THOMSON REUTERS INDICES
CONTINUOUS COMMODITY INDEX

December 2011

The Thomson Reuters Continuous Commodity Index

The CCI (previously Reuters CRB Index) is a geometric average of 17 commodities multiplied by a constant factor. The index is calculated by averaging the prices of the valid contract months for each day for each included commodity. The average price of all commodities is then multiplied and the seventeenth root of the number is taken as the raw index value. This raw index value is multiplied by 0.8486, which is the adjustment factor necessitated the index's 9 revisions since it's inception in 1957. The resulting value is divided by 30.7766, which is the 1967 base year average for these 17 commodities. Finally, this result is multiplied by 100 in order to convert the index into percentage terms.

The CCI provides meaningful exposure to six commodity subgroups: Energy, Grains, Industrials, Livestock, Precious Metals, Softs. Any changes to the index are part of the continuing effort of Thomson Reuters to keep the Thomson Reuters CCI Index "current," and to ensure that its value provides accurate representation of broad commodity price trends. The CCI has been acknowledged as a broad measure of overall commodity price trends because of the diverse nature of the 17 commodities of which it is comprised. There have been no changes to the 17 index constituents since 1995. All CCI constituents are, and have for decades, been based on commodity futures that are traded on US exchanges, even though this is not the result of an explicit rule. The lack of recent changes to constituents is reflective of the relative stability in the commodities that are traded on US exchanges. The factors taken into account during the annual index committee meetings, which decide on whether any changes in constituents occur are: open interest across the forward curve, volume, and significance of a commodity to the wider economy.

The CCI is computed using a three-step process

1) Each of the Index's 17 component commodities is arithmetically averaged using the prices for all of the designated contract months which expire on or before the end of the sixth calendar month from the current date, except that:

1. No contract shall be included in the calculation while in delivery;
2. There shall be a minimum of two contract months for each component commodity (adding contracts beyond the six month window, if necessary);
3. There shall be a maximum of five contract months for each commodity (dropping the most deferred contracts to remain at five, if necessary).

The result is that the Index extends six to seven months into the future depending on where one is in the current month. For example, live cattle's average price on October 30, 1997 was computed as follows:

$$\text{Cattle Average} = \frac{(\text{Dec. '97} + \text{Feb. '97} + \text{Apr. '98})}{3}$$

Soybean's average price on October 30, 1997 is:

$$\text{Soybean Average} = \frac{(\text{Nov. '97} + \text{Jan. '98} + \text{Mar. '98})}{3}$$

2) These 17 component averages are then geometrically averaged by multiplying all of the numbers together and taking the 17th root.

$$\text{Geometric Average} = \sqrt[17]{\text{Crude Avg.} \times \text{Heating Avg.} \times \ldots \text{Sugar Avg.}}$$

3) The resulting average is divided by 30.7766, the 1967 base-year average for these 17 commodities. That result is then multiplied by an adjustment factor of .8486. This adjustment factor is necessitated by the nine revisions to the Index since its inception in 1957. Finally, that result is multiplied by 100 in order to convert the Index into percentage terms:

$$\text{Index} = \frac{\text{Current Geometric Average}}{\text{1967 Geometric Average (30.7766)}} \times .8486 \times 100$$

Where, i= commodity i included in *CCI*
t= eligible month for a given commodity, given the rules below
$P_{i,t}$= price for a commodity i in month t
T= counter which equals 1 for every month included for commodity
30.7766= base year average

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PRICES - an arithmetic average of the ELIGIBLE futures on a specific commodity.

ELIGIBLE - Those contracts which are ALLOWED for the commodity and expire up through 6 calendar months from the contract date, except that:

1) There shall be a minimum of two contract months for each commodity (Add contracts beyond the six month window, if necessary).
2) There shall be a maximum of five contract months for each commodity (Drop the most deferred contracts to remain at five, if necessary).

