

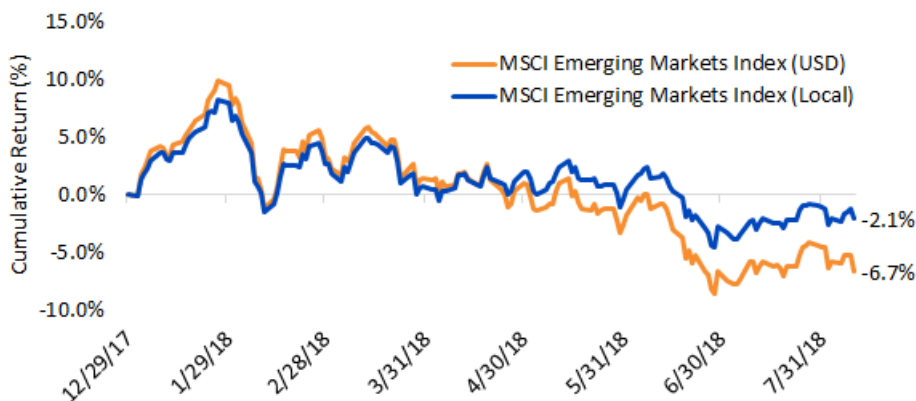
DO YOU HAVE A PROCESS FOR MANAGING CURRENCY RISK?

Jeremy Schwartz – Global Chief Investment Officer
08/27/2018

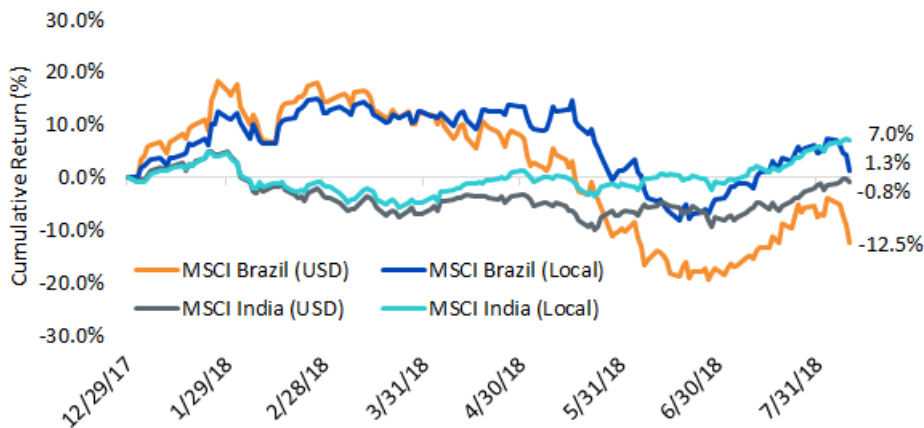
As of August 10, the decline in emerging market equity indexes in 2018 has been driven more by currency movements than equity markets; the stocks in local currency terms were down 2.1%, while the broad [MSCI Emerging Markets Index](#) was down 6.7%.

There are a number of markets where the stocks are reaching new all-time highs, like India, whose market was up 7% in local terms—but when including the rupee decline, was down about 1% in U.S. dollar terms. Brazil is another market that was up 1.3% in local terms but down 12.5% when factoring in currency losses.

MSCI Emerging Markets YTD
(12/29/17–8/10/18)



MSCI Brazil and MSCI India YTD
(12/29/17–8/10/18)



Sources: WisdomTree, Bloomberg, data 12/29/17–8/10/18. Past performance is not indicative of future returns. You cannot invest directly in an index. Index performance does not represent actual fund or portfolio performance. A fund or portfolio may differ significantly from the securities included in the index. Index performance assumes reinvestment of dividends but does not reflect any management fees, transaction costs or other expenses that would be incurred by a portfolio or fund, or brokerage commissions on transactions in fund shares. Such fees, expenses and commissions could reduce returns.

WisdomTree has been advocating [currency hedging](#) in developed markets where one is *paid* the higher [interest rate differentials](#), versus the countries in the [eurozone](#) or Japan, both places that currently have negative short-term [interest rates](#). With interest rate differentials as high as 2% a year today, collecting the interest rate differentials by hedging these currencies makes removing uncertain currency moves a very useful and profitable proposition.

