S&P 500® Engle 12% VT Index

S&P Dow Jones Indices

A Division of S&P Global

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The S&P 500 Engle 12% VT[1] Index measures dynamic exposure to the S&P 500 while applying a predictive volatility control mechanism. This mechanism employs a variation of the GARCH model, inspired by the research of Nobel Laureate Robert F. Engle.

Key Benefits

Dynamic exposure to the S&P 500.

Though the index has exhibited performance differences versus the S&P 500 during volatile market periods due to its risk-management component, the S&P 500 is at its core.

Nobel Prize-winning volatility forecast model.

The index draws on expertise from both Robert F. Engle and S&P Dow Jones Indices to forecast volatility based on observable market patterns.

Responsiveness.

Intraday observation and rebalancing enable the index to react quickly to changing market conditions by increasing or decreasing weight to the S&P 500.

More stable volatility.

Mechanisms in the index enable it to potentially stay more closely aligned to its 12% volatility target.

[1] VT stands for volatility target.
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How Does the Index Measure Volatility?

The S&P 500 Engle 12% VT Index takes an innovative approach to modeling volatility by measuring it in three distinct ways:

Slow-Moving Volatility

The index uses GARCH-style models with 20 years of realized volatility data to predict daily volatility from historical patterns.

Time-of-Day Volatility

The index accounts for time-of-day effects where volatility levels tend to be elevated at specific times of the day.

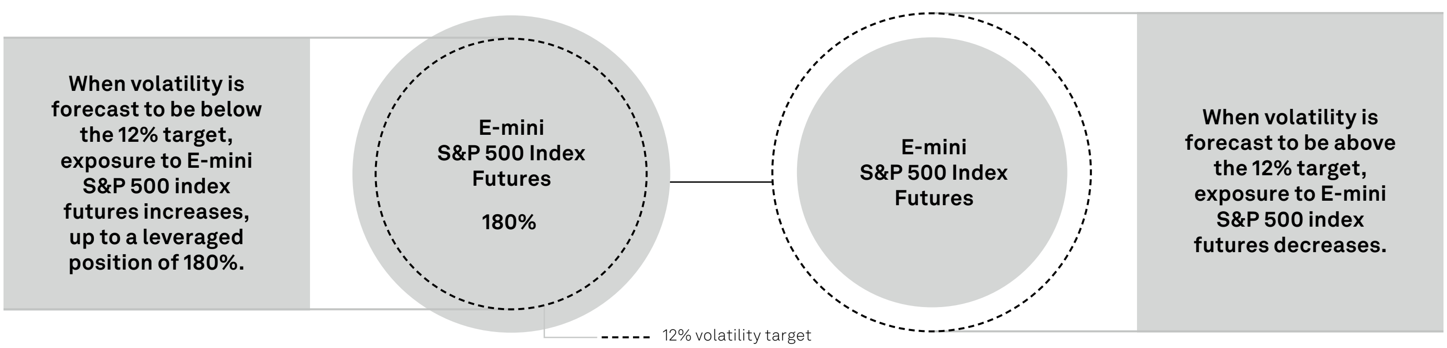
Intraday Volatility

This index component focuses on short-term fluctuations observed within a single trading day or from the end of one trading day into the beginning of the next.

The index's predictive volatility mechanism is based on Nobel Prize-winning research from Robert F. Engle, who devised a method for analyzing volatility shocks in financial market prices. Prediction of these volatile movements can potentially help manage risk more effectively.

This innovative volatility modeling approach is combined with an intraday trend mechanism that allows the index to further reduce its exposure to the S&P 500 in stressed market conditions.

How Does the Volatility Control Mechanism Work?



Source: S&P Dow Jones Indices LLC. Chart is provided for illustrative purposes.

How Does This Differ from a Traditional Risk Control Index?

