

S&P 500 Systematic Mean Reversion Tactical Allocator Index

Using Mean Reversion Signals
to Capture S&P 500 Returns



**S&P Dow Jones
Indices**

A Division of **S&P Global**

S&P 500 Systematic Mean Reversion Tactical Allocator Index

An Index implementing a systematic methodology seeking dynamic leverage to the S&P 500® based on recent performance and volatility.

The S&P 500 Systematic Mean Reversion Tactical Allocator Index (S&P 500 SMRT Allocator Index or the “Index”) measures the hypothetical performance of a strategy that seeks to change exposure to the S&P 500 performance by implementing the financial concept of mean reversion and uses volatility signals to determine leverage to the S&P 500.

The S&P 500 SMRT Allocator Index allows a maximum total leveraged weight of 200% and minimum of 50% to the S&P 500.

Key Index Characteristics



Uses a mean reversion signal based on a moving average indicator aiming to identify short-term deviations in market trends and adjusts its leverage to the S&P 500 accordingly, increasing when equity markets are trending down and reducing it when equity markets are trending up.



Index leverage is also adjusted by the estimated volatility of the S&P 500 as the Index seeks to increase the magnitude of the mean reversion signal and optimize the multiplier applied to the S&P 500.



Based on back-tested data, the S&P 500 SMRT Allocator Index would have **historically outperformed** the S&P 500 due to dynamic leverage, albeit with higher volatility by design.

How Does the Index Work?

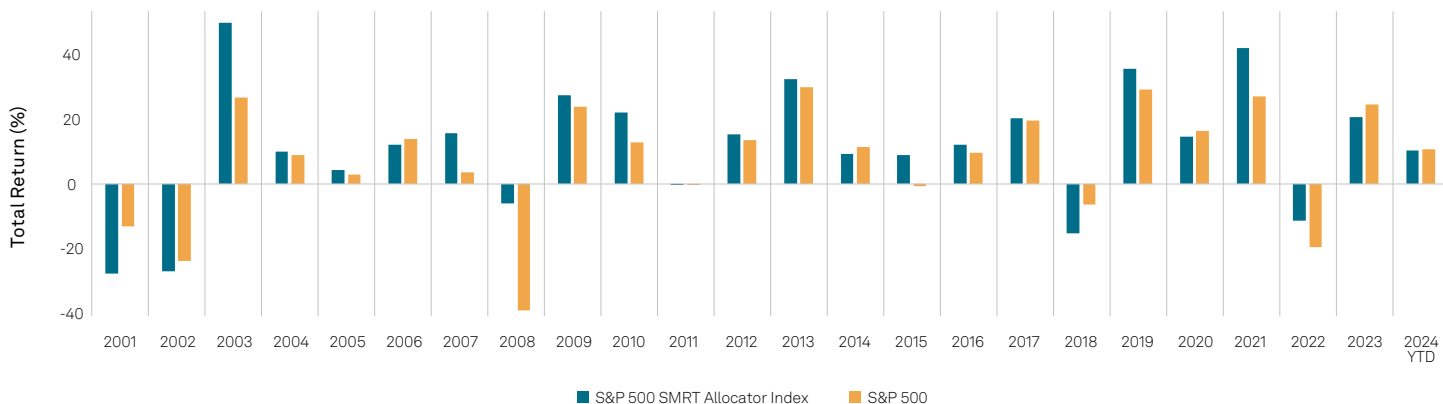
- **The S&P 500 SMRT Allocator Index dynamically adjusts its leverage to the S&P 500** based on mean reverting and volatility signals, both calculated using an exponential weighted moving average (EWMA).
- If the **closing index level of the S&P 500 is lower** than the short-term EWMA (i.e., trending down), **leverage to the S&P 500 increases** (up to a maximum of 200%) to capture potential upside.
- If the **closing level is higher** than the short-term EWMA (i.e., trending up), **leverage to the S&P 500 decreases** (down to a minimum of 50%) in order to decrease potential downside.
- The index leverage factor is **adjusted by a long-term volatility observation based on S&P 500 volatility levels from the prior day**. As a result, final leverage to the S&P 500 is optimized as the index seeks to quickly fluctuate between cap-to-floor and floor-to-cap.
- The S&P 500 SMRT Allocator Index is **calculated in excess return terms**, with the theoretical funding rate being the effective Fed funds rate.

How Has the Index Performed Historically?

