

**S&P Global REIT QVM  
Multi-Factor Index  
*Methodology***

June 2021

# Table of Contents

Introduction	3
<b>Index Objective and Highlights</b>	<b>3</b>
<b>Supporting Documents</b>	<b>3</b>
Eligibility Criteria	4
<b>Index Universe</b>	<b>4</b>
<b>Index Eligibility</b>	<b>4</b>
<b>Multiple Share Classes</b>	<b>4</b>
Index Construction	5
<b>Constituent Selection</b>	<b>5</b>
<b>Buffer Rule</b>	<b>5</b>
<b>Constituent Weightings</b>	<b>5</b>
<b>Index Calculations</b>	<b>5</b>
Index Maintenance	6
<b>Rebalancing</b>	<b>6</b>
<b>Additions and Deletions</b>	<b>6</b>
<b>Corporate Actions</b>	<b>6</b>
<b>Currency of Calculation and Additional Index Return Series</b>	<b>6</b>
<b>Other Adjustments</b>	<b>6</b>
<b>Base Date and History Availability</b>	<b>7</b>
Index Data	8
<b>Calculation Return Types</b>	<b>8</b>
Index Governance	9
<b>Index Committee</b>	<b>9</b>
Index Policy	10
<b>Announcements</b>	<b>10</b>
<b>Pro-forma Files</b>	<b>10</b>
<b>Holiday Schedule</b>	<b>10</b>
<b>Rebalancing</b>	<b>10</b>
<b>Unexpected Exchange Closures</b>	<b>10</b>
<b>Recalculation Policy</b>	<b>10</b>
<b>Contact Information</b>	<b>10</b>

Index Dissemination	11
<b>Tickers</b>	<b>11</b>
<b>Index Data</b>	<b>11</b>
<b>Website</b>	<b>11</b>
Appendix A	12
<b>Fundamental Ratios Calculation</b>	<b>12</b>
Appendix B	13
<b>Percentile-score and Z-score Computation</b>	<b>13</b>
Disclaimer	14

# Introduction

## Index Objective and Highlights

The S&P Global REIT QVM Multi-Factor Index measures the performance of real estate investment trusts (REITs) with relatively high combined quality, value, and risk-adjusted momentum multi-factor scores within the S&P Global REIT (the “Index Universe”). The index is divided into two groups, U.S. companies and non-U.S. companies, with the target count of the U.S. group set to 60% of the total index and the non-U.S. group’s set to 40%. Constituents are equal-weighted.

*For information on the S&P Global REIT, including eligibility criteria and maintenance procedures, please refer to the S&P Property Indices methodology available at [www.spdji.com](http://www.spdji.com).*

## Supporting Documents

This methodology is meant to be read in conjunction with supporting documents providing greater detail with respect to the policies, procedures and calculations described herein. References throughout the methodology direct the reader to the relevant supporting document for further information on a specific topic. The list of the main supplemental documents for this methodology, and the hyperlinks to those documents, are as follows:

Supporting Document	URL
S&P Dow Jones Indices’ Equity Indices Policies & Practices Methodology	<a href="#">Equity Indices Policies &amp; Practices</a>
S&P Dow Jones Indices’ Index Mathematics Methodology	<a href="#">Index Mathematics Methodology</a>
S&P Dow Jones Indices’ Global Industry Classification Standard (GICS) Methodology	<a href="#">GICS Methodology</a>

This methodology was created by S&P Dow Jones Indices to achieve the aforementioned objective of measuring the underlying interest of each index governed by this methodology document. Any changes to or deviations from this methodology are made in the sole judgment and discretion of S&P Dow Jones Indices so that the index continues to achieve its objective.

# Eligibility Criteria

## Index Universe

The index universe consists of all constituents of the S&P Global REIT. The reference universe for the index is the composition of the index universe at the open of the upcoming rebalancing effective date.

