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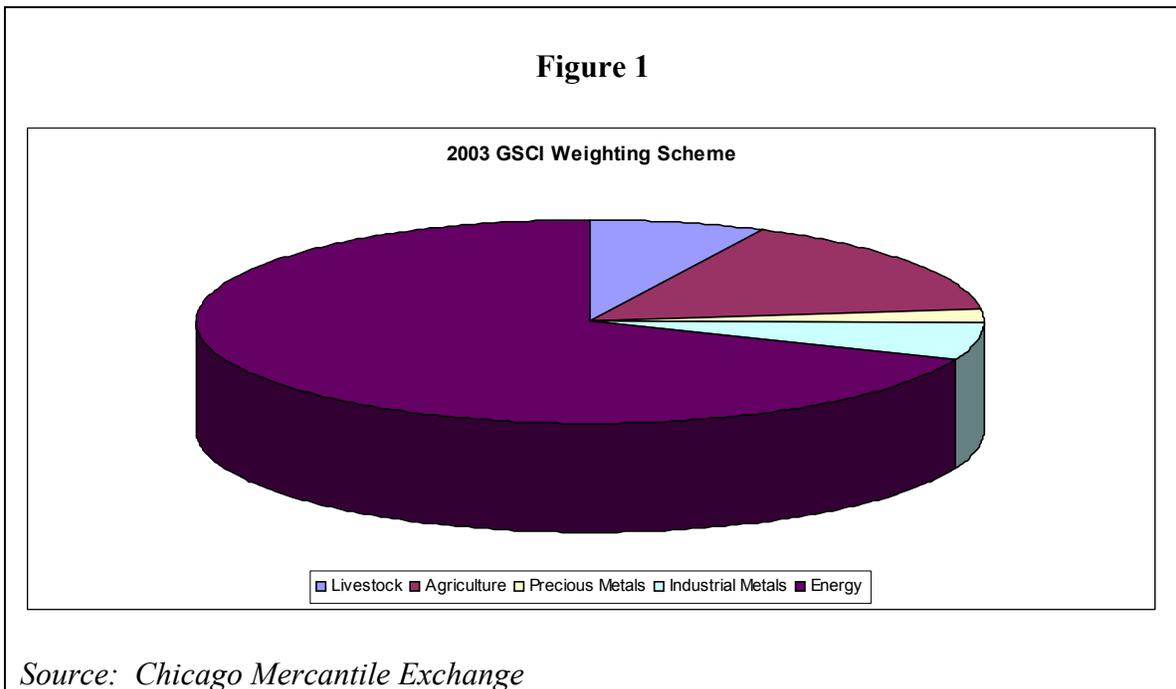
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Actively Timing an Investment in the Goldman Sachs Commodity Index

Author's Note: A version of this article was published in Futures Magazine in August 2003.

This article continues in the spirit of the October 2000 *Futures* magazine article on "Trading Scarcity." This article noted that using a key market relationship, one might be able to improve the timing of long-term positions in the commodity futures markets. This article briefly explores whether that key market relationship has continued to be a good indicator and also discusses the performance of another potentially useful indicator.

Commodity futures programs are continuing to attract significant capital from investors. According to Goldman Sachs, there is an estimated \$12 billion invested in or benchmarked to the Goldman Sachs Commodity Index (GSCI). The GSCI was designed to be a benchmark for commodity investors comparable to the S&P 500 equity index. This index is a world-production-weighted commodity index, incorporating futures contracts that span five commodity sectors. The pie chart in Figure 1 illustrates the GSCI's weighting scheme in 2003.



