S&P Risk Parity Indices
Methodology

September 2023

Table of Contents

Introduction

Index Objective

The S&P Risk Parity Indices measure the performance of a multi-asset risk parity strategy. The index targets equal measures of risk among equity, fixed income, and commodities futures contracts.

Within each asset class, the indices also target equal risk apportionment to each individual futures contract. Each contract (also called a constituent) is inversely weighted by its long-term realized volatility. Each index is leveraged, as needed, in order to target a particular level of volatility.

Highlights

The key characteristics of the indices are:

- 26 constituents (futures contracts), grouped into three asset classes: equity, fixed income, and commodities

- 26 constituents are represented by 26 sub-indices measuring the performance of a rolling futures position of each underlying futures contract month

- Constituents contribute volatility equally within their asset classes

- Asset classes contribute volatility equally in the index

- Index leverage is determined by a risk control model using long term realized volatilities and a constant target risk

- Asset classes and constituents are rebalanced monthly

Index Family

The index family includes the following indices:

- S&P Risk Parity Index – 8% Target Volatility

- S&P Risk Parity Index – 10% Target Volatility

- S&P Risk Parity Index – 12% Target Volatility

- S&P Risk Parity Index – 15% Target Volatility

- S&P Risk Parity Index (USD-only constituents) – 8% Target Volatility

Note that the target volatilities are used to determine index leverage based on the long term realized volatilities of each futures contract and asset class. The actual index realized volatility may deviate from the predetermined target volatilities.

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' Commodities Indices Policies & Practices Methodology	Commodities Indices Policies & Practices
S&P Dow Jones Indices' Index Mathematics Methodology	Index Mathematics Methodology

The indices were originally developed by S&P Dow Jones Indices with MSR Investments. The index methodology is maintained, and the indices are calculated and managed independently by S&P Dow Jones Indices according to S&P Dow Jones Indices' standard policies and procedures, including the policies and procedures governing S&P Dow Jones Indices' independent Index Committee. 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 indices continue to achieve their objectives.

Index Eligibility and Construction

Commodities Futures Contract Eligibility

Futures contracts for physical commodities included in the indices are determined every two years. Contract eligibility is assessed using data from September of the previous year through August of the current year, and becomes effective during the next designated January roll period.

General Eligibility Requirements

Physical Commodities, Financial, and Foreign Exchange Futures. Contracts must be on a physical commodity, financial instrument, currency, interest rate or equity index. Contracts need not require physical delivery by their terms in order for a commodity to be considered a physical commodity.

Certain Contract Characteristics. The following criteria must be satisfied:

(i) The Contract must, at any given point in time, be available for trading at least five months prior to its expiration or such other date or time period specified for delivery or settlement; and

(ii) The Trading Facility on which the Contract is traded must allow market participants to execute spread transactions between the pairs of Contract Expirations included in the S&P Risk Parity Indices that, at any given point in time, are involved in the rolls effected during the next three Roll Periods.

Denomination and Geographical Requirements. Contracts must be traded on or through a Trading Facility that has its principal place of business or operations in a country that is a member of the Organization for Economic Cooperation and Development (OECD) during the relevant Annual Calculation Period or Interim Calculation Period. This assures that the S&P Risk Parity Indices are limited to those futures for which there are Trading Facilities in industrialized countries.

Availability of Daily Contract Reference Prices. Daily Contract Reference Prices generally must have been available on a continuous basis for at least two years prior to the proposed date of inclusion. In appropriate circumstances, S&P Dow Jones Indices may determine that a shorter time period is sufficient or that historical Daily Contract Reference Prices for a given Contract may be derived from Daily Contract Reference Prices of a similar or related Contract.

Availability of Volume Data. Volume data with respect to such Contract must be available from sources satisfying the criteria specified in *Sources of Information* for at least two years immediately prior to the date on which the determination to include the contracts is made. The indices' determination date is the same as the S&P GSCI for annual volume data, the 12-month period from September through August.