- Based on back-tested data, **the Index's average participation in The 500™ would have been 102.2% for the period 2000 through 2023**. However, due to the Index's dynamic leverage to the S&P 500, its annualized performance since 2000 would have been 9.07%, reflecting 161% of the S&P 500's performance during the same period.
- In conditions when the S&P 500 has gone up and down consistently, such as 2022, **the S&P 500 SMRT Allocator Index's mean reversion strategy demonstrated the ability to deviate from the long-term trend and dynamically adjust its leverage to the S&P 500** based on short-term mean reversion signals which would have helped improve its performance relative to the benchmark.

Exhibit 1: Performance of the S&P 500 SMRT Allocator Index Based on Back-tested Data

Back-tested Annual Performance



Back-tested Historical Performance

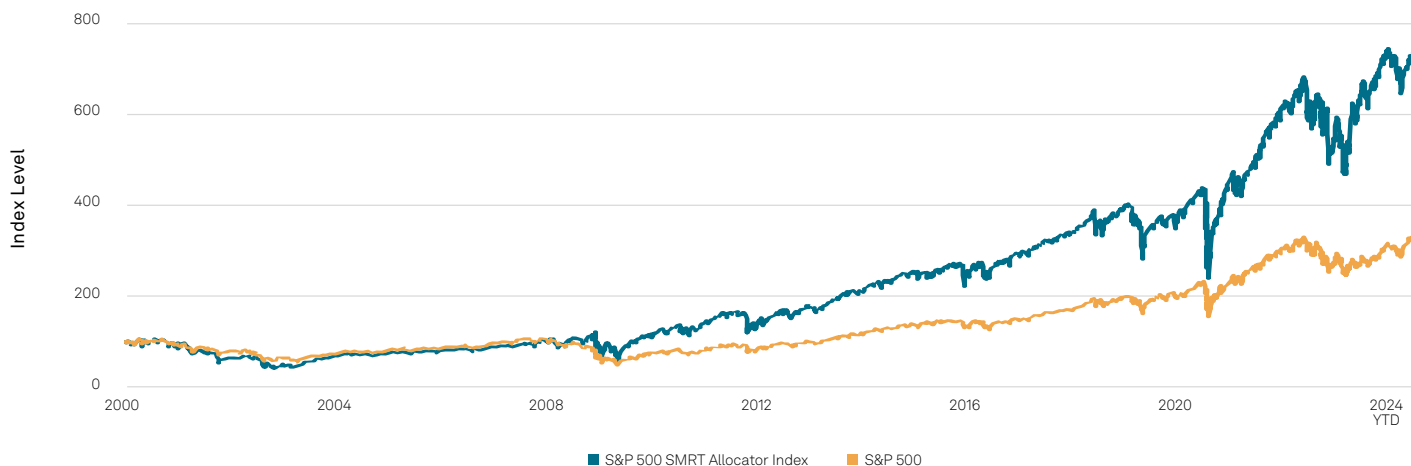


Exhibit 2: Rolling 3-year Volatility of the S&P 500 SMRT Allocator Index

Based on Back-tested Data

Back-tested Rolling 3-year Volatility

