

Q&A

Talking Research

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Making the Case for Localized Quant Investing in Emerging Markets

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at Rayliant Global Advisors.*





Emerging markets, led by China, offer investors intriguing opportunities, not to mention new sources of potential uncertainty. In this Q&A, Doug Gratz, CFA, Rayliant's Director of Institutional Accounts, spoke with Phillip Wool, Ph.D., the firm's Director of Research, to understand the challenges of EM investing and how a localized, systematic approach can help to unlock a rich source of sustainable alpha.*

**This Q&A is based on a conversation recorded in November 2018; selected text and numbers have been edited and updated, respectively.*

Q: What is the definition of emerging markets?

It turns out there's no official definition. Typically we define emerging markets, also known as "EM", by way of comparison to developed markets, or "DM". Emerging markets are those on their way to becoming developed markets, but they're not quite there yet. Some are closer than others, but they're all making progress – they're maturing – and that's the key to the definition. There are even less developed markets we call "frontier markets"; we'll just focus on emerging markets, which sit between developed and frontier.

Without a universal definition of EM, the actual list of emerging markets depends on whom you ask. China is the largest emerging market. Its equity markets were the world's second-largest, behind the US, at around USD7 trillion in total market cap as of the end of September 2018¹ – that's around 30% of the MSCI EM index. FTSE classifies South Korea as a developed market, but we follow MSCI, which puts it into the EM bucket, where it makes up around 14% of the index, followed by Taiwan at 12%, India at 9% and Brazil at 8% weight. MSCI classifies 24 countries as emerging markets.

Q: What are the unique characteristics of emerging markets compared to developed markets?

One of the telltale signs of an emerging market is low GDP per capita, relatively speaking; they're moderately well-off, but GDP is growing very rapidly. Take, for example, China and India, which saw GDP growing around 6.6 and 7.3% in 2018, respectively.² Developed markets are generally wealthier but are growing more slowly.



Another striking EM feature that's highly relevant to investors is volatility that's usually much higher than in developed markets. MSCI's developed world index showed annualized volatility of around 14% over the last 10 years. If one had invested in the MSCI Emerging Markets Index over the same period, they would have experienced closer to 20% volatility. Mainland Chinese stocks registered around 27%.

It's worth pointing out that the rapid growth we see in emerging markets and the high volatility I just mentioned have not historically translated into higher returns. Over the past decade, MSCI EM returned around 8% versus 10% for MSCI developed world. Chinese stocks during the same period returned only around 6.5%. So why is economic growth not necessarily reflected in the performance of these asset markets? That's an active topic of debate. But the main point is that high growth rates shouldn't be the only reason an investor decides to take a leap into emerging markets.

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Q: You have highlighted some of the risks – why then are emerging markets particularly attractive places to invest in?

Indeed, there has been high risk but mixed returns over the last decade, which don't make emerging markets sound very promising. Still, a number of factors point in their favor. One of those goes back to the distinctive features of emerging versus developed markets. The level of development of domestic financial institutions remains low in emerging markets, where we've also observed there are many more individual investors than professional ones.

In South Korea and India, upward of 30% of trading is currently done by individual investors as opposed to professionals; in Taiwan that number is closer to 50%.



In China almost 90% of trading by some accounts is done by non-professional, retail investors. That's the opposite of what we see in developed markets, where professional investors are more prevalent. When a trade is made, it's more likely the counterparty is a sophisticated informed institution, rather than a retail investor.

The balance of trading done by individuals and institutions shifts as markets mature, a transition that reveals two points. First, I don't think the market transformation is going to be instantaneous. Retail investor participation in the U.S. took nearly 50 years to fall from around 70-80% in the early 1950s, to the current 5%. South Korea and Taiwan today are roughly where the U.S. was in the early 1960s; China is closer to the U.S. in the early 1950s. The timeline is going to be compressed, so I don't think these emerging markets are going to take 50 years to transform into developed markets as the U.S. did, in terms of retail versus professional trading volume. But I do believe there's still time to be an early mover and take advantage of that high level of retail investor participation.

Q: So why is it important that retail investors are extremely active in emerging markets?

If we think about investment outperformance, or alpha, we know that's in zero net supply, so when we trade, we always have to ask whether we expect to win. If we expect to beat the market, then who is going to lose on the other side of our trade? Retail investors, because they often trade based on behavioral bias and create inefficiencies, are a potentially good source of sustainable alpha, and we can try to harvest that with active systematic factor strategies.³

In addition, foreign institutional investors are expected to flood into EM over time, as that shift from retail to professional investing takes place. That creates another opportunity for first movers to benefit from these flows into emerging markets.

“...behavioral bias creates inefficiencies which are a potentially good source of sustainable alpha to harvest with active systematic factor strategies...”



