

S&P MARC II 8% Index *Methodology*

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Introduction

Index Objective and Highlights

The S&P MARC II 8% Index¹ measures the performance of a dynamic strategy that allocates to E-mini S&P 500 Futures and COMEX Gold Futures, using an intraday rebalancing mechanism based on inverse realized volatility. The index targets an 8% volatility level and also systematically allocates to 10-Year U.S. Treasury Note Futures within a risk control framework.

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

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.

¹ MARC stands for Multi Asset Risk Control.

Index Construction

S&P MARC II 8% – Equity/Gold Basket Index (USD) ER

On the subindex inception date, the subindex level initializes at a base value of 100. For each subsequent index calculation day t and window h , the excess return index values calculate according to the following process:

$$SubIndexER_{t,h} = SubIndexER_{t,h-1} * \left(1 + W_{t,h-1}^{EQ} * \left(\frac{TWAP_{t,h}^{EQ,EXC}}{TWAP_{t,h-1}^{EQ,EXC}} - 1 \right) + W_{t,h-1}^{CMD} * \left(\frac{TWAP_{t,h}^{CMD,EXC}}{TWAP_{t,h-1}^{CMD,EXC}} - 1 \right) \right)$$

where:

- $W_{t,h}^{EQ}$ = The weight of the S&P 500 E-mini Futures as of day t window h .
- $TWAP_{t,h}^{EQ,EXC}$ = The TWAP of the S&P 500 E-mini Futures as of day t execution window h .
- $W_{t,h}^{CMD}$ = The weight of the COMEX Gold Futures as of day t window h .
- $TWAP_{t,h}^{CMD,EXC}$ = The TWAP of the COMEX Gold Futures as of day t execution window h .

Note: Window-to-window TWAP returns are based on the same contract. If $t - 1$ is a roll date for a component (including the terms), the calculation uses the futures contracts that are rolled into. Therefore, if $t - 1$ is a roll date for component A, $A \in \{EQ, CMD\}$, $TWAP_{t,h}^{ANEW,EXC}$ and $TWAP_{t,h-1}^{ANEW,EXC}$ use the newly entered contract.

The weights ($W_{t,h}^A$) for each of the two underlying components ($W_{t,h}^{EQ}, W_{t,h}^{CMD}$) calculate according to the following process:

$$W_{t,h}^A = \frac{(Variance_{t,h}^A)^{-1/2}}{\sum_{A=1}^2 (Variance_{t,h}^A)^{-1/2}}$$

The variance for underlying component A, at day t window h , calculates as:

$$Variance_{t,h}^A = \begin{cases} \lambda \times Variance_{t,h-1}^A + (1 - \lambda) \times \left[\ln \left(\frac{TWAP_{t,h}^{A,OBS}}{TWAP_{t,h-1}^{A,OBS}} \right) \right]^2 & \text{if } t > T_0 \\ \sum_{i=m+1}^{T_0} \frac{\alpha_{i,m}}{WF} \left[\ln \left(\frac{TWAP_i^{A,OBS}}{TWAP_{i-1}^{A,OBS}} \right) \right]^2 & \text{if } t = T_0 \end{cases}$$

where:

- $TWAP_{t,h}^{A,OBS}$ = The TWAP of component A $A \in \{EQ, CMD\}$ as of day t observation window h .
- T_0 = The subindex start date.
- λ = The decay factor used for exponential weighting. The decay factor is a number greater than zero and less than one that determines the weight of each return in the calculation of historical variance, set to 0.94.
- $\alpha_{i,m}$ = Weight of window h in the volatility calculation, calculated using the following formula:

$$\alpha_h = (1 - \lambda) * \lambda^{N+m-i}$$

$$WF = \sum_{i=m+1}^{T_0} \alpha_{i,m}$$

m = The m^{th} trading window prior to T_0

N = The number of trading windows observed for calculating the initial variance as of the start date of the index, set to 40.

