



Commodity Leaders 150 Index Methodology

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1 Introduction

The Commodity Leaders 150 Index (cmdty150) is designed to recognize commodity focused firms - both large and small - that are driving results for their shareholders. cmdtyIndexes proprietary methodology ensures that leaders of both today and tomorrow are represented across Ag, Energy, and Metals – making the constituents of the cmdty150 truly leaders in commodities.

cmdtyIndexes' transparent Smart Factor methodology uses cutting edge systematic index construction techniques to capture factors which have historically been associated with alpha generation. The cmdty150 is designed to serve as a transparent benchmark for institutional investors and is calculated in U.S Dollars.

2 Index Construction

2.1 Security Eligibility

2.1.1 Listings

For inclusion in the cmdty150, the index security must be listed on one of the following U.S. exchanges:

- NYSE Classic
- NYSE Arca
- NYSE American
- NASDAQ Global Select Market
- NASDAQ Global Market
- NASDAQ Capital Market

2.1.2 Security Type and Domicile

Index eligibility is limited to common stock issued by U.S. domiciled companies.

2.1.3 Industry Classification

Security eligibility for the Commodity Leaders 150 requires that firms must be classified - according to Standard Industrial Classification - into a sector defined by cmdtyIndexes as operating primarily in the commodities industry (cf. Appendix I).

2.1.4 Liquidity

Volume: Eligible securities must trade a minimum of 200,000 shares daily on average for the six months leading up to the evaluation date .

Turnover: Eligible securities must trade greater than 5 million USD on average daily turnover for the six months leading up to the evaluation date.

2.1.5 Seasoning Criteria

Eligible securities must have been traded for at least full six months, not including month of initial listing on an eligible exchange.

2.1.6 Market Capitalization

The top 250 companies by market capitalization - at date of annual evaluation - and meeting all above eligibility criteria shall be considered for inclusion in the index.

2.1.7 Multiple Share Classes of Stock

For companies with a multiple share class structure, the eligibility for being a member of the index depends upon the following:

- All criteria at the company level must be fulfilled at the share-class level.

The index membership decision for each publicly listed share class is evaluated on a case by case basis. In case multiple share classes qualify to be included in the index, the share class with the greatest market capitalization will be considered for inclusion in the final index.

2.1.8 Selection List

The final list of firms eligible for index inclusion (Selection List) consists of equities satisfying all above eligibility criteria.

2.1.9 Security Selection

Securities are chosen for inclusion in the final index based on a fixed number of constituents. For securities in the Selection List, smart factor weightings and subsequently adjusted market capitalizations are derived for each potential constituent. The top 150 securities among the Selection List, ranked in descending

order according to their adjusted market capitalization value, are selected to represent the index at initial construction. Rules for ongoing reconstitution are explained in Section 3.2.

2.2 Smart Factors

Aggregate Smart Factor scoring is calculated by combining individual scores/rankings among each of the individual fundamental Smart Factor variables: Years of Continuous Dividend Payouts, Average Dividend Growth Rate, Payout Ratio, Revenue Growth Rate, Operating Margin, Operating Margin Improvement, and Insider Ownership. The calculation methodology of each Smart Factor based fundamental variable, and Smart Factor aggregation is provided in the Appendix II and the Appendix III.

2.2.1 Smart Factor Rankings

Individual Smart Factor scores are percentile-based and are calculated as follows for the factors: Years of Continuous Dividend Payouts, Average Dividend Growth Rate, Revenue Growth Rate, Operating Margin, Operating Margin Improvement, and Insider Ownership:

$$Percentile_{ij} = \frac{k_{ij}}{n} * 100,$$

where,

j is any fundamental variable in Years of Continuous Dividend Payouts, Dividend Growth Rate, Revenue Growth Rate, Operating Margin, Operating Margin Improvement, and Insider Ownership.

i is individual security being a constituent of the Selection List.

k_{ij} is the rank of fundamental variable j of security i through all securities in the Selection List sorted by ascending order.

n is the amount of securities in the Selection List.

$Percentile_{ij}$ is the percentile of fundamental variable j of security i through all securities in selection list.