China is a prime example. MSCI announced in June 2017 that it was going to boost Chinese A shares to just around 1% weight in the EM Index. That move took place a year later, in June 2018. If A shares were fully included, they would account for around 16% of the index – so 16 times their current level. At that point Chinese stocks would make up over 40% of the overall weight of MSCI EM.

Those changes are bringing tens of billions of dollars into mainland Chinese stocks through passive investments that track MSCI benchmarks. That's a substantial migration of funds into emerging markets and creates a demand shock that could serve as a tailwind for investors who got into EM earlier.

Q: How has the recent decline in emerging market stocks affected the case for investing now in emerging markets?

That takes us back to the question of risk and return in emerging markets. EM stocks were off around 15% in 2018; mainland Chinese stocks were down just over 30% year-to-date. That's the volatility manifesting as discussed before. The U.S.-China trade war hasn't helped matters, but a correction like that creates potentially attractive valuations.

If we look at MSCI China and MSCI EM, we would find they're both currently trading at a price-to-earnings ratio of around 12, compared to 15 for MSCI ACWI Index or 16 for the developed market stocks in the MSCI World Index.⁴ One of the best predictors for future returns is simply the current valuation. Those valuations may look attractive to investors seeking to enter into emerging markets.

Another point on the recent declines relates to correlations. I mentioned EM is down around 15% in 2018 – China down around 30% – but U.S. stocks were down less than 5%.⁵ If we compute a correlation between mainland Chinese stocks and U.S. stocks and look at a correlation going back to 2001, we would find the correlation is around 0.3 – a massive opportunity for diversification. It's very rare in an asset class like equities to see correlations that low.

Other emerging markets are more correlated, so if we looked at markets like South Korea or Taiwan, they have correlations closer to 0.6 or 0.7 with respect to developed markets. But EM is still not completely integrated with global markets, and those correlations still offer the potential to gain some diversified exposure when you are thinking about including EM in an asset allocation plan.



Q: You've talked about some of the benefits, but what are some of the challenges to investing in emerging markets?

The obstacles to investing in EM are likely some of the reasons we don't see more asset owners taking the sort of emerging markets exposure that we expect based on their shares of GDP growth and market cap. I would break these challenges of EM investing into a few categories. Two major aspects we think about are our data challenges, on the one hand, and local differences, on the other.

Let's start with the data. One problem in conducting quant research, particularly in emerging markets, stems from often working with short samples. That's mainly because they are relatively young markets and are constantly evolving. Even with longer samples, there may be structural breaks in the data. A number of major accounting changes in China, for example, have affected the way we calculate signals and how our factor strategies behave. Those structural breaks are going to make even a long sample feel like a set of smaller, shorter samples, and they would impede quant research as it's usually performed.

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Q: Is there anything that can be done about those data challenges?

We have a few responses. For one, these structural breaks require us to know the markets very well, all the regulations and the changes in accounting standards, and so forth. We have to understand how those rules have evolved over time; that helps us identify the structural breaks and understand why a strategy might behave one way in one period and another way in the next. Short samples pose an issue



for quant research. Statistical confidence – when we run a backtest, for example – comes from having years of data. Without it, there isn't much we can do because we can't just manufacture the data required.

On the other hand, acknowledging that limitation helps us be more conscious of the need to lean more heavily on theory and on economic intuition when we develop strategies. In other words, we have to supplement low-power statistical tests with an understanding of what's actually driving the quantitative model. That would give us more confidence that the model makes sense and that it should work in the context in which we're applying it.

We can also rely on strategies that show robustness across markets. Say we have a quant signal that worked well in most emerging markets. That would give us more confidence that the same signal would work in an emerging market where we don't yet have enough data to test the signal properly.

Q: *Where do you source the data for emerging markets?*

One issue we face is that you can obtain data on most emerging markets off-the-shelf from a global vendor, but they don't always capture the aspects we need. For example, global vendors wouldn't tell us which firms are state-owned in China, where state-owned enterprises (SOEs) make up half of the market. That's something crucial to know in order to run those strategies properly.

Meanwhile, local vendors can provide the sort of information we need, like SOE designations. But their data tend to be messier and require a lot more cleaning. Given differences in accounting standards, substantial knowledge is required to make sense of the locally sourced data.

For many markets we believe it's also important to pull data from websites, social media and other non-traditional sources. Doing that could be particularly useful in emerging markets, where those types of unique data sources might play a bigger role given, for example, heavy retail participation and the way that stocks are traded and priced in the market.



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Q: One concern about emerging markets is that manipulation or corruption results in data that can't be trusted. Is that an issue for you and your research team?

Indeed, data integrity in emerging markets is a strong concern for investors. It's reasonable to be skeptical regarding accounting data that companies issue in EM; we've done research that identified widespread earnings management, or sometimes outright manipulation of the numbers. Accounting standards in some EM countries are more permissive in terms of what qualifies as legal, so not all of that is illicit earnings management. Even where laws prohibit some particular accounting treatment, we don't have any guarantee that regulators actually enforce those standards.

