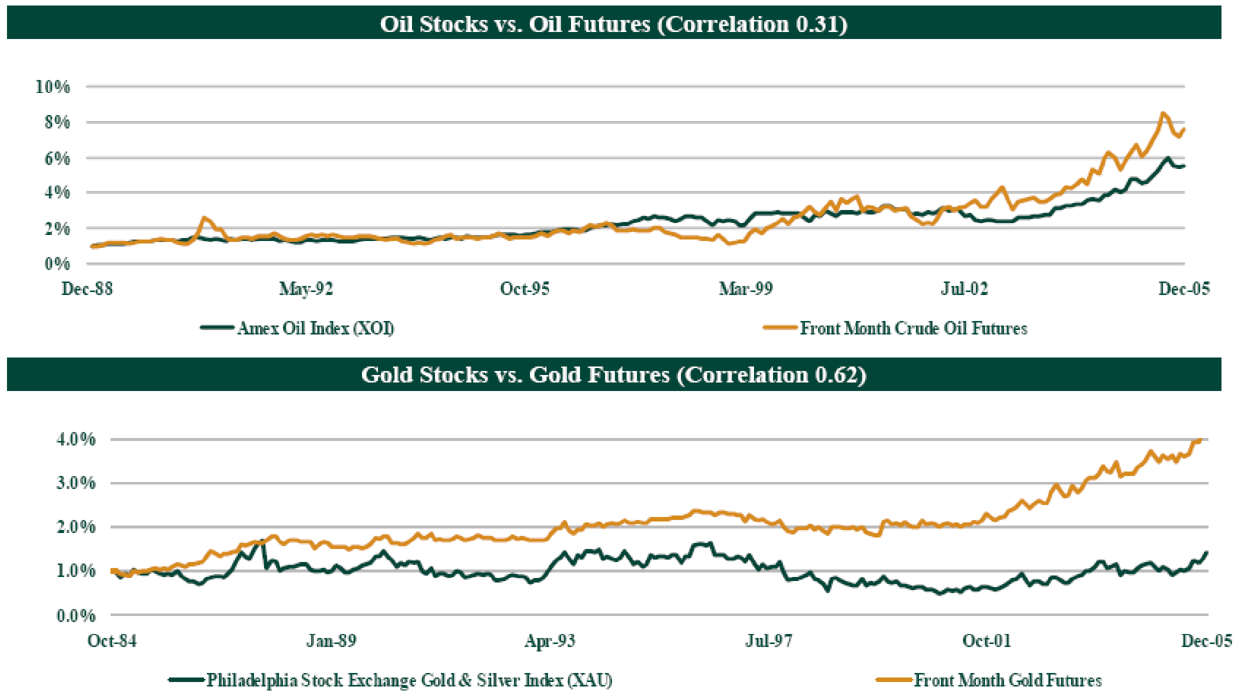
In recent times, roll yield has not been a significant contributor to total returns in commodities. However, to the extent that roll yields do not become persistently negative and/or erode total commodity returns, adding commodities to diversify the portfolio is still justified, as returns increase at a lower overall portfolio risk level.

Commodities Exposure – Why Futures vs. Spot or Stocks of Commodity Producers?

Purchasing commodity producers is not the same thing as having exposure to the underlying commodities. Figure 7 on the next page illustrates the differential in returns from the two methods of seeking exposure to commodities. It is apparent that investors are better off having exposure to the underlying commodities as opposed to buying those commodity producers. Not only have the returns been higher in commodity futures, but their returns are less correlated to the equity markets. A Merrill

Lynch study shows that investing in commodity related stocks results in three times as much equity market exposure as commodity exposure[3].