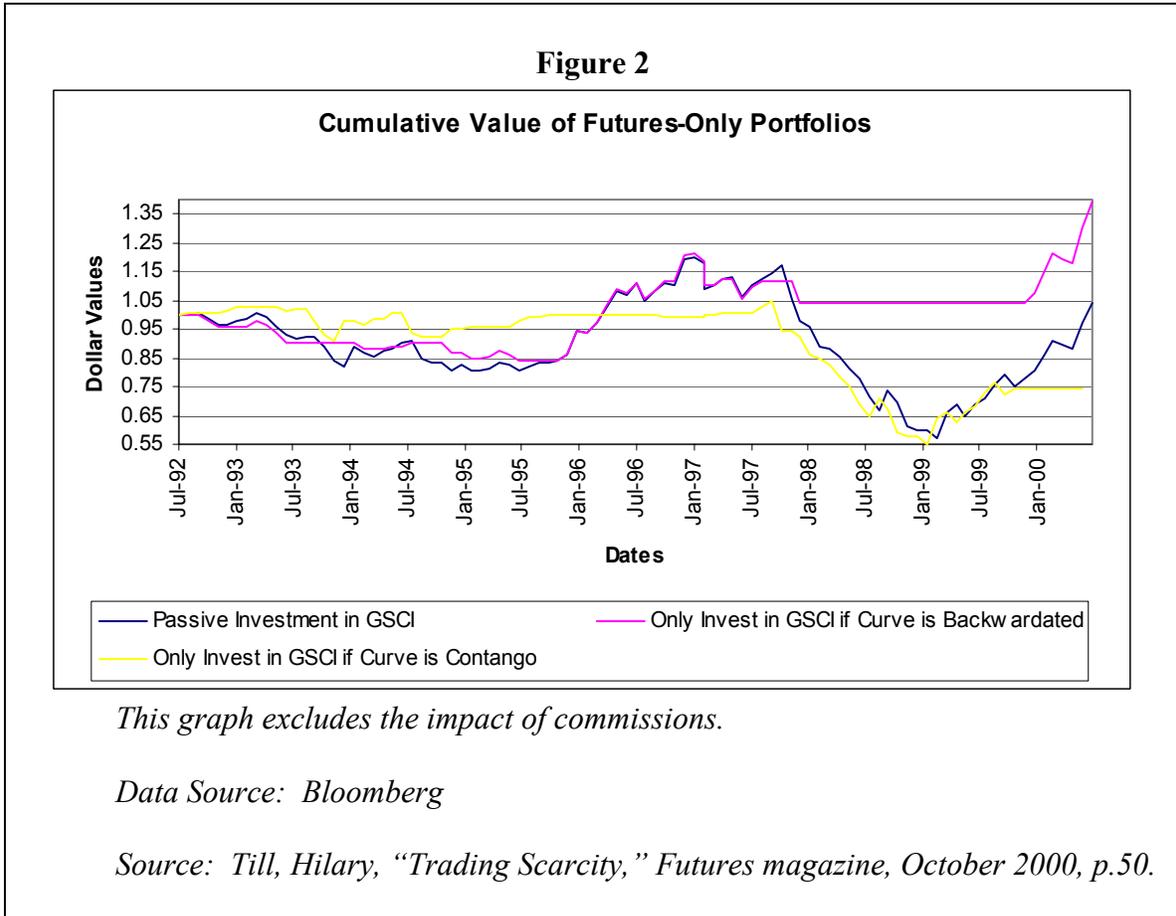
Like the S&P 500 index, there is a GSCI futures contract that trades on the Chicago Mercantile Exchange. With only one futures contract, investors are able to gain exposure to a basket of diversified, commodity futures contracts.

Indicator: Futures Curve Shape

The article, “Trading Scarcity,” argued that one should consider using a reliable indicator of scarcity to decide upon investing in the GSCI. That indicator is the “term structure” of the GSCI futures curve. By term structure, we mean that one should examine the relative price differences of GSCI contracts across delivery months. When a near-month contract is trading at a premium to more distant contracts, one says that a commodity futures curve is “in backwardation.” Correspondingly, when a near-month contract is trading at a discount to more distant contracts, we say that the curve is “in contango.”

