Frequently Asked Questions

The S&P Riskcasting Index Series

1. **What are the S&P Riskcasting Indices?** The S&P Riskcasting Index Series is comprised of indices that allocate between equity and fixed income indices based on a Riskcasting signal generated by S&P DJI's partner firm, Bramham Gardens. The objective of the index series is to allocate a higher weight to the equities under potentially favorable market conditions and conversely a higher weight to fixed income under potentially less favorable market conditions.

   As of the launch date, the S&P Riskcasting Index Series includes the following indices that change allocation to the relevant S&P equity index and the S&P 10-Year U.S. Treasury Note Futures Index.

   - S&P 500® Riskcasting Index
   - S&P 500 Low Volatility Riskcasting Index
   - S&P 500 Riskcasting Daily RC 10% Index
   - S&P 500 Riskcasting Daily RC 5% Index
   - S&P 500 Low Volatility Riskcasting Daily RC 10% Index
   - S&P 500 Low Volatility Riskcasting Daily RC 5% Index

2. **Who is Bramham Gardens?** Bramham Gardens is a Paris-based firm that specializes in artificial-intelligence-driven investment strategies that screen, anticipate, and signal market risk increases with the goal of delivering a smoother return stream while investing in equity assets. The team is comprised of several PhDs in Financial Economics and Machine Learning.

   For more information about Bramham Gardens, please refer to the website: http://www.bramham-gardens.com/.

3. **What is the Riskcasting signal?** Using information from equity options based on the S&P 500, the goal of the Riskcasting signal is to determine when to allocate to equities and when to allocate to fixed income.

   Data for the Riskcasting signal is first obtained from an S&P 500 option-derived volatility surface that measures the spectrum of investor risk aversion levels toward the equity market and the evolution of their attitudes. All volatility surfaces are normalized and transformed using techniques to combine statistics and signal processing. The outcome is then used to generate the Riskcasting signal. To be more precise, this signal aggregates the answers to the following three questions, asked by means of machine learning.

   - How likely is the S&P 500 to rise more than 1% tomorrow?
   - How likely is the S&P 500 to fall more than 1% tomorrow?
   - How likely is the S&P 500 to exhibit high volatility tomorrow?

Based on the consistency of the three answers, the Riskcasting signal is generated, recommending either a positive, neutral, or negative state. This determined state is then used for the allocation in the S&P Riskcasting Index Series.

It is important to note that the process of updating and learning takes place on a daily basis, relying on a rolling window of five years.

4. **What is the difference between the indices in the S&P Riskcasting Index Series?** Each of the S&P Riskcasting Indices have one of three potential allocations depending on the Riskcasting signal state. For the current S&P Riskcasting Indices, the allocations in each state are shown in Exhibit 1.

Exhibit 1: S&P Riskcasting Indices Allocation According to Signal

SIGNAL	S&P 500 RISKCASTING INDEX	S&P 500 LOW VOLATILITY RISKCASTING INDEX
Bull	• 100% to the S&P 500	• 100% to the S&P 500
Neutral	• 50% to the S&P 500 • 50% to the S&P 10-Year U.S. Treasury Note Futures Index	• 50% to the S&P 500 Low Volatility Index • 50% to the S&P 10-Year U.S. Treasury Note Futures Index
Bear	• 100% to the S&P 10-Year U.S. Treasury Note Futures Index	• 100% to the S&P 10-Year U.S. Treasury Note Futures Index

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

5. **Is there a volatility target associated with the S&P Riskcasting Indices?** There is no explicit target volatility associated with these indices. The historical back-test of the strategies from January 2006 to April 2020 indicated a volatility of 7.5% for the S&P 500 Riskcasting Index and 7.1% for the S&P 500 Low Volatility Riskcasting Index.

6. **How often do the indices rebalance?** The Riskcasting signal is generated daily and the S&P Riskcasting Indices use the signal to rebalance to their target allocation on a daily basis. Historically, there have been approximately 10 allocation changes to different states per year.

7. **How are the indices calculated?** The S&P Riskcasting Index Series uses an index of indices approach, in which the appropriate weights are assigned to the two component indices and calculated accordingly. There are price return and total return versions. At present, these are end-of-day indices.

   For more information on how the indices are calculated, please refer to the S&P Riskcasting Indices Methodology.

8. **Is there a lag period for the indices?** There is a two-day lag between the Riskcasting signal generation and implementation in the S&P Riskcasting Indices.

9. **When are the indices published?** The S&P Riskcasting Indices follow the holiday schedule of the S&P 500. A complete holiday schedule for the year is available at https://www.spglobal.com/spdji/en/governance/methodologies/#methodology-information.

10. **How much history is available for these indices?** History for these indices is available from Jan. 5, 2006.

11. **Where can I obtain more information about the S&P Riskcasting Indices?** For further information, please see the Bramham Gardens' Riskcasting Signal Methodology and the S&P Riskcasting Indices Methodology.

PERFORMANCE DISCLOSURE

The S&P 500 Riskcasting Index and S&P 500 Low Volatility Riskcasting Index were launched April 13, 2020. The S&P 500 Riskcasting Daily RC 5%, S&P 500 Riskcasting Daily RC 10%, S&P 500 Low Volatility Riskcasting Daily RC 5%, and S&P 500 Low Volatility Riskcasting Daily RC 10% were launched June 22, 2020. All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance. The back-test calculations are based on the same methodology that was 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. Complete index methodology details are available at www.spdji.com. Past performance of the Index is not an indication of future results. Prospective application of the methodology used to construct the Index may not result in performance commensurate with the back-test returns shown.

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 at a fixed value for calculation purposes. The Launch Date designates the date upon which 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 datafeed 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.

The back-test period does not necessarily correspond to the entire available history of the Index. Please refer to the methodology paper for the Index, available at www.spdji.com 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.

Another limitation of using back-tested information is that the back-tested calculation is generally prepared with the benefit of hindsight. Back-tested information reflects the application of the index methodology and selection of index constituents in hindsight. No hypothetical record can completely account for the impact of financial risk in actual trading. For example, there are numerous factors related to the equities, fixed income, or commodities markets in general which cannot be, and have not been accounted for in the preparation of the index information set forth, all of which can affect actual performance.

The Index returns shown do not represent the results of actual trading of investable assets/securities. S&P Dow Jones Indices LLC maintains the Index and calculates the Index levels and performance shown or discussed, but does not manage actual 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).

GENERAL DISCLAIMER

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