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Emerging markets' alpha beta soup

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Executive summary

How much opportunity is there to generate alpha in emerging markets (EM) fixed income? In this study we attempt to break down the drivers of returns across different EM segments into systematic and idiosyncratic factors to determine what proportion of returns is "beta" driven (systematic factors) and what portion represents opportunity for "alpha" generation (idiosyncratic factors). We find that constituent returns across EM asset classes tend to be driven primarily by common – that is, systematic – as opposed to idiosyncratic factors, although this varies across time and asset classes. These results tie directly into our analytical framework and our investment process. Assessing the direction and level of systematic risk, or beta, is crucial, in our view, in calibrating risk appropriately in portfolios, given that these macro (high-level) risks will tend to be the key determinants of portfolio performance. However, we believe having the right bottom-up, idiosyncratic view can substantially enhance returns in a portfolio that is appropriately oriented to common global macro 'beta' factors.

Key takeaways

- We utilize two methods – principal component analysis (PCA), and regression analysis – to gauge the extent of 'beta-ness' of EM asset classes.
- Contrary to what may be presumed, we find that EM corporate credit exhibits the highest level of systematic influence on returns over time. On average, nearly 70% of the variation in EM corporate credit constituent market returns is driven by common – not idiosyncratic, name-specific factors.
- In contrast, EM equities and EM duration (local government bonds) are the least systematically driven; but even in these two asset classes, we find that about half of returns are explained by common global macro factors.
- Another important result is that the influence of systematic factors, regardless of analytical method, varies considerably over time. Therefore, idiosyncratic factors do have major influence at times on market outcomes – though not on average.
- What explains these results? Broadly speaking, we believe the more globally integrated the EM asset class, the greater the role of systematic factors in influencing returns; the less integrated, the greater the potential for idiosyncratic factors to influence returns.
- Our results suggest that constructing a market view on EM asset classes requires, first and foremost, a thorough understanding of top-down macro factors, followed by EM country macro analysis, complemented by bottom-up single name credit analysis. And, there will be times of transition, when these factors change places.

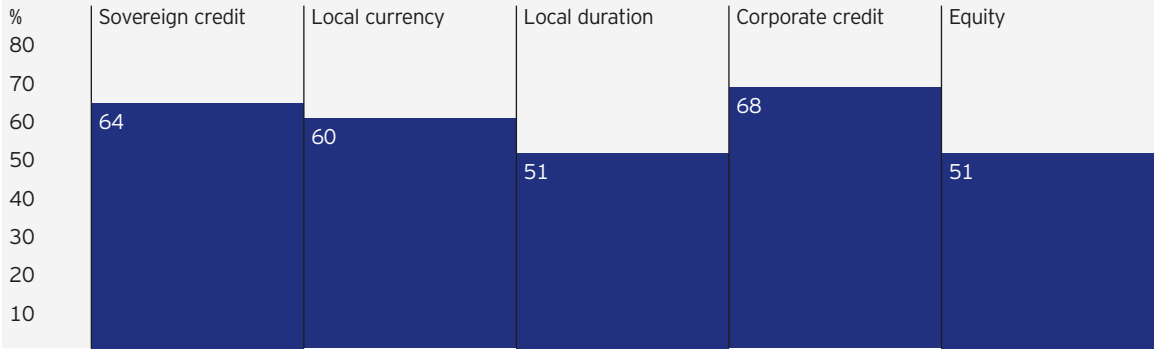
Two methodologies

We utilize two methods – principal component analysis (PCA), and regression analysis – to gauge the extent of 'beta-ness' of EM asset classes. The 'beta-ness' of a market is the extent to which common factors explain the variation in returns within an asset class – in other words, the sensitivity to these common, global factors. It is the systematic component of returns. Principal component analysis (PCA) calculates the percentage of co-variation in returns for each asset class to ascertain the percentage of returns which are derived from common factors. The drawback of this approach is that the exact factors influencing returns are not known, nor are any changes in the drivers over time. However, PCA does reveal to what extent returns are influenced by systematic – as opposed to idiosyncratic – factors.