Q: At first it seems disconcerting that we view accounting issues in EM more as an opportunity than a risk. Why do we think it's an opportunity?

Let's remember that in emerging markets we are mostly trading against individual investors. If we're able, through deep research and quantitative methods, to separate good companies from the bad in terms of accounting treatment, then we'll have a leg up in building our portfolios to ensure they avoid firms engaged in suspect accounting. Those portfolios could even put more weight on companies that followed conservative accounting and, as a result, would disappoint those retail investors conditioned to expect amazing numbers from every company every time.



So, we take a multi-factor approach to quant investing. One of the factors we apply in every emerging market is based on some academic research that was done in the accounting literature, which was designed to predict earnings management and accounting fraud. Since we use several factors that rely on accounting data, it's essential to have another signal that effectively serves as a check, penalizing companies that we can identify as playing a little bit fast and loose with how they report their results.

Q: You mentioned some local differences as the other major challenge to investing in emerging markets. Can you explain?

Local differences across emerging markets refer to a wide range of aspects – some minor, some very significant – and they can have a notable impact on the investor's experience with EM. Consider, for instance, the accounting differences mentioned earlier; there are also differences in market regulations, legal treatments, how markets are structured and how securities are traded. Then there are elements of state ownership and differences in investor psychology. All sorts of distinct market features can lead to major differences in how quantitative strategies are applied in emerging markets.

If we come back to the idea that EM are markets in transition, with each developing on its own path, then we should expect them to have idiosyncratic features. We believe that taking those features into account when designing a strategy – something we call “localization” of a quant strategy – is critical to achieving the best possible performance in quantamental investing.

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Q: Localization – can you provide some examples to illustrate that?

One of the things we do to localize strategies is looking for unique sources of data that would only apply to a particular country or region. To help us do that we've adopted a quantamental approach, so we have fundamental teams with local knowledge of emerging markets. They regularly provide consultation to our quant researchers on newly uncovered data sources or new ideas for trading signals – anything to help us achieve deeper market insights for our EM universe. It would otherwise be extremely difficult for the quant team to learn some of these things on its own.

One idea, for example, brought to our attention by the China fundamental team was the concept of share pledging. This is when a large shareholder – usually an insider, so a CEO or founder of the firm – pledges personal stockholdings as collateral to a bank to take a loan. This happens in developed markets, but rarely and usually for small sums of money. In China, we've observed that share pledging is widespread, typically for large sums. There the median company with share pledging shows around USD150 million in total outstanding pledges at any given point.

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If our fundamental team had not alerted us to share pledging, we probably would not have known to look for those data or that they even existed. But it turns out we were able to obtain share pledging data from local vendors not just in China, but also in South Korea, Taiwan and India.

In that research, we found that small pledges to borrow small sums of money don't reveal much about future stock performance – not surprisingly. But when a company makes very large share pledges, that signals a manager's confidence in the business. That's what happens in China and South Korea. A manager risks receiving



a margin call when pledging their shares and could lose everything if they default on that loan. Their large pledges reflect their strong confidence in the company’s growth prospects and the likelihood that the stock is going to go up versus down. So high share pledging in these markets generally predicts higher returns.

So, share pledging would be an example of an input we use for our model in some markets like China and South Korea, where it is a prominent feature and where we think it’s informative about a stock’s future returns.

There are many other examples where we have a signal or some data set that applies to an emerging market or a subset of them. We also have several general factors. The aggressive accounting signal mentioned with regard to data integrity is one that we apply to all emerging markets. Sometimes we’ll modify those standard general factors in a particular market if unique local conditions suggest they should work differently. Take value and low risk, for example, which are very popular quant signals in China and are affected systematically by state ownership. There we would adjust both factors to account for the skew that state ownership creates in the distribution of firms on those two signals.

¹As of December 2018, China’s equity markets remained second-largest, with USD6.3 trillion in total market cap (vs. USD30.4 trillion for the U.S. and USD5.3 trillion for Japan).

²China’s and India’s GDP growth numbers are updated from the audio recording, which noted around 7% in 2017 for both countries.

³[Click here](#) to read more about investors’ behavioral biases and a systematic approach to EM

⁴The numbers in this Q&A have been updated. At the time the conversation was recorded, MSCI China and MSCI EM each had a PE ratio of around 12, while MSCI ACWI and MSCI World had PE ratios of 15 and 16, respectively.

⁵At the time the conversation was recorded, the divergence between EM and DM stocks was even more apparent, with U.S. stocks trading up 3%, while the corresponding EM and China figures were around the same as what’s reported in the transcript. Small movement in these numbers notwithstanding, the case for diversification into EM remains strong.

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