Figure 7

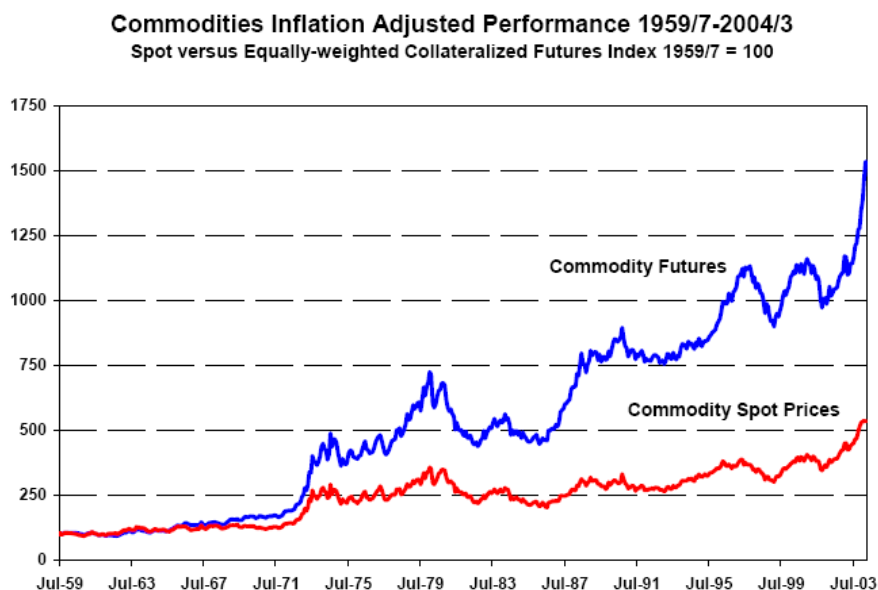


Source: Gresham Investments

[3] Global Commodity Paper # 1, Merrill Lynch, February 2006

Likewise, commodity investing via futures has outperformed investment in commodities via the spot market as illustrated in Figure 8.

Figure 8



Source: Gary Gorton and K. Geert Rouwenhorst, Facts and Fantasies about Commodity Futures.

Commodities Exposure – Is The Time Right?

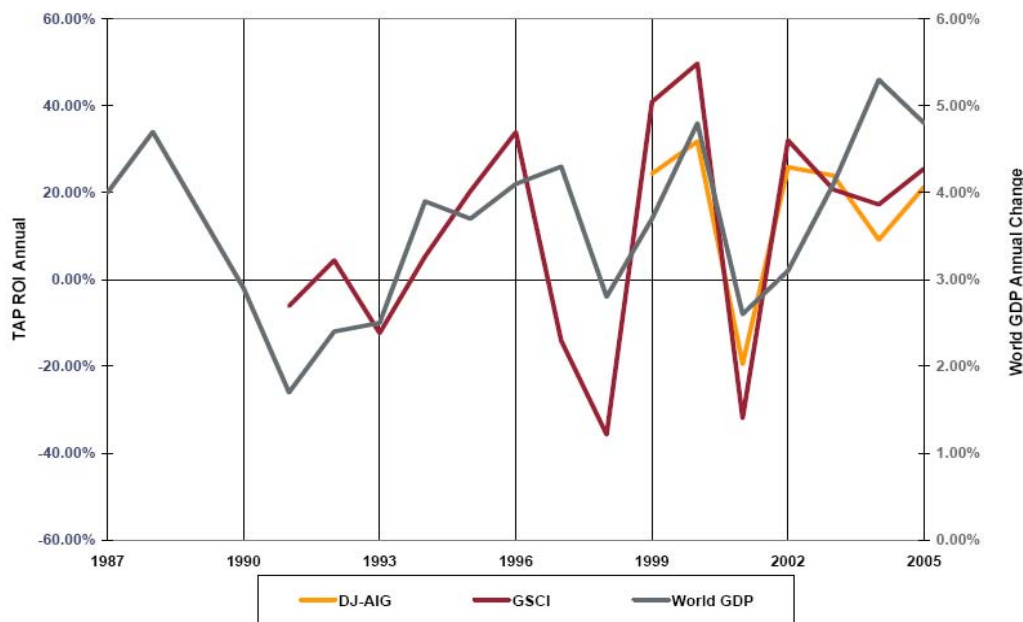
Commodities tend to be correlated to GDP growth. As shown in Figure 9 on the next page, commodities tend to perform well in a rising GDP growth environment and tend to decline when global GDP growth slows down. In anticipation of this slowdown, and also due to profit taking, we have seen significant declines in the commodity markets as evident in the poor year-to-date performance of the commodities markets, as measured by GSCI or DJ-AIG Commodity Indices.

The GSCI Total Return was down -13.39% YTD as of 10/31/2006 and the DJ-AIG Index was actually slightly up at 1.44% YTD as of 10/31/2006 due to a rise in non-energy related commodities. The Goldman Sachs Index' heavy weighting in energy-related commodities such as crude oil and natural gas was the primary reason for the significantly weaker returns. In contrast, the DJ-AIG Index is a more diversified Index than the GSCI , as the maximum weight in any one group is capped at 33%. Beacon Pointe prefers strategies that mirror the DJ-AIG Commodity Index rather than the Goldman Sachs Commodity Index because it is a more diversified Index with exposures to a wide variety of commodities.

In terms of timing, we believe that with potential slowdown in the economy going forward, it makes sense to stay on the sidelines for now and invest when global growth again begins to accelerates. For clients currently invested with top-tier investment firms, we recommend that the client begin to scale their allocation down. From a longer-term secular point of view, Beacon Pointe is bullish on commodities and strongly believes it makes sense to invest in commodities for the long term. However, Beacon Pointe believes that as more data points are released pointing to a slowing economy, there is a possibility of additional selling pressure in commodities. However, things do change and therefore we will revisit our

asset allocation strategy in the first quarter of 2007 and apprise our clients of any change in our position on commodities.