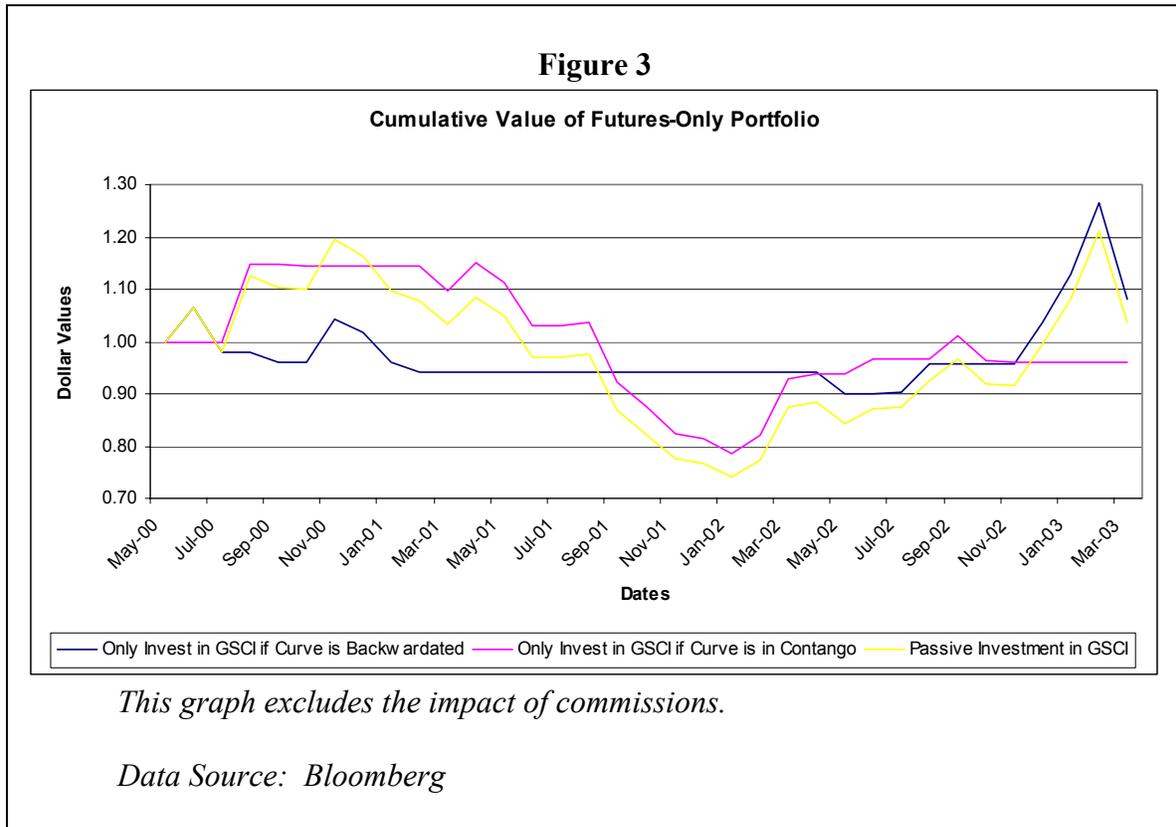
When the GSCI is trading in backwardation, one should consider investing in the GSCI: scarcity is indicated by the fact that investors are willing to pay a premium for immediately deliverable commodity futures contracts. When the GSCI is trading in contango, one should consider reducing one’s investment in commodities: scarcity is *not* indicated.

Figure 2 reviews the results of investing in the GSCI from mid-1992 through June 2000 using the following three policies. One is to invest in the GSCI throughout the entire period. The second policy is to only invest when the GSCI curve is in backwardation. And the third policy is to only invest when the GSCI curve is in contango. These results *exclude* the returns from interest income on one's collateral.



At the end of the investment horizon, the passive investment made +3.8%; the investment conditional on the curve being in backwardation made +39.1%; and the investment conditional on the curve being in contango lost -25.3%. This is highly suggestive evidence that the GSCI's curve shape is a very useful timing indicator indeed.

How has this indicator performed since this original study was carried out in the summer of 2000? Rather well it turns out. Figure 3 updates the results shown in Figure 2.



From the summer of 2000 through March 2003, the passive investment made +3.7%; the investment conditional on the curve being in backwardation made +8.1%; and the investment conditional on the curve being in contango lost -4.1%. The usefulness of examining the curve shape for an investment in the GSCI appears to be confirmed.

Additional Indicator: Monetary Environment

An article in the *Journal of Futures Market* published in 2000 also provides a useful, transparent indicator for deciding upon timing an investment in the GSCI. The article is entitled, “Efficient Use of Commodity Futures in Diversified Portfolios.” The authors suggest using a measure of monetary policy to decide upon including commodities in one’s overall portfolio.