Commodities and allowed contracts

Corn	March, May, July, September, December
Wheat	March, May, July, September, December
Soybeans	January, March, May, July, August, November
Live Cattle	February, April, June, August, October, December
Lean Hogs	February, April, June, July, August, October, December
Gold	February, April, June, August, December
Silver	March, May, July, September, December
Copper	March, May, July, September, December
Cocoa	March, May, July, September, December
Coffee	March, May, July, September, December
Sugar #11	March, May, July, October
Cotton	March, May, July, December
Orange Juice	January, March, May, July, September, November
Platinum	January, April, July, October
Crude Oil	all 12 calendar months
Heating Oil	all 12 calendar months
Natural Gas	all 12 calendar months

Roll Detail When a future reaches the first notice day or it matures, it is not considered in the calculation anymore. A future is eligible for inclusion when it has 6 months to maturity, but no more than 5 futures can be included for any commodity.

Calculating Total Return The CCI Total Return Index has a starting value of 100 on January 1st 1982. The index is compounded daily by multiplying the previous day value with the *Continuous Daily Return* (as outlined below) on that day and the 90 days T-Bill yield for a single day. On Mondays, the T-Bill yield for 3 days is used because of the interest earned by the collateral over the Weekend.

CRB Total Return Index = 100 x (1+ Continuous Daily Return + T-Bill return for one day), beginning January 1, 1982

Continuous Daily return = {CCI Continuous Contract Index / CCI Continuous Contract Index$_{t-1}$} – 1

T-Bill return for one day = {[1/(1-(91/360) x T-Bill Rate$_{t-1}$)]^(l/91)}-1

The method described above, used to compute the CCI, is also used to compute a "fair value index" for each expiration month of the CCI future (i.e. the old CRB futures contract), namely, Jan, Feb, April, June, Aug and Nov. However the futures included in each fair value index cannot expire prior to the maturity of the related CCI future, and the eligible commodity contracts include those that expire through 6 calendar months from the maturity of the related CCI future, whereas the contracts eligible to be used for the CCI cash index include those that expire through 6 months from the current date. E.g., on 31 January, the CCI cash index can include commodity contracts with expirations up to and including July, but on 1 Feb, the CCI cash index can include commodity contracts with expirations up to and including August.

The CCI February fair value index always can include commodity contracts with expirations up to and including August because August is 6 months after the February CCI future expires. E.G.: The CCI April fair value index will include contracts with expirations between 16 April 2007 and the end of October 2007 (6 months after April).

The Continuous Contract Index is computed by maintaining a constant ratio to the fair value index of the closest CCI expiration month. So from 13 November 2006 through 12 January 2007, the Continuous Contract Index was a constant ratio to the price of the January 2007 CCI fair value index. The January CCI future expired on 12 Jan 2007. Beginning on 15 January 2007, the price of the Continuous Contract Index is a constant ratio to the price of the February 2007 CCI fair value Index. This will continue until the February CCI future expires on 9 Feb 2007. Starting on the next business day, 11 February 2007, the price of the Continuous Contract Index will be a constant ratio to the price of the April 2007 CCI fair value Index.

The Continuous Commodity Total Return Index is the Continuous Contract Index with an amount added each day based on the on-the-run 3 month Treasury bill yield.

Calculation example for the Thomson Reuters Continuous Commodity Index (CCI):

26-Jan-11							Average
	Feb	**Mar**	**Apr**	**May**	**June**	**July**	
LC	107.225		112.275		112.525		110.675
LH	83.025		90.125		99	97.675	92.45625
C		657.75		668		672.75	666.1667
W		856.5		884.25		901.25	880.6667
S		1385.5		1396.5		1403	1395
CC		3352		3338		3335	3341.667
KC		237.5		239.3		240.45	239.0833
SB		33.13		30.58		27.8	30.50333
PL			1796.9			1800.2	1798.55
CL		87.33	89.35	91.11	92.39	93.28	90.692
HO	2.6698	2.6713	2.6627	2.6563	2.657		2.66342
SI		2712.8		2714.9		2715.9	2714.533
CT		166.83		159.33		151.55	159.2367
OJ		167.15		165.4		164.95	165.8333
GC	1333		1334.5		1336.2		1334.567
HG		426.7		427.4		427.15	427.0833
NG	4.491	4.501	4.508	4.547	4.587		4.5268
calc							232.0473
Base yr avg							30.7766
Factor							0.8486
Index							639.8215