

Identifying Return Opportunities Amid A Demand-Driven World Economy

1: INTRODUCTION

Liquidity risk premia is shifting, as the world economy may be entering a new paradigm driven by demand. Commodities may be one area that could be greatly affected by this potential economic shift. The S&P GSCI Dynamic Roll, launched in January 2011, helps identify return opportunities in this space. The index demonstrated its effectiveness in 2012 when it outperformed the S&P GSCI® and other modified roll indices. This paper highlights historical statistics from the S&P GSCI Dynamic Roll and demonstrates its viability as an index solution that readily identifies points offering opportunities that may capture the risk premia in commodity futures.

Total assets under management for commodities have grown tremendously, almost tripling in size to \$429 billion from roughly \$150 billion since the market bottomed in 2008¹. This large influx of assets, combined with lackluster performance of the S&P GSCI—which holds the liquid front-month contracts—can create the appearance of diminishing liquidity risk premia. The increasing positive returns, on average, from deferred tenures in the modified roll indices (for example, the S&P GSCI Enhanced and S&P GSCI Forward) during this timeframe prove that this is not the case. Therefore, the implication is that the liquidity risk premia is not fading but shifting, making it necessary to dynamically identify the points that offer liquidity risk premia opportunities.

For the first time since 2000, both the S&P GSCI Enhanced and S&P GSCI Forward 3-Month underperformed the S&P GSCI. Most investors have never seen underperformance like this before since during the time of their commodity holdings, the commodity futures curves have been predominantly in contango.

When a near-month futures contract is trading at a discount to more distant contracts, we say that a commodity futures curve is in 'contango'. This happens when commodities are not in a situation of scarcity so the prices of the futures contracts include carrying costs such as storage costs, insurance and interest... There is a converse situation to contango that occurs when there is a scarcity of commodities. In this case, the near-month futures contract trades at a premium to more distant contracts, and we say that a commodity futures curve is in 'backwardation' or that the commodity is 'backwardated.' This occurs when inventories of commodities are tight so market participants are willing to pay a premium to buy the immediate deliverable commodity².

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¹Barclays Commodities Research. The Commodity Investor, The Rebalancing Riddle, page 17. Nov. 30, 2012.

²Till, Hilary edited by Gregoriou, Greg N., Encyclopedia of Alternative Investments, pages 38-39, 101. CRC Press, 2009.

When commodity futures curves are in contango, indices that hold the near-month commodity futures contracts like the first generation of both the S&P GSCI and Dow Jones-UBS Commodity Indices may earn a negative return from rolling into more expensive contracts, which is necessary before expiry to avoid delivery. Generally, the contracts with longer-dated expirations have incrementally lower embedded costs, so there is a chance to reduce losses by holding more distant contracts. On the other hand, when commodities are backwardated, indices that hold the near-month commodity futures contracts may earn a positive return from rolling into a cheaper contract before expiry.

Fundamentals shifted quickly in 2012 driving curves into backwardation. As such, first generation indices, like the S&P GSCI, which hold the front-month contracts, outperformed modified roll indices like the S&P GSCI Enhanced and S&P GSCI 3-Month Forward for the year. However, the S&P GSCI Dynamic Roll outperformed the S&P GSCI and other modified roll indices through this year of changing term structures, from its ability to identify the optimal contracts on the curve every month.

2: Data

This study uses 17 years of monthly index levels from January 1995 to December 2012, allowing for the calculation of 215 months of return and roll yield statistics based on total return versions for the S&P GSCI, the S&P GSCI Enhanced, the S&P GSCI 3 Month Forward and the S&P GSCI Dynamic Roll. For measures of roll yield, indicating backwardation or contango in the term structures of the commodities on average in the S&P GSCI, the monthly returns of the S&P GSCI spot version (which measures the price return) were subtracted from the monthly returns of the S&P GSCI Excess Return (which measures the price return plus the roll return). Backwardation was implied by a positive result, whereas contango was implied by a negative result.

3: The Environment

As addressed in the introduction, backwardation is profitable to a front-month index and occurs when there is a shortage and no value to storage, while contango is losing to a front-month index and occurs when there is normal inventory and a value for storage (see exhibit 1).