S&P MARC II 8% Index (USD) ER

On the index inception date, the index level initializes at a base value of 100. For each subsequent index calculation day t and window h , the excess return index values calculate according to the following process:

$$IndexER_{t,h} = IndexER_{t,h-1} * \left(1 + W_{t,h-1}^{SI} * \left(\frac{SubIndexER_{t,h-1}}{SubIndexER_{t,h-2}} - 1 \right) + W_{t,h-1}^{TRES} * \left(\frac{TWAP_{t,h}^{TRES,EXC}}{TWAP_{t,h-1}^{TRES,EXC}} - 1 \right) \right)$$

where:

- $W_{t,h}^{SI}$ = The weight of the *SubIndexER* as of time t window h .
- $SubIndexER_{t,h}$ = The *SubIndexER* level as of time t window h .
- $W_{t,h}^{TRES}$ = The weight of the 10-Year U.S. Treasury Note Futures as of time t window h .
- $TWAP_{t,h}^{TRES,EXC}$ = The TWAP of the 10-Year U.S. Treasury Note Futures as of day t execution window h .

Note: Window-to-window TWAP returns are based on the same contract. If $t - 1$ is a roll date for a component (including the terms), the calculation uses the futures contracts that are rolled into. Therefore, if $t - 1$ is a roll date, $TWAP_{t,h}^{TRES,NEW,Exc}$ and $TWAP_{t,h-1}^{TRES,NEW,Exc}$ use the newly entered contract.

Also, note there is a one-window lag for the *SubIndexER* return in *IndexER* calculation.

The weights for each of the two underlying components calculate according to the following process:

$$W_{t,h}^{SI} = \min(W_{t,h}^{SI,S}, W_{t,h}^{SI,L})$$

$$W_{t,h}^{TRES} = \begin{cases} W_{t,h}^{TRES,S} & \text{if } W_{t,h}^{SI} = W_{t,h}^{SI,S} \\ W_{t,h}^{TRES,L} & \text{if } W_{t,h}^{SI} = W_{t,h}^{SI,L} \end{cases}$$

where:

- $W_{t,h}^{SI,S}$ = The short-term weight of the *SubIndexER* as of time t window h .
- $W_{t,h}^{SI,L}$ = The long-term weight of the *SubIndexER* as of time t window h .
- $W_{t,h}^{TRES,S}$ = The short-term weight of the 10-Year U.S. Treasury Note Futures as of time t window h .
- $W_{t,h}^{TRES,L}$ = The long-term weight of the 10-Year U.S. Treasury Note Futures as of time t window h .

The short-term (S) and long-term (L) weights of the *SubIndexER* calculate using the following formula:

$$W_{t,h}^{SI,S} = \begin{cases} \min(MaxLev, \frac{Target Vol}{Vol_{t,h}^{SI,S}}) & \text{if } Vol_{t,h}^{SI,S} < Vol_{Target} \\ RC2 W_{t,h}^{SI,S} & \text{if } Vol_{t,h}^{SI,S} \geq Vol_{Target} \end{cases}$$

$$W_{t,h}^{SI,L} = \begin{cases} \min(MaxLev, \frac{Target Vol}{Vol_{t,h}^{SI,L}}) & \text{if } Vol_{t,h}^{SI,L} < Vol_{Target} \\ RC2 W_{t,h}^{SI,L} & \text{if } Vol_{t,h}^{SI,L} \geq Vol_{Target} \end{cases}$$

where:

- $MaxLev$ = The maximum leverage, set to 200%.

- Vol_{target} = The target volatility, set to 8%.
- $Vol_{t,h}^{SI,S}$ = The short-term realized volatility of *SubIndexER* as of time t window h .
- $Vol_{t,h}^{SI,L}$ = The long-term realized volatility of *SubIndexER* as of time t window h .
- $RC2 W_{t,h}^{SI,S}$ = The short-term Risk Control 2.0 weight of *SubIndexER* as of time t window h .
- $RC2 W_{t,h}^{SI,L}$ = The long-term Risk Control 2.0 weight of *SubIndexER* as of time t window h .

The short-term (S) and long-term (L) realized volatility calculate using the following formula:

$$Vol_{t,h}^{SI,S} = \sqrt{252 \times n \times Variance_{t,h}^{SI,S}}$$

$$Vol_{t,h}^{SI,L} = \sqrt{252 \times n \times Variance_{t,h}^{SI,L}}$$

where:

- n = The number of intraday windows, set to four.
- $Variance_{t,h}^{SI,S}$ = The short-term variance of *SubIndexER*.
- $Variance_{t,h}^{SI,L}$ = The long-term variance of *SubIndexER*.

