



HOW WORRIED SHOULD EM INVESTORS BE ABOUT THE FED?

So far in 2018, investors have witnessed increased stock market volatility, rising geopolitical and trade tensions, and rising interest rates. Emerging markets (EM) equity performance has been disappointing, with the MSCI Emerging Markets Index (MSCI EM) posting a negative total return of -3.0% in US dollar terms through mid-June, compared to a positive return for the developed markets (DM) MSCI World Index of 2.8% (Chart 1). Some of this can be attributed to country-specific political or economic problems in nations like Argentina, which has seen its currency lose 50% of its value against the US dollar this year, or Turkey and Brazil, whose currencies have lost 25% and 14% respectively against the greenback (Chart 2).¹

A common explanation for what ails EM right now is simply that the Fed is raising rates. As the old saying goes, “when the Fed taps on the brakes, someone is likely to go through the windshield.” So, the question arises: how worried should investors in EM equities be about the Fed?

Our quick answer is: not too much. There are plenty of other things to worry about – like the recent escalation of trade frictions between the US and China – or signs of slowing in China’s economy – but we think concerns about the Fed may be overdone.

Let the Data Speak – Fed Rate Hikes Don’t Always Trigger EM Underperformance

Let’s focus on data which shows the relationship between the level of the Fed funds rate and the relative performance of EM vs DM equities (Chart 3). On the face of it, there is room for concern since the overall correlation is -0.43 over the entire period based on quarterly data. That means a higher level of the Fed funds rate has been somewhat associated with relatively weaker levels of the MSCI EM versus MSCI World. That seems to accord well with the conventional wisdom that rising rates are a problem for capital-starved EM nations.

But here are some caveats – and they are important ones. First, that correlation has been highly unstable when measured across shorter 3-year rolling periods (Chart 4). Based on our analysis, the 3-year rolling correlation has ranged from as low as a negative -0.85 to as high as a positive 0.97 – almost a perfect positive correlation. The strongly negative correlation occurred from 2002 through 2004 when EM outperformed as the Fed funds rate declined, in accord with the textbook explanation that low rates should be great for EM. The nearly perfect positive correlation occurred in the three years through the first quarter of 2007 when EM outperformed strongly even as the Fed raised rates by more than 3%. Something similar has occurred over the last three years, when EM has outperformed DM even as the Fed was hiking the funds rate.

¹ It should be noted that Argentina is not currently included in the MSCI EM Index, although Argentina’s currency woes may have created some contagion effects on other EM currencies. MSCI recently announced its decision to upgrade Argentina to EM status, with implementation planned at the May 2019 Semi-Annual Index review.

Second, let's also consider how changes in the Fed funds rate affect changes in the relative performance gap of EM versus DM equities (Chart 5). Through that lens, we find that the correlation between 2-quarter changes in the Fed funds rate and the relative performance of EM vs DM has been zero, nada, nil! That means that even those armed with perfect foresight about what the Fed will do over the next six months will gain absolutely no insight about whether EM equities will outperform or underperform their DM counterparts over the same period. And need we ask, who among us has perfect foresight about what the Fed will do?

Conceptually, it makes sense that EM's relative performance is sometimes positively related to the Fed rate hikes. That's because the Fed typically raises rates when the global economy is doing well, which is often a plus for EM nations' growth and corporate profitability. Conversely, the Fed typically cuts rates in response to recessions or deflationary pressures, which are often negative for EM nations.

A Flatter US Yield Curve Also Need Not be Toxic for EM Equities

Perhaps it's not the level or changes of the funds rate that matter, but what happens to the yield curve as the Fed changes rates. That topic has received a great deal of attention in the financial media in recent months as the US yield curve has flattened, with the recent spread between 10-year and 2-year US Treasury yields having declined to less than 40 basis points (Chart 6). Isn't that a sign that tighter financial conditions are raising the risk of a US recession, which could wreak havoc on high-beta EM equities?

Well, yes, maybe a bit. But the New York Fed currently estimates only an 11% probability of a recession over the next year based on the yield curve (Chart 7). That is up from close to zero a year ago, but still suggests roughly 90% chance of no US recession anytime soon. And that remains lower than the normal risk of recession, with the San Francisco Fed recently having estimated that in the post-war period expansions have had about a 23% chance at any time of ending over the next year.²

Looking at the historical relationship between the US Treasury yield curve as measured by the 10-year/2-year spread and the ratio of EM to DM equities, we find a positive correlation of 0.42 (Chart 8). While that suggests that a flatter curve is associated with lower ratios of MSCI EM vs MSCI World, note that (1) the correlation is highly unstable over shorter periods, and (2) changes in the yield curve have zero correlation with the relative performance of EM vs DM equities (Charts 9 and 10). Once again, even armed with perfect foresight about how the US yield curve will change over the next six months, a simple statistical model yields absolutely no insight about whether EM equities will outperform or underperform their DM counterparts.

What Drives EM vs DM Equity Performance? (Hint: Earnings Matter!)

Based on our analysis, focusing on the Fed does not seem to be a good way to anticipate trends in EM vs DM equity performance. What then does drive relative performance trends?

² Glenn D. Rudebusch, "Will the Economic Recovery Die of Old Age?", *FRBSF Economic Letter*, February 4, 2016.

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Not surprisingly, since we are talking about equities, it turns out that earnings expectations appear to be the key driver. Simply looking at historical EPS trends for the MSCI EM and MSCI World Indexes confirms that EM earnings have underperformed DM quite substantially in this decade (Chart 11). Even with the recovery of EM earnings since late 2015, they have not recovered to their peak level of mid-2001 while DM earnings broke out to record high levels. On a relative basis, the ratio of EM to DM earnings tracks extremely closely to the relative performance of MSCI EM versus MSCI World, with a correlation on monthly data since 2003 of a very high 0.85 (Chart 12).

Of course, trends in relative valuations can and do make a difference. Another reason for the underperformance of EM equities in this decade is that EM equity valuations were at near parity to DM valuations at the beginning of the decade when both traded at more than 17 times forward earnings (Chart 13). But since then, the forward PE ratio on the MSCI EM has de-rated by about 30% and is now at about a 25% discount to the forward PE ratio of the MSCI World, which stands at 15.9. Comparing the relationship of EM to DM PE ratios and the overall performance trend of MSCI EM versus MSCI World, we find a reasonably high correlation on monthly data since 2003 of 0.66 (Chart 13). Moreover, using cyclically adjusted PE (“CAPE”) ratios such as the well-known “Shiller PE ratio,” indicates an even more compelling valuation advantage for EM vs DM (Chart 14).³ Currently, the Shiller PE for the US stands at 32.1, which is more than double the EM Shiller PE of 14.2. Likewise, the Shiller PE for the MSCI EAFE Index stands at 19.2, which is 35% more expensive than its EM counterpart.

Putting together the EPS and valuation data, EM investors suffered a “double whammy”: not only did EM earnings lag DM, but the valuations that were attributed to EM earnings suffered in comparison to DM. The bull case for EM lies in a reversal of both of those trends in the future, if EM earnings can outpace DM along with the valuation gap moving in favor of EM once again.

One reason for optimism on the earnings front is that EM earnings remain well below their historical long-term trend, which suggests scope for further growth without overheating (Chart 15). In contrast, DM earnings have already risen above their long-term trend, suggesting limits to growth such as margin compression due to tightening labor markets (Chart 16). This is consistent with the output gap analysis we presented in Trilogy’s World Report several months ago, which documented greater scope for growth in EM versus DM using GDP data.⁴

Some optimism on EM earnings growth is also warranted by the fact that commodity prices also remain below their long-term trend from the mid-1990s (Chart 17). Since EM earnings per share and commodity prices have been highly correlated, this also suggests further room to run for EM earnings, even though the direct weight of commodity sectors in EM benchmarks has fallen notably over the last ten years (Charts 18 and 19).

