
LOOKING UNDER THE HOOD: OUR TWO NEW ACTIVE INTERNATIONAL ETFS

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I previously introduced WisdomTree's [two new active international and emerging market multi-factor ETFS as harbingers of the next frontier in ETFS: modern alpha](#) investment strategies.

Modern alpha strategies take what investors desire from legacy [alpha](#) strategies, i.e., the pursuit of outperformance, but marry that goal with the characteristics of ETFS and [beta](#)-oriented investment strategies to create a hybrid, next-generation strategy.

In spirit, our new active ETFS are going to take significant active risks. These new ETFS are not going to be benchmark-hugging, low-[tracking-error](#) strategies whose top 10 portfolio holdings look like the top 10 portfolio holdings in their respective [cap-weighted](#) universes. Who really needs another closet beta-like, active-lite index fund?

No, the active approach will be grounded by a factor model that we believe is supported through academic research.

Innovations in our new active approach include:

- A unique blending of [fundamental](#) and [technical](#) factors to create a proprietary stock selection and weighting model:
 - WisdomTree's fundamental factor screens: [Value](#) and [Quality](#).
 - WisdomTree technical factor screens: [Momentum](#) and [Correlation](#)

The inclusion of Value, Quality and Momentum as factors in a portfolio will not surprise people. The Low-Correlation factor is new for some people, although we have witnessed other quantitative managers publish on this factor recently as well. This [Low-Correlation](#) factor is related to [low volatility](#) and the low-beta phenomena.

The metrics we evaluate to create a factor score for each company are listed below. The specific metrics will be common to many similar approaches, but our more active formula for how we apply these factor tilts, we believe, helps set us apart from other publicly disclosed index methodologies.

Value Factor

+ Sales-to-Price, Book-to-Price, Earnings-to-Price, Estimated Earnings-to-Price, EBITDA-to-Enterprise Value, Operating Cash Flow-to-Price

Quality Factor

+ Static observations and trends of Return on Equity, Return on Assets, Gross Profits over Assets, Cash Flow over Assets

Momentum Factor

+ Risk-adjusted total returns over historical periods (6 and 12 months)

Low Correlation Factor

+ Incorporates diversification potential of stocks that are less correlated to the market

■ Fundamental Factors ■ Technical Factors

Factor Performance Attribution

Our respective MSCI market-cap benchmarks for developed international and emerging markets can be used to show how WisdomTree’s factor definitions have performed over time. Every company in these benchmarks is given a numerical factor score for each of the fundamental factors (Value and Quality) and technical factors (Low Correlation and Momentum). Once scored, constituents are ranked and assigned to one of three portfolios (Good, OK, Bad) created by dividing each benchmark universe in thirds.

Below we can see that the portfolio of top-value scores (Good) in [MSCI EAFE](#) has historically outperformed the portfolio of worst-value scores (Bad) on both an absolute and a [risk-adjusted basis](#). This same trend is present when looking across the rest of the factors in both developed international and emerging markets.

Summary Statistics 1/1/2002–6/30/2018							
	Avg. Ann. Return	Std Dev	Beta	Sharpe Ratio	Tracking Error	Information Ratio	Correlation
MSCI EAFE Value Factor (Good)	7.35%	17.92%	1.07	0.34	3.46%	0.38	0.98
MSCI EAFE Value Factor (OK)	6.03%	16.20%	0.97	0.30	2.70%	0.00	0.99
MSCI EAFE Value Factor (Bad)	5.46%	15.11%	0.88	0.28	4.44%	-0.13	0.96
MSCI EAFE Quality Factor (Good)	7.64%	15.11%	0.87	0.42	5.26%	0.30	0.95
MSCI EAFE Quality Factor (OK)	6.31%	16.01%	0.95	0.32	3.35%	0.08	0.98
MSCI EAFE Quality Factor (Bad)	4.42%	17.53%	1.03	0.18	4.19%	-0.39	0.97
MSCI EAFE Momentum Factor (Good)	7.40%	12.68%	0.70	0.48	7.16%	0.19	0.91
MSCI EAFE Momentum Factor (OK)	6.81%	16.09%	0.95	0.35	3.62%	0.21	0.98
MSCI EAFE Momentum Factor (Bad)	4.70%	22.39%	1.29	0.15	8.31%	-0.16	0.95
MSCI EAFE Low Correlation Factor (Good)	7.11%	13.51%	0.75	0.43	6.95%	0.15	0.91
MSCI EAFE Low Correlation Factor (OK)	7.22%	16.51%	0.98	0.36	3.13%	0.38	0.98
MSCI EAFE Low Correlation Factor (Bad)	4.34%	20.92%	1.23	0.15	6.44%	-0.26	0.97
MSCI EAFE	6.04%	16.52%	1.00	0.29	0.00%	0.00	1.00