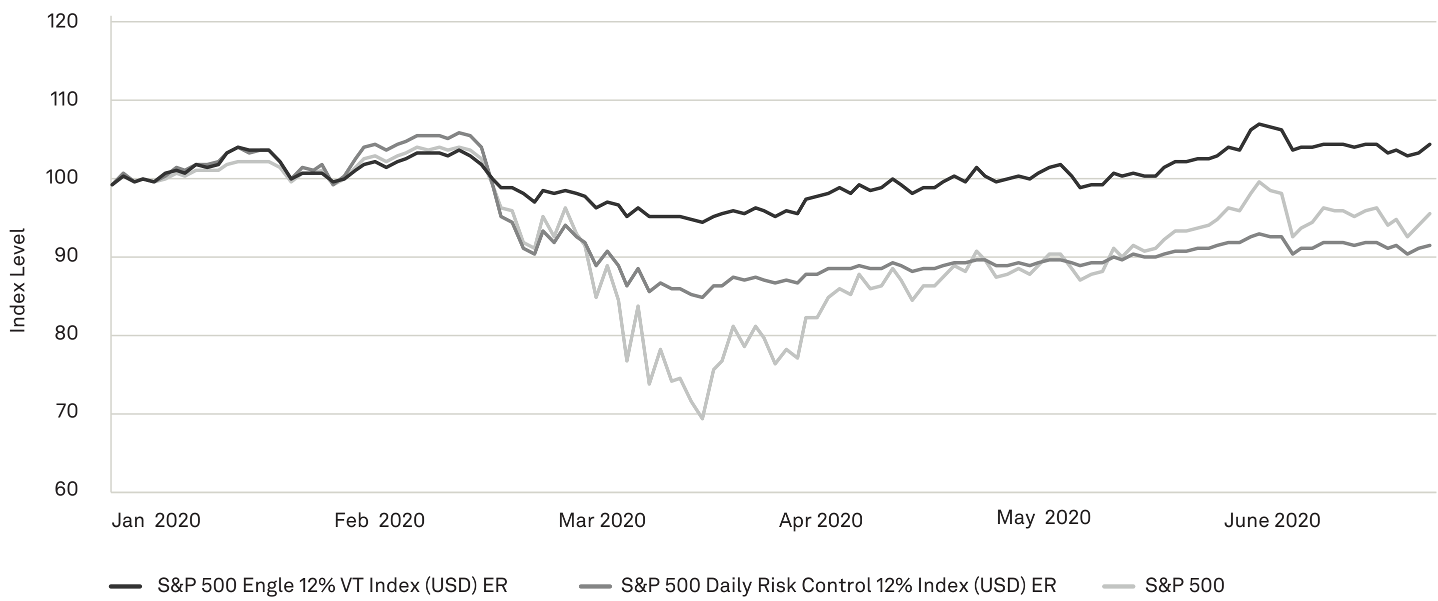
The S&P 500 Engle 12% VT Index shares similarities with traditional risk control indices by providing exposure to the S&P 500 with a target volatility. When volatility exceeds the target, weight in the underlying index is reduced; conversely, if volatility is below the target, the weight is increased.

What sets the S&P 500 Engle 12% VT Index apart is its predictive volatility mechanism, which incorporates observable historical patterns in the market. Periods of high volatility often cluster together, followed by periods of relative calm. Taking these patterns into account allows the index to adjust weighting based on a sophisticated model of volatility dynamics.

Case Study: Covid-19 Market Selloff

Back-tested index data shows that during the Covid-19 market selloff of 2020, the S&P 500 Engle 12% VT Index would have been able to quickly adjust to help mitigate drawdowns and participate in the subsequent rebound more effectively than a traditional risk control index that rebalanced at end-of-day.

Covid-19 Selloff Back-Tested Performance: S&P 500 Engle 12% VT Index versus Traditional Risk Control



Index Returns Jan. 1, 2020 - Jun. 30, 2020	
S&P 500 Engle 12% VT Index (USD) ER	5.00%
S&P 500 Daily Risk Control 12% Index (USD) ER	-6.14%
S&P 500	-4.04%

