

**S&P Commodities Indices
Policies & Practices
*Methodology***

January 2020

Table of Contents

Introduction	2
Index Policy	3
Announcements	3
Calculations and Pricing Disruptions	3
Market Disruption Events & Holidays During Roll Period	4
Negative Values of Inverse & Leveraged Indices	4
Expert Judgment	4
Data Hierarchy	4
Contact Information	4
Exchange Price Delays & Late Announcement of WM Rates	5
Exchange Settlement Prices Delay	5
Late Announcement of WM Rates	5
Recalculation Policy	6
Recalculation Policy for S&P Dow Jones Indices' Commodities Indices	6
Unexpected Exchange Closures	7
Full Day Exchange Closure	7
Partial Day or Early Exchange Closure	7
Rebalancing	7
Index Terminations	8
Index Governance	9
Index Committee	9
Quality Assurance	9
Internal Reviews of Methodology	9
Expert Judgment	10
Discretion	10
Disclaimer	11

Introduction

The purpose of this document is to provide clients with more transparency into our commodities indices by documenting level policies and practices.

Index Policy

Announcements

S&P Dow Jones Indices notifies clients either via email or, in certain instances, via Index Announcements, which are also posted on our Web site, www.spdji.com.

Announcement Type	Notification	Frequency
Annual Weights	First week of November	Annual
New option months and option strikes for the S&P GSCI Covered Call Select Index and the S&P GSCI Crude Oil Covered Call Index	One day (data required from day prior to the roll period)	Monthly (as applicable)
Policy or methodology change	At least two weeks' notice	As needed
Product Enhancements	Five-to-seven business days	As needed
Rebalancing and Index Holiday Calendars	December for the following year	Annual (updated as needed)

Calculations and Pricing Disruptions

End-of Day-Calculations (EOD)

S&P DJI leverages exchange provided settlement prices for official end-of-day index calculations. These prices are validated by index analysts prior to distribution of official index levels and files. S&P DJI performs secondary checks to determine if an exchange modifies its official settlement price. In situations when there is an amended settlement price, S&P Dow Jones Indices recalculates and reposts all affected files. **Please refer to the Error Correction Policy section of this document.**

If an exchange opens for trading but experiences a failure or interruption of real-time prices for one or more commodity contracts, the most recent trade price (or previous settlement if the commodity did not begin trading) is used for real time calculations for the affected commodity. If the interruption is not resolved before the market close and the relevant exchange publishes a list of official settlement prices, those prices are used to calculate the closing value of the indices. If settlement prices are not available, the market disruption rules outlined in the index methodology are applied.

In extreme circumstances, S&P Dow Jones Indices may decide to delay index adjustments or not publish an index.

Real-time Index Calculation

For certain indices, S&P DJI calculates intraday index calculations using real-time exchange traded prices. S&P DJI does not calculate with each traded price, but rather, calculates on a pre-determined fixed interval (e.g. every 5 seconds). At each fixed interval, the index is computed with the latest real-time pricing for each underlying security included in the index. If a new price is not available since the last real-time calculation, the calculation will leverage the last available traded price provided by the exchange. In the absence of a real-time traded price for a given security, the calculation will leverage the prior days' settlement price.

S&P DJI also maintains price thresholds for real-time securities and indices to prevent unusually large price movements to adversely impact index calculations.

- **Security Level:** In the event a security price breaches a threshold, the system will generate alerts and temporarily hold the last price prior to the breach. For index calculations, a held security will continue to be included in the calculation, but the calculation will use the last accepted price prior to the breach. Once the held price is confirmed or falls back within the acceptable tolerance, the latest real-time price for this security will be used for index calculations.
- **Index Level:** In the event an index calculation breaches a threshold, the system will generate alerts and temporarily hold the last index value prior to the breach. While the index is held, the

last held index value will be distributed as defined by the set dissemination frequency. Once the held index value is confirmed or falls back within the acceptable tolerance, index calculations will resume with the latest market data.

S&P Dow Jones Indices seeks to minimize any disruptions to its index calculations. In the event there is a disruption in intraday calculations, S&P Dow Jones Indices will not recalculate the impacted period.

Market Disruption Events & Holidays During Roll Period

On any commodity index business day, the occurrence of either of the following circumstances will result in an adjustment of the designated roll weights during the designated roll period according to the procedure set forth in this section:

- An exchange holiday occurs during a designated commodity index business day.
- The applicable daily contract reference price of any such contract expiration within the index on such commodity index business day is a limit price.

