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# THE IMPACT OF RISING RATES ON MULTIFACTOR STRATEGIES

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With multifactor investing gaining traction in recent years, investors now have 440 multifactor ETFs and index mutual funds with a total of \$74 billion in assets<sup>1</sup> to choose from.

The investing community has largely accepted and focused on five primary factors—[size](#), [value](#), [quality](#), [momentum](#) and [low volatility](#)—which serve as the bedrock of multifactor funds to varying degrees. When WisdomTree was researching its U.S. and global multifactor strategies, we wanted to include elements of these five as well.

However, we wanted to differentiate our approach by seeking a diversified set of [alpha](#) drivers focused on concentrated stock selection rules and portfolios with meaningful factor tilts. Investors have plenty of benchmark-hugging, low-tilt, low-[tracking-error](#) funds at their disposal. Our latest multifactor approach was designed to lean into and pursue high value-added stock selection while trying to balance the risks that come with more concentrated portfolios.

Of the single-factor strategies that have resonated with investors, low volatility stands out. WisdomTree did not include low volatility as an alpha-seeking pure stock selection factor in our methodology. There are ultimately two reasons why.

## Reason One: [Risk-Adjusted Returns](#) Are Not [Absolute Returns](#)

The first reason we don't include low volatility as an alpha component is because over long periods, low-volatility stocks have not consistently outperformed the market. Low-volatility stocks have historically outperformed high-volatility stocks over time and have delivered lower risk than the overall market. But the absolute excess performance of these stocks versus the market has historically been spotty.

This has held true over the last 50-plus years. Using the data from Professor Kenneth French's database, the least volatile 20% of large-cap stocks have underperformed the market since 1963 by 0.6% per year. While low-volatility stocks have outperformed the most volatile stocks and had a higher [Sharpe ratio](#) than the market, the magnitude of their underperformance—compounded over such a large time frame—is hard to ignore.

Low Volatility Factor		
6/30/1963 - 6/30/2018		
Factor Premium	Least Volatile 20%	9.7%
	Most Volatile 20%	8.2%
	Volatility	11.7%
	Sharpe Ratio	0.43
Total Market	Return	10.3%
	Volatility	15.1%
	Sharpe Ratio	0.37
Factor Excess Return vs. Market		-0.6%
Net Change in 10-Year UST Yield (bps)		-114

Sources: WisdomTree, Kenneth R. French Data Library, Bloomberg, as of 6/30/18. Market refers to the French Library Mkt-Rf factor, with the risk-free rate added back to market returns. "Low-Volatility Factor" utilizes the 5x5 low-variance portfolios. Past performance is not indicative of future results.

### Reason Two: Too Interested in Rates

The second reason for exclusion is because many low-volatility approaches—particularly those that are more recent and in our estimation looking forward—have an implicit [interest rate](#) sensitivity embedded in them, especially when loose or no sector constraints are implemented. Low-volatility equity investing has in recent years translated into a backdoor play on bond proxies, such as Utilities, Real Estate and Consumer Staples. These stocks can do quite well when interest rates fall, but typically underperform when rates rise.

This can be particularly problematic in market environments like what we experienced in early 2018. Stocks fell starting in late January, but because [yields](#) rose at the same time, low-volatility stocks underperformed in a volatile environment—the opposite of what many low vol investors had expected.

### How Do We Reduce Volatility? [Low Correlation](#)

To help manage volatility, we've identified what we believe to be an underappreciated factor by the marketplace: low correlation.

