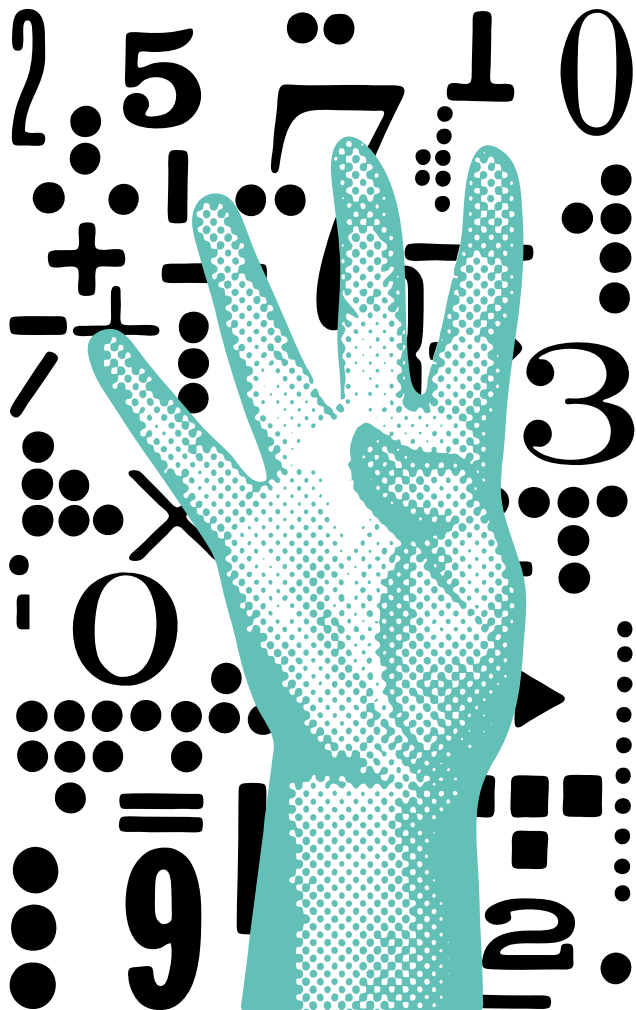


# 40F4

A series of articles that answer the most common questions about factor investing

## WHAT YOU NEED TO KNOW ABOUT...

# LOW VOLATILITY



Research shows that a low-risk investment factor will diversify the risks of exposures to the other big three factors — Value, Momentum and Quality

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### WHAT IS THE NARRATIVE BEHIND LOW VOLATILITY?

As the name suggests, Low Volatility investing refers to the use of strategies constructed from equities that have low scores on risk measures such as historical variance and beta. Despite being a relatively new commercial phenomenon, the Low Volatility anomaly has a long history and extensive academic literature. For this reason, a bit of background will be helpful in understanding the foundations of low-risk investing.

A few years after the publication of several studies establishing the properties of the Capital Asset Pricing Model (CAPM), Black, Jensen and Scholes (1972) reported a positive alpha for low-beta and low-volatility stocks for the period ending in 1971. This was indeed a counterintuitive result since the CAPM predicted a positive relationship between risk and return.

Clearly a pioneer, Fischer Black pitched Wells Fargo to launch a low-risk strategy that would go long low-volatility stocks and short high-volatility stocks. This would be a way to exploit this market phenomenon by capturing greater

risk-adjusted returns – since the very insight is that returns in the more volatile stocks are not adequately compensating investors for the greater measure of risk they are taking. Wells Fargo was not persuaded. But since then, an abundance of products have not only been launched, but have been embraced by investors. Investors have a variety of approaches to choose from, including managed volatility, minimum variance and low-risk or low-volatility vehicles.

### WHAT DOES ACADEMIC RESEARCH ON LOW VOLATILITY SHOW?

Twenty years after the release of the first studies on the CAPM, Fama and French demonstrated that the relationship between risk and return was actually not a relationship at all. Their paper, ‘The Cross-Section of Expected Returns,’ found that the relationship between risk and return was zero, if not negative, over the 1963-1990 period. When equities are plotted against beta, their long-term returns were essentially the same across different levels of beta. The line is flat instead of upward-sloping, as predicted by the CAPM. It’s a puzzle that has yet to be solved.

As far as possible explanations for the Low Volatility premia go, the 2014 study by Blitz, Falkenstein and van Vliet is well worth a mention. Referring to assumptions held by the CAPM model – which include an absence of constraints on leverage or short selling – the authors say that violations of these assumptions could explain the data’s divergence from the results predicted by this model. In reality, investors are faced with these constraints and, ‘looking to increase their return, have no option other than to tilt their portfolio towards high-beta securities in order to garner more of the equity risk premium. This extra demand for high-beta securities and reduced demand for low-beta securities may explain a less steeply upward-sloping security market line than predicted by the CAPM.’ Quite a good explanation.

### WHAT DOES RECENT DATA SHOW?

We studied 10 developed markets for the period of January 1995 to December 2019 using four measures of Low Volatility: 12-month realized volatility, one-month realized volatility, 60-months CAPM Beta, 90-days Coefficient of Variation.

We were looking for a relationship between forming a portfolio based on one specific Low Volatility metric and future stock returns. We found that the realized volatility measures are the clear winners among the four different ratios. In fact, they produced positive and statistically significant annualized spreads in all but three countries (Japan, Singapore and the US). The CAPM beta turned in the poorest performance.

### POSITIVE AND STATISTICALLY SIGNIFICANT ANNUALIZED SPREAD BETWEEN LOW- AND HIGH-VOLATILITY COMPANIES.

	12 M VOLUME	1 M VOLUME	60 M CAPM BETA	90 DAYS COEFF OF VARIATION
GERMANY	●	●	●	●
CANADA	●	●	●	●
ITALY	●	●	●	●
AUSTRALIA	●	●	●	●
HONG KONG	●	●	●	●
SINGAPORE	●	●	●	●
UNITED KINGDOM	●	●	●	●
FRANCE	●	●	●	●
UNITED STATES	●	●	●	●
JAPAN	●	●	●	●

### IS THE LOW VOLATILITY ANOMALY A UNIQUE FACTOR?

Most of the research says no. Novy-Marx tackled this question in a 2014 working paper that reaffirmed the poor absolute performance of the riskiest stocks and showed that the performance of the least risky equity strategies is explained by known drivers of cross-sectional variation in returns, such as value and profitability. This result was confirmed by a 2015 study by Fama and French, who concluded that the Low Volatility anomaly is well explained by a five-factor model that includes newer factors of profitability and investment.

There is some good news, though. We studied the correlation between the returns of low-risk portfolios with the returns of portfolios constructed using various measures of the other factors we have discussed previously. For the most part, the results indicate that a low-risk factor will diversify the risks of exposures to Value, Momentum and Quality. For developed markets, we found strong negative correlations between low risk and measures of price momentum and measures of quality. However, with the exception of Asia, the correlation between low risk and measures of value was positive.

While we are enthusiastic about recommending low-risk products to a factor portfolio due to obvious diversification reasons, there are other attributes that investors should also find attractive. For one, low-risk stocks have historically delivered higher risk-adjusted returns when compared to high-risk stocks. This performance is robust to other asset classes, other countries, other industries and survives transaction costs. Regardless of your view on the demise of the CAPM, the robust nature of this distinct ‘factor’ is sufficient in and of itself to recommend low-risk strategies. ♦

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