We compare the above PCA to a regression-based approach, which determines the extent of return variation explained by a predetermined set of market factors. We derive the R-squared, or explanatory power, of a regression using a set of independent variables widely used to represent each market factor against each individual asset class return. The drawback of this approach is that not all systematic components of returns may be represented; it depends on which metrics are included. That is, this approach can significantly understate the influence of common factors. This flaw becomes more serious if the systematic components of return vary over time – a problem from which PCA does not suffer.

Using PCA, Figure 1 shows the extent to which common factors drive returns across EM asset classes. They range from EM corporate credit on the high side at 68% – to EM local duration and EM equity on the low side at 51%.

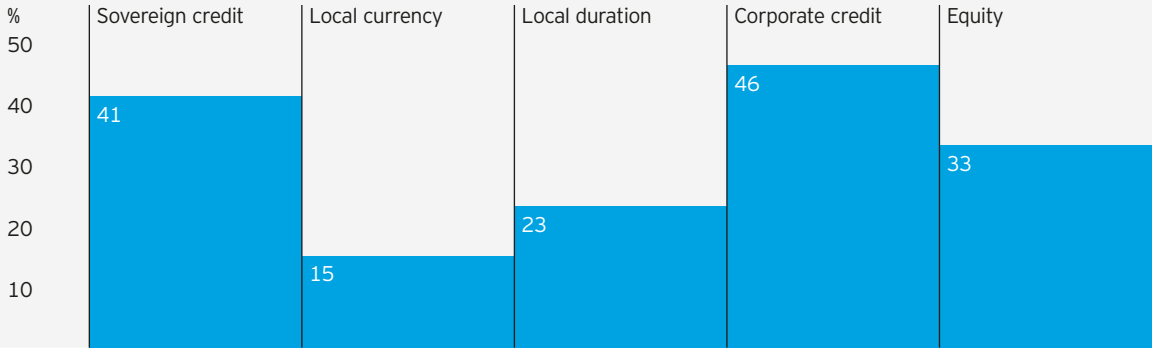
Figure 1: Principal components analysis – systematic component of returns (period average, Q1/04 – Q1/16)



Source: Invesco, data from 9 January 2004 to 11 March 2016. Sovereign credit is represented by constituents of the JPMorgan EMBI Global Diversified Index. Local currency is represented by spot currencies, data from Bloomberg L.P. Local duration is represented by constituents of the JPMorgan GBI-EM Broad USD Hedged Index. Corporate credit is represented by constituents of the JPMorgan CEMBI Broad Diversified Index. Equity is represented by the MSCI EM USD Hedged Index.

The regressions yield much less explanatory power for common factors than the PCA, as shown in Figure 2. Notably, EM currency displays the least 'beta-ness' of all asset classes by this methodology. In all likelihood, the larger influence of idiosyncratic factors implied by the regressions reflects the choice of independent variables.

Figure 2: Regression analysis – systematic component of returns (period average, Q1/04 – Q1/16)

