

Intech Equity Market Stress Monitor[®] Report

A Perspective on the Current Stability of Global Equity Markets

Q4
2022

As of 30-9-2022

Summary

- The quarter started on a hopeful note as equity markets rallied in July. However, global equity markets resumed their decline mid-quarter as fears grew that central banks' aggressive monetary policies would lead to a global recession. Volatility was not just confined to equity markets as wild swings and extreme readings included bond, currency, and commodity markets. Energy stocks continued to perform strongly for the quarter and remained the best performing sector this year. Larger capitalization stocks outperformed in the U.S. and growth-oriented stocks outperformed their value counterparts. While it varied widely during the quarter, higher beta stocks held up best overall for the quarter.
- The Intech Equity Market Stress Monitor continues to highlight some extreme readings and fast changes in risk trends as measured by our volatility metrics.
- The correlation of returns increased sharply during the quarter and is now approaching median levels for many equity markets. This reflects a shift in sources of market risk towards a more balanced decomposition between stock specific and systematic risks.
- The skewness of returns risk metric continued to decline during the quarter, reflecting investors' pessimism and the degradation in overall sentiment.
- While capital concentration in European equity markets increased, it was stable in the U.S. during the quarter. Still, it remains at historically high levels in that region following a steady increase over the past several years.

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We've identified a collection of risk metrics that we believe are reliable indicators of equity market stress. For each of these metrics, our observations have shown that when markets deviate substantially from typical levels, they eventually return to it. Moreover, the greater the deviation and persistency of extreme values across a larger collection of metrics, the more likely it is that the return to the mean will be abrupt, and accompanied by substantial volatility.

CAPITAL CONCENTRATION

Do winners take all? Capital concentration measures how the capital is distributed between stocks within an index. An increase means that more capital is allocated to larger-cap stocks. A decrease indicates that capital is moving to smaller-cap stocks. Our research has shown that the capital distribution among stocks is remarkably stable over the long term and tends to revert to median levels.



CORRELATION OF RETURNS

How similar are stocks' absolute returns? Correlation measures the market-weighted average pair-wise correlation of stocks in the index. It quantifies the similarity of stocks' returns, as a fraction of their volatility. As correlations rise, stocks' returns tend to move in tandem with each other as the common component of return – the market – begins to dominate. As correlations decline, stocks' returns exhibit less similarity between stocks because idiosyncratic factors dominate the market component.



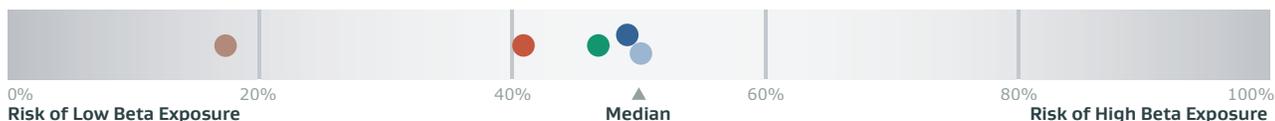
DISPERSION OF RETURNS

How different are stocks' relative returns? Also known as cross-sectional volatility, dispersion measures whether stocks' returns relative to their benchmark are converging (low dispersion) or diverging (high dispersion). As dispersion increases, underlying stock or portfolio returns begin to diverge from the overall benchmark. We find that the market eventually reverts to long-term levels when return dispersion is substantially low or high, which is associated with strain on the market.



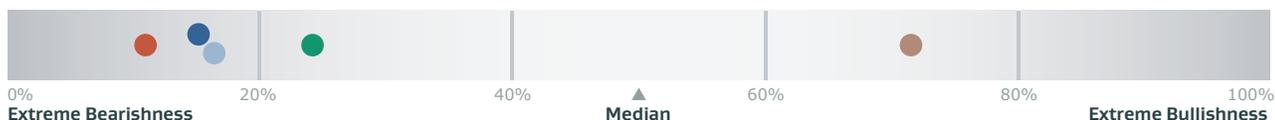
INDEX EFFICIENCY

How much beta risk should you take? Market efficiency measures the level of index diversification versus the potential diversification available given the volatility characteristics of index constituents. Low market efficiency makes it possible for a skilled manager to achieve above-market outcomes with lower beta exposure, but the risk is lower upside capture potential. Conversely, high market efficiency means that reliably outperforming the index requires a manager to have similar beta risk, exposing a portfolio to higher downside capture.



