

# **S&P Real Assets Index Series** *Methodology*

December 2023

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# Introduction

## Index Objective and Highlights

The S&P Real Assets Index Series is a set of weighted return indices that measure the performance of real return strategies including component indices representing financial and commodities instruments. The component indices are weighted according to predetermined allocations.

Component indices included in the S&P Real Assets Index Series include those representing:

- Equity of global property, natural resources, infrastructure, and Timber & Forestry companies
- Commodity futures
- Corporate bonds of global property, natural resources, and infrastructure companies
- Developed sovereign inflation-linked bonds

## Index Family

The index series consists of the S&P Real Assets Index as well as indices based on different combinations of individual asset class component indices. For more information on the composition of the other indices making up the index series, please refer to the *Appendix*.

## 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, is 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' Fixed Income Policies & Practices Methodology	<a href="#">Fixed Income Policies &amp; Practices</a>
S&P Commodities Indices Policies & Practices Methodology	<a href="#">Commodities Policies &amp; Practices</a>
S&P Dow Jones Indices' Fixed Income Index Mathematics Methodology	<a href="#">Index Mathematics Methodology</a>

This methodology was created by S&P Dow Jones Indices and Brookfield Asset Management to achieve the 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 the Index Committee so that the index continues to achieve its objective.

# Eligibility Criteria

## Index Eligibility

The S&P Real Assets Index Series consists of indices composed of the following component indices:

Asset Class	Sub Asset Class	Component Index <sup>1</sup>
Equities	Global Property	Dow Jones Global Select Real Estate Securities Index
	Global Infrastructure	Dow Jones Brookfield Global Infrastructure Composite Index
	Global Natural Resources	S&P Global LargeMidCap Commodity and Resources Index
	Global Timber and Forestry	S&P Global Timber & Forestry Index
Commodities	Commodities Futures	Dow Jones Commodity Index
Fixed Income	Global Infrastructure Corporate Bonds	Dow Jones Brookfield Global Infrastructure Broad Market Corporate Bond Index <sup>2</sup>
	Global Property Corporate Bonds	Dow Jones Global Select Real Estate Securities Corporate Bond Index <sup>2</sup>
	Global Natural Resources Corporate Bonds	S&P Global LargeMidCap Commodity and Resources Corporate Bond Index <sup>2</sup>
	Global Inflation-Linked Bonds	S&P Global Developed Sovereign Inflation-Linked Bond (USD) Index

*For information on the eligibility criteria and index management rules of the component indices, please refer to each index's methodology document.*

<sup>1</sup> The following component index versions are used in the calculation of the S&P Real Assets Index Series:

- For total return indices, the component indices used in index calculation are all total return versions.
- For net total return indices, the component indices used in index calculation are as follows:
  - Equity component indices – net total return versions
  - Commodities and fixed income component indices – total return versions

<sup>2</sup> For the S&P Real Assets Investment Grade and High Yield Corporate Bond Indices, Investment Grade and High Yield sub-indices are used, respectively, as the component indices for index calculation. For further details on index composition, please refer to the *Appendix*.

# Index Construction

## Approaches

At each rebalancing, the indices are weighted according to predetermined allocations.

**S&P Real Assets Index.** Index composition and static weighting allocations are outlined in the table below.

Asset Class	Sub Asset Class	Component Index	Index Weight
Equity	Global Property	Dow Jones Global Select Real Estate Securities Index	20%
	Global Infrastructure	Dow Jones Brookfield Global Infrastructure Composite Index	20%
	Global Natural Resources	S&P Global LargeMidCap Commodity and Resources Index	7.5%
	Global Timber and Forestry	S&P Global Timber & Forestry Index	2.5%
<i>Total Equity</i>			<b>50%</b>
Commodities	Commodities Futures	Dow Jones Commodity Index	10%
Fixed Income	Global Property Corporate Bonds	Dow Jones Global Select Real Estate Securities Corporate Bond Index	5%
	Global Infrastructure Corporate Bonds	Dow Jones Brookfield Global Infrastructure Broad Market Corporate Bond Index	15%
	Global Natural Resources Corporate Bonds	S&P Global LargeMidCap Commodity and Resources Corporate Bond Index	15%
	Global Inflation-Linked Bonds	S&P Global Developed Sovereign Inflation-Linked Bond (USD) Index	5%
<i>Total Fixed Income</i>			<b>40%</b>
<b>Total Weight</b>			<b>100%</b>