The short-term (S) or long-term (L) variance of the *SubIndexER*, $Variance_{t,h}^{SI,j}$ with $j \in \{S, L\}$, calculates as:

$$Variance_{t,h}^{SI,j} = \begin{cases} \lambda_j \times Variance_{t,h-1}^{SI,j} + (1 - \lambda_j) \times \left[\ln \left(\frac{Subindex_{t,h-1}}{Subindex_{t,h-2}} \right) \right]^2 & \text{if } t > T_0 \\ \sum_{i=m+1}^{T_0} \frac{\alpha_{i,m}}{WF} \left[\ln \left(\frac{Subindex_{i-1}}{Subindex_{i-2}} \right) \right]^2 & \text{if } t = T_0 \end{cases}$$

where:

- T_0 = The *SubIndexER* _{t,h} start date.
- λ_s = The decay factor used for exponential weighting for short-term (S) variance, set to 0.94.
- λ_L = The decay factor used for exponential weighting for long-term (L) variance, set to 0.97.
- $\alpha_{i,m}$ = Weight of window h in the volatility calculation, calculated using the following formula:

$$\alpha_h = (1 - \lambda) * \lambda^{N+m-i}$$

$$WF = \sum_{i=m+1}^{T_0} \alpha_{i,m}$$
- m = The m^{th} trading window prior to T_0
- N = The number of trading windows observed for calculating the initial variance as of the start date of the index, set to 100.

Note there is a one-window lag for the *SubIndexER* variance calculation.

Risk Control 2.0 Weight Calculation

The short-term ($RC2 W_{t,h}^{SI,S}$) and long-term $RC2 W_{t,h}^{SI,L}$ Risk Control 2.0 weight of *SubIndexER* calculates according to the following process.

Note that to obtain $W_{t,h}^{SI}$, both short-term and long-term RC2 weights are required, so these steps must calculate twice, once with a short-term decay factor, $\lambda_s = 0.94$, and once with a long-term decay factor, $\lambda_L = 0.97$.

The index assigns weights to the underlying assets at each window according to the following process, where $j \in \{S, L\}$:

$$(W_h^j)^2 \times \text{Variance}_{t,h}^{SI,j} + (1 - W_h^j)^2 \times \text{Variance}_{t,h}^{TRES,j} + 2 \times W_h^j \times (1 - W_h^j) \times \text{Covariance}_{t,h}^j = \frac{\text{Vol}_{\text{Target}}^2}{252 \times n} \quad (1)$$

where:

- W_h^j = The weight of the risky asset (*SubIndexER*) at window h
- $\text{Variance}_{t,h}^{SI,j}$ = The relevant variance of the risky asset (*SubIndexER*) at time t and window h .
- $\text{Variance}_{t,h}^{TRES,j}$ = The relevant variance of the 10-Year U.S. Treasury Note Futures at time t and window h
- $\text{Covariance}_{t,h}^j$ = The relevant covariance of *SubIndexER* and 10-Year U.S. Treasury Note Futures at time t and window h
- $\text{Vol}_{\text{Target}}$ = The target volatility, set to 8%.
- n = The number of intraday windows, set to four.
- λ_s = The decay factor used for exponential weighting for short-term (S) variance, set to 0.94.
- λ_L = The decay factor used for exponential weighting for long-term (L) variance, set to 0.97.

The Treasury component variance and the covariance between the *SubIndexER* and Treasury components calculate using the following formula, again where $j \in \{S, L\}$:

$$\text{Variance}_{t,h}^{TRES,j} = \begin{cases} \lambda_j \times \text{Variance}_{t,h-1}^{TRES,j} + (1 - \lambda_j) \times \left[\ln \left(\frac{\text{TWAP}_{t,h}^{TRES,OBS}}{\text{TWAP}_{t,h-1}^{TRES,OBS}} \right) \right]^2 & \text{if } t > T_0 \\ \sum_{i=m+1}^{T_0} \frac{\alpha_{i,m}}{WF} \left[\ln \left(\frac{\text{TWAP}_i^{TRES,OBS}}{\text{TWAP}_{i-1}^{TRES,OBS}} \right) \right]^2 & \text{if } t = T_0 \end{cases} \quad (2)$$