If either of the above events occur, the portion of the roll that would otherwise have taken place on that commodity index business day will take place on the next designated commodity index business day whereby none of the circumstances identified take place.

Negative Values of Inverse & Leveraged Indices

Under extreme market conditions the calculation of certain indices may result in index levels below zero. If this occurs, the index committee may set the close index level to be zero, decide not to calculate the index the following business day and rebase the index to its original base value. An email announcement will be sent to clients after the market close on the day the closing index level is set to zero. Real time indices may continue to calculate until the market close.

Expert Judgment

Expert Judgment specifically and exclusively refers to S&P Dow Jones Indices' exercise of discretion with respect to its use of data in determining an index. Examples of Expert Judgment include weighting adjustments and price anomaly resolutions. Other areas of discretion, such as methodology changes, are not, for the purposes of this document, considered Expert Judgment.

Data Hierarchy

Data used for the indices governed by this methodology may only include completed transaction data.

Contact Information

For questions regarding an index, please contact: index_services@spglobal.com.

Exchange Price Delays & Late Announcement of WM Rates

Exchange Settlement Prices Delay

In instances where futures exchanges or vendors do not publish settlement prices at the usual time there will be a delay in posting our end-of-day files and clients will be notified.

Late Announcement of WM Rates

If we receive a correction or late update to WM rates, then our policy is as follows:

- If we receive an update in WM rates prior to 4:15 PM US Eastern time, we use the corrected/updated rates, recalculate and repost files. If an update to rates comes through after 4:15 PM US Eastern, then we do not use the updated rates.
- We use the same rate across all asset classes (equity indices, commodities indices, fixed income indices, any other asset class covered by S&P Dow Jones Indices).

Recalculation Policy

Recalculation Policy for S&P Dow Jones Indices' Commodities Indices

This section addresses our reposting guidelines due to late announcements or other errors.

Types of Errors:

1. Settlement prices are amended
2. Missed index methodology event (deviation from what is stated in the methodology document)

Type of Error	Treatment in S&P Dow Jones Indices' Commodities Indices
Amended Settlement Price	If amended settlement prices due to vendor errors or exchange updates are discovered within two trading days of its occurrence, the Index Manager may, at their discretion, recalculate the index without involving the Index Committee. In the event any such recalculation event is discovered beyond such two trading day period, the applicable Index Committee shall decide whether the index should be recalculated.
Deviation from treatment stated in the Index Methodology	Errors identified prior to the next day open are corrected and the indices are reposted. Other errors are reviewed by the Index Committee, which is responsible for determining what actions should be taken.

- Errors due to S&P Dow Jones Indices' mistakes (data entry, methodology misapplication, etc.) are reviewed by the Index Committee. The decision as to whether indices should be recalculated and reposted is the responsibility of the Committee.
- Clients are notified of files being reposted.
- Clients are informed when the Index Committee decides not to recalculate or restate an index.

Unexpected Exchange Closures

Full Day Exchange Closure

If an exchange fails to open due to unforeseen circumstances, such as natural disasters, inclement weather, outages, or other events, the index uses the prior day's settlement prices.

Partial Day or Early Exchange Closure

In situations where an exchange is forced to close early due to unforeseen events, such as computer or electric power failures, weather conditions or other events, S&P Dow Jones Indices calculates the settlement price of the indices based on (1) the settlement prices published by the exchange, or (2) if no settlement price is available, the Index Committee determines the course of action and notifies clients accordingly.

Rebalancing

Rebalancing of S&P Dow Jones Indices' Commodities Indices takes place over a period of time. If an exchange is fully or partially closed on one or more days during this rebalancing period and we are unable to obtain official settlement prices, the Index Committee will review the situation on a case-by-case basis and the appropriate treatment will be announced to clients.

The index committee may change the date of a given rebalancing for reasons including market holidays occurring on or around the scheduled rebalancing date. Any such change will be announced with proper advance notice where possible.

Index Terminations

S&P DJI may determine that an index should be discontinued. Reasons for an index termination could include:

- An index duplicates another S&P DJI index
- Data required for an index is no longer available or no longer reliable
- Market conditions, regulations, or potential index constituents have changed, rendering the index unlikely to achieve its stated objective
- Declining investor use or interest

All proposals to discontinue an index are assessed to determine any potential impact on the market. S&P DJI may, at its discretion, consult with market participants regarding an index termination.