Figure 9



Source: Adapted from Gresham Investments

The correlation matrix below highlights that, while not perfect, commodities are correlated with global GDP growth.

	DJ-AIG	GSCI
Annual Correl with Global GDP Inception 91		0.56
Annual Correl with Global GDP DJ-AIG Inception 98	0.46	0.51

Source: Data provided by Gresham Investments.

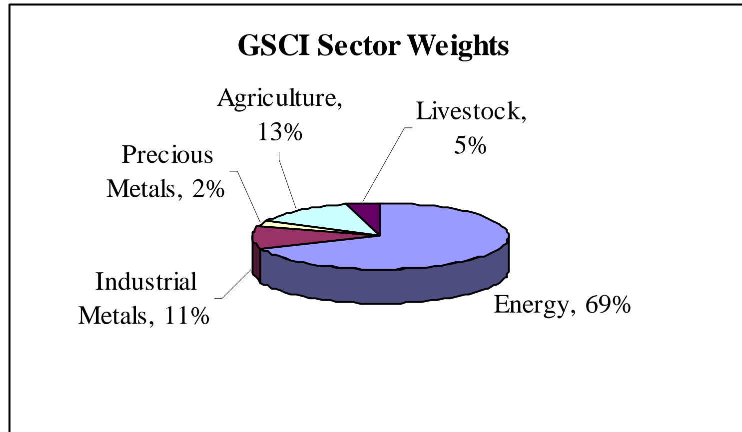
Commodities – Choosing An Appropriate Index

Beacon Pointe believes choosing the right index is important as the underlying investment strategies are based on indices. Two of the most popular indices used are the Goldman Sachs Commodity Index and the Dow Jones-AIG Commodity Index.

As mentioned earlier, Beacon Pointe prefers to use the DJ-AIG Commodity Index as a benchmark, as it is broad based and caps sector weights at 33%. In contrast, the Goldman Sachs Commodity Index has a strong orientation towards energy-related commodities such as crude oil and natural gas with weights of the overall Index in excess of 80% in recent times. This high sector weight results in too much concentration in one sector and as such carries more risks than Beacon Pointe is comfortable with.

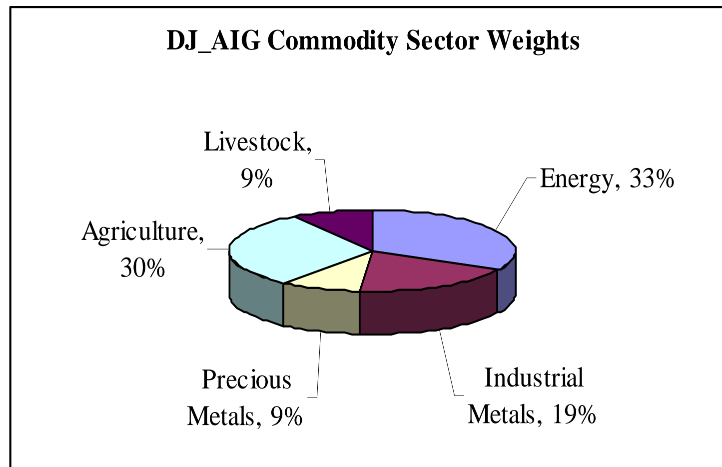
Figures 10 and 11 compare the component weights of the two indices (as of 11/27/2006):

