S&P Dow Jones Indices

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InvestorTalks

Using AI to Measure Market Mood with Indices

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Investor Talks is an interview series where industry thinkers share their thoughts and perspectives on a variety of market trends and themes impacting indexing.

Indexing and artificial intelligence (AI) are democratizing access to institutional quality risk management. The S&P Riskcasting® Indices are designed to help keep risk in check, using AI to track signals of investor views on market risk and systematically adjusting allocations based on the signals received. S&P DJI joins Arnaud de Servigny to discuss how these innovative indices track the mood of the market to dynamically capture potential opportunities.

What's inside the S&P Riskcasting Index Series, and what is it designed to do?

S&P DJI: The index series is a rules-based, systematic multi-asset strategy that incorporates equity and fixed income. It uses a risk aversion signal to determine three different market states: bullish, neutral, or bearish. Based on the determined market state, the S&P Riskcasting Indices will allocate to different equity or fixed income indices. For example, the S&P 500® Riskcasting Index uses the S&P 500 and the S&P 10-Year Treasury Note Futures Index as its components, whereas the S&P 500 Low Volatility Riskcasting Index uses the S&P 500, S&P 500 Low Volatility Index, and S&P 10-Year Treasury Note Futures Index as its three components.

How does the risk aversion signal use S&P 500 options to measure the mood of the market?

Arnaud: Generally, looking at risk in the finance industry, we tend to have backward-looking information on volatility and things like that. In a way, it is like looking in the rearview mirror while driving a car. What we want to do, however, is to look at what is going on right now or in the near future, and for this type of analysis we look at option markets. In the option markets, there are many different participants with many different views, and it is the diversity of these views that is interesting. If the overall market mood evolves in one direction or another, then this is something that is likely to have an impact on market performance, especially the equity market, which is what we want to capture.

Where does AI fit in?

Arnaud: We've been talking about different views in the market. In reality, when we're looking at options, we can easily consider a number of contracts, which reaches about 20 million. In order to go from 20 million pieces of information to a decision-making process that is relatively simple, we need to get just the gist of it. This is what AI allows us to do—to simplify everything. Additionally, the world is constantly evolving, and we need to adapt to this changing world. Looking at the global financial crisis in 2008, for example, it was really catastrophic, but this cannot serve as the only reference for making decisions today. The Q1 2020 shock has shown us that crises can occur more suddenly. In fact, what machine learning, or AI, helps us to do is adapt to a changing world and still be able to make relevant decisions on whether to be in the market or not. In fact, machine learning means really learning from one's mistakes. So if in the past, some allocation decisions were wrong, then the learning process would help to adapt and shift.

Once the S&P Riskcasting Indices have received these signals, what happens?

S&P DJI: It's straightforward in terms of how the actual index is constructed and uses the Riskcasting signal. The S&P 500 Riskcasting Index and S&P 500 Low Volatility Riskcasting Index have three different market states. For the two indices, the bullish and bearish sides are the same; when the signal is bullish, both allocate to the S&P 500, and when the signal turns bearish, both allocate to the S&P U.S. 10-Year Treasury Note Futures Index. A differentiator between the two indices is when the signal turns to a neutral state. Here, the S&P 500 Riskcasting Index allocates 50% to the S&P 500 and 50% to the S&P U.S. 10-Year Treasury Note Futures Index. On the other hand, the S&P 500 Low Volatility Riskcasting Index equity allocation is to the S&P 500 Low Volatility Index, which is seen as a more defensive equity strategy compared to the S&P 500. A perfect example for how the index series can increase the potential upside and protect on the downside was performance in Q1 2020. The S&P 500 was down 19.6%, while the S&P 500 Low Volatility Index was down 19.0%. However, the S&P 500 Riskcasting Index was only down 4.9%, outperforming the S&P 500 by nearly 15 percentage points. In addition, the return for the S&P 500 Low Volatility Riskcasting Index was -2.6%, showing strong outperformance relative to both the S&P 500 and S&P 500 Low Volatility Index.

What are the benefits of using this Riskcasting signal within an index framework, and how often is this signal updated?

Arnaud: On the first point, because we're dealing here with the mood and emotions of market participants, we don't want to superimpose the mood or emotions of the observer. An index is the appropriate tool for this task, because it's as neutral as can be. To answer the second question, we want a signal that relies on high conviction when it rotates, not one that rotates on a very frequent basis. For example, changing your view on a monthly basis would be OK, but changing it on a daily basis would be too frequent. Therefore, we've tried to limit the frequency of movement, so that people can adapt to real trends in the market and not just to sudden shifts that may not last.

What’s the difference between the S&P Riskcasting Index Series and a more traditional approach to risk management, like the S&P 500 Low Volatility Index?

S&P DJI: There are two key points that differentiate the strategy from more traditional approaches. First is that it's a multi-asset strategy that dynamically allocates to equities and fixed income. Fixed income, particularly U.S. treasuries, are traditionally seen as a safer asset class compared to equities. Second, because the index series is rules-based, it could potentially change at any time, whether it’s daily, weekly, monthly, quarterly, etc., depending on the current market state based on the Riskcasting signal. Although the Riskcasting signal historically tends to be stable, it does have the ability to adapt and change allocations if necessary. On the other hand, constituent-based defensive equity indices are typically rebalanced on a set schedule, and the ability to change names is only during those times. While equity indices can shift into different names at each rebalance, clearly this also means that equity indices are always fully invested in the equity market. In conclusion, the S&P Riskcasting Indices attempt to capture the same equity market premium when the market is bullish but have the ability to shift into fixed income to reduce the risk of the index when market conditions are seen as not as favorable.

Performance Disclosure

The S&P 500 Riskcasting Index and S&P 500 Low Volatility Riskcasting Index were launched April 13, 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).