The Payout Ratio Smart Factor score is calculated as follows:

$$adj \text{ Payout Ratio} = \begin{cases} \frac{1}{\text{Payout Ratio}}, & \text{if Payout Ratio} \neq 0 \\ \text{Payout Ratio}, & \text{otherwise} \end{cases}$$

$$Percentile_{ij} = \frac{\widehat{k}_{ij}}{n} * 100,$$

\widehat{k}_{ij} is the rank of adjusted Payout Ratio j of security i through all securities in selection list sorted by ascending order.

2.2.2 Aggregate Smart Factor Calculation

Once each individual Smart Factor score is calculated, these individual scores are aggregated into a composite score used for determining Adjusted Market Value.

$$Percentile_i^{t_0} = \frac{1}{7} \sum_{j=1}^7 Percentile_{ij}^{t_0},$$

where,

$Percentile_i^{t_0}$ is the equal-weighted overall percentile for i th index security at Rebalancing/Reconstitution effective date t_0 .

$Percentile_{ij}^{t_0}$ is the ranking percentile of the j th fundamental variables of i th index security at Rebalancing/Reconstitution time t_0 .

The aggregate Smart Factor adjustment which is applied to market cap to derive Adjusted Market Value is as follows:

$$Smart\ Factor_i^{t_0} = \begin{cases} 0.2, & \text{if } Percentile_i^{t_0} \leq 0.04 \\ 0.4, & \text{if } 0.04 < Percentile_i^{t_0} \leq 0.11 \\ 0.6, & \text{if } 0.11 < Percentile_i^{t_0} \leq 0.23 \\ 0.8, & \text{if } 0.23 < Percentile_i^{t_0} \leq 0.40 \\ 1.0, & \text{if } 0.40 < Percentile_i^{t_0} \leq 0.60 \\ 1.2, & \text{if } 0.60 < Percentile_i^{t_0} \leq 0.77 \\ 1.4, & \text{if } 0.77 < Percentile_i^{t_0} \leq 0.89 \\ 1.6, & \text{if } 0.89 < Percentile_i^{t_0} \leq 0.96 \\ 1.8, & \text{if } 0.96 < Percentile_i^{t_0} \leq 100 \end{cases}$$

Computation of each individual Smart Factor based fundamental variable and the aggregate Smart Factor adjustment also depends on the availability of fundamental variables as found in Appendix III.

2.3 Weighting Method

For a given Rebalancing/Reconstitution with effective date t_0 , all securities eligible for participation in that event are weighted by the product of their Market Capitalization Weight and the aggregate Smart Factor score according to the following methodology:

$$Adjusted\ Market\ Cap_i^t = Smart\ Factor_i^{t_0} * Price_i^t * Shares_i^t$$

$$Adjusted\ Market\ Value_t = \sum_{i=1}^{150} Adjusted\ Market\ Cap_i^t$$

$$Security\ Weight_i^t = \frac{Adjusted\ Market\ Cap_i^t}{Adjusted\ Market\ Value_t}$$

where,

t is index computed time.

t_0 is the last reconstitution/rebalancing time before t .

i is individual security being a constituent of the index.

$Price_i^t$ is stock price of company i at time t .

$Shares_i^t$ is number of shares of company i at time t .

$Smart\ Factor_i^{t_0}$ is aggregate Smart Factor score of company i at evaluation time t_0 .

$Adjusted\ Market\ Cap_i^t$ is adjusted market capitalization of company i at time t .

$Adjusted\ Market\ Value_t$ is total adjusted market capitalization of all index constituents.

$Security\ Weight_i^t$ is weight of company i at time t .

2.4 Index Calculation

An index divisor is used and adjusted to maintain the continuity of the index's value that would otherwise be distorted due to corporate actions. At any point in time (specific day), the index value is equal to the quotient of the Adjusted Market Value and its divisor. Adjusted Market Value is obtained by multiplying the aggregate Smart Factor score value with shares outstanding and last traded price for each individual constituent.

$$\begin{aligned} Index_t &= \frac{\sum_{i=1}^{150} Smart\ Factor_i^{t_0} Price_i^t * Shares_i^t}{Divisor_t} \\ &= \frac{Adjusted\ Market\ Value_t}{Divisor_t} \end{aligned}$$

Here, $Divisor_t$ is the divisor of the index at time t .