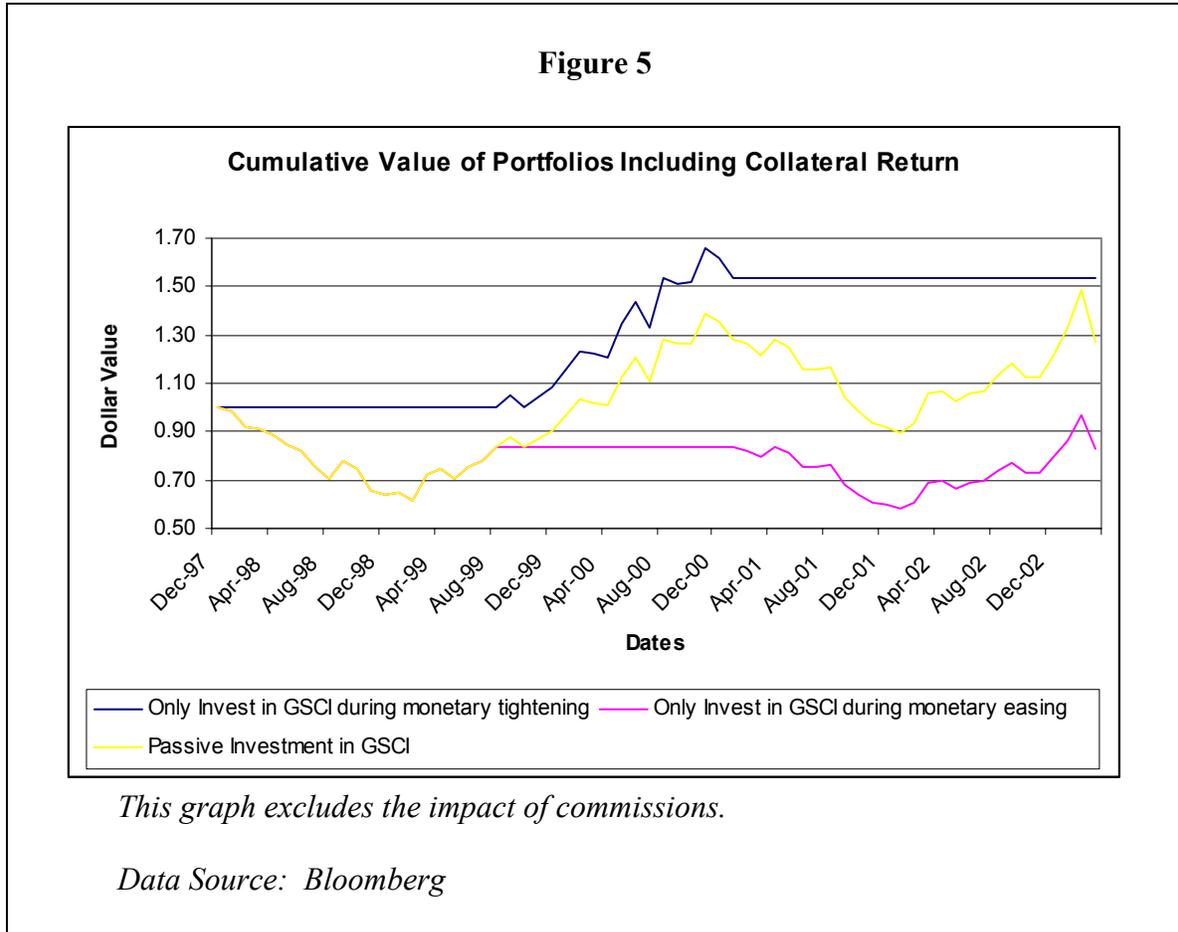
The researchers examine the period, 1973 to 1997, and classify each month as a time of monetary easing or monetary restrictiveness based on the most recent change to the discount rate. Figure 4 provides an excerpt from their study. Their GSCI returns *include* the returns from the interest income on one's collateral.

Figure 4		
<u>1973-1997</u>		
<u>Index</u>	<u>Mean Monthly Return (%)</u>	<u>Standard Deviation</u>
Expansive Monetary Periods		
GSCI	0.335	4.321
Restrictive Monetary Periods		
GSCI	1.993	6.167

Source: Excerpt from Jensen, Gerald, Robert Johnson, and Jeffrey Mercer, "Efficient Use of Commodity Futures in Diversified Portfolios, Journal of Futures Markets, Vol. 20, No. 5, Table II.

This is highly suggestive evidence that one should consider investing in the GSCI in periods characterized by restrictive monetary policy.

How has this indicator performed since this original study ended its period of evaluation in December 1997? Again, this indicator has turned out to have performed rather well. Figure 5 illustrates the returns from investing in the GSCI from December 1997 through March 2003.



From the end of 1997 through March 2003, the passive investment made +27.5%; the investment conditional on monetary restrictiveness made +53.6%; and the investment conditional on monetary expansiveness lost -17.0%. The usefulness of a monetary indicator for determining when to invest in the GSCI appears to be confirmed.

Conclusion

This article showed that two relatively simple indicators may be very useful in determining when to invest in the GSCI. Both of them are also intuitively appealing. The shape of the GSCI futures curve gives one a transparent indicator of the level of scarcity in the commodity markets. Intuitively, one would tend to want to invest in commodities when they are scarce. And this is what the historical performance of the GSCI has borne out. Also, the monetary stance of the Federal Reserve Board gives one an indication of inflationary pressures in the economy. Intuitively, one would tend to want to invest in commodities during times of increasing inflation. And again, this is what the historical performance of the GSCI has also borne out.



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