MSCI USA INDEX FACTOR ATTRIBUTION: WHAT WORKED?

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Lately, investors have begun to accept smart beta—and factor investing—just as they did broad beta index funds years ago. WisdomTree pioneered the commercialization of these factor-based strategies with its dividend- and earnings-weighted products over a decade ago, but it also has spent the last few years improving its research around multifactor strategies more directly. One of the by-products of that research was the launch of the WisdomTree U.S. Multifactor Fund (USMF) in June 2017, which illustrates WisdomTree's views on how to construct and effectively implement factor investing in a holistic fashion. Though USMF is a multifactor strategy, its four factor-based alpha signals—value, quality, momentum and low correlation—ultimately possess their own methodology via unique fundamental or technical indicators. Read more about what's under the hood of USMF here.

WisdomTree's research leads us to believe that the engineering behind USMF makes for an excellent measure of factor exposure among equity markets, so we applied a custom-fit version of our methodology to a well-known beta index: the MSCI USA Index. The purpose of this exercise was to isolate the performance of the MSCI USA Index, attributing factor performance to four factors, each with three different layers of factor concentration, all of them market cap-weighted. For example:

- MSCI USA Value Factor (Good) represents the best MSCI USA stocks ranked by WisdomTree's value methodology, and one-third of the total market cap of the index.
- MSCI USA Value Factor (OK) represents the next group of value-ranked stocks that fall into a second but equal market cap grouping.
- MSCI USA Value Factor (Bad) is the lowest-ranked value stocks that fall into a third but equal market cap group.

This same approach then repeats itself among the other three factors to better understand the factor performance composition of the MSCI USA Index over the past 15+ years.

Summary Statistics 3/1/02–11/30/17

	Avg. Ann. Return (%)	Std Dev (%)	Beta	Sharpe Ratio	Tracking Error (%)	Information Ratio	Correlation
MSCI USA Value Factor (Good)	10.04	16.14	1.12	0.55	3.83	0.56	0.98
MSCI USA Value Factor (OK)	6.98	13.83	0.96	0.42	2.62	-0.35	0.98
MSCI USA Value Factor (Bad)	6.50	13.50	0.92	0.39	3.85	-0.36	0.96
MSCI USA Quality Factor (Good)	8.28	12.67	0.86	0.56	4.33	0.09	0.95
MSCI USA Quality Factor (OK)	9.45	14.13	0.98	0.58	2.54	0.61	0.98
MSCI USA Quality Factor (Bad)	5.48	16.81	1.15	0.25	4.70	-0.51	0.97
MSCI USA Momentum Factor (Good)	7.65	10.36	0.65	0.62	6.97	-0.03	0.88
MSCI USA Momentum Factor (OK)	8.30	13.80	0.95	0.51	3.18	0.13	0.97
MSCI USA Momentum Factor (Bad)	6.64	20.64	1.40	0.26	8.25	-0.15	0.96
MSCI USA Low Correlation Factor (Good)	9.14	13.24	0.89	0.60	4.52	0.27	0.95
MSCI USA Low Correlation Factor (OK)	7.38	14.91	1.04	0.41	2.85	-0.18	0.98
MSCI USA Low Correlation Factor (Bad)	6.67	15.76	1.07	0.35	4.50	-0.27	0.96
MSCI USA	**7.90**	**14.13**	**1.00**	**0.47**	**0.00**	**0.00**	**1.00**

Sources: WisdomTree, Zephyr StyleADVISOR, FactSet, as of 11/30/17. Past performance is not indicative of future results. You cannot invest directly in an index.

- On a risk-adjusted (Sharpe ratio) and absolute return basis, all four Good baskets outperformed their Bad counterparts.
- Three out of four Good baskets reduced volatility, measured by both standard deviation and beta, except for Good Value.
- Tracking error for Good and Bad baskets generally gravitated around 4% to 8% as they access either the higher/lower volatility or higher/lower performance parts of the markets, while OK baskets generally tracked tighter to the 3% range.
- Each Bad basket exhibited the worst absolute and risk-adjusted returns of its factor grouping, including underperformance versus the complete MSCI USA Index on an absolute and risk-adjusted basis.

Long/Short Factors vs. Long Only

The last bullet point above is important. New factor investors might not realize that most academics who herald long-term excess return "factor premiums" are actually operating in a long/short framework. In our example, this would be more akin to the factor premium being the excess return between a Good and a Bad basket, rather than just the Good basket by itself. Yet, given that many modern smart beta and factor investors utilize long-only approaches, this research provides credibility to their thinking. By isolating only Good factor exposures, you may not be shorting the Bad ones, but you are certainly avoiding them. Above, we showed how not one of the Bad baskets managed to outperform the MSCI USA Index on an absolute or risk-adjusted basis, meaning that investing in those groups of stocks would have been a performance drag over the period shown here.

Conclusion

On a high level, what does this research tell us? By using WisdomTree's factor methodology to isolate factor performance, factor investing has worked. Using the MSCI USA Index, we found attractive results among the Good baskets of each of our four factors, while also observing poor results among the Bad. We believe this difference represents the core concept of factor investing and should be understood by new smart beta entrants. We also believe this research provides efficacy to long-only factor investing as a long-term strategy rather than as a temporary investment fad. Along with U.S.-based factor analysis, WisdomTree has conducted factor research across the globe that we are excited to share. Stay tuned.

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You cannot invest directly in an index.

DEFINITIONS

Smart Beta : A term for rules-based investment strategies that don't use conventional market-cap weightings.

Factor : Attributes that based on its fundamentals or share price behavior, are associated with higher return.

Beta : A measure of the volatility of a security or a portfolio in comparison to a benchmark. In general, a beta less than 1 indicates that the investment is less volatile than the benchmark, while a beta more than 1 indicates that the investment is more volatile than the benchmark.

Dividend : A portion of corporate profits paid out to shareholders.

Earnings-weighted : Earnings for all constituents in an index are added together, and individual constituents are subsequently weighted by their proportional contribution to that total.

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.

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 tim.

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 tim.

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 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.

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

Market capitalization-weighting : Market cap = share prices x number of shares outstanding. Firms with the highest values receive the highest weights in approaches designed to weight firms by market cap.

Risk-adjusted basis : When calculating the return, we refines the return by measuring how much risk is involved in producing that return.

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.

Volatility : A measure of the dispersion of actual returns around a particular average level. .

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.

Long (or Long Position) : The buying of a security such as a stock, commodity or currency, with the expectation that the asset will rise in value, the opposite of Short (or Short Position).

Short (or Short Position) : The sale of a borrowed security, commodity or currency with the expectation that the asset will fall in value, the opposite of Long (or Long Position).