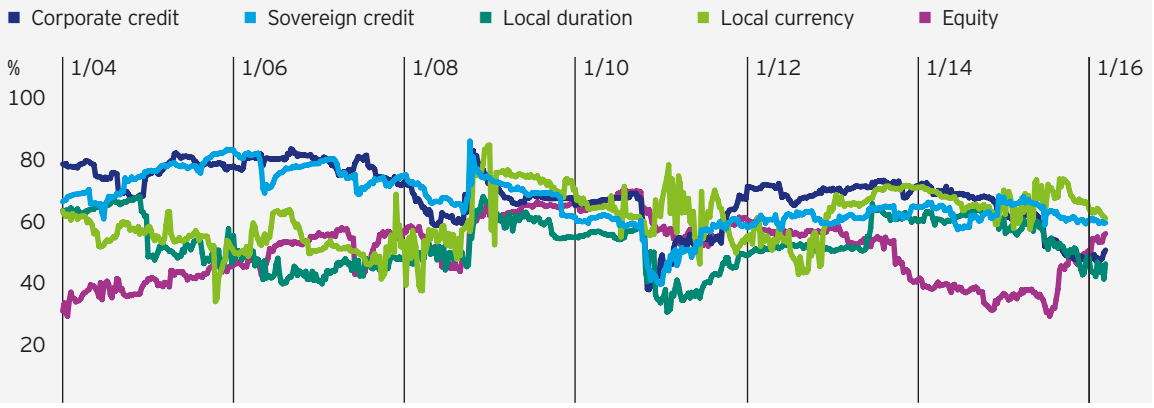


Source: Invesco, data from 9 January 2004 to 11 March 2016. Sovereign credit is represented by constituents of the JPMorgan EMBI Global Diversified Index. Local currency is represented by spot currencies, data from Bloomberg L.P. Local duration is represented by constituents of the JPMorgan GBI-EM Broad USD Hedged Index. Corporate credit is represented by constituents of the JPMorgan CEMBI Broad Diversified Index. Equity is represented by the MSCI EM USD Hedged Index.

Adding more variables, however, would not necessarily increase explanatory power significantly and consistently. After all, systematic risks in the global markets change rapidly. And EM economies and financial systems are constantly evolving and integrating into global markets. Some of these changes would increase exposure to common factors; others would reduce such exposure; yet others would change the key factors, systematic or idiosyncratic.

Indeed, another important result is that the influence of systematic factors, regardless of method, varies considerably over time. As Figure 3 demonstrates, in the case of EM equities, for example, using PCA, we can see that the influence of common factors has been as low as 30% and as high as 70% over the last decade. Therefore, idiosyncratic factors do have major influence at times on market outcomes – though not on average.

Figure 3: Principal components analysis – systematic component of return over time