$$\text{Covariance}_{t,h}^j = \begin{cases} \lambda_j \times \text{Covariance}_{t,h-1}^j + (1 - \lambda_j) \times \ln \left(\frac{\text{SubIndexER}_{h-1}}{\text{SubIndexER}_{h-2}} \right) \times \ln \left(\frac{\text{TWAP}_{t,h}^{TRES,OBS}}{\text{TWAP}_{t,h-1}^{TRES,OBS}} \right) & \text{if } t > T_0 \\ \sum_{i=m+1}^{T_0} \frac{\alpha_{i,m}}{WF} \times \ln \left(\frac{\text{SubIndexER}_{i-1}}{\text{SubIndexER}_{i-2}} \right) \times \ln \left(\frac{\text{TWAP}_i^{TRES,OBS}}{\text{TWAP}_{i-1}^{TRES,OBS}} \right) & \text{if } t = T_0 \end{cases} \quad (3)$$

where:

- T_0 = The *IndexER* _{t,h} start date.
- λ_s = The decay factor used for exponential weighting for short-term (S) variance, set to 0.94.
- λ_L = The decay factor used for exponential weighting for long-term (L) variance, set to 0.97.
- $\alpha_{i,m}$ = Weight of window h in the volatility calculation, calculated using the following formula:

$$\alpha_h = (1 - \lambda) * \lambda^{N+m-i}$$

$$WF = \sum_{i=m+1}^{T_0} \alpha_{i,m}$$

m = The m^{th} trading window prior to T_0

N = The number of trading windows observed for calculating the initial variance as of the start date of the index, set to 100.

Note there is a one-window lag in the *SubIndexER* covariance calculation.

Formula (1) above has two solutions to the weight allocated to the risky asset (*SubIndexER*), where $j \in \{S, L\}$:

$$W_{1,h}^j = \frac{-b_h^j + \sqrt{(b_h^j)^2 - 4a_h^j c_h^j}}{2a_h^j} \quad (4)$$

$$W_{2,h}^j = \frac{-b_h^j - \sqrt{(b_h^j)^2 - 4a_h^j c_h^j}}{2a_h^j} \quad (5)$$

where:

$$a_h^j = \text{Variance}_{t,h}^{SI,j} + \text{Variance}_{t,h}^{TRES,j} - 2 \times \text{Covariance}_{t,h}^j$$

$$b_h^j = 2 \times (\text{Covariance}_{t,h}^j - \text{Variance}_{t,h}^{TRES,j})$$

$$c_h^j = \text{Variance}_{t,h}^{TRES,j} - \frac{\text{Vol}_{\text{target}}^2}{252 \times n}$$

The quadratic formula uses the following fallback mechanism:

1. If none of the solutions in Formula (4) & (5) falls between 0 and 100%, then the strategy falls back to standard Risk Control, where the maximum leverage is capped at $\text{MaxLev} = 200\%$.
2. If both solutions to Formula (4) & (5) are valid weights that are greater than 0, then the larger of the two, $\max(W_{1,h}^j, W_{2,h}^j)$, becomes the weight of the *SubIndexER* where the maximum leverage is capped at $\text{MaxLev} = 200\%$.

The final short-term/long-term Risk Control 2.0 weights of the underlying assets calculate according to the following process:

1. Determine the short-term/long-term variance for the *SubIndexER* and 10-Year U.S. Treasury Note Futures using the short-term/long-term exponential parameter.
2. Determine the short-term/long-term covariance for the *SubIndexER* and 10-Year U.S. Treasury Note Futures using Formula (3).
3. Determine the possible levels for the weights for *SubIndexER* using Formula (4) & (5) above.

Therefore,

$$RC2 W_{t,h}^{SI,S} = \begin{cases} \min(\text{MaxLev}, \frac{\text{Target Vol}}{\text{Vol}_{t,h}^{SI,S}}) & \text{if no valid solution exists to Formula (4) \& (5)} \\ \min(\text{MaxLev}, \max(W_{1,h}^S, W_{2,h}^S)) & \text{otherwise} \end{cases}$$

with Variance, Covariance and a,b,c calculated using $\lambda_s = 0.94$.

And likewise,

$$RC2 W_{t,h}^{SI,L} = \begin{cases} \min(\text{MaxLev}, \frac{\text{Target Vol}}{\text{Vol}_{t,h}^{SI,L}}) & \text{if no valid solution exists to Formula (4) \& (5)} \\ \min(\text{MaxLev}, \max(W_{1,h}^L, W_{2,h}^L)) & \text{otherwise} \end{cases}$$

with Variance, Covariance and a,b,c calculated using $\lambda_L = 0.97$.