We would add that the importance of earnings trends in determining EM’s relative performance suggests the importance of fundamental, bottom-up company research to EM investors. In the final analysis, EM investors are buying shares in companies rather than shares in EM nations’ GDP. And that is

³ “EM commodity exporters” include Argentina, Bolivia, Brazil, Chile, Colombia, Indonesia, Kazakhstan, Malaysia, Peru, Russia, and South Africa. “EM commodity importers” include China, Hungary, India, Mexico, Poland, Romania, Serbia, Thailand, Turkey, and Vietnam. Named after its originator, Nobel laureate Robert Shiller, the Shiller PE ratio divides the inflation-adjusted price of an equity index with a 10-year average of the index’s inflation-adjusted earnings per share (EPS).

⁴ See “Mind the Gap: Where Are We in EM and DM Business Cycles?”, Trilogy’s World Report, March 2018

where fundamental analysis should be able to add value, especially given the growing importance of disruptive trends in sectors like technology which are becoming increasingly important to EM earnings. Consider the fact that the technology sector now accounts for more than 40% of the market capitalization of the MSCI China Index, which means that the key drivers of earnings growth have become very different qualitatively than just ten years ago.⁵

What About the Role of Capital Flows in Driving EM Relative Performance?

Many discussions of EM equity performance focus on trying to understand the role of capital flows, especially when considering the impact of Fed policy. While we would not dispute at all the importance of capital flows in driving EM equity and currency trends, our strong impression is that capital flow data is of limited usefulness for two reasons. First, comprehensive capital flow data usually comes out with multi-week lags which raises the issue of timeliness. Second, it appears that capital flow data is more of a coincident indicator than a leading indicator of EM equity performance, suggesting that it adds little incremental information about the future.

To get around the data lag issue, Michael Rosenberg of Bloomberg in 2013 created an EM Capital Flow Proxy Index (EMCFPROX Index) to try to use real-time data as a proxy for what capital flow data would show once it became available. A key step in the research was to identify key variables that drive capital flows to EM which are supported by both financial theory and empirical analysis. Simple correlation analysis was used to support the inclusion of four key variables as part of the EM Capital Flow Proxy Index: (1) MSCI EM Index, (2) J.P. Morgan EMBI Global Bond Spread Index, (3) Bloomberg's EM Forex Carry Trade Index, and (4) Goldman Sachs Commodity Index (Tables 1 and 2).

All those indexes have impressive correlations with the Institute of International Finance's Net Private Capital Flows data series, but none more so than the MSCI EM Index itself (correlation = 0.84). In fact, when the Bloomberg EM Capital Flow Proxy Index was created using the four variables just mentioned, it turned out to have a 93% correlation to the MSCI EM. Accordingly, from the point of view of equity investors, capital flow analysis has almost no incremental value compared to simply monitoring trends in the MSCI EM itself. Looking at monthly data from 2005 to 2018, the correlation between the EM Capital Flow Proxy Index and MSCI EM has been 0.88 (Chart 20).

Yes, it is interesting to know that the Bloomberg index suggests that capital flows to EM have been crimped recently after having expanded strongly in 2016 and 2017. But we could have gathered that simply by observing how EM equities performed over the same period. If we try to explain capital flow trends by reference to Fed policy, we are back to the same issue addressed earlier: even perfect foresight of Fed interest rate moves provides little insight into the future relative performance of EM equities. By extension, that presumably applies to future capital flows as well.⁶

⁵ Investors were humorously reminded of this reality recently when a US senator asked Facebook CEO Mark Zuckerberg whether Facebook is an "Only in America" story and received an unexpected but accurate response: "Well, senator, there are some very strong Chinese internet companies."

⁶ Just as capital flows can drive MSCI EM, so too can capital flows drive the value of the US dollar. It turns out that the US dollar has a strong negative correlation with EM vs DM equity performance (-0.75 based on quarterly data over the 1988-2018 period). Once again, however, the correlation of changes in the Fed funds rate with changes in the US dollar is approximately zero, so the narrative that "Fed rate hikes will spike the dollar and hurt EM's relative performance" is not supported by the evidence.

Staying the Course on EM Equities

Amid media commentary on EM equities to the tune of “the sky is falling,” we were intrigued to see a very recent investor survey by State Street Global Advisors (SSGA) showing that such concerns have not hindered institutional investors’ interest in EM exposure.⁷ According to the survey results, 44% of respondents plan to increase their EM equity exposure and 26% plan to increase their EM debt holdings, with relatively few planning to cut EM positions (Chart 21). This is a rather remarkable endorsement of the EM asset class since the survey respondents also suggested that their top three concerns were (1) geopolitical/international trade tensions, (2) end of the US equity bull market, and (3) a slowdown in the global economy – none of which would tend to favor EM assets.

We gather that this endorsement for the asset class is based on two key pillars: (1) attractive relative valuation that we discussed above, and (2) superior economic growth prospects, with Bloomberg’s consensus survey of economists projecting average economic growth from 2018-to-2020 of 5.1% for EM economies versus only 2.1% for DM economies (Chart 22). Indeed, SSGA’s asset class forecasts for the next 3-to-5 years appear to incorporate such considerations, with EM equities expected to deliver 9.8% annual returns compared to 6.4% for US Large Cap and 6.6% for Global DM Ex-US (Chart 23).

To be sure, rising risk aversion, rising US interest rates, and a stronger US dollar have currently created a downdraft in EM equities. That said, we believe the long-term prospects for the asset class remain attractive and that now is the time to stay the course with exposure to EM equities. Although “don’t fight the Fed” has long been a mantra for those tempted to engage in market timing, we believe there are compelling reasons for EM investors not to worry too much about the Fed when considering their EM exposure.

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⁷ See Matthew Bartolini, “Geopolitics, Trade and the Bull Market’s Age are the Top Investor Worries [2018 Mid-Year Outlook, Part 1”, SPDR Blog, June 12, 2018

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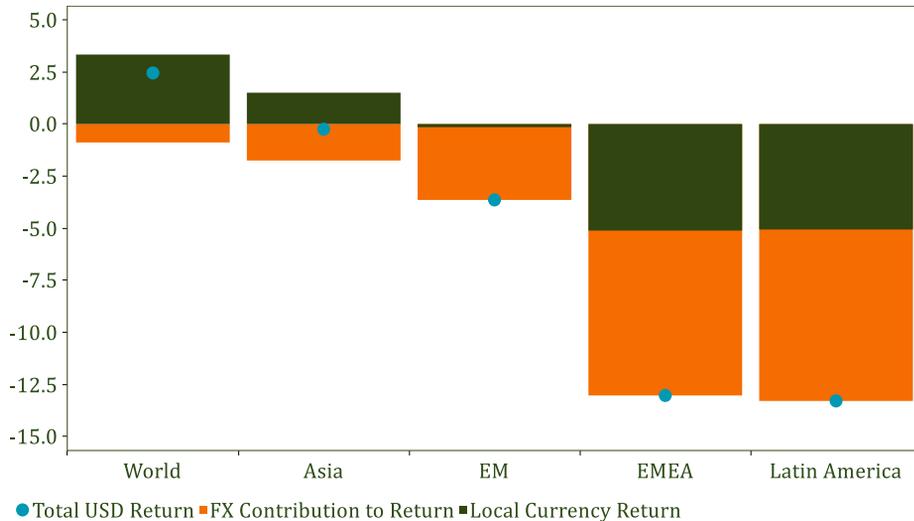
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CHART 1