3 Index Maintenance

3.1 Rebalancing

The index is rebalanced on quarterly basis, which is scheduled for the last business day in July, October, January for each respective quarter after market close. The aggregate Smart Factor score for each index constituent is recalculated incorporating the latest quarterly data which results in modified weightings for index calculation use in the subsequent quarter. This approach aims to capture timely updates to Smart Factor characteristics of the companies and reflect these in how constituents are weighted in the index.

3.2 Reconstitution

The index is reconstituted annually, which is scheduled for the last business day of April after market close. The new constituents are announced on Third Friday of April. The Selection List will be updated according to the latest data before Third Friday of April, with updated Smart Factors and adjusted Market Capitalization figures for each constituent of the Selection List. Reconstitutions are subject to a Buffer Rule 3.2.1 which reduces volatility in constituent turnover due. The reconstituted index becomes effective after the U.S markets close on the last business day of April every year.

3.2.1 Buffer Rule

Buffers are used in the annual review to reduce security turnover. Within the Commodity Leaders 150 Index, securities with a top 120 Adjusted Market Value will be selected for the index. Securities ranking 121 to 150 are filled from the Selection List by the highest-ranked.

3.3 Corporate Events Treatment

3.3.1 Divisor Adjustment

The divisor is adjusted to maintain the continuity of the index's value across changes occurring from corporate actions and is adjusted daily after the market closes. Appendix IV describes the treatment of the most common corporate events in the cmdtyIndexes equity index family. The adjustment to the divisor is made in such a way that the index value at any given time prior to a change in base capital equals the index value at any given time immediately following that change.

$$\begin{aligned} \text{Changed Market Value}_t &= \text{Adjusted Market Value}_t \\ &\quad - \text{Adjusted Market Value}_{t-1} \\ \text{Divisor}_t &= \text{Divisor}_{t-1} + \frac{\text{Changed Market Value}_t}{\text{Index Level}} \end{aligned}$$

s.t.

$$\begin{aligned} \text{Index Level} &= \frac{\text{Adjusted Market Value}_{t-1}}{\text{Divisor}_{t-1}} \\ \text{Index Level} &= \frac{\text{Adjusted Market Value}_t}{\text{Divisor}_t} \end{aligned}$$

3.3.2 Security Deletion for Corporate Events

If a constituent security is deleted from the index due to a corporate event such as a Merger, Takeover, Sector Change, Bankruptcy, or Delisting, changes to the index will be announced in a timely manner with implementation and effectiveness of the change to follow within three business days. Once a constituent security has been effectively removed from the index, the highest ranking member of the Security List will be added to the index.

3.4 Index Dissemination

cmdtyIndexes values are calculated during the U.S. market trading day and are disseminated in real-time as events such as trades occur.

Appendices

I Industry Sector

Manufacturing	Manufacturing	Agriculture, Forestry, Fishing and Mining	Transportation, Communications, Electric, Gas and Sanitary service	Wholesale and Retail Trade
2000	2870	0100	4011	5051
2011	2890	0200	4013	5082
2013	2891	0700	4213	5084
2015	2911	0800	4412	5160
2020	2990	0900	4610	5171
2024	3241	1000	4731	5945
2030	3270	1040	4911	6795
2033	3272	1090	4922	
2040	3290	1220	4923	
2050	3310	1221	4924	
2052	3312	1311	4931	
2060	3317	1381	4932	
2070	3320	1382	4991	
2090	3330	1389		
2092	3334	1400		
2100	3350	1600		
2111	3411	1623		
2400	3412	1700		
2421	3490			
2430	3523			
2611	3524			
2621	3530			
2631	3531			
2650	3532			
2800	3533			

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Manufacturing	Manufacturing	Agriculture, Forestry, Fishing and Mining	Transportation, Communica- tions, Electric, Gas and Sanitary service	Wholesale and Retail Trade
2810	3537			
2820	3540			
2821	3743			
2851	3823			
2860				