Sources: WisdomTree, Zephyr StyleADVISOR, FactSet, as of 6/30/18. Past performance is not indicative of future results. You cannot invest directly in an index.

Summary Statistics 1/1/2002–6/30/2018							
	Avg. Ann. Return	Std Dev	Beta	Sharpe Ratio	Tracking Error	Information Ratio	Correlation
MSCI EM Value Factor (Good)	15.00%	23.52%	1.08	0.58	5.51%	0.86	0.97
MSCI EM Value Factor (OK)	9.50%	20.51%	0.95	0.40	3.86%	-0.19	0.98
MSCI EM Value Factor (Bad)	7.30%	20.09%	0.91	0.30	5.77%	-0.51	0.96
MSCI EM Quality Factor (Good)	12.11%	19.24%	0.87	0.56	5.89%	0.32	0.96
MSCI EM Quality Factor (OK)	13.19%	19.87%	0.91	0.60	4.99%	0.59	0.97
MSCI EM Quality Factor (Bad)	5.18%	22.35%	1.03	0.18	5.03%	-1.01	0.97
MSCI EM Momentum Factor (Good)	13.68%	17.89%	0.80	0.70	6.86%	0.50	0.95
MSCI EM Momentum Factor (OK)	9.08%	21.64%	1.01	0.36	3.48%	-0.33	0.99
MSCI EM Momentum Factor (Bad)	9.80%	25.37%	1.16	0.34	7.22%	-0.06	0.97
MSCI EM Low Correlation Factor (Good)	12.86%	18.90%	0.85	0.61	6.25%	0.42	0.96
MSCI EM Low Correlation Factor (OK)	9.69%	22.31%	1.03	0.38	4.58%	-0.12	0.98
MSCI EM Low Correlation Factor (Bad)	10.15%	24.17%	1.09	0.37	6.96%	-0.01	0.96
MSCI Emerging Markets	10.24%	21.22%	1.00	0.42	0.00%	0.00	1.00

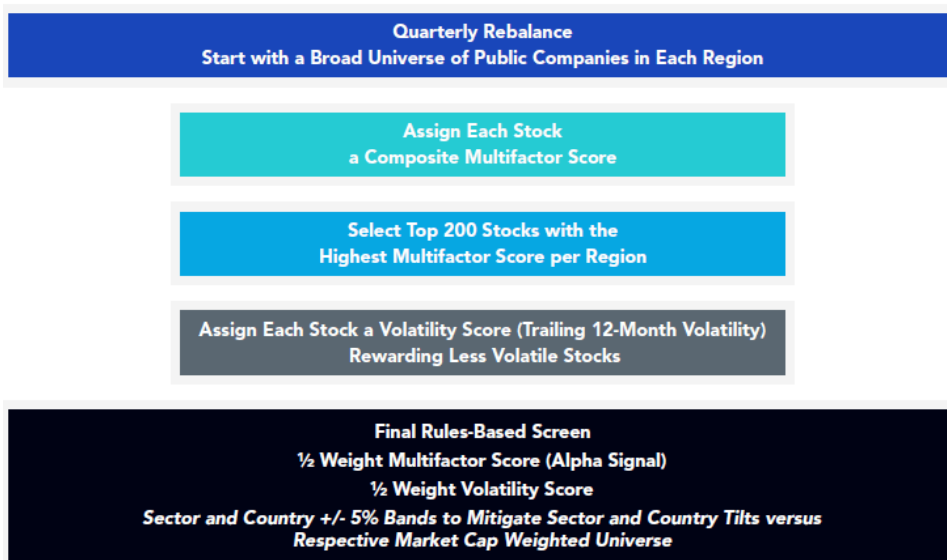
Sources: WisdomTree, Zephyr StyleADVISOR, FactSet, as of 6/30/18. Past performance is not indicative of future results. You cannot invest directly in an index.