**Other Indices in the Index Series.** Index composition and static weighting allocations for the other indices making up the S&P Real Assets Index Series are outlined in the *Appendix*.

## Index Calculations

The indices are calculated by means of the weighted return methodology used in some S&P Dow Jones Indices' indices.

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

# Index Maintenance

## Rebalancing

The indices rebalance semi-annually, effective after the close of trading on the last business day of April and October. The pro-forma weights are provided five business days in advance of the rebalancing date and contain the component indices and their corresponding weights effective for the upcoming rebalancing.

## Currency of Calculation and Additional Index Return Series

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 [S&P DJI's All Indices by Methodology Report](#).

*For information on various index calculations, 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.spglobal.com/spdji/](http://www.spglobal.com/spdji/).*

## Base Date and History Availability

Index history availability, base dates, and base values are shown in the table below.

Index	Launch Date	First Value Date	Base Date	Base Value
S&P Real Assets Index	12/31/2015	04/29/2005	04/29/2005	1000
S&P Real Assets Ex-DJCI Index	12/31/2015	04/29/2005	04/29/2005	1000
S&P Real Assets Equity Index	03/18/2016	04/29/2005	04/29/2005	1000
S&P U.S., Canada & Mexico Real Assets Equity Index	12/01/2020	06/30/2010	06/30/2010	1000
S&P Real Assets Bond Index	03/18/2016	04/29/2005	04/29/2005	1000
S&P Real Assets Corporate Bond Index	03/18/2016	04/29/2005	04/29/2005	1000
S&P Real Assets Investment Grade Corporate Bond Index	03/18/2016	04/29/2005	04/29/2005	1000
S&P Real Assets High Yield Corporate Bond Index	03/18/2016	04/29/2005	04/29/2005	1000

# Index Governance

## **Index Committee**

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

The Committee may revise index policy covering rules for including other assets or asset classes, changes to target weight allocations, currencies, the timing of rebalancing, 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 Methodology, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.*



# Index Policy

## **Announcements**

Index data is evaluated daily. Anything affecting the daily index calculation is announced to clients via an index announcement.

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

## **Holiday Schedule**

The indices are calculated daily, throughout the calendar year. The only days the indices are not calculated are on days when all underlying component indices are officially closed.

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

## **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 any 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.spglobal.com/spdji/](http://www.spglobal.com/spdji/), major quote vendors (see codes below), numerous investment-oriented Web sites, and various print and electronic media.

## Tickers

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](#).

Index	Return Type	BBG	RIC
S&P Real Assets Index	Total Return	SPRAUT	.SPRAUT
	Net Total Return	SPRAUN	.SPRAUN
S&P Real Assets Ex-DJCI Index	Total Return	SPRAXDUT	.SPRAXDUT
	Net Total Return	SPRAXDUN	.SPRAXDUN
S&P Real Assets Equity Index	Price Return	SPRAEP	--
	Total Return	SPRAET	
	Net Total Return	SPRAEN	--
S&P U.S., Canada & Mexico Real Assets Equity Index	Price Return	SPNRAEUP	.SPNRAEUP
	Total Return	SPNRAEUT	.SPNRAEUT
	Net Total Return	SPNRAEUN	.SPNRAEUN
S&P Real Assets Bond Index	Total Return	SPRABU	--
S&P Real Assets Corporate Bond Index	Total Return	SPRACU	--
S&P Real Assets Investment Grade Corporate Bond Index	Total Return	SPRAIGU	--
S&P Real Assets High Yield Corporate Bond Index	Total Return	SPRAHYU	--

## Index Data

Daily constituent and index level data are available via subscription.