Liquidity Requirement

Contracts are limited to those that are actively traded in order to ensure that the prices generated by the markets for such Contracts represent reliable, competitive prices. Liquidity is determined by the annual Total Dollar Value Traded (TDVT).

Contract Selection

Contracts for physical commodities are determined every two years, to be applied during the January roll period on even numbered years. The data range used to make the contract determination is September

of the previous year through August of the current year. The following rules determine the selection of futures contracts for the three asset classes:

- **Commodities futures contracts**. Contracts are selected from the S&P GSCI universe of futures contracts. All contracts that have a TDVT greater than $5 billion are selected.

  For more information on the S&P GSCI universe, please refer to the S&P GSCI Methodology, available at www.spglobal.com/spdji/.

- **Fixed income futures contracts**. Seven liquid government bonds futures contracts are selected, as defined below.

  For more information on fixed income futures indices, please refer to the S&P Global Bond Futures Index Series Methodology, available at www.spglobal.com/spdji/.

- **Equity futures contracts.** Three liquid futures contracts are selected, as defined below.

  For more information on equity futures indices, please refer to the S&P Futures Indices Methodology, available at www.spglobal.com/spdji/.

Index constituents are not expected to change between rebalancing periods. If, for any reason beyond S&P Dow Jones Indices' control, a constituent is discontinued or substantially changed in terms of its contract specifications, the Index Committee may elect to discontinue representation of the affected futures contract within the index or designate a successor contract.

Note that the constituents of the S&P Risk Parity Index (USD-only constituents) – 8% Target Volatility are limited to only USD-denominated futures. The Euro Stoxx 50 Futures Index and Nikkei 225 Futures Index both use the first month futures and roll to the next month futures three business days prior to the expiry. Please refer to the respective sub-indices' methodology documents for their roll schedule used in the calculation.

EXHIBIT 1: FUTURES CONTRACTS AND SUB-INDEX NAMES

Sector	Constituent	Exchange	Sector	Currency	Sub-index Name
Current Commodities[1]					
Commodity - Energy	Natural Gas	NYMEX	E	USD	S&P GSCI Natural Gas Index
	Heating Oil #2	NYMEX	E	USD	S&P GSCI Heating Oil Index
	Gas Oil	ICE	E	USD	S&P GSCI Gasoil Index
	Crude Oil	NYMEX	E	USD	S&P GSCI Crude Oil Index
	Brent Crude	ICE	E	USD	S&P GSCI Brent Crude Oil Index
	Gasoline	NYMEX	E	USD	S&P GSCI Unleaded Gasoline Index
Commodity - Softs & Livestock	Sugar #11	ICE	C	USD	S&P GSCI Sugar Index
	Live Cattle	CME	C	USD	S&P GSCI Live Cattle Index
	Coffee "C"	ICE	C	USD	S&P GSCI Coffee Index
	Cotton #2	ICE	C	USD	S&P GSCI Cotton Index
Commodity - Grains	Soybeans	CBOT	C	USD	S&P GSCI Soybeans Index
	Corn	CBOT	C	USD	S&P GSCI Corn Index
	Wheat	CBOT	C	USD	S&P GSCI Wheat Index
Commodity - Metals	Copper	COMEX	C	USD	S&P GSCI North American Copper Index
	Gold (100 oz.)	COMEX	C	USD	S&P GSCI Gold Index
	Silver	COMEX	C	USD	S&P GSCI Silver Index
Fixed Income					
Fixed Income - U.S.	T-Notes (10-year)	CBOT	FI	USD	S&P 10-Year U.S. Treasury Note Futures Index
	T-Notes (5-year)	CBOT	FI	USD	S&P 5-Year U.S. Treasury Note Futures Index
	T-Bonds (30-year)	CBOT	FI	USD	S&P U.S. Treasury Bond Futures Index
Fixed Income - Europe	Long Gilt	ICE	FI	GBP	S&P Long Gilt Futures Index
	Euro-Bund	EUREX	FI	EUR	S&P Euro-Bund Futures Index
	Euro-Bobl	EUREX	FI	EUR	S&P Euro-Bobl Futures Index
Fixed Income - Asia	JGB (10-year)	JPX	FI	JPY	S&P 10-Year JGB Futures Index
Equity					
Equity – U.S.	S&P 500 E-mini	CME	SI	USD	S&P 500 Futures ER Index
Equity - Europe	Euro Stoxx 50	EUREX	SI	EUR	Euro Stoxx 50 Futures Index