## Index Eligibility

To qualify for index membership, as of the rebalancing reference date, a stock must:

1. Be a member of the index universe
2. Be able to calculate the following factor components:
  - Financial Leverage Ratio
  - Funds Flow from Operation (FFO) Growth Variability
  - FFO to Price Ratio
  - Last 12-month Risk Adjusted Price Momentum

## Multiple Share Classes

Each company is represented once by the Designated Listing. For more information regarding the treatment of multiple share classes, please refer to Approach B within the Multiple Share Classes section of the S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

# Index Construction

## Constituent Selection

The selection of index constituents is done as follows:

1. Quality, value, and momentum factor scores are computed for each of the stocks that satisfy the criteria as detailed in the *Eligibility Criteria*. The factors and their corresponding factor components are shown in the table below:

Factor	Factor Components <sup>1</sup>
Quality	(1) Financial Leverage Ratio (2) Funds Flow from Operation (FFO) Growth Variability
Value	(1) FFO to Price Ratio
Momentum	Last 12-month Risk Adjusted Price Momentum

2. For each Factor component, factor scores are calculated as described in *Appendix B*. For the quality score, a standardized z-score is first calculated for each of the two quality factor components separately. Then the final quality score is calculated based on the average of the standardized z-scores of the two quality factor components.
3. A multi-factor (QVM) z-score is calculated for each constituent by taking the average of the quality, value, and momentum z-scores.
4. A target component count is determined for U.S. and non-U.S. stock groups. The target counts of the U.S. and non-U.S. stock groups are 12% and 8%, respectively, of the total count of eligible stocks in the universe.
5. Stocks are selected to the U.S. and non-U.S. stock groups separately, by order of their QVM z-scores, subject to the buffer rule described below.
6. The U.S. and non-U.S. stock groups are combined to create the final index composition.

## Buffer Rule

A 20% buffer is applied to stocks already in the index, and is implemented as follows:

1. Stocks in the top 16% of the U.S. and non-U.S. company groups, based on QVM z-score rank, are automatically chosen for index inclusion.
2. Current constituents within the top 24% are chosen for index inclusion until the target count is reached.
3. If, at this point, the target counts have not been met, the remaining stocks are chosen based on the QVM z-score rank until the target counts are reached.

## Constituent Weightings

At each rebalancing, constituents are equal-weighted.

## Index Calculations

The index is calculated by means of the divisor methodology used in most S&P Dow Jones Indices' equity indices.

*For more information on the index calculation methodology please refer to the Equal Weighted Indices section of the S&P Dow Jones Indices' Index Mathematics Methodology.*

---

<sup>1</sup> Please see *Appendix A* for information about Fundamental Ratios Calculation.

# Index Maintenance

## Rebalancing

The rebalancing schedule is:

Rebalancing Schedule	
Rebalancing Frequency	Quarterly
Rebalancing Date	After the close on the third Friday of March, June, September, and December
Fundamental Data Reference Date	Five weeks prior to the rebalancing date
Reference Date	The last business day of February, May, August, and November
Weights Reference Date	Closing prices as of the Wednesday prior to the second Friday of March, June, September, and December

## Additions and Deletions

**Additions.** Except for spin-offs (see *Corporate Actions* below), no additions are made to the index between rebalancing.

**Deletions.** Index constituents removed from the index universe are removed from the index simultaneously.

## Corporate Actions

**Spin-Offs.** Spin-offs are ineligible to remain in the index. Spin-offs are added to the index at a zero price at the market close of the day before the ex-date and removed after at least one day of regular way trading. The weight of the spin-off is re-invested back into the parent stock on the deletion date.

*For more information on Corporate Actions, including the Treatment of Spin-offs, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.*

## Currency of Calculation and Additional Index Return Series

The index calculates in U.S. dollars.

In addition to the indices detailed in this methodology, additional return series versions of the indices may be available, including, but not limited to: currency, currency hedged, decrement, fair value, inverse, leveraged, and risk control versions. For a list of available indices, please refer to the [S&P DJI Methodology & Regulatory Status Database](#).

*For information on the calculation of different types of indices, please refer to S&P Dow Jones Indices' Index Mathematics Methodology.*

*For the inputs necessary to calculate certain types of indices, including decrement, dynamic hedged, fair value, and risk control indices, please refer to the Parameters documents available at [www.spdji.com](http://www.spdji.com).*

## Other Adjustments

In cases where there is no achievable market price for a stock being deleted, it can be removed at a zero or minimal price at the Index Committee's discretion, in recognition of the constraints faced by investors in trading bankrupt or suspended stocks.