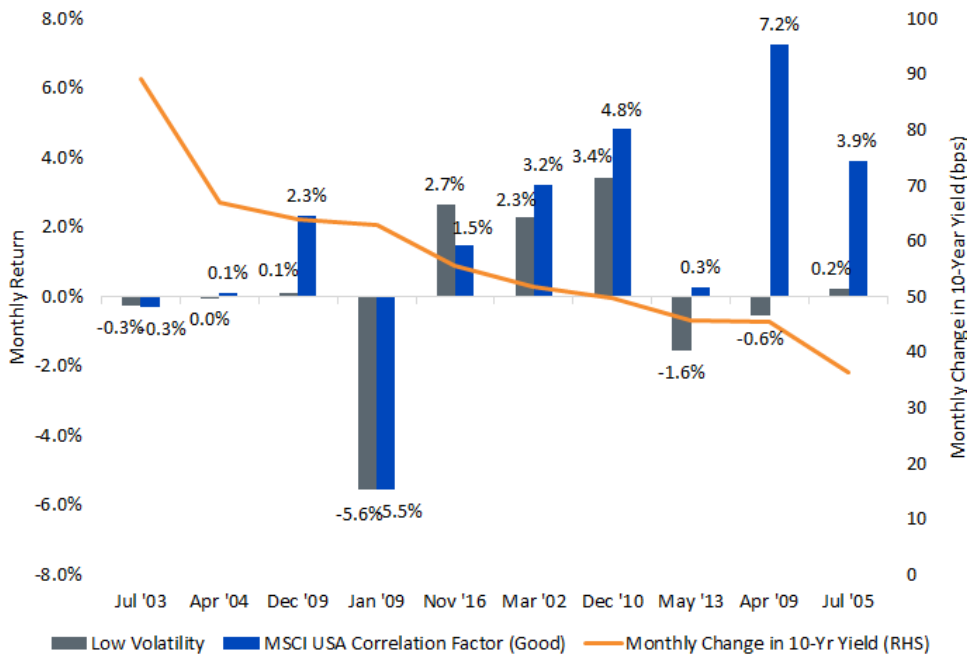
Investors know from modern portfolio theory that combining assets with low correlations to each other can reduce portfolio volatility, and our approach utilizes that same framework. By focusing on stocks that are less correlated to the market, we can reduce our overall volatility in a way that is less sensitive to interest rates. An added benefit to this is a bias toward the size factor, as larger companies with greater representation in the market will by default have higher correlations than smaller companies.

### Rising Rate Case Study

To highlight this rate sensitivity, here we examine the biggest monthly jumps in the [10-Year U.S. Treasury yield](#) dating back to 2002. The analysis compares the least volatile 20% of [large-cap](#) stocks from Professor French's database with an isolated basket of the lowest-correlated stocks versus the broader [MSCI USA Index](#).

The low-correlation portfolio outperformed the low-volatility one in eight of the 10 biggest rising rate months, with an average outperformance of 1.7% per month. Perhaps most importantly, the low-correlation factor portfolio

outperformed in four of the five months where low volatility had negative returns. Investors looking to low-volatility strategies for downside protection may be better off looking to low correlation to more effectively achieve their desired outcome.



	Month									
	Jul '03	Apr '04	Dec '09	Jan '09	Nov '16	Mar '02	Dec '10	May '13	Apr '09	Jul '05
Change in 10-Yr Yield (bps)	89	67	64	63	56	52	50	46	46	36
Low Volatility	-0.3%	0.0%	0.1%	-5.6%	2.7%	2.3%	3.4%	-1.6%	-0.6%	0.2%
MSCI USA Correlation Factor (Good)	-0.3%	0.1%	2.3%	-5.5%	1.5%	3.2%	4.8%	0.3%	7.2%	3.9%

Sources: WisdomTree, Kenneth R. French Data Library, Bloomberg. Data from 12/31/01 to 6/30/18 and reflects earliest date of available data. "Low-Volatility Factor" utilizes the 5x5 low-variance portfolios. MSCI USA Correlation Factor (Good) represents an isolated basket of stocks in the bottom third of correlation to the MSCI USA Index. April 2004 performance was negative for low volatility but rounded up to 0.0%. Past performance is not indicative of future results.

For definitions of terms in the chart, please visit our [glossary](#).