II Fundamental Variables Calculation

Fundamental Variable	Calculation Details
Insider ownership	Insider ownership is percentage of stock owned or controlled by insider shareholders
Continuous Dividend Payouts Years (CDY)	Continuous Dividend Payouts Years represents the number of years an eligible security has paid dividends continuously with a maximum value of 30 years
Dividend Growth Rate (DGR)	<p>Dividend Growth Rate is calculated using total dividends paid per share (DPS) in the most recent 4 continuous quarters and total DPS in the earliest available continuous 4 quarters within 20 quarters prior to date of calculation:</p> $DGR = \frac{1}{\text{DiffYears}} \ln \frac{\text{Dividends}_{last}}{\text{Dividends}_{pre}}$
Payout Ratio (PR)	<p>Payout Ratio is calculated using total dividends paid per share in the most recent 4 continuous quarters and total earnings per share in most recent 4 continuous quarters:</p> $PR = \frac{\text{Dividends}_{last}}{\text{Earnings}_{last}}$
Revenue Growth Rate (RGR)	<p>Revenue Growth Rate is calculated using total sales in the most recent 4 continuous quarters and total sales in the earliest available continuous 4 quarters within 20 quarters prior to date of calculation:</p> $RGR = \frac{1}{\text{DiffYears}} \ln \frac{\text{Sales}_{last}}{\text{Sales}_{pre}}$

Fundamental Variable	Calculation Details
Operating Margin (OM)	<p>Operating Margin is calculated using total operating income in the most recent 4 continuous quarters and total sales in most recent 4 continuous quarters:</p> $OM = \frac{\text{Operating Income}_{last}}{\text{Sales}_{last}}$
Operating Margin Improvement (OMI)	<p>Operating Margin Improvement is calculated using Operating Margin (OM) in the most recent 4 continuous quarters and Operating Margin (OM) in the earliest available continuous 4 quarters within 20 quarters prior to date of calculation:</p> $OMI = \frac{OM_{last} - OM_{pre}}{2}$

III Aggregate Smart Factor Computation

Computation of each Smart Factor is dependent on the availability of fundamental variables as described below:

Case	Description	Treatment
Case 1	One variable is missing, but other six variables are available	The aggregate Smart Factor is calculated using the average percentiles of the six other available variables
Case 2	Two variables or more than two variables are missing	The Smart Factor is not calculated and the security will not be included in the index. It will remain in the Selection List as a reference security with regards to the calculation of other security Smart Factors adjustments

IV Corporate Events Treatment

Corporate Actions	Description	Divisor Adjustment
Dividend	Corporations pay shareholders a portion from their earnings, decided by the board of directors. Dividends can be as cash dividends, as stock dividends, or other property	Yes
Special Dividend	Different from regular dividends, special dividends are a non-recurring distribution of company assets, usually in cash, to shareholders. A special dividend is typically larger than a regular dividend	Yes
Stock Split and Reverse Split	A Stock split is when a company divides its existing shares into multiple shares. Even though the total shares outstanding increases by a specific multiple, the total dollar value of remains the same compared to pre-split amounts. A reverse stock split is the opposite of a conventional (forward) stock split. A company reduces the total number of its outstanding shares and no real value is added to the company.	No
Stock Dividend	Corporate earnings are distributed as dividends in either cash or stock. A stock dividend is paying in the form of additional shares rather than a cash payout	No
Company Delisting	Delisting is the process by which a company's security is removed from a stock exchange and investors can no longer trade shares of that company.	Yes

Corporate Actions	Description	Divisor Adjustment
Mergers	A merger is a legal consolidation to unite two existing companies into one new company	Yes
Acquisitions	An acquisition is a corporate action in which one company takes ownership of another company to assume control of it. An acquisition occurs when a buying company takes over more than 50% ownership in a target company.	Yes
Spin-Off	A spin-off is when a company makes a sale or distribution of new shares of its existing business or division and a new independent unit is formed.	Yes
Rights Issue	A rights offering (issue) is an issue of rights by a company to its existing shareholders to entitle them to buy additional shares directly from the company in proportion to their existing holdings, at a special price within a fixed time period.	Yes

About cmdty

cmdty delivers the data, solutions, and insights that commodity professionals need to drive their business. Our offerings are built for the most demanding of users - and are designed to be Smart, Transparent, and easily integrated into any client solution.

Contact Information

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