Figure 10



Source: Goldman Sachs

Figure 11



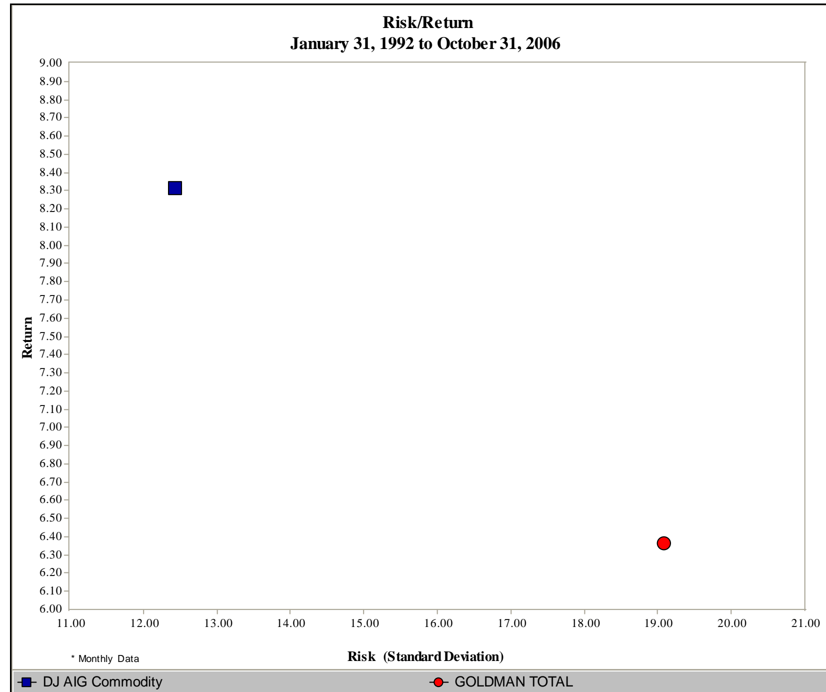
Source: Dow Jones - AIG

As shown in Figure 10, the GSCI is predominantly weighted in energy-related commodities while the component weights are more diversified in the DJ-AIG Commodity Index, as seen in Figure 11. With the rise in energy prices recently, the energy component has reached as high as 87% of the GSCI Index.

As such, Beacon Pointe prefers the DJ-AIG Commodity Index since it is much more representative of the global consumption of the various commodities and sector weights are limited to 33% of the index.

The diversification of the various commodities and the cap on the max limit on individual sector actually results in a better return/risk profile as seen on in Figure 12.

Figure 12



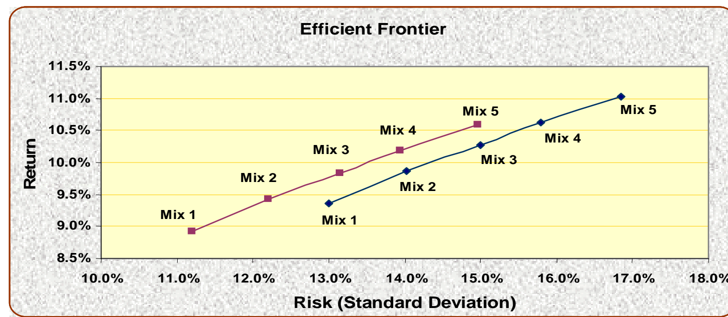
Source: Wilshire Compass

Commodities – Impact on Portfolio

The chart below shows that with commodities included in a portfolio, one can expect higher returns at the same risk levels as a portfolio without commodities. This is reflected in higher Sharpe ratio for portfolios with commodities included. The risks, returns, and correlations used for this analysis were based on Ibbotson capital markets assumptions. ***Source: Beacon Pointe Research and Ibbotson Associates***

The Efficient Frontiers to the right show the risk/return characteristics of different portfolio mixes. The line or "curve" represents a continuum of portfolios that are "optimal" or "efficient" given the assets under consideration -- that is, they represent portfolios that are expected to produce the most amount of return for each level of risk.

The Sharpe Ratio is a measure of the amount of return expected for each unit of expected risk or volatility. The actual calculation is the Return-T-Bills Return (or Inflation) divided by the Standard Deviation.



Efficient Frontier 1 - With Commodities	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
Return	8.92%	9.43%	9.83%	10.18%	10.59%
Std Deviation	11.20%	12.21%	13.15%	13.94%	14.97%
Sharpe Ratio	0.52	0.52	0.51	0.51	0.50

Efficient Frontier 2 - Without Commodities	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
Return	9.36%	9.87%	10.27%	10.62%	11.03%
Std Deviation	13.00%	14.03%	15.00%	15.80%	16.84%
Sharpe Ratio	0.48	0.49	0.48	0.48	0.47

Analysis based on market assumptions. Past performance is no guarantee of future results.

Commodities - Conclusions

- Beacon Pointe believes that commodities play an important role in a portfolio primarily due to their negative or low correlation to domestic and international stocks and bonds. In addition, the high equity-like expected returns of commodity indexes result in a portfolio with higher returns at lower risk levels.

- The best way to gain exposure to commodities is to use strategies based on the commodity indices. Beacon Pointe is of the opinion that Dow-Jones Commodity Index is an appropriate index to replicate as it is more diversified than the Goldman Sachs Commodity Index and has sector weights limited to 33% as a risk management tool.

- Beacon Pointe believes including commodities in a portfolio enhances returns while lowering risk, thus resulting in higher Sharpe ratios. As such, we recommend making a strategic allocation to commodities. However, because commodities performance is correlated to global GDP growth, we believe it is prudent to wait on the sidelines before investing in commodities in light of the anticipated slowing in global GDP growth.

- Please contact your Beacon Pointe consultant should you have any questions.