Due to their higher interest rates, emerging markets tend to have higher hedging costs. That higher cost is one reason WisdomTree historically avoided directly targeting broad emerging markets with currency-hedged options. But around three years ago, WisdomTree launched a suite of developed market currency strategies that employ a multi-factor model to vary the hedge ratio every month. Those hedge ratios in the developed world look at valuations (based on [purchasing power parity](#) levels), interest rate differentials (the “[carry](#)” factor, which is either a cost or how much one is paid to hedge) and, finally, [momentum](#). [Value](#) and momentum are familiar factors for equity investors and carry helps manage the cost to hedge in the developed world.

As we explored applying these factors to emerging markets, it became evident that emerging market currencies would always have a higher hedging “cost” and therefore could not use a similar signal as the developed world. Similarly, the [valuation](#) levels always imply a discount and being undervalued in purchasing power parity (PPP) terms.

A signal that did work for emerging markets is momentum. Stated simply, once currencies start to trend downward, some of that momentum follows through and there can be gains (or protection from losses) from utilizing hedges.

There are many multi-factor equity processes in the ETF world today. But it is much rarer that you will find someone who has also thought carefully about currency exposures.

Our research for hedging emerging market currencies was being conducted in 2016–2017, and our model for hedging emerging markets was agreed upon in 2017.

Hedge Ratio Process

Three momentum factors aggregated into a high conviction overlay. When the short-term moving average of the currency’s spot price versus the U.S. dollar is weaker than the long-term moving average, the hedge ratio will be on for that signal:

- Short-term (5- and 30-day moving average)
- Medium-term (20- and 60-day moving average)
- Long-term (10- and 240-day moving average)

Binary Hedging: 100% hedged or unhedged for each currency when the short-term moving average crosses below the long-term moving average. When these moving average signals cross, it shows the currency is declining on multiple time periods and implies further losses ahead. When even the short-term signal reverses, the hedge ratio comes off.

Rebalance Frequency: Biweekly

One of the reasons we like the process of hedging completely when these momentum signals are all fired on is that it helps reduce the hedging cost. Based on our research, we believe over time these signals will likely be deployed about 20% of the time on average.

When we launched the [WisdomTree Emerging Markets Multifactor Fund \(EMMF\)](#) on August 10, approximately 70%¹ of the currency exposure was hedged by this momentum model, reinforcing how this year’s volatility in emerging markets has really been currency [volatility](#).

Below we show the momentum model by currency and when it was triggered on or off thus far in 2018 on each biweekly hedge reset date.

Hedge Signals by Currency: 1= Hedged, 0 = Unhedged									
Date	Number of Currencies Hedged	Brazil	Chile	China	Czech Rep.	Hungary	Indonesia	India	S. Korea
		BRL	CLP	CNY	CZK	HUF	IDR	INR	KRW
1/12/18	1	0	0	0	0	0	0	0	0
1/26/18	0	0	0	0	0	0	0	0	0
2/9/18	1	0	0	0	0	0	0	0	0
2/23/18	2	0	0	0	0	0	1	0	0
3/9/18	5	1	0	0	0	0	1	1	0
3/23/18	5	1	0	0	0	0	1	1	0
4/6/18	5	1	0	0	0	0	1	1	0
4/20/18	5	1	0	0	0	0	1	1	0
5/4/18	5	1	0	0	0	0	1	1	0
5/18/18	8	1	1	0	0	1	1	1	0
6/1/18	10	1	1	0	1	1	0	1	0
6/15/18	10	1	1	0	1	1	0	1	0
6/29/18	15	1	1	1	1	1	1	1	1
7/13/18	11	1	1	1	0	0	1	1	1
7/27/18	10	0	1	1	0	0	1	1	1
8/10/18	8	0	0	1	0	0	1	0	1

Hedge Signals by Currency: 1= Hedged, 0 = Unhedged									
	Mexico	Malaysia	Philippines	Poland	Russia	Thailand	Turkey	Taiwan	S. Africa
Date	MXN	MYR	PHP	PLN	RUB	THB	TRY	TWD	ZAR
1/12/18	1	0	0	0	0	0	0	0	0
1/26/18	0	0	0	0	0	0	0	0	0
2/9/18	0	0	1	0	0	0	0	0	0
2/23/18	0	0	1	0	0	0	0	0	0
3/9/18	0	0	1	0	0	0	1	0	0
3/23/18	0	0	1	0	0	0	1	0	0
4/6/18	0	0	1	0	0	0	1	0	0
4/20/18	0	0	0	0	1	0	1	0	0
5/4/18	0	0	0	0	1	0	1	0	0
5/18/18	1	0	0	1	0	0	1	0	0
6/1/18	1	0	1	1	0	0	1	1	0
6/15/18	1	0	1	0	1	0	1	0	1
6/29/18	0	0	1	1	1	1	1	1	1
7/13/18	0	0	1	0	0	1	1	1	1
7/27/18	0	1	0	0	1	1	1	1	0
8/10/18	0	1	0	0	1	1	1	1	0

Sources: WisdomTree, Record Currency Management, data 1/12/18–8/10/18. Past performance is not indicative of future results.