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

## Web site

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

# Appendix

## Additional Index Compositions

Index composition and weighting allocations for other indices included in the index series are as follows:

### S&P Real Assets Ex-DJCI Index

Asset Class	Sub Asset Class	Component Index	Index Weight
Equity	Global Property	Dow Jones Global Select Real Estate Securities Index	25%
	Global Infrastructure	Dow Jones Brookfield Global Infrastructure Composite Index	25%
	Global Natural Resources	S&P Global LargeMidCap Commodity and Resources Index	7.5%
	Global Timber and Forestry	S&P Global Timber & Forestry Index	2.5%
<i>Total Equity</i>			<i>60.00%</i>
Commodities	Commodities Futures	Dow Jones Commodity Index	-
Fixed Income	Global Infrastructure Corporate Bonds	Dow Jones Brookfield Global Infrastructure Broad Market Corporate Bond Index	15%
	Global Property Corporate Bonds	Dow Jones Global Select Real Estate Securities Corporate Bond Index	5%
	Global Natural Resources Corporate Bonds	S&P Global LargeMidCap Commodity and Resources Corporate Bond Index	15%
	Global Inflation-Linked Bonds	S&P Global Developed Sovereign Inflation-Linked Bond (USD) Index	5%
<i>Total Fixed Income</i>			<i>40.00%</i>
<b>Total Weight</b>			<b>100%</b>

### S&P Real Assets Equity Index

Asset Class	Sub Asset Class	Component Index	Index Weight
Equity	Global Property	Dow Jones Global Select Real Estate Securities Index	40%
	Global Infrastructure	Dow Jones Brookfield Global Infrastructure Composite Index	40%
	Global Natural Resources	S&P Global LargeMidCap Commodity and Resources Index	15%
	Global Timber and Forestry	S&P Global Timber & Forestry Index	5%
<b>Total Weight</b>			<b>100%</b>

### S&P U.S., Canada & Mexico Real Assets Equity Index

Asset Class	Sub Asset Class	Component Index	Index Weight
Equity	Global Property U.S., Canada & Mexico Exposure	Dow Jones U.S., Canada & Mexico Select Real Estate Securities Index	40%
	Global Infrastructure U.S., Canada & Mexico Exposure	Dow Jones Brookfield U.S., Canada & Mexico Infrastructure Composite Index	40%
	Global Natural Resources U.S., Canada & Mexico Exposure	S&P U.S., Canada & Mexico LargeMidCap Commodity and Resources Index	15%
	Global Timber and Forestry U.S., Canada & Mexico Exposure	S&P U.S., Canada & Mexico Timber & Forestry Index	5%
<b>Total Weight</b>			<b>100%</b>

### S&P Real Assets Bond Index

Asset Class	Sub Asset Class	Component Index	Index Weight
Fixed Income	Global Infrastructure Corporate Bonds	Dow Jones Brookfield Global Infrastructure Broad Market Corporate Bond Index	35%
	Global Property Corporate Bonds	Dow Jones Global Select Real Estate Securities Corporate Bond Index	15%
	Global Natural Resources Corporate Bonds	S&P Global LargeMidCap Commodity and Resources Corporate Bond Index	35%
	Global Inflation-Linked Bonds	S&P Global Developed Sovereign Inflation-Linked Bond (USD) Index	15%
<b>Total Weight</b>			<b>100%</b>

### S&P Real Assets Corporate Bond Index

Asset Class	Sub Asset Class	Component Index	Index Weight
Fixed Income	Global Infrastructure Corporate Bonds	Dow Jones Brookfield Global Infrastructure Broad Market Corporate Bond Index	40%
	Global Property Corporate Bonds	Dow Jones Global Select Real Estate Securities Corporate Bond Index	20%
	Global Natural Resources Corporate Bonds	S&P Global LargeMidCap Commodity and Resources Corporate Bond Index	40%
<b>Total Weight</b>			<b>100%</b>