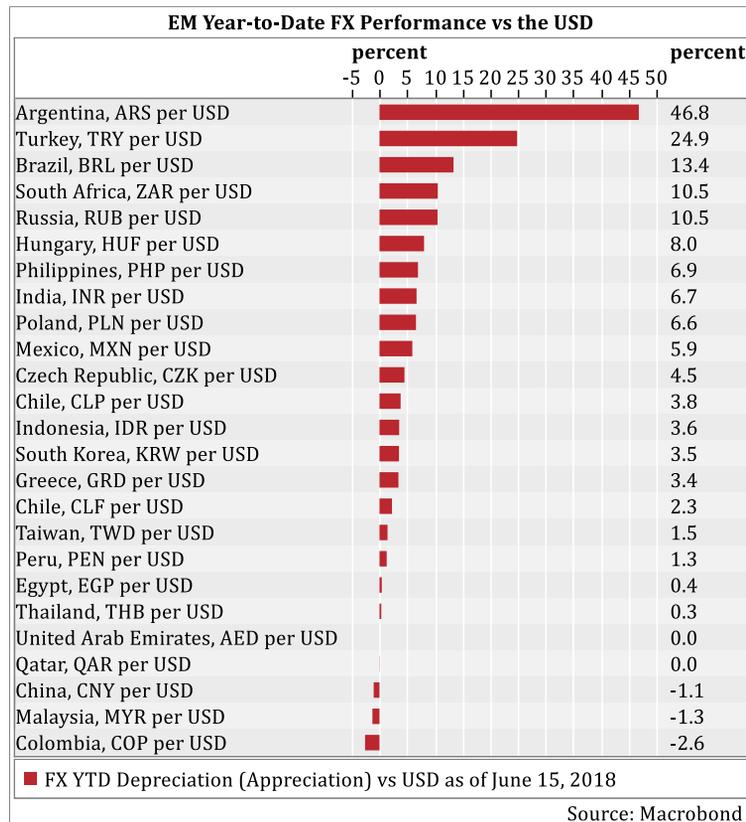
**Total USD Returns to MSCI Indices, with FX Contributions:
2018 YTD as of 6/15/2018**



Source: MSCI and Macrobond

EM equities have underperformed DM equities by nearly 6% this year, with much of the underperformance resulting from weaker currencies in EMEA and Latin America.

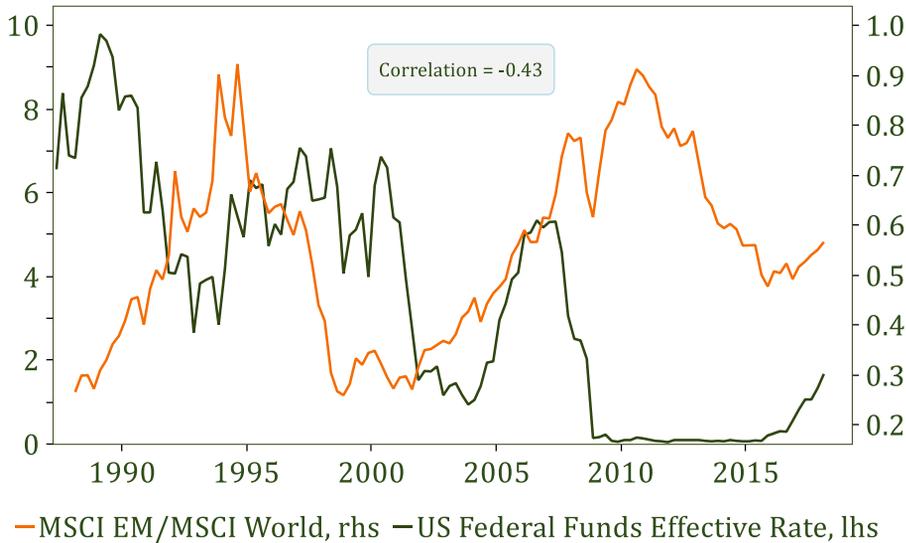
CHART 2



A few EM nations have experienced sharp FX depreciation against the US dollar in 2018, most notably Argentina (-47%), Turkey (-25%), Brazil (-13%), South Africa (-10%) and Russia (-10%).

CHART 3

The Fed Funds Rate Has Been Modestly Correlated with the Relative Performance of EM vs DM

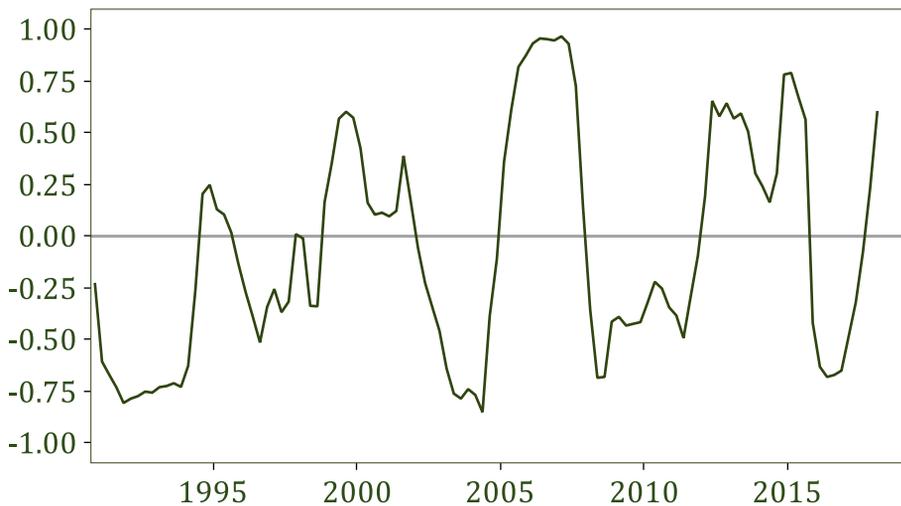


Source: Trilogy Global Advisors, Bloomberg, MSCI, and Macrobond

There has been a modest negative correlation between the level of the Fed funds rate and the ratio between MSCI EM and MSCI World Indexes.

CHART 4

3-Year Rolling Correlation of Fed Funds Rate and EM/DM Relative Performance



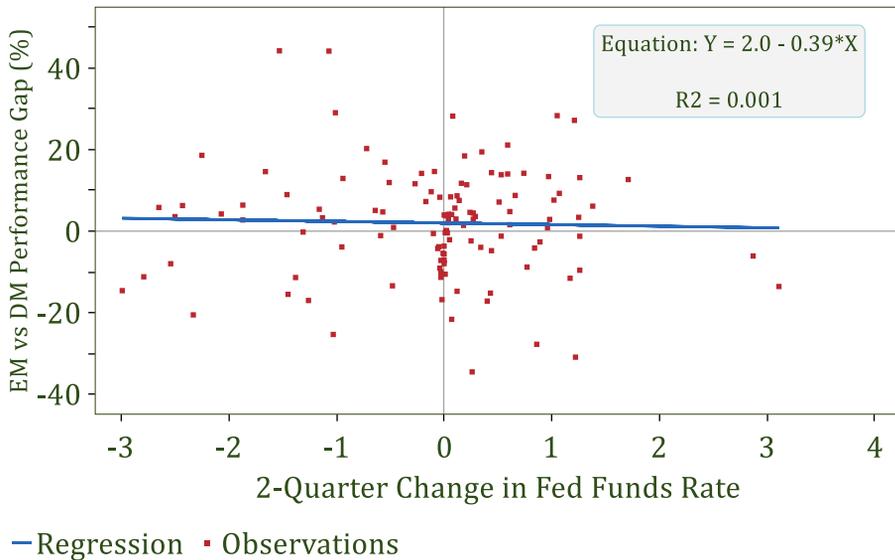
— 3-Year Rolling Correlation of Fed Funds and MSCI EM/World

Source: Trilogy Global Advisors, Bloomberg, MSCI, and Macrobond

The 3-year rolling correlation between the Fed funds rate and the ratio of EM to DM equities has been highly unstable, ranging from -0.85 in 2004 to 0.97 in 2007.