### Final Thoughts on Low Correlation

There are other reasons we chose low correlation as one-fourth of our multifactor strategy stock selection process. For one, we have high conviction in our value, quality and momentum stock selection models, so key methodology choices such as sector neutrality and the low-correlation factor help reduce sector and market risk, and thus magnify stock selection. In addition, we do include low volatility by weighting each stock by a combination of its composite factor score and inverse volatility ranking, but only after we select stocks that we believe have more robust alpha-focused factor exposures via value, quality, momentum and low correlation. This marries an alpha-oriented selection process with a risk-managed weighting process.

The U.S. version of our multifactor strategy now has more than a one-year track record, and [we couldn't be happier with the results](#), having outperformed each of the 10 largest multifactor ETFs on an absolute and risk-adjusted basis since launching last June (it may or may not be a coincidence that this outperformance occurred during a 70 [basis points \(bps\)](#) rise in yields over that time). The success of the U.S. strategy has helped usher in the [recent launch of its sister ETFs in the international developed and emerging markets universes](#), where we're marrying dynamic [currency hedging](#) overlay strategies on top of our proven multifactor process.

Given the consensus market view of higher rates in the future, hopefully down the road we can report back with similar

results for those strategies as well.

<sup>1</sup>Source: Morningstar, "A Framework for Analyzing Multifactor Funds," as of 4/30/18.

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You cannot invest directly in an index.

## **DEFINITIONS**

**Size** : Characterized by smaller companies rather than larger companies by market capitalization. This term is also related to the Size Factor, which associates smaller market-cap stocks with excess returns vs the market over time.

**Value** : Characterized by lower price levels relative to fundamentals, such as earnings or dividends. Prices are lower because investors are less certain of the performance of these fundamentals in the future. This term is also related to the Value Factor, which associates these stock characteristics with excess returns vs the market over time.

**Quality** : Characterized by higher efficiency and profitability. Typical measures include earnings, return on equity, return on assets, operating profitability as well as others. This term is also related to the Quality Factor, which associates these stock characteristics with excess returns vs the market over time.

**Momentum** : Characterized by assets with recent price increase trends over time. This term is also associated with the Momentum Factor which associates these stock characteristics with excess return vs the market over time.

**Low Volatility** : Characterized by lower standard deviation of price over time. This term is also associated with the Low Volatility Factor, which associates lower volatility stocks with better risk-adjusted returns vs the market over time.

**Alpha** : Can be discussed as both risk-adjusted excess return relative to a specific benchmark, or absolute excess return relative to a benchmark. It is sometimes more generally referred to as excess returns in general.

**Tracking Error** : Can be discussed as both the standard deviation of excess return relative to a specific benchmark, or absolute excess return relative to a specific benchmark.

**Risk-adjusted returns** : Returns measured in relation to their own variability. High returns with a high level of risk indicate a lower probability that actual returns were close to average returns. High returns with a low level of risk would be more desirable, as they indicate a higher probability that actual returns were close to average returns.

**Absolute Return** : A measurement of an asset's return without considering risk.

**Sharpe ratio** : Measure of risk-adjusted return. Higher values indicate greater return per unit of risk, specifically standard deviation, which is viewed as being desirable.

**Interest rates** : The rate at which interest is paid by a borrower for the use of money.

**Yield** : The income return on an investment. Refers to the interest or dividends received from a security that is typically expressed annually as a percentage of the market or face value.

**Low Correlation** : Characterized by assets that have a relatively lower correlation vs the market over time. This term is also associated with the Low Correlation Factor which associates these stock characteristics with excess returns vs the market over time.

**10-Year Treasury** : a debt obligation of the U.S. government with an original maturity of ten years.

**Large-Capitalization (Large-Cap)** : A term used by the investment community to refer to companies with a market capitalization value of more than \$10 billion. Large cap is an abbreviation of the term "large market capitalization". Market capitalization is calculated by multiplying the number of a company's shares outstanding by its stock price per share.

**MSCI USA Index** : is designed to measure the performance of large and mid cap segments of the US market.

**Basis point** : 1/100th of 1 percent.

**Currency hedging** : Strategies designed to mitigate the impact of currency performance on investment returns.