Volatility Spotlight

Inside Index Volatility - Why Its Underlying Drivers Matter

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»Trading index volatility requires a clear understanding of its underlying drivers: single stocks volatility and the correlation between those stocks.«

- **Index volatility has two key drivers: single stocks volatility and correlation.** Their relative contribution varies significantly across market regimes.
- **In stressed markets, the risk increasingly comes from single stocks.** During the most extreme 1% of daily increases in implied index volatility, around 70% of the move can be attributed to rising single stocks volatility – exposing investors to substantial and highly asymmetric tail risk.
- **The return, however, lies predominantly in correlation.** Despite carrying much of the downside risk, single stocks volatility offers comparatively little compensation. The majority of the volatility risk premium is embedded in the correlation component – making correlation the more attractive source of return relative to the risk taken.

Volatility risk premium strategies are a common component of liquid alternatives portfolios, offering a scalable source of return with a distinct risk and return profile relative to traditional equity exposures.

Selling index volatility means taking exposure to both single stocks volatility and correlation. Understanding these underlying drivers is important when assessing the risk-return-profile of a particular volatility strategy. In this edition of the Volatility Spotlight, we examine how these two components drive implied index volatility across different market regimes and what this means for investors allocating to volatility strategies.

Two forces drive implied index volatility

Index volatility is primarily shaped by two factors:

- the volatility of the underlying single stocks and
- the correlation between those stocks

Single stocks volatility determines the extent to which individual index constituents move. Correlation determines how much of those movements remains visible at the index level after diversification. A volatility strategy that sells index volatility directly is exposed to both components!

For investors, analysing index volatility alone is consequently not sufficient. Understanding its underlying drivers is essential to assess both the source of risk and the quality of the premium being harvested.

Single stocks volatility dominates in stress

Our analysis of daily 1-year at-the-money implied volatilities for the S&P 500® Index and single stocks indicates that the dynamic of these two drivers changes materially across regimes.

In normal markets, both single stocks volatility and correlation contribute almost equally to changes in index volatility. As market moves become larger, single stocks volatility increasingly dominates.

In the most extreme 1% of observations of index volatility changes, around 70% of the change can be attributed to single stocks volatility, as shown in **Chart 1**.

This means that large increases in index volatility are not only driven by stocks moving more closely together but increasingly by the individual stocks themselves becoming much more volatile.

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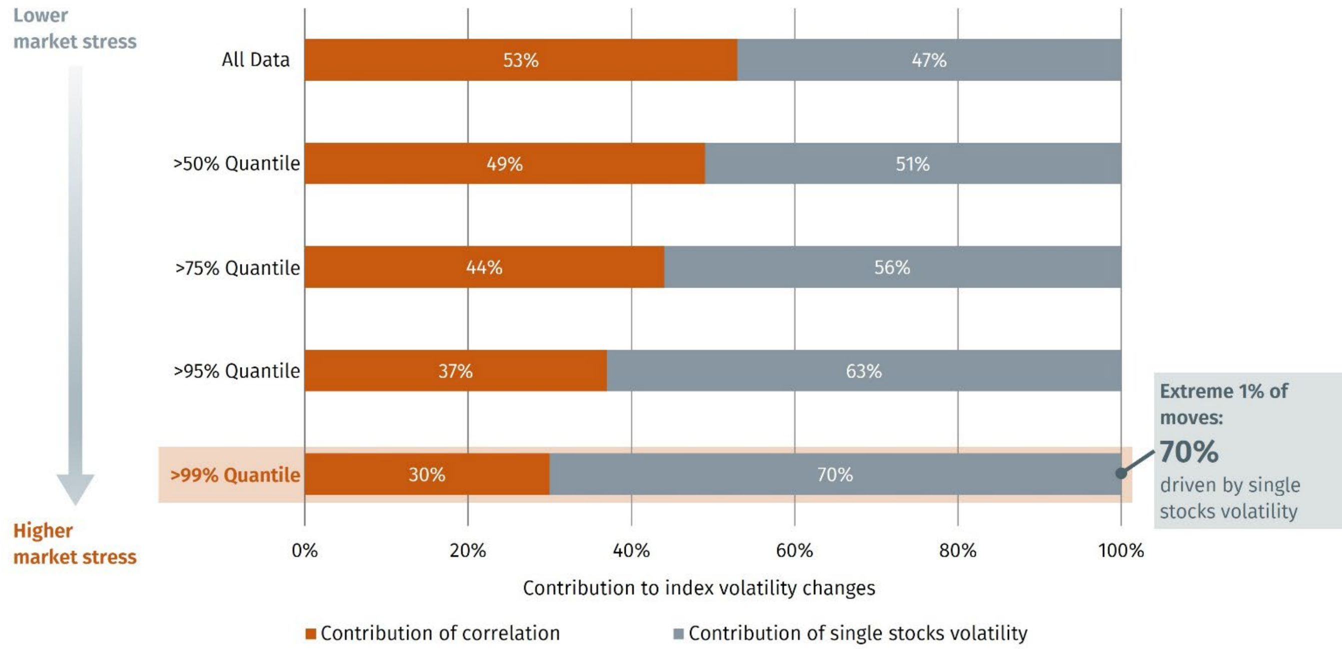
Chart 1: As market stress rises, single stocks volatility becomes the main driver
Contribution to changes in S&P 500® implied index volatility