If the data on a discontinued index is provided to clients at the time of termination, S&P DJI may suggest possible appropriate alternative S&P DJI indices. Index terminations will be announced in advance, and vendors will be notified. Index levels and related data on a discontinued index are retained by S&P DJI.

If financial product issuers or investment managers choose to use an S&P DJI index, regardless of index family, as the basis of an index-linked financial product or an investment fund, they should consider the potential need to terminate or modify the terms of a financial product resulting from the termination of the calculation of the index.

Index Governance

Index Committee

Indices are maintained by an Index Committee. Most committees are comprised of full-time professional members of S&P Dow Jones Indices' staff, with the exception of some co-branded indices, which may include committee members from external companies or exchanges. Please refer to individual index methodology documents for information on index committees with external index committee members. At each meeting, the Index Committee may review pending corporate actions that may affect index constituents, statistics comparing the composition of the indices to the market, companies that are being considered as candidates for addition to an index, and any significant market events. In addition, the Index Committee may revise index policy covering rules for selecting companies, treatment of dividends, share counts, or other matters.

Questions of interpretation or possible exceptions to rules are considered by the Index Committee responsible for the indices in question.

S&P Dow Jones Indices considers information about changes to its indices and related matters to be potentially market moving and material. Therefore, all Index Committee discussions are confidential.

S&P Dow Jones Indices' Index Committees reserve the right to make exceptions in the treatment if the need arises. In any scenario where the treatment differs from the general rules stated in this document, clients will receive sufficient notice, whenever possible.

Quality Assurance

S&P Dow Jones Indices maintains quality assurance processes and procedures for the calculation and maintenance of its indices that include a regularly scheduled meeting to review incidents or errors, if any, that occurred during the previous week and identify causes, determine repetitive issues and evaluate whether any long term changes are necessary (e.g. a change in process). Incidents and errors are tracked through S&P Dow Jones Indices' internal system and significant matters are escalated, requiring, at times, an ad hoc meeting of the same group.

Internal Reviews of Methodology

Annual Review Process. In addition to its daily governance of indices and maintenance of index methodologies, at least once within any 12-month period, the Index Committee reviews each index methodology to ensure the indices continue to achieve the stated objectives, and that the data and methodology remain effective. The annual review process includes the gathering of information on the appropriateness, representativeness, and effectiveness of the index methodology from colleagues responsible for commercializing the indices. In the case that an index methodology is reviewed off cycle from the annual review, the Index Committee reserves the right to cancel the annual review if the requested review covers all the relevant issues.

Communication with Stakeholders and Consultations. S&P Dow Jones Indices communicates and consults with stakeholders through various channels using press releases, index announcements, emails and the distribution of data files. In addition, S&P Dow Jones Indices has a designated client service team available to respond to inquiries.

When a material change to an index methodology is considered, S&P Dow Jones Indices publishes a consultation inviting comments from external parties. A material change alters the index objective or changes the methodology in a way that affects the likelihood that the index will achieve its objective. Examples of methodology changes that could impact the index objective include altering rules determining the index universe, the selection of its constituents, or the weighting of its constituents. Consultations are posted on the Web site at www.spdji.com, and feedback is accepted only during the posted timeframe. Under normal circumstances, the consultation period is open for a minimum of 30 days

from publication. In instances where a material change is deemed to be time sensitive, S&P Dow Jones Indices may determine that a shorter consultation period is required. Time sensitive changes are those that may require consideration or implementation within a shorter timeframe, and where the full consultation time period is not possible. Prior to the Index Committee's final review, S&P Dow Jones Indices will consider the issues and may request clarifications from respondents as part of that review. All feedback from consultations is reviewed and considered before a final decision is made by the Index Committee. Any changes to an index methodology are announced on the Web site.

Occasionally, S&P Dow Jones Indices may hold face-to-face meetings, conference calls, or hold meetings such as Advisory Panels.

Complaints Procedure. For any inquiry, comment, or complaint regarding the indices governed by this methodology, a Client Services Form can be found at <http://us.spindices.com/feedback/client-services>.