The short-term (S) and long-term (L) weights of the 10-Year U.S. Treasury Note Futures calculate using the following process:

$$W_{t,h}^{TRES,S} = \begin{cases} 0 & \text{if } Vol_{t,h}^{SI,S} < Target Vol \\ \text{if } Vol_{t,h}^{SI,S} \geq Target Vol \text{ and no valid } W_{1,h}^S \text{ and } W_{2,h}^S \text{ solutions to Formula (4)(5)} & \\ \max(0, 1 - W_{t,h}^{SI,S}) & \text{Otherwise} \end{cases}$$

$$W_{t,h}^{TRES,L} = \begin{cases} 0 & \text{if } Vol_{t,h}^{SI,L} < Target Vol \\ \text{if } Vol_{t,h}^{SI,L} \geq Target Vol \text{ and no valid } W_{1,h}^L \text{ and } W_{2,h}^L \text{ solutions to Formula (4)(5)} & \\ \max(0, 1 - W_{t,h}^{SI,L}) & \text{Otherwise} \end{cases}$$

Index Maintenance

Rebalancing

The indices rebalance intraday at the end of each TWAP calculation window. For any unscheduled full-day market closure, the index does not rebalance.

As part of the rebalancing process, the weights of the various asset class components are determined based on the asset class weights in the underlying component indices as described in *Index Construction*.

TWAP Calculations

All indices' futures contracts' TWAPs calculate using the quoted futures contracts' mid-prices.

The mid-price of a futures contract for a given time-window h and interval k on day t calculates as:

$$FutMidPrice_{t,h}^k = \begin{cases} \frac{FutBidPrice_{t,h}^k + FutAskPrice_{t,h}^k}{2} & \text{if both } FutBidPrice_{t,h}^k \text{ and } FutAskPrice_{t,h}^k \text{ exist} \\ N/A & \text{otherwise} \end{cases}$$

where:

$FutBidPrice_{t,h}^k$ = Last quoted bid-price of the futures contract during interval k of time-window h on day t

$FutAskPrice_{t,h}^k$ = Last quoted ask-price of the futures contract during interval k of time-window h on day t

The TWAP of a futures contract for a given time-window h on day t calculates as:

$$FutTWAP_{t,h} = \frac{\sum_k (\delta_{t,h}^k \times FutMidPrice_{t,h}^k)}{\sum_k \delta_{t,h}^k}$$

where:

$\delta_{t,h}^k$ = 1 if $FutMidPrice_{t,h}^k$ is available, 0 otherwise

TWAP Windows

For each scheduled full trading day, the TWAP calculation windows are defined as follows:

Window	TWAP Observation Period	TWAP Execution Period
1	09:35 to 09:45 ET	09:50 to 10:00 ET
2	11:15 to 11:25 ET	11:30 to 11:40 ET
3	13:05 to 13:15 ET	13:20 to 13:30 ET
4	15:30 to 15:40 ET	15:50 to 16:00 ET

For any regularly scheduled early market closure, the index uses the first two regular-day observation periods and a final observation window from 12:30 to 12:40 ET. For execution windows, the index rebalances using the first two regular-day execution windows and a final execution window from 12:50 to 13:00 ET.

Futures Rolling Method

E-mini S&P 500 Futures. The index rolls out of the current active futures contract and into the next active futures contract five business days prior to the active futures contract expiry date quarterly in March, June, September, and December. The roll occurs after the close.

COMEX Gold Futures. The index only uses gold futures contracts that expire in February (G), April (J), June (M), August (Q), and December (Z). The index rolls out of the current active futures contract and into the next active futures contract two business days prior to the active futures contract first notice date in January, March, May, July, September, and November. The roll occurs after the close.

10-Year U.S. Treasury Note Futures. The index rolls out of the current active futures contract and into the next active futures contract two business days prior to the active futures contract first notice date quarterly in February, May, August, and November. The roll occurs after the close.

Market Disruptions

Unavailable Pricing. When an index uses TWAP pricing and there is at least one price observed in the relevant TWAP observation window, the index uses that price as defined in *Index Construction*.