Source: Assenagon Equity Derivatives Database

Risk premium comes from correlation

Risk contribution is only one side of the equation. The key question is whether investors are adequately compensated for bearing both types of risks.

To assess this, we compare the volatility risk premium of the S&P 500® Index with that of its largest underlying constituents.

The result is clear: index implied volatility has historically traded at a meaningful risk premium to realized volatility, while the corresponding premium in single stocks volatilities has been much smaller and, over long periods, close to zero, as shown in **chart 2**.

This creates an important asymmetry: single stocks volatility contributes a large share of the risk, especially during stress, but offers limited reward. The economically attractive part of the risk premium is predominantly embedded in correlation!

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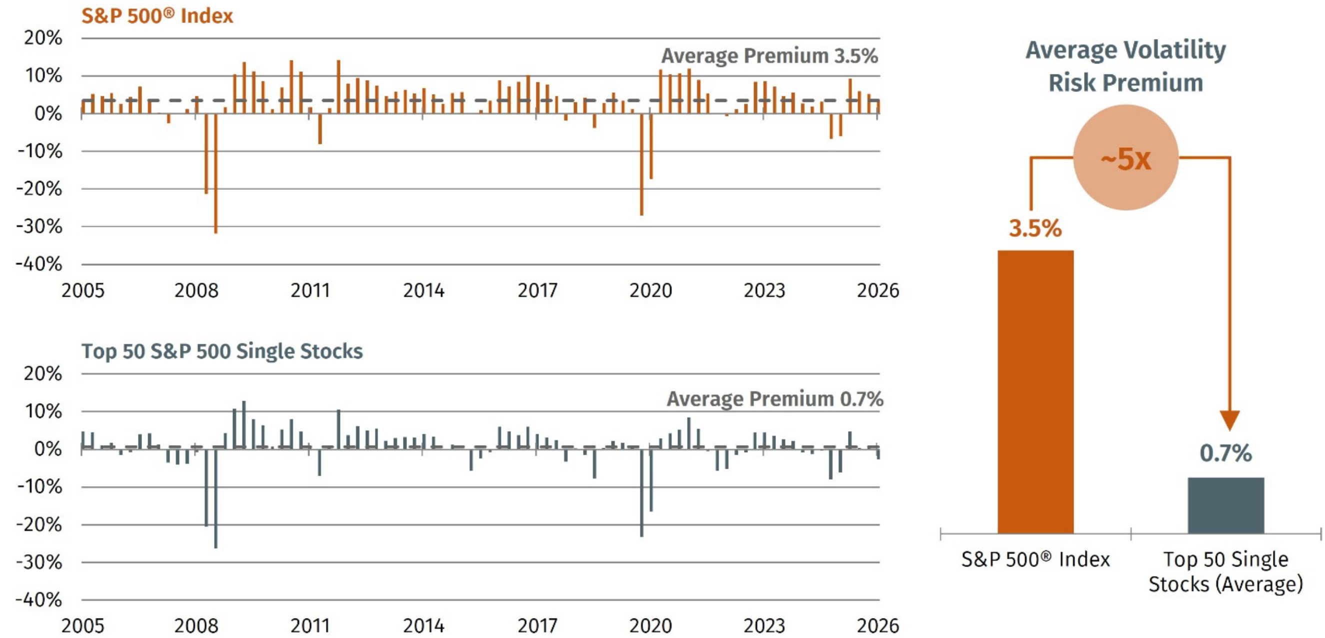
Chart 2: Volatility Risk Premium: S&P 500® Index vs Top 50 Single Stocks

Quarterly volatility risk premium, 03.01.2005 – 02.01.2026



Source: Assenagon Equity Derivatives Database

For investors

Selling index volatility therefore combines two risk factors with very different risk-return characteristics. Single-stock volatility increasingly dominates losses during stressed markets, despite historically offering little long-term compensation. Correlation, by contrast, has provided the majority of the volatility risk premium. For allocators, this distinction matters: not all sources of short volatility exposure offer the same compensation for the risk taken.

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