Expert Judgment

S&P Dow Jones Indices' Index Committees may exercise Expert Judgment when the situation calls for the interpretation of data in calculating and maintaining an S&P Dow Jones Indices' Index. S&P Dow Jones Indices maintains internal records of the use of Expert Judgment and the rationale for any such use. Expert Judgment specifically and exclusively refers to S&P Dow Jones Indices' exercise of discretion with respect to its use of data in determining an index in the following context: Expert Judgment includes extrapolating data from prior or related transactions, adjusting data for factors that might influence the quality of data such as market events or impairment of a buyer or seller's credit quality, or weighing firm bids or offers greater than a particular concluded transaction. Other areas of discretion, such as methodology changes, are not, for the purposes of this document, considered Expert Judgment.

Discretion

S&P Dow Jones Indices' Index Committees may apply discretion to make decisions that differ from the index methodology in certain circumstances, including to avoid unnecessary turnover, excessive index changes or adjustments, or possible market disruption.

Disclaimer

Copyright © 2020 S&P Dow Jones Indices LLC. All rights reserved. STANDARD & POOR'S, S&P, S&P 500, S&P 500 LOW VOLATILITY INDEX, S&P 100, S&P COMPOSITE 1500, S&P MIDCAP 400, S&P SMALLCAP 600, S&P GIVI, GLOBAL TITANS, DIVIDEND ARISTOCRATS, S&P TARGET DATE INDICES, GICS, SPIVA, SPDR and INDEXOLOGY are registered trademarks of Standard & Poor's Financial Services LLC ("S&P"). DOW JONES, DJ, DJIA and DOW JONES INDUSTRIAL AVERAGE are registered trademarks of Dow Jones Trademark Holdings LLC ("Dow Jones"). These trademarks together with others have been licensed to S&P Dow Jones Indices LLC. Redistribution or reproduction in whole or in part are prohibited without written permission of S&P Dow Jones Indices LLC. This document does not constitute an offer of services in jurisdictions where S&P Dow Jones Indices LLC, S&P, Dow Jones or their respective affiliates (collectively "S&P Dow Jones Indices") do not have the necessary licenses. Except for certain custom index calculation services, all information provided by S&P Dow Jones Indices is impersonal and not tailored to the needs of any person, entity or group of persons. S&P Dow Jones Indices receives compensation in connection with licensing its indices to third parties and providing custom calculation services. Past performance of an index is not an indication or guarantee of future results.

It is not possible to invest directly in an index. Exposure to an asset class represented by an index may be available through investable instruments based on that index. S&P Dow Jones Indices does not sponsor, endorse, sell, promote or manage any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index. S&P Dow Jones Indices makes no assurance that investment products based on the index will accurately track index performance or provide positive investment returns. S&P Dow Jones Indices LLC is not an investment advisor, and S&P Dow Jones Indices makes no representation regarding the advisability of investing in any such investment fund or other investment vehicle. A decision to invest in any such investment fund or other investment vehicle should not be made in reliance on any of the statements set forth in this document. Prospective investors are advised to make an investment in any such fund or other vehicle only after carefully considering the risks associated with investing in such funds, as detailed in an offering memorandum or similar document that is prepared by or on behalf of the issuer of the investment fund or other investment product or vehicle. S&P Dow Jones Indices LLC is not a tax advisor. A tax advisor should be consulted to evaluate the impact of any tax-exempt securities on portfolios and the tax consequences of making any particular investment decision. Inclusion of a security within an index is not a recommendation by S&P Dow Jones Indices to buy, sell, or hold such security, nor is it considered to be investment advice.

These materials have been prepared solely for informational purposes based upon information generally available to the public and from sources believed to be reliable. No content contained in these materials (including index data, ratings, credit-related analyses and data, research, valuations, model, software or other application or output therefrom) or any part thereof ("Content") may be modified, reverse-engineered, reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of S&P Dow Jones Indices. The Content shall not be used for any unlawful or unauthorized purposes. S&P Dow Jones Indices and its third-party data providers and licensors (collectively "S&P Dow Jones Indices Parties") do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Dow Jones Indices Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. THE CONTENT IS PROVIDED ON AN "AS IS" BASIS. S&P DOW JONES INDICES PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Dow Jones Indices Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of the Content even if advised of the possibility of such damages.

S&P Global keeps certain activities of its various divisions and business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain divisions and business units of S&P Global may have information that is not available to other business units. S&P Global has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

In addition, S&P Dow Jones Indices provides a wide range of services to, or relating to, many organizations, including issuers of securities, investment advisers, broker-dealers, investment banks, other financial institutions and financial intermediaries, and accordingly may receive fees or other economic benefits from those organizations, including organizations whose securities or services they may recommend, rate, include in model portfolios, evaluate or otherwise address.