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LGL Partners Investment Brief

Commodity volatility—cause for concern?

June 2011

Summary

At a basic level, traditional asset allocation calculations have revolved around the relative proportion of bonds versus stocks in a portfolio. But, in recent years, sophisticated investors and market strategists have increasingly considered commodity allocations, arguing (with research that backs them up) that an allocation to commodities and/or commodity futures[1] can improve risk-adjusted returns.

Since the depths of the financial crisis, commodities have surged and attracted even more attention. But, over the past few months of 2011, they have stumbled badly and volatility has ratcheted upwards.

Should investors think twice about commodity allocations? Should they make a tactical shift? This brief will outline the case for commodity investing in a portfolio context and concludes with some thoughts about current conditions.

Diversification benefits

We make three observations: 1) commodities have traditionally acted as diversifiers, 2) commodities aren't created equal, and 3) correlations have increased since 2008.

Over the past 28+ years (since April 1983) the average cross-correlation among 20 Morningstar commodity sub-strategies was .19. This means that a diversified basket of commodities would be relatively diversified--reducing volatility of an allocation to the asset class.

Commodities, as a broad sector, have been thought to respond at different phases of the business cycle. A well-known study[2] shows that commodities tend to have negative correlations with bonds and equities, positive correlations with inflation, and similar risk-adjusted returns to equities.

However, a careless allocation to commodities could produce disappointing or unexpected results (commodities are not created equal.)

Chart #1on the following page illustrates this point.

[1] Commodities and commodity futures are related but require specific analysis. Because most investors access the commodity asset class through futures or investment vehicles constructed around futures (rather than dealing in the spot or physical market) we generally use "commodities" or "commodity" to refer to commodity futures strategies.

[2] Gorton, Gary and K. Geert Rouwenhorst. "Facts And Fantasies About Commodity Futures," *Financial Analysts Journal*, 2006, v62 (2, March/April), 47-68.

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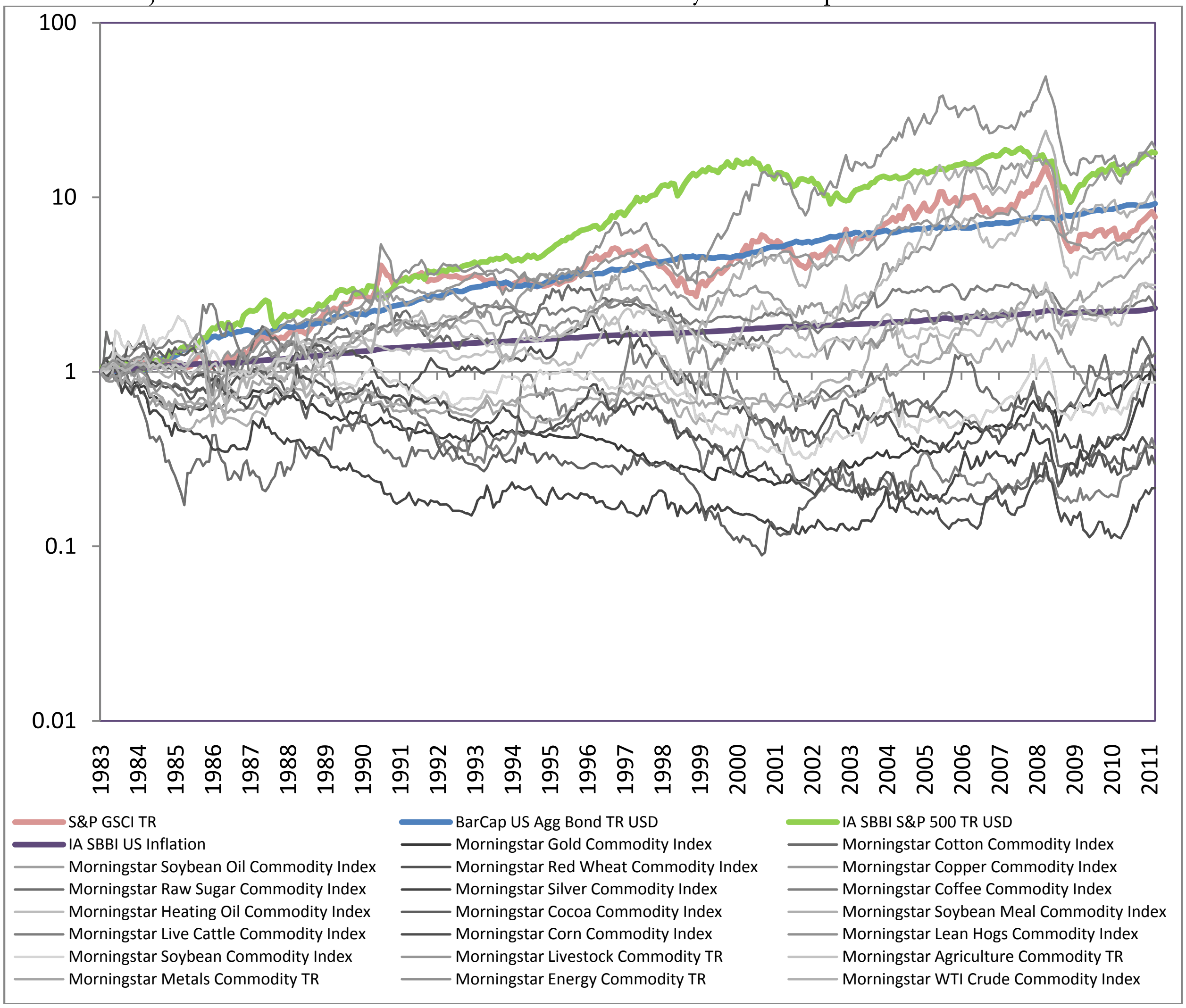
Chart #1: Major asset class benchmarks vs. individual commodity index components