[1] The next review period for the Commodities contracts is September 2020 through September 2021, effective in January 2022.

| Equity - Asia | Nikkei 225 Futures | JPX | SI | JPY | Nikkei 225 Futures Index |

Weighting Scheme

The index weighting scheme seeks to create an index where each of the asset classes contributes equally to the index volatility, with each of the constituents contributing equally to the volatility of its asset class.

To achieve the desired weighting scheme, all asset classes are weighted inversely by their realized volatilities, and all constituents within each asset class are weighted inversely by their realized volatilities. Then a multiplier is calculated so that the index meets the target index volatility. The target volatility level (TV) is currently set to 8%, 10%, 12% or 15%. The look-back period for the realized volatility calculation has a minimum of 1260 trading days (five years) and expands as more index values are created until the period reaches a maximum of 3780 trading days (15 years).

The target index volatility and look-back period are fixed parameters and are not reset at each rebalancing.

EXHIBIT 2:

Parameters	Values
Target Volatility (TV)	8%, 10%,12%, 15%
Minimum number of trading days in the look-back period (MinN)	1260
Maximum number of trading days in the look-back period (MaxN)	3780

Step 1: Calculate the constituent weights in each asset class such that each constituent contributes equally to the asset class volatility

The index calculates the annualized realized volatility (RV) in the look-back period for the i-th futures contract on day t as follows:

$$RV_{i,t} = \sqrt{\frac{\sum_{j=0}^{N_t-1}(R_{i,t-j}-\overline{R_{i,t}})^2}{N_t-1} * 252} \qquad (1)$$

where:

$R_{i,t}$ = Return of the i-th futures contract, in USD, on day t, calculated as:

$$R_{i,t} = lcR_{i,t} * (1 + fxR_{i,t}) \qquad (2)$$

where:

$lcR_{i,t}$ = Return of the i-th futures contract, in local currency, on day t

$fxR_{i,t}$ = Currency return of the i-th futures contract on day t

$\overline{R_{i,t}}$ = Average return of the i-th futures contract, in USD, in the look-back period ending on day t

N_t = Number of trading days in the look-back period on day t, calculated as:

$$N_t = \min(MaxN, N_{t-1} + 1) \qquad (3)$$

$$N_1 = MinN \qquad (4)$$

Within each asset class, the constituents are weighted by the inverse of their realized volatility as follows:

$$w_{i,k,t} = \frac{\frac{1}{RV_{i,k,t}}}{\sum \frac{1}{RV_{i,k,t}}} \qquad (5)$$

where:

$w_{i,k,t}$ = Weight of the i-th futures contract in the k-th asset class on day t

$RV_{i,k,t}$ = Realized volatility of the *i*-th futures contract in the *k*-th asset class on day *t*, calculated as described in (1)

Step 2: Calculate asset class weights such that each asset class contributes an equal amount of volatility

Once each constituent's weight is determined within the asset class, the index calculates the realized volatility (*acRV*) of the *k*-th asset class on day *t* as follows:

$$acRV_{k,t} = \sqrt{\frac{\sum_{j=0}^{N_t-1}(acR_{k,t-j}-\overline{acR_{k,t}})^2}{N_t-1} * 252} \tag{6}$$

where:

$acR_{k,t-j}$ = Return of the *k*-th asset class on day *t-j*, calculated as:

$$acR_{k,t-j} = \sum_i R_{i,k,t-j} * w_{i,k,t} \tag{7}$$

where:

$R_{i,k,t-j}$ = Return of the i-th futures in the *k*-th asset class on day *t-j*

$\overline{acR_{k,t}}$ = Average return of the *k*-th asset class in the look-back period ending on day *t*

Each asset class is weighted by the inverse of its realized volatility as follows:

$$acW_{k,t} = \frac{\frac{1}{acRV_{k,t}}}{\sum\frac{1}{acRV_{k,t}}} \tag{8}$$

The raw weight for each constituent future is calculated as the product of the asset class weight and the constituent weight within the asset class.

$$rawW_{i,t} = W_{i,k,t} * acW_{k,t}$$

$$\tag{9}$$

Step 3: Calculate the multiplier to meet the target volatility

The index combines all three asset classes and calculates the portfolio realized volatility (*pRV*) on day *t* as follows:

$$pRV_t = \sqrt{\frac{\sum_{j=0}^{N_t-1}(pR_{t-j}-\overline{pR_t})^2}{N_t-1} * 252} \tag{10}$$

where:

pR_t = Return of the hypothetical portfolio on day *t*, calculated as:

$$pR_t = \sum_{j=0}^{N_t} acR_{k,t-j} * acW_{k,t} \tag{11}$$

$\overline{pR_t}$ = Average return of the hypothetical portfolio in the look-back period ending on day *t*

The multiplier (*pM*) is then calculated on day *t* as follows:

$$pM_t = \frac{TV}{pRV_t} \tag{12}$$

Step 4: Calculate weight of each futures contract

The index then calculates the weight of each futures contract as follows:

$$w_{i,t} = pM_t * rawW_{i,t} \tag{13}$$

Sources of Information

The following are the sources of the information used to determine the eligibility of Contracts for inclusion in the S&P Risk Parity Indices, pursuant to the requirements set forth in *General Eligibility Requirements*. If any of the sources identified below is unavailable, with respect to the determination of the S&P Risk Parity Indices for a particular S&P Risk Parity Index Year, S&P Dow Jones Indices will identify appropriate alternative sources and the composition of the S&P Risk Parity Indices for such year will be based on such alternative sources. In addition, if S&P Dow Jones Indices, in its reasonable judgment, believes that one or more of the sources identified below contains a manifest error, it may use an alternative source to obtain the necessary information. Any such alternative sources used by S&P Dow Jones Indices will be publicly disclosed at the time that the composition of the indices for the next S&P Risk Parity Index Year is announced.

General Eligibility Requirements. The identification of those commodities that satisfy the general eligibility requirements is based on the Financial Integrity and Accountability (FIA) Reports that are published with respect to the relevant Annual Calculation Period or Interim Calculation Period, and directly from the particular Trading Facilities. The determination as to whether a particular Trading Facility has its principal place of business or operations in an OECD country is based on the most recent data published by the OECD available on the date of determination.

Contract Volume and Liquidity Requirements. In order to determine whether a particular Contract satisfies the volume and liquidity requirements described above, S&P Dow Jones Indices may use any available sources that it believes to be reasonably reliable including, but not limited to, data contained in the FIA Reports. In the event of manifest error, S&P Dow Jones Indices may supplement, and make corrections to, any such data.

Index Maintenance

Rebalancing

Constituent weights are calculated after the close of the last business day of each month and become effective prior to the open of the third trading day of the next month (the rebalancing day).

For the roll schedule of a specific underlying constituent, please refer to the methodology of the sub-index, available at www.spglobal.com/spdji/.

Calculation Calendar

The S&P Risk Parity Indices follows New York Stock Exchange calendar. On any index calculation day that a constituent is not traded, its price on the previous business day of its local market will be used in the index calculation.

Currency of Calculation and Additional Index Return Series

The indices calculate in U.S. dollars.

The prices of the underlying futures contracts are collected and the sub-indices are calculated in their local currencies. Using WM/Refinitiv's spot exchange rates, returns of the futures sub-indices are converted to returns in U.S. dollars, as described in formula (2). Forex rates, as supplied by WM/Refinitiv, are used for local currency return calculation. The index uses the spot exchange rates provided by WM/Refinitiv at 4:00 PM London Time.