CHART 5

Fed Funds Changes: No Impact on EM vs DM (Quarterly Data: 1988:Q3 to 2018:Q1)

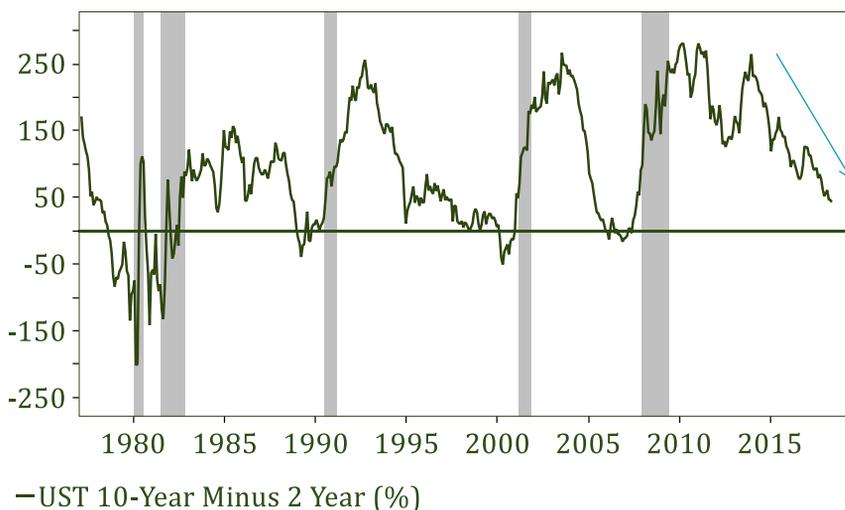


Source: Trilogy Global Advisors, Bloomberg, MSCI, and Macrobond

Changes in the Fed funds over 2 quarters have had zero correlation with EM vs DM performance, indicating no predictive power of rate forecasts for the EM vs DM performance gap.

CHART 6

Recession Ahead? The U.S. Yield Curve Has Flattened As the Fed Has Hiked Rates



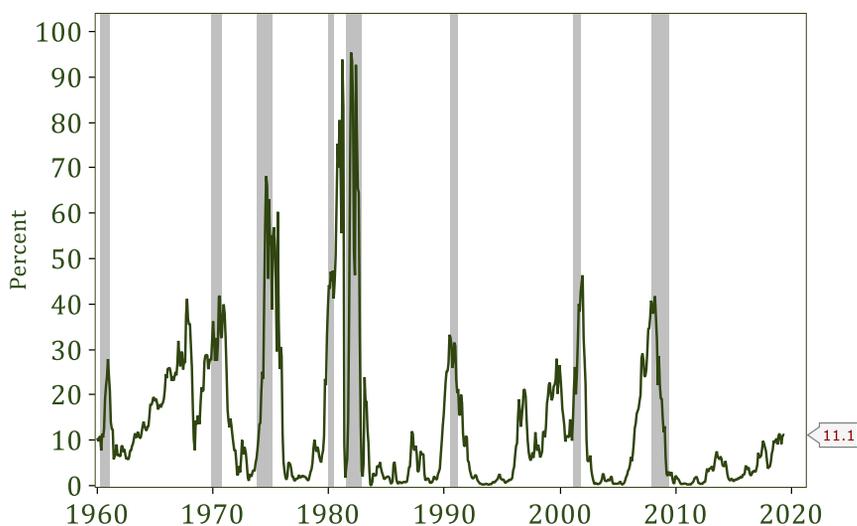
Note: Shaded areas denote US recessions

Source: National Bureau of Economic Research, Bloomberg, and Macrobond

The financial media has repeatedly raised concerns about the flattening of the US yield curve, which has historically acted as an early warning signal for US recessions.

CHART 7

The N.Y. Fed's Recession Probability Index Remains Low, But Has Recently Ticked Up

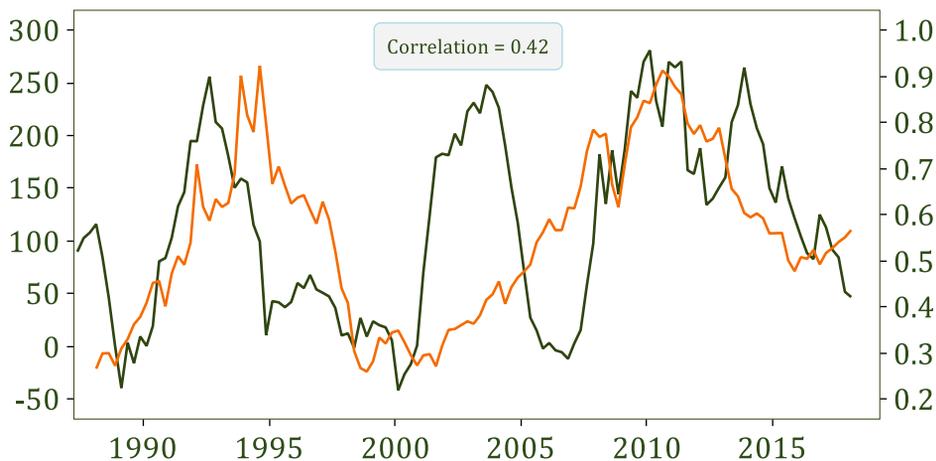


Source: Macrobond and Federal Reserve Bank of New York

The New York Fed's recession probability index based on the yield curve sees only an 11% chance of a recession over the next twelve months – or nearly 90% chance of no recession.

CHART 8

The US Yield Curve Has Been Modestly Correlated with the Relative Performance of EM vs DM



- MSCI EM/MSCI World, rhs
- US Yield Curve 10yr - 2yr (basis points), lhs

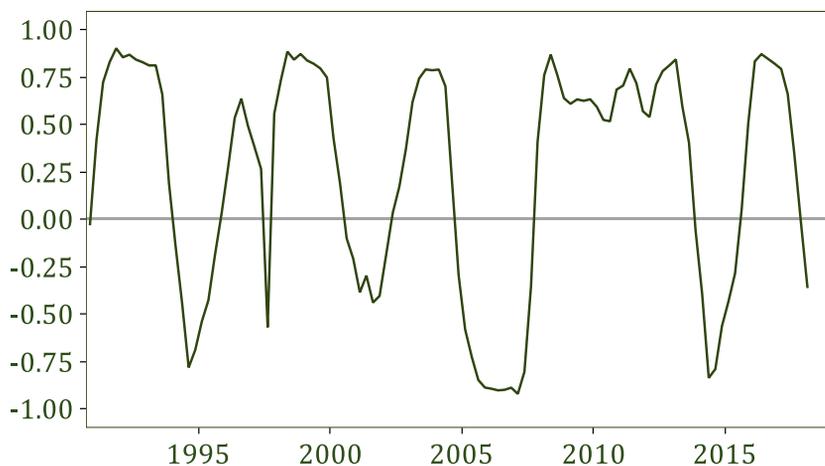
Source: Trilogy Global Advisors, Bloomberg, MSCI, and Macrobond

There has been a modest positive correlation between the slope of the US yield curve and the ratio of MSCI EM and MSCI World Indexes – i.e., a flatter curve implies a lower level of EM vs DM equities.