Commodities as a whole have outperformed many other asset classes, but it has been on the strength of energy and metals. Yet, over the last 28 years, they have trailed equities and diversified bonds, although clearly outpacing inflation. Soft commodities have barely held their ground, and foodstuffs have become markedly cheaper. It is important to note that the MSCI index, one of the most heavily quoted commodity indices, is heavily weighted towards energy[3]—it is built based on the last five years' worth of production values. The reason for the relative outperformance of energy and metals, briefly, is a secular growth story coupled with gains in agricultural efficiency and production techniques.

The following table helps to highlight relative and risk-adjusted performance.

[3] See http://www2.goldmansachs.com/services/securities/products/sp-gsci-commodity-index/approach.html for construction methodology.

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Asset class performance since 1983

	Geometric Mean (%)	Standard Deviation (%)	Sharpe Ratio	Ending Index Value	Sortino Ratio	Beta
Morningstar Energy Commodity TR	11.06	37.24	0.14	19.17	0.23	0.05
IA SBBI S&P 500 TR USD	10.80	17.25	0.22	17.98	0.32	1.00
Morningstar Copper Commodity Index	10.53	30.87	0.15	16.76	0.25	0.43
Morningstar WTI Crude Commodity Index	8.39	38.60	0.12	9.68	0.19	0.05
BarCap US Agg Bond TR USD	8.19	4.79	0.52	9.19	1.11	0.05
S&P GSCI TR	7.52	21.83	0.13	7.70	0.21	0.15
Morningstar Heating Oil Commodity Index	6.77	35.47	0.10	6.32	0.17	0.07
Morningstar Livestock Commodity TR	6.29	14.15	0.15	5.58	0.24	0.09
Morningstar Metals Commodity TR	5.73	18.47	0.12	4.80	0.18	0.06
Morningstar Agriculture Commodity TR	4.14	18.76	0.09	3.14	0.15	0.17
Morningstar Soybean Meal Commodity Index	3.93	26.46	0.08	2.96	0.13	0.10
IA SBBI US Inflation	3.02	1.12	0.79	2.31	1.57	(0.00)
Morningstar Live Cattle Commodity Index	3.02	13.29	0.09	2.31	0.13	0.09
Morningstar Raw Sugar Commodity Index	0.86	40.93	0.06	1.27	0.10	0.05
Morningstar Cotton Commodity Index	0.33	26.88	0.04	1.10	0.06	0.28
Morningstar Gold Commodity Index	0.09	15.42	0.02	1.03	0.04	(0.10)
Morningstar Lean Hogs Commodity Index	(0.13)	23.77	0.03	0.96	0.05	0.07
Morningstar Soybean Oil Commodity Index	(0.50)	27.98	0.03	0.87	0.05	0.25
Morningstar Soybean Commodity Index	(0.50)	27.98	0.03	0.87	0.05	0.25
Morningstar Silver Commodity Index	(0.53)	28.69	0.03	0.86	0.05	0.15
Morningstar Coffee Commodity Index	(3.50)	39.12	0.02	0.37	0.04	0.23
Morningstar Red Wheat Commodity Index	(3.51)	24.88	(0.01)	0.37	(0.01)	0.23
Morningstar Cocoa Commodity Index	(4.22)	29.62	(0.00)	0.30	(0.00)	0.04
Morningstar Corn Commodity Index	(5.30)	24.75	(0.03)	0.22	(0.04)	0.24

That is the historical perspective; recent experience has been different.

Since September 2008, the cross-correlation among commodities has increased to .43. At the same time, correlations to broad market indices have changed.