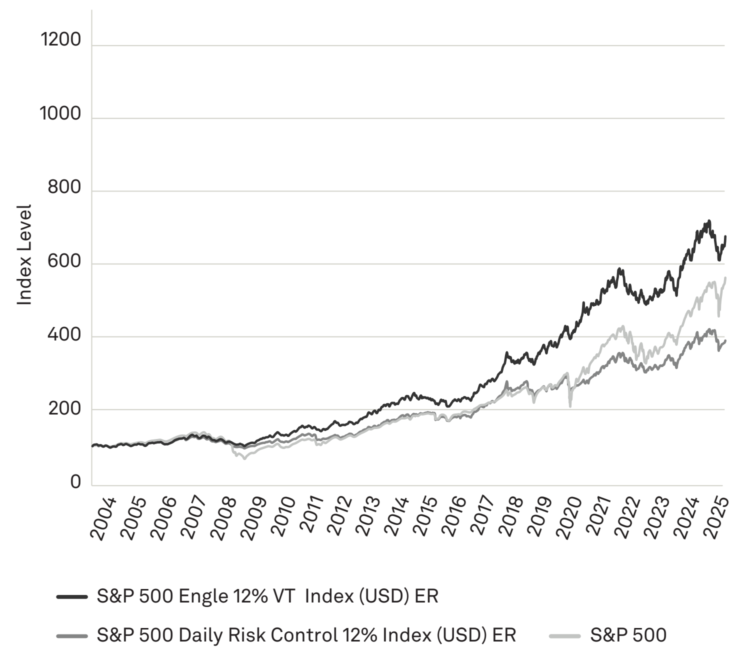
Source: S&P Dow Jones Indices LLC. Data from Jan. 1, 2020 to June 30, 2020. Past performance is no guarantee of future results. The S&P 500 Engle 12% VT Index was launched Dec. 18, 2024. The S&P 500 Daily Risk Control 12% Index was launched Apr. 21, 2010. All data prior to such date is back-tested hypothetical data. Chart and table are provided for illustrative purposes and reflect hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

Back-Tested Historical Performance

Over the course of its hypothetical history, which is based on back-tested data, the S&P 500 Engle 12% VT Index would have exhibited highly correlated performance versus the S&P 500 and competitive risk-adjusted returns in general, while minimizing drawdowns in periods of market stress.

Back-Tested Historical Performance: S&P 500 Engle 12% VT Index versus Traditional Risk Control

Year	S&P 500 Engle 12% VT Index (USD) ER	S&P 500 Daily Risk Control 12% Index (USD) ER	S&P 500
2005	-0.57	-1.70	3.00
2006	14.11	12.44	13.62
2007	3.35	-0.66	3.53
2008	-13.61	-16.88	-38.49
2009	18.01	13.46	23.45
2010	17.83	11.42	12.78
2011	2.17	-2.66	0.00
2012	9.91	8.35	13.41
2013	33.82	30.53	29.60
2014	9.87	8.63	11.39
2015	-5.45	-4.65	-0.73
2016	9.14	7.26	9.54
2017	33.63	31.10	19.42
2018	0.91	-4.73	-6.24
2019	27.72	18.29	28.88
2020	20.46	3.29	16.26
2021	17.80	21.07	26.89
2022	-12.92	-12.80	-19.44
2023	19.12	13.89	24.23
2024	14.57	15.20	23.31
2025 YTD	0.35	-4.29	5.38



Source: S&P Dow Jones Indices LLC. Data from from Jan. 2, 2004 to June 30, 2025. Past performance is no guarantee of future results. The S&P 500 Engle 12% VT Index was launched Dec. 18, 2024. The S&P 500 Daily Risk Control 12% Index was launched Apr. 21, 2010. All data prior to such date is back-tested hypothetical data. Chart and table are provided for illustrative purposes and reflect hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

Key Facts

Index Name	S&P 500 Engle 12% VT Index
Ticker	SPEVT12E
First Value Date	Jan. 2, 2004
Launch Date	Dec. 18, 2024
Currency	USD
Asset Class	Multi-Asset
Components	E-mini S&P 500 Index Futures Contract
Return Type	Excess Return
Rebalancing Frequency	Intraday
Upper Intraday Weight	150%
Max Effective Exposure with VAF	180%

Source: S&P Dow Jones Indices LLC. Chart is provided for illustrative purposes.

About S&P Dow Jones Indices

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Performance Disclosure/Back-Tested Data

The S&P 500 Engle 12% VT Index was launched Dec. 18, 2024. The S&P 500 Daily Risk Control 12% Index was launched Apr. 21, 2010. All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance, and is based on the index methodology in effect on the index 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. Also, the treatment of corporate actions in back-tested performance may differ from treatment for live indices due to limitations in replicating index management decisions. Complete index methodology details are available at www.spglobal.com/spdji. 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.

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. Back-tested performance is for use with institutions only; not for use with retail investors.

S&P Dow Jones Indices 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 Dow Jones Indices 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.

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 S&P DJI's 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.

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