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

For information on index calculation, 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.

Index Calculation

Excess Return Calculation

On a given S&P Risk Parity Index business day t, the S&P Risk Parity Excess Return (ER) index level is equal to the product of the S&P Risk Parity ER index level on the immediately preceding S&P Risk Parity business day multiplied by one plus the Contract Daily Return as of that day.

$$ER_t = ER_{t-1} * (1 + CDR_t) \tag{14}$$

where

ER_t = Excess Return Value for S&P Risk Parity Business Day t.

ER_{t-1} = Excess Return Value as on the S&P Risk Parity business day prior to day t-1.

CDR_t = Contract Daily Return of the Index on the S&P Risk Parity business day prior to day t.

Contract Daily Return Calculation

The Contract Daily Return (CDR) on any S&P Risk Parity Business Day, t, is equal to the ratio obtained by dividing the Total Dollar Weight Obtained by the Total Dollar Weight Invested on the immediately preceding S&P Risk Parity Business Day, minus one.

$$CDR_t = \frac{TDWO_t}{TDWI_t} - 1 \tag{15}$$

where

$TDWO_t$ = Total Dollar Weight Obtained for S&P Risk Parity Business Day t.

$TDWI_t$ = Total Dollar Weight Invested for S&P Risk Parity Business Day t.

Total Dollar Weight Obtained

On a given S&P Risk Parity business day, t, the Total Dollar Weight Obtained (TDWO) is the amount obtained from an investment on the immediately preceding day. The TDWO for a given day is calculated using the Component Weights and Contract Roll Weights in effect on the immediately preceding day, t-1, and the Daily Contract Reference Prices used to calculate the S&P Risk Parity Index on day t.

$$TDWO_t = \frac{NC_{new}}{NC_{old}} * (TDWO1_t + TDWO2_t) \tag{16}$$

where

$TDWO1_t$ = Total Dollar Weight Obtained of the current contract on day t

$TDWO2_t$ = Total Dollar Weight Obtained of the next contract on day t

NC_{old} = Normalizing Constant effective as of the last month

NC_{new} = Normalizing Constant effective during this month

For both the current contracts and the next contracts, the TDWO is the TDW on the immediately preceding day, t-1, plus the profit and loss in USD on day t.

$$TDWO1_t = \sum_i \left[TDW1_{i,t-1} + (CW1_{i,t} * CRW1_{i,t-1} * (DCRP1_{i,t} - DCRP1_{i,t-1}) * FX_{i,t}) \right] \tag{17a}$$

$$TDWO2_t = \sum_i \left[TDW2_{i,t-1} + (CW2_{i,t} * CRW2_{i,t-1} * (DCRP2_{i,t} - DCRP2_{i,t-1}) * FX_{i,t}) \right] \tag{17b}$$

where

$CW1_t$ = Contract Weight of the current contract on day t

$CW2_t$ = Contract Weight of the next contract on day t

$CRW1_{t-1}$ = The roll-out percentage of the Contract Roll Weight on the S&P Risk Parity business day prior to day t.

$CRW2_{t-1}$ = The roll-in percentage of the Contract Roll Weight on the S&P Risk Parity business day prior to day t.

$DCRP1_t$ = Current contract price on day t

$DCRP2_t$ = Next contract price on day t

Total Dollar Weight Invested

On a given S&P Risk Parity business day, d, the Total Dollar Weight Invested (TDWI) is equal to the Total Dollar Weight of the immediately preceding S&P Risk Parity business day $t-1$ and is calculated as follows:

$$TDWI_t = \frac{NC_{new}}{NC_{old}} * (TDWI1_t + TDWI2_t) \tag{18}$$

where

$TDWI1_d$ = Total Dollar Weight Invested of the current contract on day d

$TDWI2_d$ = Total Dollar Weight Invested of the next contract on day d

For both the current contracts and the next contracts, the TDWI is the TDW on the immediately preceding day, $t-1$.