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CHART 9

3-Year Rolling Correlation of US Yield Curve and EM/DM Relative Performance



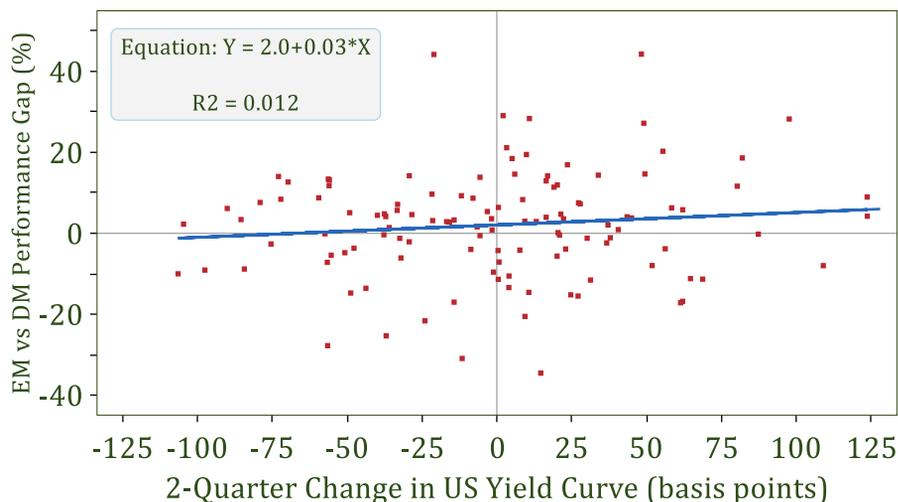
—3-Year Rolling Correlation of UST 10yr-2yr and MSCI EM/World

Source: Trilogy Global Advisors, Bloomberg, MSCI, and Macrobond

The 3-year rolling correlation between the US yield curve and the ratio of EM to DM equities has been highly unstable, ranging from -0.92 in 2004 to 0.90 in 1991.

CHART 10

Yield Curve Changes: No Impact on EM vs DM (Quarterly Data: 1988:Q3 to 2018:Q1)



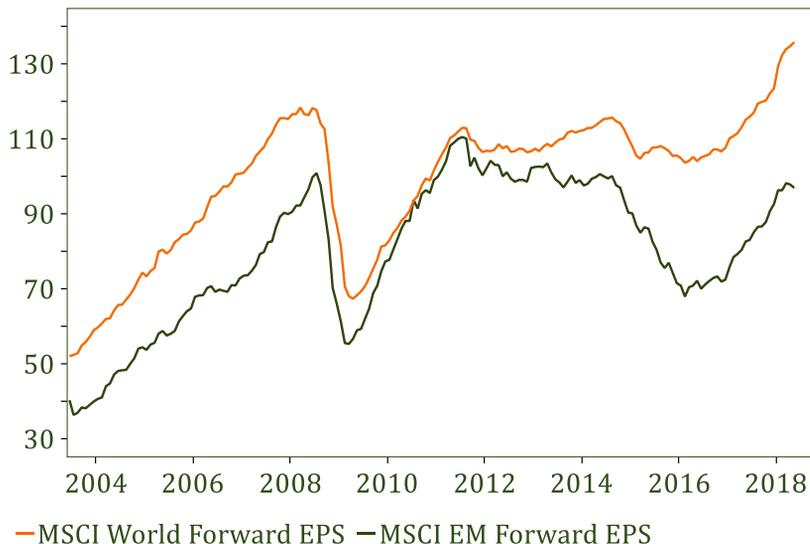
— Regression ■ Observations

Source: Trilogy Global Advisors, Bloomberg, MSCI, and Macrobond

Changes in the US yield curve over 2 quarters have had zero correlation with EM vs DM performance, indicating no predictive power of yield curve predictions for the EM vs DM performance gap.

CHART 11

MSCI World vs EM 12-Month Forward EPS

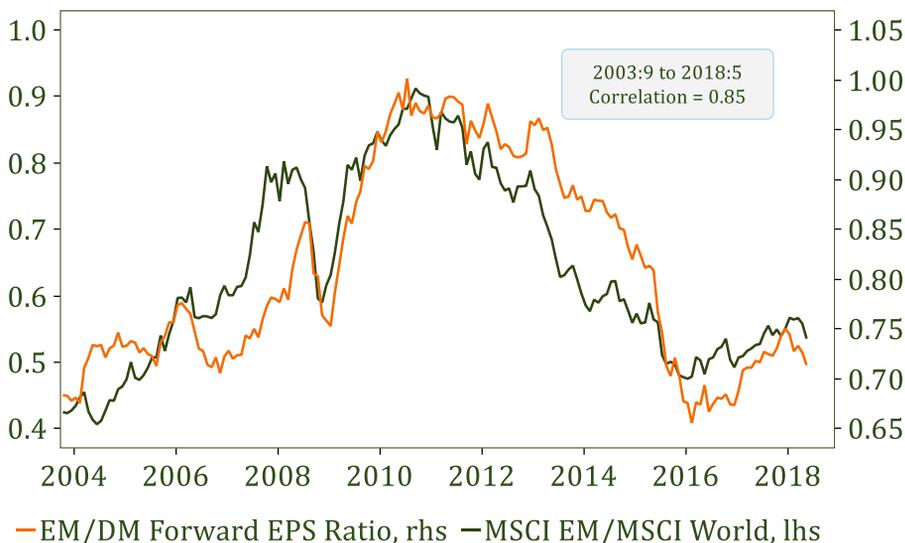


Source: Bloomberg, MSCI, and Macrobond

EM equities have lagged DM equities this decade because EM earning per share (EPS) slumped badly from mid-2011 through early 2016. They have still not recovered to peak-2011 levels, in contrast to DM.

CHART 12

EM vs World Equity Performance is Highly Correlated with Relative EPS Expectations



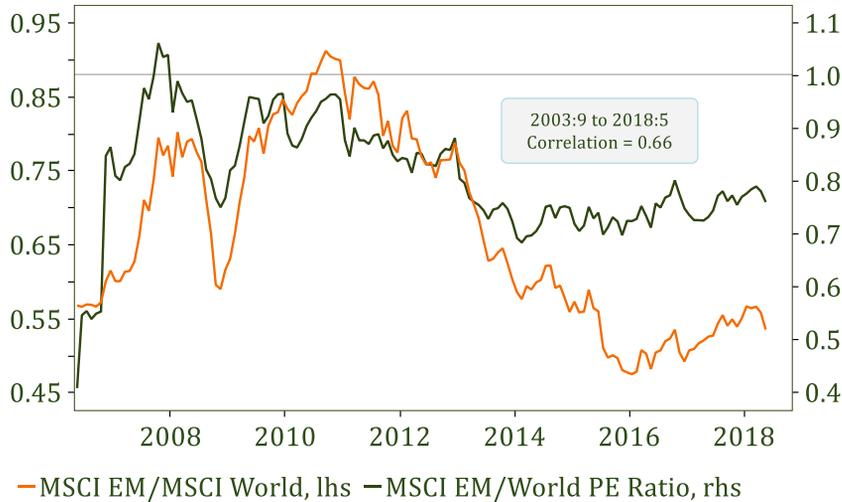
Source: Trilogy Global Advisors, Bloomberg, MSCI, and Macrobond

Not surprisingly, the degree to which MSCI EM has outperformed or underperformed MSCI World has been highly correlated with relative EPS expectations between EM and DM.