Correlations since 1983

	US Inflation	S&P 500	S&P GSCI	US Agg. Bond
US Inflation	1.00	(0.02)	0.28	(0.12)
S&P 500	(0.02)	1.00	0.12	0.19
S&P GSCI	0.28	0.12	1.00	(0.04)
US Agg. Bond	(0.12)	0.19	(0.04)	1.00

Correlations since 2008

	US Inflation	S&P 500	S&P GSCI	US Agg. Bond
US Inflation	1.00	0.29	0.51	(0.26)
S&P 500	0.29	1.00	0.77	0.24
S&P GSCI	0.51	0.77	1.00	0.02
US Agg. Bond	(0.26)	0.24	0.02	1.00

The big change to note is that since the market bottom in 2008, commodities have been highly correlated with equities.

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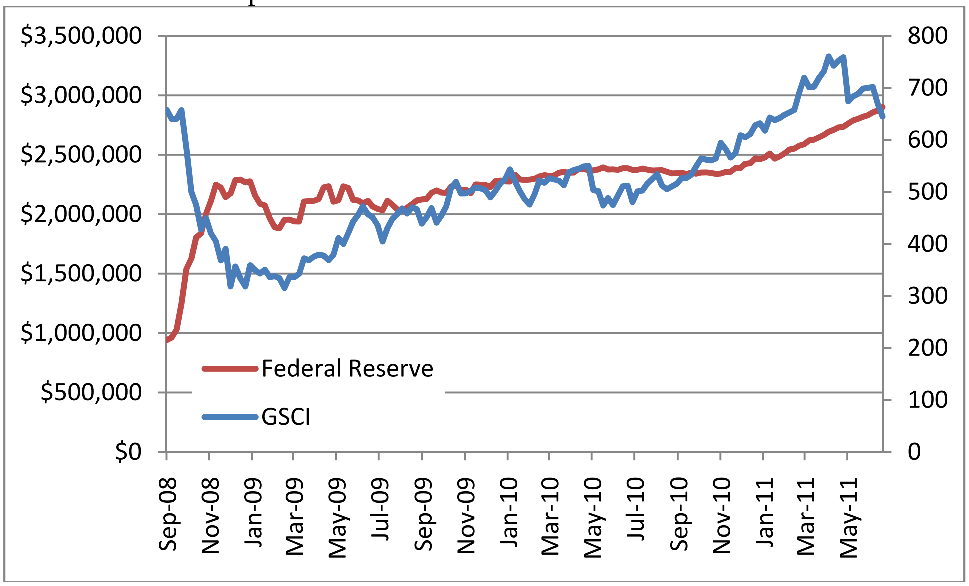
Current conditions

From 2008 until today, commodities have been especially impacted by liquidity and its second-order effects.

The deluge of cheap money brought about from rock-bottom Fed Funds target rates, and two (and counting) rounds of quantitative easing has buoyed risk assets across the board.

How important has this effect been? The following chart explains it visually.

Chart #2: Relationship between size of Federal Reserve balance sheet and level of GSCI index



Source: *Bloomberg and The Federal Reserve (H.4.1 statistical release, "Factors Affecting Reserve Balances of Depository Institutions and Condition Statement of Federal Reserve Banks")*

Commodities have responded directly to the excess liquidity (and associated lower rates) brought about by Federal Reserve activity.

But, there has been no change in the rate of growth in the Federal Reserve balance sheet this year, yet commodities started to sell off in April. Why the disconnect? In a major speech on April 27, 2011[4] Chairman Bernanke of the FOMC confirmed that the "QE2" program would come to an end, as scheduled, on June 30, 2011. Directly afterwards, commodities responded, with a sell-off that has knocked over 10% off the value of the broad asset class.

If Federal Reserve activity is driving commodity prices, what should we expect going forward if they get out of the game? First, the Federal Reserve balance sheet is not going to be *shrinking* any time soon. All Federal Reserve announcements to date continue to express support for this historically accommodative monetary policy. In other words, liquidity is not going to be sucked out of the system, even if it isn't added as steadily. Moreover, the Fed isn't cutting off the tap. It will continue to re-invest in Treasuries (at a rate estimated to reach $25BB a month) for the foreseeable future as its current holdings mature.

A second consideration: fundamental factors should re-assert themselves. Energy, which continues to dominate much of broader commodity movements today, still has legitimate fundamental factors supporting

[4] A transcript of this conference is available here: http://www.federalreserve.gov/mediacenter/files/FOMCpresconf20110427.pdf

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its current levels—USD weakness, production instability, and continuing emerging markets demand are just a start.

Conclusion

While the diversification benefits of commodities have eroded somewhat over the past three years as technical factors and "temporary" central bank illiquidity provisions have dominated, fundamentals will assert themselves over the long term. Certain classes of commodities (energy, metals, etc.) are driven strongly by scarcity and secular demand—and those forces cannot be sidestepped forever.

Commodities also continue to be a hedge against US dollar weakness. We have written previously on this subject (see "LGL Partners Investment Brief - The cost of dollars") and feel that US investors, in particular, should continue to maintain an intelligent, diversified commodity allocation in the face of an uncertain US fiscal condition.

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