$$TDWI1_t = \sum_i TDW1_{i,t-1} \tag{19a}$$

$$TDWI2_t = \sum_i TDW2_{i,t-1} \tag{19b}$$

Normalizing Constant

In order to assure continuity of the S&P Risk Parity and to allow comparisons of the value of the S&P Risk Parity to be made over time, it is necessary to make an adjustment to the calculation of the S&P Risk Parity each time the CWs are changed. The factor used to make this adjustment is the Normalizing Constant (NC) and is used in the same manner as similar factors applied to the calculation of other published financial market indices. The NC is determined each time the composition of the S&P Risk Parity is changed pursuant to the procedures set forth in this methodology.

$$NC_{new} = NC_{old} * \frac{\sum(CW_2*DCRP1_t + CW_2*DCRP2_t)}{\sum(CW_1*DCRP1_t + CW_1*DCRP2_t)} \tag{20}$$

where

$CW1$ = Last month's Contract Weight

$CW2$ = This month's Contract Weight

$DCRP1_d$ = Current contract price on day d

$DCRP2_d$ = Next contract price on day d

NC_{old} = Normalizing Constant effective as of the last month

Total Return Calculation

On any given calendar day, t, the Treasury Bill Return (*TBR*) is equal to an amount determined in accordance with the following formula:

$$TBR_t = \left[\frac{1}{1 - \frac{91}{360} * TBAR_{t-1}} \right]^{1/91} - 1 \qquad\qquad (21)$$

where:

> $TBAR_{t-1}$ = The 3 month T-Bill Rate available on the S&P Risk Parity business day prior to day t.

On a given S&P Risk Parity business day, d, the value of the S&P Risk Parity Total Return (TR) Index is equal to the product of (i) the value of the S&P Risk Parity TR on the immediately preceding S&P Risk Parity Business Day, (ii) one plus the sum of the Contract Daily Return and the Treasury Bill Return on the day on which the calculation is made, and (iii) one plus the Treasury Bill Return for each non S&P Risk Parity Business Day since the immediately preceding S&P Risk Parity Business Day.

$$TR_t = TR_{t-1} * (1 + CDR_t + TBR_t) * (1 + TBR_t)^{days} \qquad\qquad (22)$$

where:

> TR_{t-1} = S&P Risk Parity TR Index value on the S&P Risk Parity business day prior to day t.
>
> CDR_d = The Contract Daily Return on day t.
>
> TBR_d = Treasury Bill Return on day t.
>
> $Days$ = Number of non S&P Risk Parity business days since the last immediately preceding S&P Risk Parity Business Day.

Inception, Launch Date, and Initial Value

The indices launched April 6th, 2020, with a base date of January 5th, 2004, with the below values:

Index	Base Value
S&P Risk Parity Index – 8% Target Volatility (ER)	1198.73
S&P Risk Parity Index – 8% Target Volatility (TR)	1211.14
S&P Risk Parity Index – 10% Target Volatility (ER)	1251.54
S&P Risk Parity Index – 10% Target Volatility (TR)	1264.50
S&P Risk Parity Index – 12% Target Volatility (ER)	1305.56
S&P Risk Parity Index – 12% Target Volatility (TR)	1319.08
S&P Risk Parity Index – 15% Target Volatility (ER)	1388.80
S&P Risk Parity Index – 15% Target Volatility (TR)	1403.18
S&P Risk Parity Index (USD-Only Constituents) - 8% Target Volatility (USD) ER	1189.04
S&P Risk Parity Index (USD-Only Constituents) - 8% Target Volatility (USD) TR	1201.35

Index Governance

Index Committee

The S&P Risk Parity Indices are maintained by an S&P Dow Jones Indices Index Committee. The Committee meets regularly. The Committee may revise index policy covering rules for the selection of futures contracts, including the eligibility criteria, or other matters. The Index Committee consists solely of full-time employees of S&P Dow Jones Indices.