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CHART 13

EM vs World Equity Performance is Well Correlated with Relative PE Ratios

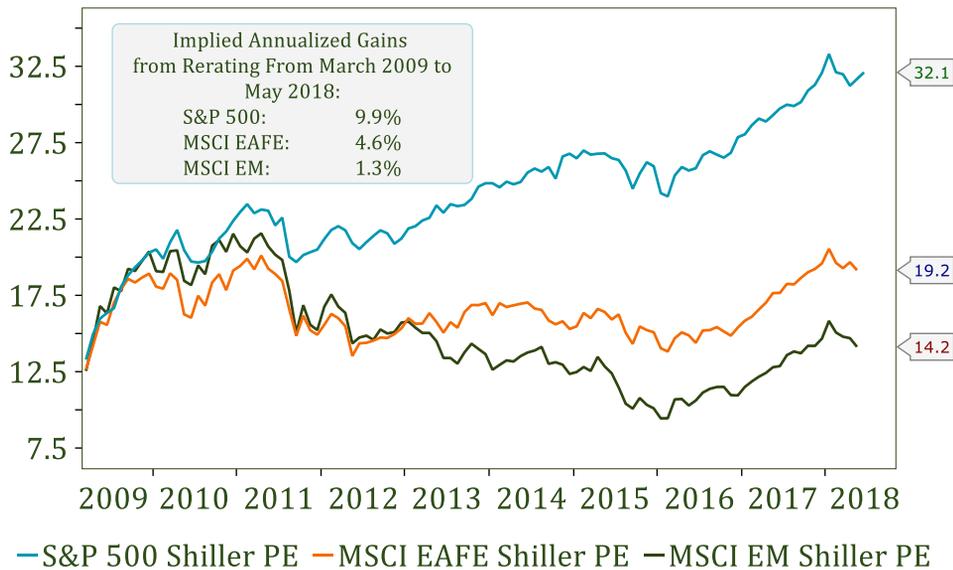


Source: Bloomberg, MSCI, and Macrobond

Relative EM vs DM valuations have also driven EM vs DM equity performance (correlation = 0.66). But since 2014, relative valuations have been steady, putting greater importance on EPS trends.

CHART 14

US Stocks Have Dramatically Rerated Since 2009: Shiller PE Ratios - U.S., EAFE and EM

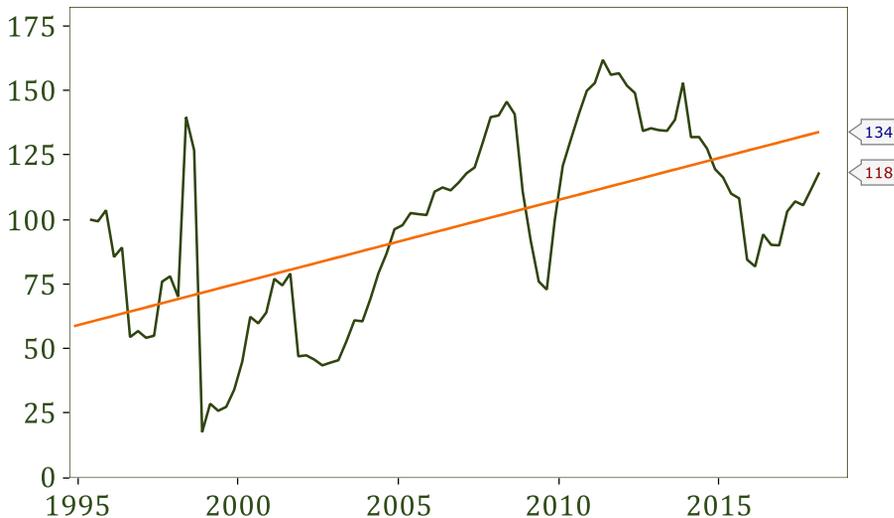


Source: Trilogy Global Advisors, MSCI, Bloomberg, and Macrobond

Using a “cyclically adjusted PE (CAPE) ratio”, suggests a compelling valuation advantage for the MSCI EM Index, which trades at 14 times earnings compared to 32 for the S&P 500 and 19 for MSCI EAFE.

CHART 15

No Overheating Here: EM Real Earnings Per Share Remains Well Below the Long-term Trend

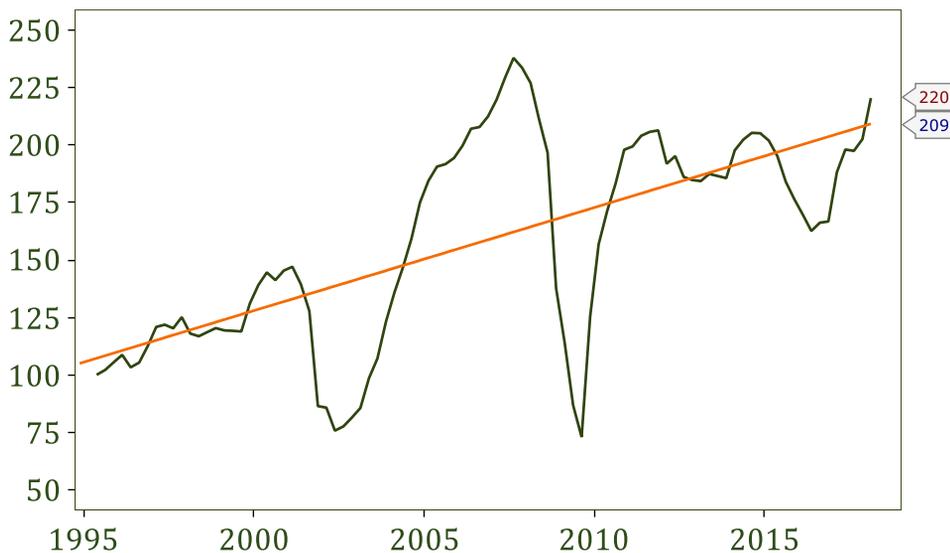


Note: MSCI EM Trailing EPS divided by US CPI (1995=100)
Source: Bloomberg and Macrobond

EM real earnings are still running well below their long-term trend, suggesting that those economies are far from overheating and that EM growth still has ample room to run.

CHART 16

Limits to Growth? DM Real Earnings Per Share Are Already Above the Long-term Trend

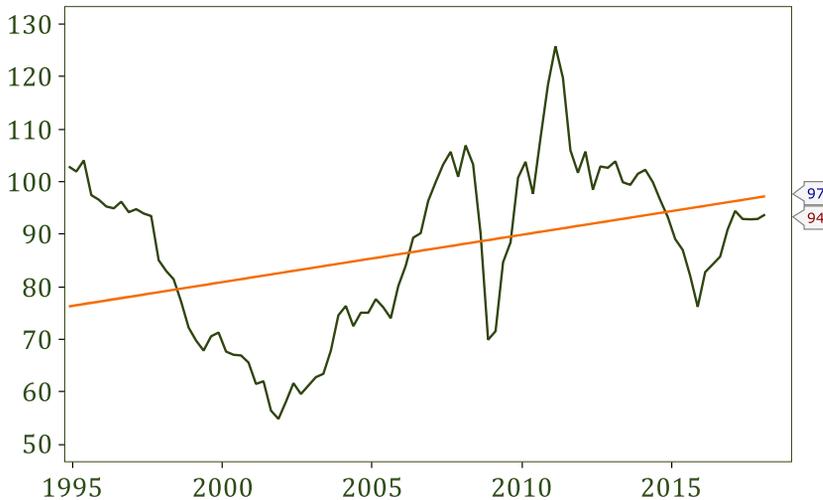


Note: MSCI EM Trailing EPS divided by US CPI (1995=100)
Source: Bloomberg and Macrobond

In contrast to EM, real earnings in DM have already risen above their long-term trend, suggesting that DM economies may be closer to bumping into resource constraints that could crimp earnings growth.