SKEWNESS OF RETURNS

How fat are the tails? Skewness measures the asymmetry of index returns around the mean. Logarithmic returns tend to exhibit a left-skewed distribution, meaning the most extreme returns are below the mean, as investors tend to react more strongly to negative news. When there is irrational exuberance among investors, market returns tend to become less negatively or, even, positively skewed. Conversely, low levels of skewness often coincide with the market shock itself, and eventually manifest into positive outcomes as markets stabilize.



● MSCI World ● MSCI EAFE ● S&P 500 ● MSCI Europe ● MSCI Emerging Markets

Regional Insight by Index

● GLOBAL EQUITY MARKET – MSCI WORLD INDEX

Two of five indicators remain at, or near, extreme levels, reflecting a decline in potential instability in global developed equity markets from last quarter.

Capital concentration increased slightly during the quarter and continues to reside in the top quintile, reflecting considerable instability among stocks' size within global

developed equity markets. While slight, the increase marks the continuation of a trend that began more than 5 years ago. Skewness of returns declined during the quarter and now ranks in the bottom decile. This reflects extreme bearishness in global developed equity markets.

Correlation of returns experienced the largest change quarter over quarter, increasing from levels near the bottom quartile to more typical levels. This reflects a shift to a distinct balance of stock specific and systematic sources of risk influencing stocks' return outcomes.

● NON-U.S. DEVELOPED EQUITY MARKET – MSCI EAFE INDEX

We observed a slight decrease in potential instability within international developed equity markets during the quarter, with two of five risk metrics now at, or near, extremes.

Correlation of returns continued to increase during the quarter, from the bottom quintile towards more typical levels. While the

increase reflects a move toward more typical levels, there remains a heightened amount of potential idiosyncratic, or stock specific, risk in non-U.S. developed equity markets.

Skewness of returns declined during the quarter and now ranks in the bottom quintile. This reflects the risk of extreme

bearishness in international developed equity markets. Capital concentration increased slightly during the quarter, a continued move to more typical levels. The increase continues to narrow the divergence in concentration observed between U.S. and non-U.S. developed equity markets.

● U.S. EQUITY MARKET – S&P 500 INDEX

U.S. equity markets experienced a slight decline in risk quarter over quarter, with three of five risk metrics at, or near, extremes. Yet, they continue to be one of the regions demonstrating some of the largest potential instability.

Capital concentration experienced a slight decline during the quarter, but continues to rank near the top decile, and reflects a

continued source of potential instability among stocks' size within U.S. equity markets. Dispersion of returns, a measure of cross-sectional volatility among stocks within the U.S. equity market, also declined slightly during the quarter, but continues to rank in the top quartile, indicating that underlying stocks' returns continue to diverge more from the overall market.

Correlation of returns experienced the largest change quarter over quarter, increasing from the bottom quartile to more typical levels. This reflects a shift to a typical balance of stock specific and systematic sources of risk influencing stocks' return outcomes.

● EUROPEAN EQUITY MARKET – MSCI EUROPE INDEX

European equity markets continue to be among the regions demonstrating the least amount of strain, with only two of five risk metrics at, or near, extreme levels.

The correlation of returns metric continued to increase during the quarter, from all-time lows experienced near the beginning of the year. However, the current level

remains in the bottom quintile and reflects potential idiosyncratic, or stock-specific risk, in European equity markets as stock returns move more independently.

The largest change observed during the quarter was a notable decrease in skewness of returns, which is now in

the bottom quartile. This reflects the risk of extreme bearishness in European equity markets. Capital concentration continued to increase in European equity markets during the quarter, moving to more typical levels and narrowing the divergence in concentration between European and U.S. equity markets.

● EMERGING MARKETS EQUITIES – MSCI EMERGING MARKETS INDEX

Emerging equity markets currently have three indicators at or near extremes, an increase in potential instability from levels earlier in the year.

The correlation of returns metric increased slightly during the quarter, but remains

near all-time lows. This reflects potential idiosyncratic, or stock-specific risk, in emerging equity markets as stock returns move more independently.

Index efficiency declined from typical levels during the quarter and has reached

the bottom quintile. The decline marks a continuation of a trend that began near the end of last year, when levels were near all-time highs, and reflects an increased risk of having lower beta exposure should markets rebound.



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Intech is a private, quantitative asset manager investing on behalf of pension funds, governments, endowments, foundations, and other institutional investors worldwide. Having pioneered the application of Stochastic Portfolio Theory in 1987, Intech continues to seek distinctive alpha sources for clients in five continents. Today, Intech provides investment solutions encompassing ESG, absolute return, defensive equity, and traditional long-only strategies.

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