Do You Have a Robust Process for Managing Currency Exposures?

The standard narrative we hear from investors is that with currencies, it’s just “a wash” in the long run and that any gains one might get from hedging will be eaten up by the higher costs of hedging. Our research shows that applying this dynamic momentum model will help reduce the cost of hedging by typically being hedged 20% of the time on average—and that these hedges should help lower the volatility of emerging markets significantly.

If one of the reasons you allocate less to foreign markets is their high levels of volatility, EMMF incorporates a factor approach that targets lower volatility from the equity process and currency process and, I believe, would be a useful addition to your portfolio.

¹Source: WisdomTree, as of 8/10/18.

Important Risks Related to this Article

Investments in emerging, offshore or frontier markets are generally less liquid and less efficient than investments in developed markets and are subject to additional risks, such as risks of adverse governmental regulation and intervention or political developments.

Investing involves risks, 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. The Funds are actively managed using proprietary investment strategies and processes. There can be no guarantee that these strategies and processes will be successful or that the Fund will achieve its investment objective.

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 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.

There are risks involved with investing, including possible loss of principal. Foreign investing involves currency, political and economic risk. Funds focusing on a single country, sector and/or funds that emphasize investments in smaller companies may experience greater price volatility. Investments in emerging markets, currency, fixed income and alternative investments include additional risks. Please see prospectus for discussion of risks.

Past performance is not indicative of future results. This material contains the opinions of the author, which are subject to change, and should not to be considered or interpreted as a recommendation to participate in any particular trading strategy, or deemed to be an offer or sale of any investment product and it should not be relied on as such. There is no guarantee that any strategies discussed will work under all market conditions. This material represents an assessment of the market environment at a specific time and is not intended to be a forecast of future events or a guarantee of future results. This material should not be relied upon as research or investment advice regarding any security in particular. The user of this information assumes the entire risk of any use made of the information provided herein. Neither WisdomTree nor its affiliates, nor Foreside Fund Services, LLC, or its affiliates provide tax or legal advice. Investors seeking tax or legal advice should consult their tax or legal advisor. Unless expressly stated otherwise the opinions, interpretations or findings expressed herein do not necessarily represent the views of WisdomTree or any of its affiliates.

The MSCI information may only be used for your internal use, may not be reproduced or re-disseminated in any form and may not be used as a basis for or component of any financial instruments or products or indexes. None of the MSCI information is intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such. Historical data and analysis should not be taken as an indication or guarantee of any future performance analysis, forecast or prediction. The MSCI information is provided on an “as is” basis and the user of this information assumes the entire risk of any use made of this information. MSCI, each of its affiliates and each entity involved in compiling, computing or creating any MSCI information (collectively, the “MSCI Parties”) expressly disclaims all warranties. With respect to this information, in no event shall any MSCI Party have any liability for any direct, indirect, special, incidental, punitive, consequential (including loss profits) or any other damages (www.msci.com)

Jonathan Steinberg, Jeremy Schwartz, Rick Harper, Christopher Gannatti, Bradley Krom, Tripp Zimmerman, Michael Barrer, Anita Rausch, Kevin Flanagan, Brendan Loftus, Joseph Tenaglia, Jeff Weniger, Matt Wagner, Alejandro Saltiel, Ryan Krystopowicz, Jianing Wu, and Brian Manby are registered representatives of Foreside Fund Services, LLC.

WisdomTree Funds are distributed by Foreside Fund Services, LLC, in the U.S. only. You cannot invest directly in an index.

DEFINITIONS

MSCI Emerging Market Index: The MSCI Em (Emerging Markets) Index is a free-float weighted equity index that captures large and mid cap representation across Emerging Markets (EM) countries.

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

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

Eurozone (EZ): Consists of the following 18 countries that have adopted the euro as their currency: Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia and Spain (source: European Central Bank, 2014).

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

Purchasing power parity: Academic concept stating that exchange rates should adjust so that equivalent goods and services cost the same across countries, after accounting for exchange-rate differences.

Carry: The amount of return that accrues from investing in fixed income or currency forward contracts.

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.

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.

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.

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.

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