### Base Date and History Availability

Index history availability, base date, and base value are shown in the table below.

Index	Launch Date	First Value Date	Base Date	Base Value
S&P Global REIT QVM Multi-Factor Index	05/21/2020	06/18/1999	06/18/1999	100



# Index Data

## Calculation Return Types

S&P Dow Jones Indices calculates multiple return types which vary based on the treatment of regular cash dividends. The classification of regular cash dividends is determined by S&P Dow Jones Indices.

- Price Return (PR) versions are calculated without adjustments for regular cash dividends.
- Gross Total Return (TR) versions reinvest regular cash dividends at the close on the ex-date without consideration for withholding taxes.
- Net Total Return (NTR) versions, if available, reinvest regular cash dividends at the close on the ex-date after the deduction of applicable withholding taxes.

In the event there are no regular cash dividends on the ex-date, the daily performance of all three indices will be identical.

For a complete list of indices available, please refer to the daily index levels file (".SDL").

*For more information on the classification of regular versus special cash dividends as well as the tax rates used in the calculation of net return, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.*

*For more information on the calculation of return types, please refer to S&P Dow Jones Indices' Index Mathematics Methodology.*

# Index Governance

## Index Committee

An S&P Dow Jones Indices' Index Committee maintains the index. The Index Committee meets regularly. All committee members are full-time professional members of S&P Dow Jones Indices' staff. 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.

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 when applying the methodology if the need arises. In any scenario where the treatment differs from the general rules stated in this document or supplemental documents, clients will receive sufficient notice, whenever possible.

In addition to the daily governance of indices and maintenance of index methodologies, at least once within any 12-month period, the Index Committee reviews the methodology to ensure the indices continue to achieve the stated objectives, and that the data and methodology remain effective. In certain instances, S&P Dow Jones Indices may publish a consultation inviting comments from external parties.

*For information on Quality Assurance and Internal Reviews of the methodology, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.*

# Index Policy

## Announcements

All index constituents are evaluated daily for data needed to calculate index levels and returns. All events affecting the daily index calculation are typically announced in advance via the Index Corporate Events report (.SDE), delivered daily to all clients. Any unusual treatment of a corporate action or short notice of an event may be communicated via email to clients.

*For more information, please refer to the Announcements section of S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.*

## Pro-forma Files

In addition to the corporate events file (.SDE), S&P Dow Jones Indices provides constituent pro-forma files each time the indices rebalance. The pro-forma file is typically provided daily in advance of the rebalancing date and contains all constituents and their corresponding weights and index shares effective for the upcoming rebalancing. Since index shares are assigned based on prices prior to the rebalancing, the actual weight of each stock at the rebalancing will differ from these weights due to market movements.

*Please visit [www.spdji.com](http://www.spdji.com) for a complete schedule of rebalancing timelines and pro-forma delivery times.*

## Holiday Schedule

The index is calculated on all days when at least one of the underlying exchanges is open.

*A complete holiday schedule for the year is available at [www.spdji.com](http://www.spdji.com).*

## Rebalancing

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.

## Unexpected Exchange Closures

For information on Unexpected Exchange Closures, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

## Recalculation Policy

For information on the recalculation policy, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

*For information on Calculations and Pricing Disruptions, Expert Judgment, and Data Hierarchy, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.*

## Contact Information

For questions regarding an index, please contact: [index\\_services@spglobal.com](mailto:index_services@spglobal.com).

# Index Dissemination

Index levels are available through S&P Dow Jones Indices' Web site at [www.spdji.com](http://www.spdji.com), major quote vendors (see codes below), numerous investment-oriented Web sites, and various print and electronic media.

## Tickers

The table below lists headline indices covered by this document. All versions of the below indices that may exist are also covered by this document. Please refer to the [S&P DJI Methodology & Regulatory Status Database](#) for a complete list of indices covered by this document.

Index	Return Type	Bloomberg
S&P Global REIT QVM Multi-Factor Index (USD)	Price Return	SREITSUP
	Total Return	SREITSUT
	Net Total Return	SREITSUN

## Index Data

Daily constituent and index level data are available via subscription.