Exhibit 1: Examples of a Forward Curve

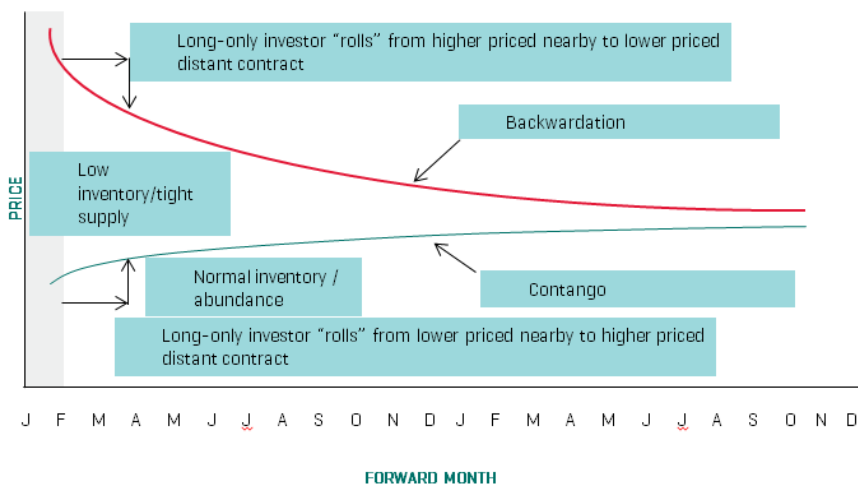


Chart is provided for illustrative purposes only.

As expected, the commodity futures curves are in contango most of the time since this should be the resulting term structure when supplies are ample and inventories are normal (see exhibit 2). In the exhibit commodity futures curves are in contango 69% of the time since February 1995.

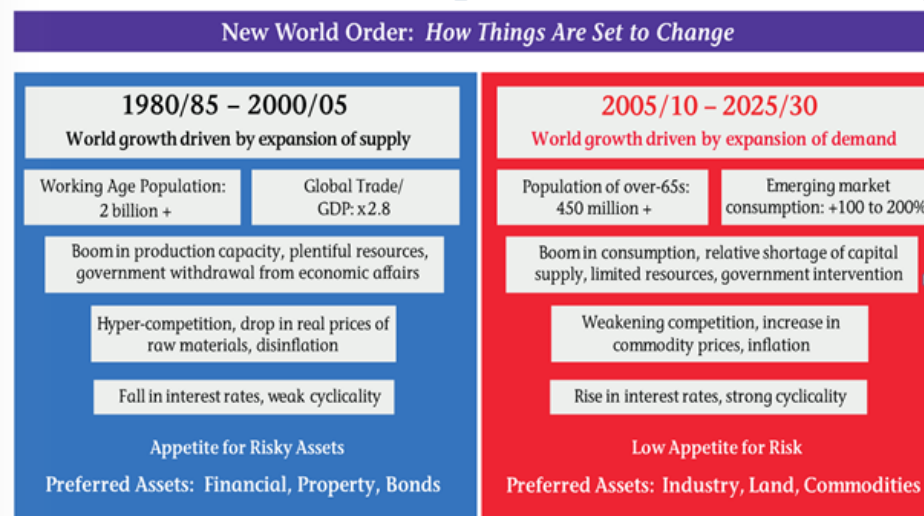
Exhibit 2: The Environment Characterized By Term Structure

Year	No. of Months	Contango	Backwardation	Contango (%)
1995	11	6	5	55
1996	12	2	10	17
1997	12	8	4	67
1998	12	12	0	100
1999	12	11	1	92
2000	12	0	12	0
2001	12	8	4	67
2002	12	8	4	67
2003	12	3	9	25
2004	12	5	7	42
2005	12	12	0	100
2006	12	12	0	100
2007	12	12	0	100
2008	12	9	3	75
2009	12	12	0	100
2010	12	12	0	100
2011	12	9	3	75
2012	12	7	5	58
Total	215	148	67	69

Source: S&P Dow Jones Indices. Data provided from 1995 through 2012.

However, an interesting pattern appears where contango prevailed 93% of the time from 2005-2011. From the early 1980s to circa 2005, supply growth drove the economy. As inventories increased, storage costs became relatively high, making front-month index investing less profitable.

Notice there may be a shift taking place beginning sometime between 2011 and 2012. There have been more times of shortage in 2012 than there have been in the past several years. The demand for oil was relatively high in early 2012 and the well-documented drought that occurred during the summer, subsequently drove commodity curves into backwardation. According to a 2011 article discussing the commodities sector the economy may be entering a new era of world growth driven by demand, which could ultimately favor commodities (see exhibit 3).

Exhibit 3: World Growth Shift from Expansion of Supply to Expansion of Demand³

Source: Société Générale, July 2011

³ Isherwood, Guy. Commodities: New Facts & Fantasies, Commodities Now, Navigating the Commodity Complex. Volume 15. Issue 3, Page 31, September 2011.

If this analysis is the case and there is a structural increase in the cost of raw materials (along with a rise in cycle frequency and magnitude), then it is possible that the first generation indices may recover and that more dynamic strategies, like the S&P GSCI Dynamic Roll, could outperform static strategies across the curve.