### S&P Real Assets Investment Grade Corporate Bond Index

Asset Class	Sub Asset Class	Component Index	Index Weight
Fixed Income	Global Infrastructure Corporate Bonds	Dow Jones Brookfield Global Infrastructure Broad Market Corporate Bond Investment Grade Index	50%
	Global Property Corporate Bonds	Dow Jones Global Select Real Estate Securities Corporate Investment Grade Bond Index	10%
	Global Natural Resources Corporate Bonds	S&P Global LargeMidCap Commodity and Resources Corporate Investment Grade Bond Index	40%
<b>Total Weight</b>			<b>100%</b>

## S&P Real Assets High Yield Corporate Bond Index

<b>Asset Class</b>	<b>Sub Asset Class</b>	<b>Component Index</b>	<b>Index Weight</b>
Fixed Income	Global Infrastructure Corporate Bonds	Dow Jones Brookfield Global Infrastructure Broad Market Corporate Bond High Yield Index	50%
	Global Property Corporate Bonds	Dow Jones Global Select Real Estate Securities Corporate High Yield Bond Index	10%
	Global Natural Resources Corporate Bonds	S&P Global LargeMidCap Commodity and Resources Corporate High Yield Bond Index	40%
<b>Total Weight</b>			<b>100%</b>

# Disclaimer

## Performance Disclosure/Back-Tested Data

Where applicable, S&P Dow Jones Indices and its index-related affiliates (“S&P DJI”) defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the index is set to a fixed value for calculation purposes. The Launch Date designates the date when the values of an index are first considered live: index values provided for any date or time period prior to the index’s Launch Date are considered back-tested. S&P DJI defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company’s public website or its data feed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed “Date of introduction”) is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index’s public release date.

Please refer to the methodology for the Index for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Information presented prior to an index’s launch date is hypothetical back-tested performance, not actual performance, and is based on the index methodology in effect on the launch date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. In addition, forks have not been factored into the back-test data with respect to the S&P Cryptocurrency Indices. For the S&P Cryptocurrency Top 5 & 10 Equal Weight Indices, the custody element of the methodology was not considered; the back-test history is based on the index constituents that meet the custody element as of the Launch Date. Back-tested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. Past performance is not an indication or guarantee of future results.

Typically, when S&P DJI creates back-tested index data, S&P DJI uses actual historical constituent-level data (e.g., historical price, market capitalization, and corporate action data) in its calculations. As ESG investing is still in early stages of development, certain datapoints used to calculate certain ESG indices may not be available for the entire desired period of back-tested history. The same data availability issue could be true for other indices as well. In cases when actual data is not available for all relevant historical periods, S&P DJI may employ a process of using “Backward Data Assumption” (or pulling back) of ESG data for the calculation of back-tested historical performance. “Backward Data Assumption” is a process that applies the earliest actual live data point available for an index constituent company to all prior historical instances in the index performance. For example, Backward Data Assumption inherently assumes that companies currently not involved in a specific business activity (also known as “product involvement”) were never involved historically and similarly also assumes that companies currently involved in a specific business activity were involved historically too. The Backward Data Assumption allows the hypothetical back-test to be extended over more historical years than would be feasible using only actual data. For more information on “Backward Data Assumption” please refer to the FAQ. The methodology and factsheets of any index that employs backward assumption in the back-tested history will explicitly state so. The methodology will include an Appendix with a table setting forth the specific

data points and relevant time period for which backward projected data was used. Index returns shown do not represent the results of actual trading of investable assets/securities. S&P DJI maintains the index and calculates the index levels and performance shown or discussed but does not manage any assets.

Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US \$100,000 investment for a 12-month period (or US \$10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US \$1,650), the net return would be 8.35% (or US \$8,350) for the year. Over a three-year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US \$5,375, and a cumulative net return of 27.2% (or US \$27,200).

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