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' Commodities Indices Policies & Practices Methodology.

Index Policy

Holiday Schedule

The indices calculate daily based on the same holiday schedule as the S&P GSCI which follows the official NYSE holiday schedule. The indices are calculated when the majority of the S&P Risk Parity Indices futures contracts are open for official trading and official settlement prices are provided, excluding holidays and weekends.

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

Contact Information

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

Index Dissemination

Index levels are available through S&P Dow Jones Indices' Web site at *www.spglobal.com/spdji*, 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 *S&P DJI Methodology & Regulatory Status Database* for a complete list of indices covered by this document.

Index	Bloomberg
S&P Risk Parity Index – 8% Target Volatility (ER)	SPRP8P
S&P Risk Parity Index – 8% Target Volatility (TR)	SPRP8T
S&P Risk Parity Index – 10% Target Volatility (ER)	SPRP10P
S&P Risk Parity Index – 10% Target Volatility (TR)	SPRP10T
S&P Risk Parity Index – 12% Target Volatility (ER)	SPRP12P
S&P Risk Parity Index – 12% Target Volatility (TR)	SPRP12T
S&P Risk Parity Index – 15% Target Volatility (ER)	SPRP15P
S&P Risk Parity Index – 15% Target Volatility (TR)	SPRP15T

Index Data

Daily index level data is available via subscription.

For product information, please contact S&P Dow Jones Indices, 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.

Appendix I

Methodology Changes

Methodology changes since April 1, 2020, are as follows:

Change	Effective Date (After Close)	Methodology Previous	Methodology Updated
Base Date	05/14/2020	12/31/2002	01/05/2004
Base Index Levels	05/14/2020	1000	Base index levels are as follows: • S&P Risk Parity Index – 8% Target Volatility (ER): 1198.73 • S&P Risk Parity Index – 8% Target Volatility (TR): 1211.14 • S&P Risk Parity Index – 10% Target Volatility (ER): 1251.54 • S&P Risk Parity Index – 10% Target Volatility (TR): 1264.50 • S&P Risk Parity Index – 12% Target Volatility (ER): 1305.56 • S&P Risk Parity Index – 12% Target Volatility (TR): 1319.08 • S&P Risk Parity Index – 15% Target Volatility (ER): 1388.80 • S&P Risk Parity Index – 15% Target Volatility (TR): 1403.18 • S&P Risk Parity Index (USD-Only Constituents) - 8% Target Volatility (USD) ER: 1189.04 • S&P Risk Parity Index (USD-Only Constituents) - 8% Target Volatility (USD) TR: 1201.35

Appendix II

ESG Disclosures

	EXPLANATION OF HOW ENVIRONMENTAL, SOCIAL & GOVERNANCE (ESG) FACTORS ARE REFLECTED IN THE KEY ELEMENTS OF THE BENCHMARK METHODOLOGY[2]	
1.	Name of the benchmark administrator.	S&P Dow Jones Indices LLC.
2.	Underlying asset class of the ESG benchmark.[3]	N/A
3.	Name of the S&P Dow Jones Indices benchmark or family of benchmarks.	S&P DJI Multi-Asset Indices Benchmark Statement
4.	Do any of the indices maintained by this methodology take into account ESG factors?	No
Appendix latest update:		January 2021
Appendix first publication:		January 2021

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[2] The information contained in this Appendix is intended to meet the requirements of the European Union Commission Delegated Regulation (EU) 2020/1817 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards the minimum content of the explanation of how environmental, social and governance factors are reflected in the benchmark methodology and the retained EU law in the UK [The Benchmarks (amendment and Transitional Provision) (EU Exit) Regulations 2019].

[3] The 'underlying assets' are defined in European Union Commission Delegated Regulation (EU) 2020/1816 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards the explanation in the benchmark statement of how environmental, social and governance factors are reflected in each benchmark provided and published.

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.

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