*For product information, please contact S&P Dow Jones Indices, [www.spdji.com/contact-us](http://www.spdji.com/contact-us).*

## Website

*For further information, please refer to S&P Dow Jones Indices' Web site at [www.spdji.com](http://www.spdji.com).*

# Appendix A

## Fundamental Ratios Calculation

As of the rebalancing reference date, fundamental ratios were calculated for each security in the index universe. They are defined as follows.

- **Financial Leverage Ratio:** This is calculated as a company's latest total debt divided by its book value.

$$\text{Leverage} = \frac{\text{Total Debt}}{\text{BVPS} \times \text{Common Shares Outstanding}}$$

- **Funds-Flow-from-Operation (FFO) Growth Variability:**

This is calculated as the standard deviation of year-on-year FFO growth per share over the last five fiscal years. If five-year data is not available, then we use four-year data. If four-year data is not available, we use three-year data. A minimum of the last three comparable GGO growth values are needed to compute FFO growth variability.

$$\text{FFO Growth Variability} = \sqrt{\frac{\sum(\text{FFO}_{gi} - \text{FFO}_{gm})^2}{n - 1}}$$

Where

$$\text{FFO}_{gi} = (\text{FFO}_i - \text{FFO}_{i-1}) / \text{FFO}_{i-1}$$

$$\text{FFO}_{gm} = \text{mean}(\text{FFO}_{gi})$$

n = number of years of growth

- **Funds-Flow-from-Operation-to-Price Ratio (FFO2P):** This is calculated as a company's trailing 12-month funds flow from operation per share divided by its price.

$$\text{FFO2P} = \frac{\text{Funds Flow from Operation per Share}}{\text{Price}}$$

- **12-Month Risk-Adjusted Price Momentum:** The momentum value is computed as the 12-month price change, excluding the most recent month of the security in **local** currency. If 12 months of price history is not available, momentum value is calculated from nine months of price history. The effective rebalancing month is stated as month (*M*)

For more information on momentum calculation, please refer to the *S&P Momentum Indices Methodology*, available at [www.spdji.com](http://www.spdji.com).

# Appendix B

## Percentile-score and Z-score Computation

**Percentile-score Computation.** For each set of financial ratios, percentile-scores are calculated as follows:

$$P_i = \frac{R_i}{N + 1}$$

where:

$P_i$  = Constituent percentile score

$R_i$  = Constituent fractional rank

$N$  = Number of constituents

Note that higher ranking constituents ( ) are the constituents with stronger underlying z-scores, and are given higher percentile scores.

- **Financial Leverage Ratio.** If the underlying data point for a given stock's BVPS is negative, leading to a negative Leverage, its Leverage Value will be excluded from the Percentile-score Computation and the stock will be assigned a Leverage percentile score set equal to the lowest calculated Leverage percentile score in the eligible universe.

**Z-score Computation.** Each set of percentile scores are then transformed into a new set of Z-scores ( $Z'$ ) using the inverse of the normal cumulative distribution function with a mean of zero and a standard deviation of 1.

**Multi-factor z-score computation.** ( $Z'$ ) is calculated for each constituent by taking the average of the underlying quality, value, and momentum z-scores which have been derived from the percentile scores.

$$Z'_{iMF} = (Z'_{iQ} + Z'_{iV} + Z'_{iM})/3$$

where:

$Z'_{iMF}$  = Constituent multi-factor z-score

$Z'_{iQ}$  = Constituent quality Z-score

$Z'_{iV}$  = Constituent value Z-score

$Z'_{iM}$  = Constituent momentum Z-score

# Disclaimer

© 2021 S&P Dow Jones Indices. All rights reserved. S&P, S&P 500, S&P 500 LOW VOLATILITY INDEX, S&P 100, S&P COMPOSITE 1500, S&P 400, S&P MIDCAP 400, S&P 600, S&P SMALLCAP 600, S&P GIVI, GLOBAL TITANS, DIVIDEND ARISTOCRATS, S&P TARGET DATE INDICES, S&P PRISM, S&P STRIDE, GICS, SPIVA, SPDR and INDEXOLOGY are registered trademarks of S&P Global, Inc. (“S&P Global”) or its affiliates. DOW JONES, DJ, DJIA, THE DOW 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 Global, 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.