CHART 17

No Overheating Here: Real CRB Commodity Index Remains Modestly Below the Long-term Trend

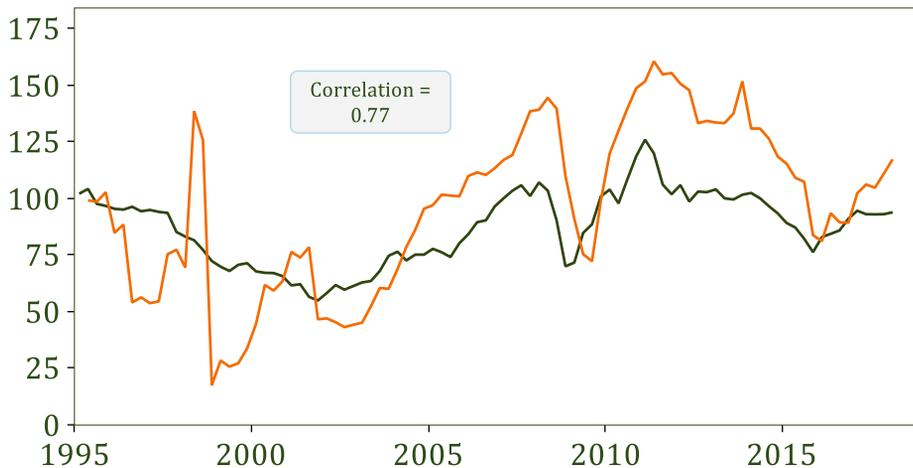


Source: Trilogy Global Advisors, Bloomberg, and Macrobond

Real commodity prices also remain below their long-term trend line, suggesting more room to run in the earnings growth of commodity driven EM nations.

CHART 18

Real EM EPS and Real Commodity Prices Remain Highly Correlated



- Real MSCI EM EPS [rebase 1995=100]
- Real CRB Raw Industrials Index [rebase 1995=100]

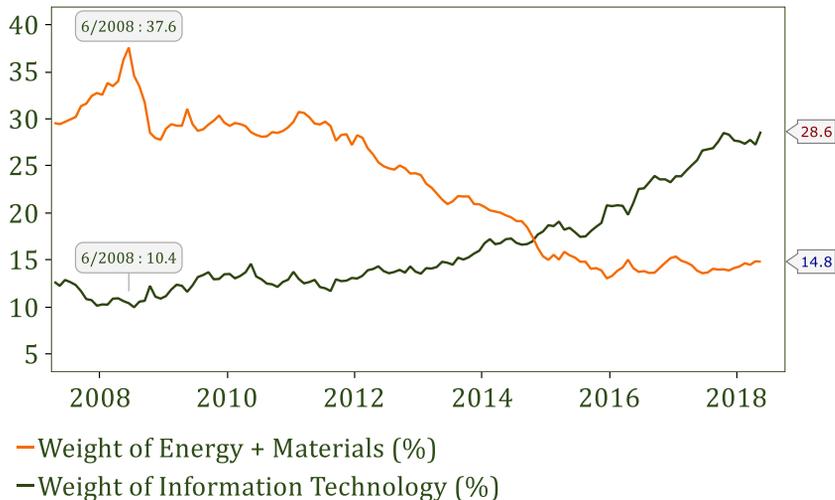
Source: Bloomberg and Macrobond

EM real earnings trends have remained correlated with real commodity prices, even though the weight of the energy and materials sectors in the MSCI EM Index has been declining.

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CHART 19

MSCI EM is No Longer Commodity Driven: Tech Weight is Up, Energy and Materials is Down



Source: Bloomberg and Macrobond

The combined weight of the MSCI EM Energy and Materials sectors has declined from 38% in mid-2008 to only 15% currently, while the weight of the IT sector has risen from 10% to 29% over the same period.

Table 1

Construction of the EM Capital Flow Proxy Index (Components and Weights)

Component	Weight
EM Equity Market Performance	
MSCI EM Index	30%
EM/U.S. Relative Interest and Exchange Rates	
EM 8 Carry Trade Index	30%
EM Bond Market	
JPMorgan EMBI+ Spread	30%
Commodity Prices	
S&P/GSCI Index	10%
Proxy Index	100%

Source: Bloomberg

Since comprehensive data on EM capital flows typically comes out with a lag, Bloomberg created an EM Capital Flow Proxy Index to provide a daily real-time tool for assessing EM capital flows.

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Table 2

Correlation of Emerging Market Private Capital Inflows and Selected EM Asset Prices
(2005-2013)

	EM Net Private Capital Inflows (US\$ bn)	MSCI EM Equity Index	J.P. Morgan EMBI+ Spread Index	EM-8 Carry- Trade Index	S&P/GSCI Commodity Price Index	Weighted Average Proxy Index
EM Net Private Capital Inflows (US\$ bn)	1.00					
MSCI EM Equity Index	0.84	1.00				
JPMorgan EMBI+ Spread Index	-0.61	-0.52	1.00			
EM-8 Carry-Trade Index	0.72	0.79	-0.11	1.00		
S&P/GSCI Commodity Price Index	0.72	0.79	-0.25	0.83	1.00	
Weighted Average Proxy Index	0.85	0.93	-0.74	0.64	0.70	1.00

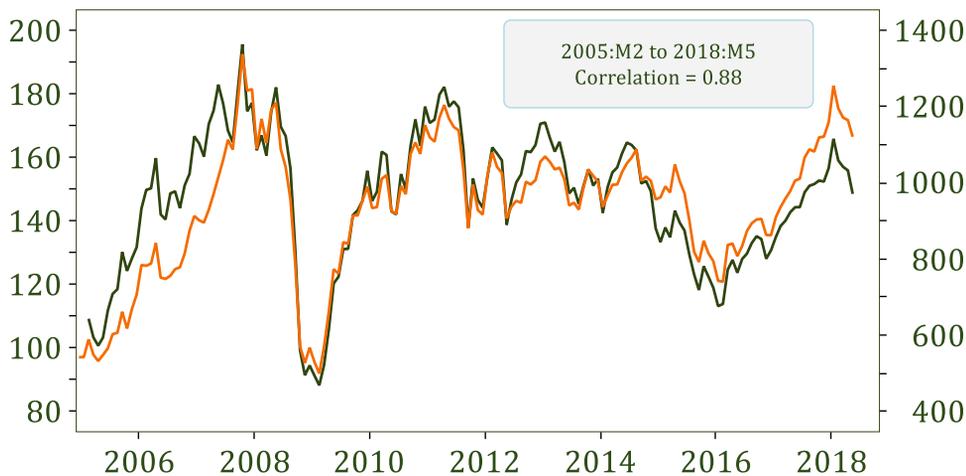
Note: Correlations of weekly values of EM asset prices and strategies; Correlations of weekly values of asset prices and strategies with interpolated quarterly capital inflows.