Screening for Our ETFs

To create the portfolios for our international and emerging market multifactor ETFs, the following discipline is applied:

- **Active Selection:** WisdomTree’s stock selection universe starts with the 800 largest market capitalization stocks in each respective region. From this universe, WisdomTree selects the top 200 stocks with the highest combined factor score. Taking one-quarter of the starting universe—from a stock selection standpoint—is a fairly “active” cut of the universe. We did not find value or additional consistent alpha for going any deeper into more narrow stock selection rules like 100 stocks instead of 200.
- **Risk and Return Weighting:** WisdomTree utilizes not just a factor score—a stock’s alpha signal—as part of the weighting process but also a stock’s volatility level. This incorporates a concept of risk-adjusted return as a key driver of weights in our portfolios.
- **Sector and Country Bands:** One of the key potential risks WisdomTree identified in factor investment strategies is how many such strategies wind up with large sector or country bets relative to the market. These bets may help or hurt over given market cycles. WisdomTree, in looking to add stock selection value through a diversified factor selection model, wanted to minimize the risk of diluting our alpha signals as a result of mismatched sector or country weights relative to the market. Yet we also found that our factor models have some implicit signaling in terms of country and sector tilts, so we will allow some constrained deviation on a country and sector basis away from the pure market index.

The initial stock screening process can be summarized with this flow diagram:



The Currency Factor: A Dynamic and More Active Approach

wisdomTree also believes a factor that impacts international markets is [Currency Risk](#), and many want to leave it to their active manager to make such hedging decisions for them.

In certain Index investment strategies wisdomTree has in the marketplace today, we offer three currency approaches: an unhedged, a fully hedged and a dynamically hedged Index.

In these new international and emerging market active ETFs, we are offering only one investment approach that takes currency risk management as one of the multiple factors we are actively managing. There will be times the Funds will have currency risk, and other times when more of the currencies will be [hedged](#). All those decisions will be grounded in research and a factor model.

Dynamic Currency Overlay: Developed and emerging market currencies exhibit drastically different [liquidity](#), risk and hedging costs. As a result, wisdomTree’s research concluded that a different approach is needed across markets. Hedge ratios for developed markets will be set on a monthly basis, and emerging markets will be re-evaluated every two weeks.

- **Developed Markets:** For any individual currency, hedge ratios can be adjusted between 0% and 100% based on the degree of the results of three signals: Carry ([interest rate differentials](#) or the cost to hedge), Momentum and Value (purchasing power parity).
- **Emerging Markets:** Three Momentum factors are used to determine degree in conviction of hedged or unhedged decision for emerging markets.

Developed International

Three factors act independently before being aggregated into the overall signal overlay:

- + Carry (Interest Rate Differentials)
- + Value (Purchasing Power Parity)
- + Momentum (10 and 240 day moving average (MA))

Between 0-100% hedged for each currency
 Rebalance Frequency: Monthly

We believe dynamic hedging can potentially add 100-150 basis points²³ per year to unhedged, fully-hedged, ½ hedged benchmarks

Emerging Markets

Three momentum factors aggregated into a high conviction overlay:

- + Short-Term (5 and 30 day MA)
- + Medium-Term (20 and 60 day MA)
- + Long-Term (10 and 240-day MA)

Binary Hedging: 100% hedged or unhedged for each currency
 Rebalance Frequency: Bi-weekly

Minimizes cost of hedging by being hedged on average only 20% of time

These two new active ETFs, the [WisdomTree International Multifactor Fund \(DWMF\)](#) and the [WisdomTree Emerging Markets Multifactor Fund \(EMMF\)](#), come at an interesting time for international equities. The dollar has broadly strengthened against most major currencies in 2018, with emerging market currencies having come under particular pressure. Our currency hedging signals at the launch of EMMF are largely on, so that the aggregate hedge ratio today is 70%. While we do believe emerging markets have higher interest rates that make strategic hedging more problematic, we expect these more active hedges to only be hedged 20% of the time. We think this active risk management will lead to a smoother ride, which means that investors can stick with emerging markets longer and with more conviction, knowing that one of the big risks is reduced. We do believe emerging markets are a compelling long-run asset class with reasonable [valuations](#). This new ETF is a great solution for timely exposure.