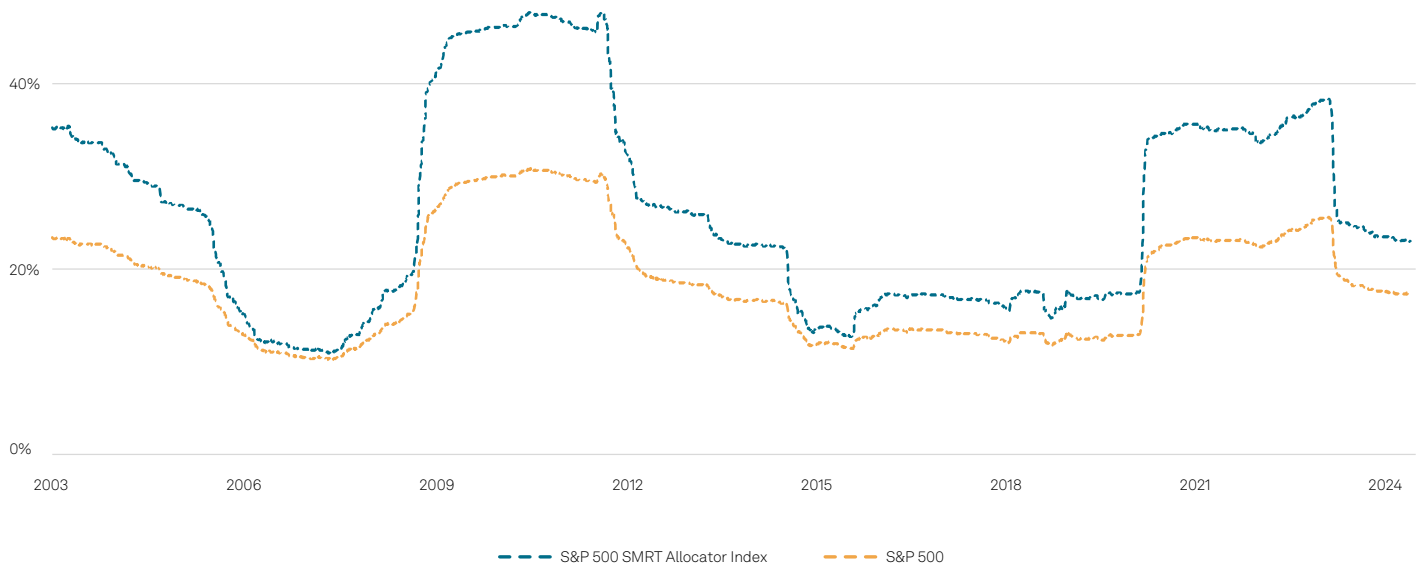
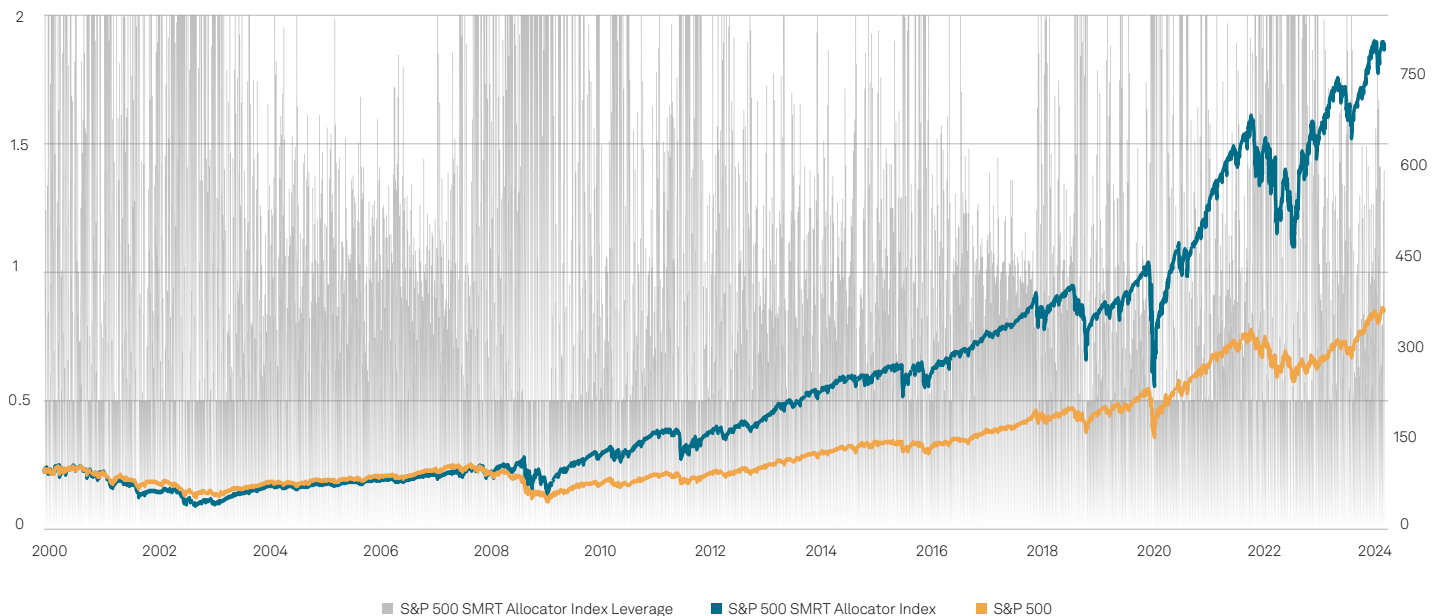


Exhibit 3: Historical Leverage of the S&P 500 SMRT Allocator Index to the S&P 500

Based on Back-tested Data

Leverage vs. Index Performance



Source: S&P Dow Jones Indices LLC. Data from Jan. 3, 2000, to May 31, 2024. Index performance based on excess return in USD. The S&P 500 Systematic Mean Reversion Tactical Allocator Index (USD) ER was launched Feb. 16, 2024. All data prior to index launch date is back-tested hypothetical data. Past performance is no guarantee of future results. Charts are provided for illustrative purposes and reflects 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.

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Performance Disclosure/Back-tested Data

The S&P 500 S&P 500 Systematic Mean Reversion Tactical Allocator Index (USD) ER was launched Feb. 16, 2024. 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. 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.

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