Source: Institute of International Finance quarterly Net Private Capital Inflows; Bloomberg.

The MSCI EM Index is almost perfectly correlated with Bloomberg's EM Capital Flows Proxy Index, which suggests that predicting EM capital flows is essentially the same thing as trying to predict the MSCI Index.

CHART 20

Spot the Difference: Bloomberg Emerging Markets Capital Flow Proxy Index vs MSCI EM



— MSCI EM Index, rhs

— Bloomberg Emerging Markets Capital Flow Proxy Index, lhs

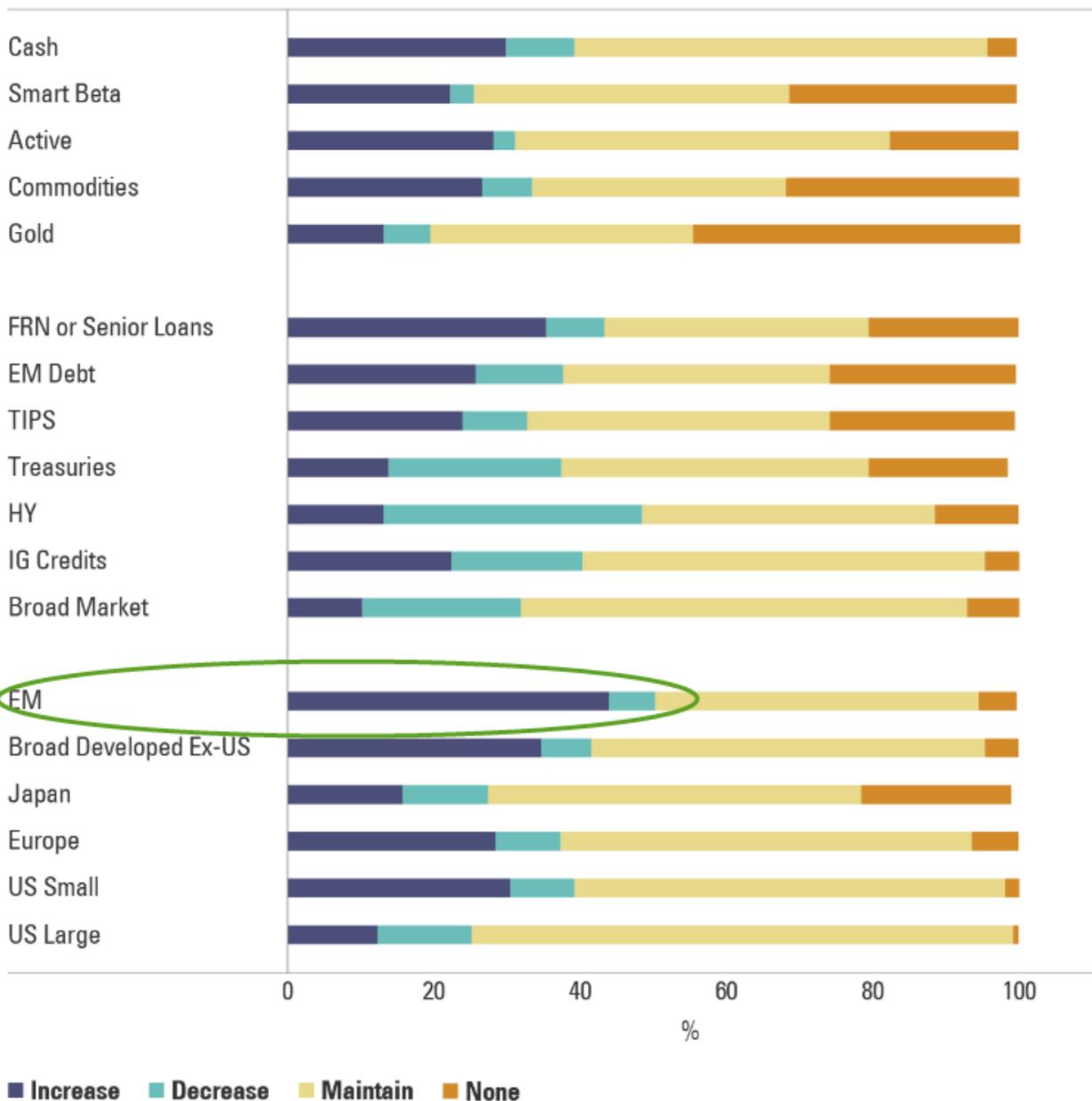
Source: Bloomberg and Macrobond

The EM MSCI Index and Bloomberg's EM Capital Flow Proxy Index are statistically almost indistinguishable, suggesting that capital flow analysis may be useless for predicting EM equity trends.

Chart 21

SSGA's 2018 Mid-Year Investor Survey Results

Asset Allocation Changes

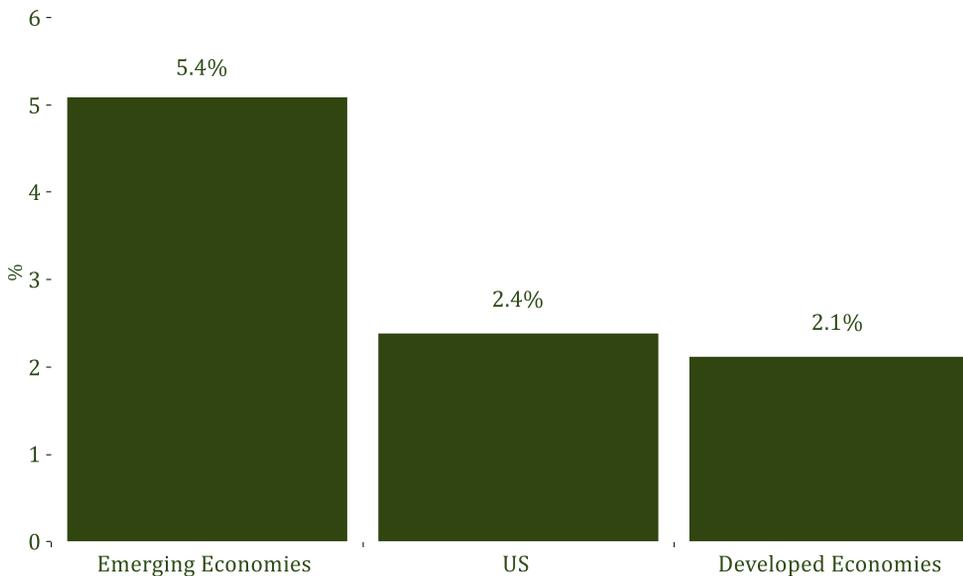


Source: SPDR Americas Research, as at 05/10/2018.

Global concerns aren't hindering interest in EM equity exposure, with State Street Global Advisors' 2018 Mid-Year Investor Survey showing that 44% of respondents plan to increase EM equity exposure.

CHART 22

**EM's Economic Growth To Outpace DM's:
Bloomberg's Real GDP Average Growth Forecast from 2018-2020**



Source: Bloomberg and Macrobond

Most economists continue to project far more robust economic growth in EM than DM over the next several years

CHART 23

**SSGA's Asset Class Forecasted Returns
as of March 31, 2018 (%)**



Source: State Street Global Advisors (SSGA) Investment Solutions Group

Long-term capital market forecasts, like this recent one from SSGA, project robust EM returns over 3-to-5 years based on an assessment of current dividend yields, forecast real earnings growth, and potential changes in valuation multiples.