Observation Windows. If the underlying futures experience an interruption and there are no recorded prices during the relevant TWAP observation window for either component, the complete observation and relevant execution window is considered disrupted, meaning the index skips that window's rebalancing with no change in weights from the previous window. Intraday index levels for that window calculate using the relevant execution TWAPs.

Execution Windows. If the underlying futures experience a failure while calculating the TWAP over the execution window when there is no valid quote each minute, the window is disrupted and the weights adjust only by the Executed Size.

Executed Size calculates as the number of minutes with a level divided by the total number of minutes in the execution window, according to the process below:

- If there are no failures and if the execution window is from 09:50:01 to 10:00:00 Eastern Time, there are 10 one-minute TWAPs during the window.
- If a valid quote is missing for an entire minute (e.g., no second within that minute has a valid quote), that minute is disrupted. If two out of 10 minutes do not have valid quotes, the Executed Size is defined as $8/10 = 80\%$. Executed Size is reduced by 10% for each disrupted minute.

If E-mini S&P 500 Futures or COMEX Gold Futures are disrupted, the subindex level at the end of the execution window calculates as:

$$\begin{aligned} SubIndexER_{t,h} &= SubIndexER_{t,h-1} \\ &\quad * \left(1 + W_{t,h-1}^{EQ} * Executed\ Size^{EQ} \left(\frac{TWAP_{t,h}^{EQ,EXC}}{TWAP_{t,h-1}^{EQ,EXC}} - 1 \right) + W_{t,h-1}^{CMD} * Executed\ Size^{CMD} \left(\frac{TWAP_{t,h}^{CMD,EXC}}{TWAP_{t,h-1}^{CMD,EXC}} - 1 \right) \right) \end{aligned}$$

If 10-Year US Treasury Note Futures are disrupted, at the end of the execution window, the S&P MARC II 8% Index calculates as:

$$\begin{aligned} IndexER_{t,h} &= IndexER_{t,h-1} \\ &\quad * \left(1 + W_{t,h-1}^{SI} * \left(\frac{SubIndexER_{t,h-1}}{SubIndexER_{t,h-2}} - 1 \right) + W_{t,h-1}^{TRES} * Executed\ Size^{TRES} \left(\frac{TWAP_{t,h}^{TRES,EXC}}{TWAP_{t,h-1}^{TRES,EXC}} - 1 \right) \right) \end{aligned}$$

Executed Size calculates at the individual futures component level. Weights for equity, gold, and Treasuries futures adjust independently.

Execution Windows – Full disruption. An execution window is considered fully disrupted if no valid price levels are available for a component (S&P 500 Futures or COMEX Gold Futures for the subindex, or Treasuries for the S&P MARC II 8% Index) during the relevant execution window. In such case, the executed size equals zero and the return contribution of this component is zero for this calculation window.

If E-mini S&P 500 Futures or COMEX Gold Futures experience a full disruption, the subindex calculation treats the entire window as disrupted: Index levels are held constant and both components contribute zero return. However, the S&P MARC II 8% Index still calculates because of the one-window lag.

If Treasuries experience a full disruption, S&P MARC II 8% Index levels hold constant for that window.

For further information on the impact of unavailable pricing on the TWAP calculation, please refer to the Pricing Types section of S&P Dow Jones Indices' Commodities Indices Policies & Practices Methodology.

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

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 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.spglobal.com/spdji/.

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 MARC II 8% Index (USD) ER	07/17/2026	02/23/2005	02/23/2005	100
S&P MARC II 8% – Equity/Gold Basket Index (USD) ER	07/17/2026	01/18/2005	01/18/2005	100

Index Governance

Index Committee

An S&P Dow Jones Indices' Index Committee maintains the index. The Committee meets regularly. At each meeting, the Committee reviews matters that may affect index constituents, statistics comparing the composition of the index to the market, and any significant market events. In addition, the Index Committee may revise index policy covering rules for selecting constituents, 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 Methodology, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

Index Policy

Holiday Schedule

The index is calculated on all U.S. equity market business days.

A complete holiday schedule for the year is available at www.spglobal.com/spdji/.

Unexpected Exchange Closures

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

Rebalancing

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Recalculation Policy

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Contact Information

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

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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	BBG	RIC
S&P MARC II 8% Index (USD) ER	SPMRC8IP	.SPMRC8IP

Index Data

Daily constituent and index level data are available via subscription.

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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.

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