Important Risks Related to this Article

Hedging can help returns when a foreign currency depreciates against the U.S. dollar, but it can hurt when the foreign currency appreciates against the U.S. dollar.

Investing involves risk, including possible loss of principal. Investments in non-U.S. securities involve political, regulatory and economic risks that may not be present in U.S. securities. For example, foreign securities may be subject to risk of loss due to foreign currency fluctuations, political or economic instability or geographic events that adversely impact issuers of foreign securities. Derivatives used by the Funds to offset exposure to foreign currencies may not perform as intended. There can be no assurance that the Funds' hedging transactions will be effective. The value of an investment in the Funds could be significantly and negatively impacted if foreign currencies appreciate at the same time that the value of the Funds' equity holdings falls. While the Funds are actively managed, the Funds' investment process is expected to be heavily dependent on quantitative models and the models may not perform as intended.

Additional risks specific to EMMF include but are not limited to emerging market risk. Investments in securities and instruments traded in developing or emerging markets, or that provide exposure to such securities or markets, can involve additional risks relating to political, economic or regulatory conditions not associated with investments in U.S. securities and instruments or investments in more developed international markets.

Please read the Funds' prospectuses for specific details regarding the Funds' risk profiles.

For the top 10 holdings of EMMF please visit the Fund's fund detail page at <https://www.wisdomtree.com/investments/etfs/equity/emmf>

For the top 10 holdings of DWMF please visit the Fund's fund detail page at <https://www.wisdomtree.com/investments/etfs/equity/dwmf>

For standardized performance and the most recent month-end performance click [here](#) NOTE, this material is intended for electronic use only. Individuals who intend to print and physically deliver to an investor must print the monthly performance report to accompany this blog.

For more investing insights, check out our [Economic & Market Outlook](#)

View the online version of this article [here](#).

IMPORTANT INFORMATION

U.S. investors only: Click [here](#) to obtain a WisdomTree ETF prospectus which contains investment objectives, risks, charges, expenses, and other information; read and consider carefully before investing.

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DEFINITIONS

Modern Alpha: Modern Alpha® combines the outperformance potential of active with the benefits of passive—to offer investor strategies that are built for performance.

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.

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.

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.

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.

Fundamentals: Attributes related to a company's actual operations and production as opposed to changes in share price.

Technical indicators: Type of analysis that tries to determine future price patterns using historical price patterns.

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.

Correlation: Statistical measure of how two sets of returns move in relation to each other. Correlation coefficients range from -1 to 1. A correlation of 1 means the two subjects of analysis move in lockstep with each other. A correlation of -1 means the two subjects of analysis have moved in exactly the opposite direction.

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.

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.

MSCI EAFE Index: is a market cap-weighted index composed of companies representative of the developed market structure of developed countries in Europe, Australasia and

Japan.

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

Currency risk: the risk that an investment will decline in value due to a change in foreign exchange rates.

Hedge: Making an investment to reduce the risk of adverse price movements in an asset. Normally, a hedge consists of taking an offsetting position in a related security, such as a futures contract.

Liquidity: The degree to which an asset or security can be bought or sold in the market without affecting the asset's price. Liquidity is characterized by a high level of trading activity. Assets that can be easily bought or sold are known as liquid assets.

Interest Rate Differentials: The Difference between the 2 Year interest rate swaps of the United Kingdom vs. the United States.

Valuation: Refers to metrics that relate financial statistics for equities to their price levels to determine if certain attributes, such as earnings or dividends, are cheap or expensive.