3: Historical Performance Analysis

Each of the modified roll indices outperformed the S&P GSCI a majority of the time during periods of both backwardation and contango. As exhibit 4 illustrates, the S&P GSCI Enhanced outperformed the S&P GSCI in each environment more times than the other modified roll indices outperformed the S&P GSCI, which can be expected given the methodologies. The S&P GSCI Enhanced is less static than the S&P GSCI 3-Month Forward due to its dynamic rules for Brent Crude Oil and WTI Crude Oil based on term structure in addition to its seasonal rules. It also does not have a provision to reduce trading costs like the S&P GSCI Dynamic Roll.

Exhibit 4: Number of Months S&P GSCI Modified Roll Outperformed S&P GSCI per Term Structure

Months of Outperformance vs. S&P GSCI TR		
	Contango	Backwardation
Total Count	148	67
S&P GSCI 3-Month Forward TR	99	37
S&P GSCI Enhanced TR	108	43
S&P GSCI Dynamic Roll TR	98	37

Source: S&P Dow Jones Indices. Data is provided for illustrative purposes only covering the 215 months from 1995 to 2012. Past performance is not an indication of future results.

While the number of months of outperformance versus the S&P GSCI is dominated by the S&P GSCI Enhanced, the magnitude of return outperformance is far greater, almost 700% cumulatively, from the S&P GSCI Dynamic Roll (see exhibit 5). The magnitude of outperformance occurred largely from 2005-2009. This was mainly due to the expanded opportunity set of contract expirations included by rules of the methodology for the S&P GSCI Dynamic Roll, in addition to its monthly evaluation to measure the highest implied roll yields with the aim of optimizing the roll return while minimizing turnover.

Exhibit 5: Performance Comparison of Annual Returns			
Margin of Outperformance vs S&P GSCI			
Year	S&P GSCI 3-Month Forward TR (%)	S&P GSCI Enhanced TR (%)	S&P GSCI Dynamic Roll TR (%)
1995	-5.5	-2.3	-7.1
1996	-1.5	5.4	2.6
1997	15.0	12.1	9.7
1998	8.0	11.4	18.9
1999	-0.9	-0.7	-8.0
2000	-7.9	-3.6	-12.7
2001	20.2	18.0	22.8
2002	0.5	2.4	-3.2
2003	4.1	1.8	5.1
2004	16.4	12.2	16.5
2005	16.1	15.0	23.1
2006	14.8	18.1	26.3
2007	2.7	2.7	3.6
2008	12.1	8.5	31.3
2009	5.8	6.2	2.4
2010	2.5	2.4	-0.9
2011	1.7	1.7	0.0
2012	-1.6	-0.3	2.3

Source: S&P Dow Jones Indices. Data from 1995 to 2012. Past performance is not an indication of future results. This chart reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with backtested performance.

The most interesting margin of outperformance between the S&P GSCI Dynamic Roll and the S&P GSCI may have occurred in 2012. As mentioned in the introduction, many investors were surprised to see that most of the modified roll indices underperformed the first generation indices in 2012. There has not been a single year since 2000 that both the S&P GSCI Enhanced and S&P GSCI 3-Month Forward underperformed the S&P GSCI (see exhibit 6). Also, there has never been a year until 2012 that the S&P GSCI Dynamic Roll outperformed the S&P GSCI while the other modified roll indices underperformed the S&P GSCI.

Exhibit 6: Margin of Outperformance of Modified Roll Indices versus the S&P GSCI

Year	S&P GSCI TR	S&P GSCI 3-Month Forward TR	S&P GSCI Enhanced TR	S&P GSCI Dynamic Roll TR
1995	23.4	17.4	21.1	15.2
1996	33.9	32.6	41.3	37.8
1997	-14.1	0.0	-2.9	-4.5
1998	-35.8	-29.9	-27.6	-22.1
1999	40.9	40.6	40.8	32.0
2000	49.8	39.6	44.6	32.1
2001	-39.1	-17.4	-19.1	-15.4
2002	32.1	33.3	35.6	29.0
2003	20.7	28.2	25.0	28.7
2004	17.3	37.0	31.7	37.6
2005	25.6	46.1	44.9	55.8
2006	-15.1	-2.1	0.9	8.8
2007	32.7	36.5	36.2	38.0
2008	-46.5	-39.2	-41.1	-26.1
2009	13.5	20.8	21.6	18.2
2010	9.1	12.1	12.1	9.5
2011	-1.2	0.4	0.5	-0.4
2012	0.1	-1.4	-0.1	3.0
Total	127.0	558.7	609.9	814.0

Source: S&P Dow Jones Indices. Data from 1995 to 2012. Past performance is not an indication of future results. This chart reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with backtested performance.

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