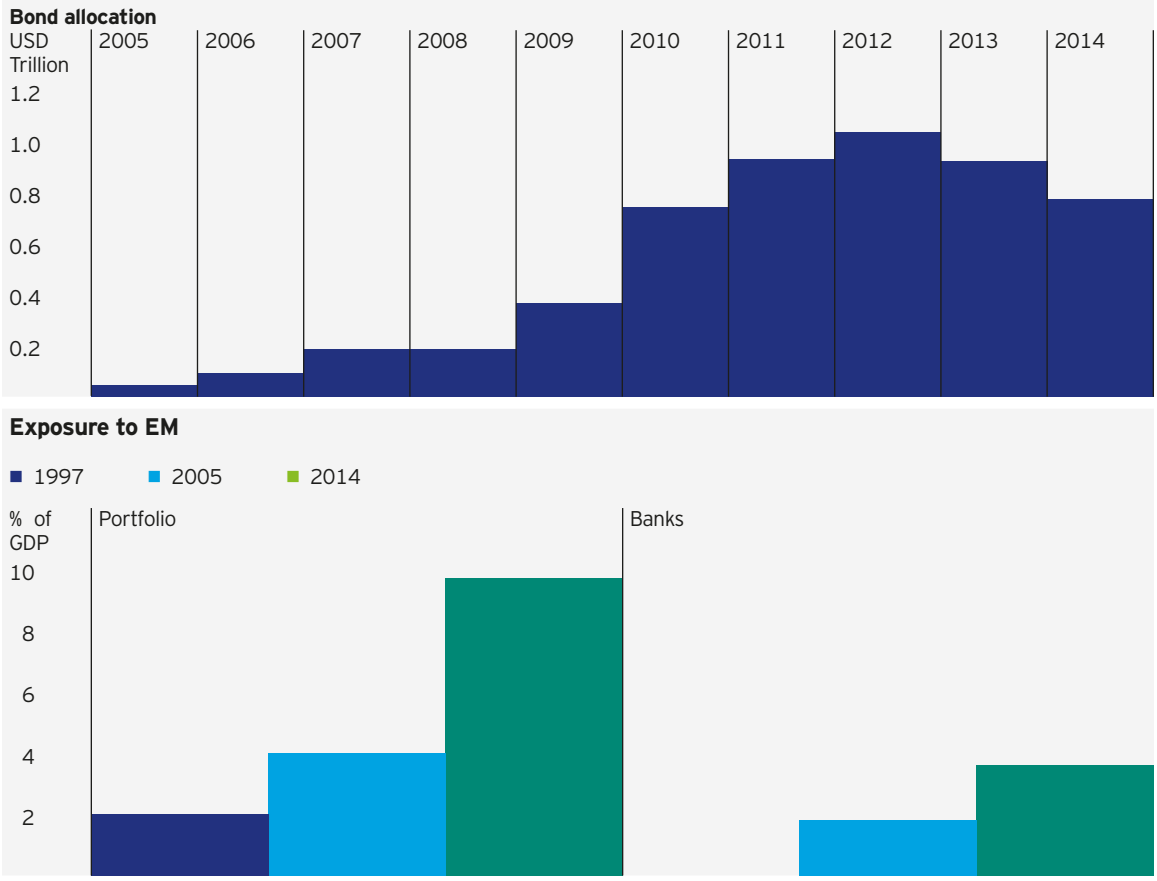


Source: Invesco, data from 9 January 2004 to 11 March 2016. Sovereign credit is represented by constituents of the JPMorgan EMBI Global Diversified Index. Local currency is represented by spot currencies, data from Bloomberg L.P. Local duration is represented by constituents of the JPMorgan GBI-EM Broad USD Hedged Index. Corporate credit is represented by constituents of the JPMorgan CEMBI Broad Diversified Index. Equity is represented by the MSCI EM USD Hedged Index.

A question of global financial integration

What explains the differences in systematic influence across EM asset classes? Broadly, across the two methods, our results tell a similar story – the more globally integrated the EM asset class, the greater the role of systematic factors in influencing returns; the less integrated, the greater the potential for idiosyncratic factors to influence returns. Indeed, the results are consistent with the trend of increased exposure to the EM of advanced, or developed, markets (DM). Figure 4 demonstrates the increased exposure of DMs to the EM. We find that the role of global macro factors is consistently the greatest in credit sectors, followed by currencies – and the least in EM local government bonds and equities. This finding is consistent with the fact that EM credit, being a largely US dollar-based, homogeneous asset class, is not only highly integrated but also the most integrated of EM asset classes. This commonality applies to both EM corporate and sovereign credit, which share similar "beta-ness."

Figure 4: DM financial exposure to EM has risen over time, led by bonds



Source: International Monetary Fund Global Stability Report, April 2016.

Currencies lie in the middle, reflecting their role in many kinds of transactions, including cross-border portfolio and direct investment flows, income and dividend flows as well as economic transactions in goods and services trade, including tourism. Thus, all types of economic and financial actors – governments, banks, foreign and domestic firms and individuals - use currency. In most economies, the bulk of such activity is in wholesale flows – outright foreign exchange trading, investment and international trade. Such use exposes currencies to global beta factors; but transactions by individuals for remittances or tourism create some insulation against global factors, being driven, for example, by seasonality and geography.

EM local bonds and equities are the least integrated, given their varied jurisdictions and the heterogeneous means of investing in these markets. Furthermore, resident investors and market participants, including national central banks, domestic corporate or investment banks and institutional investors tend to loom larger than non-residents in domestic debt and equity markets. Note, however, that the role of different categories of market participant varies over time and across countries, with respect to the relative market shares of foreign and domestic market participants in both portfolio flows and overall exposures.

Country-specific return drivers, of course, can represent both beta and alpha factors, and we will follow up in forthcoming pieces with work on the relative weights of beta and alpha across EM country returns. A country that is more highly geared to global growth or inflation factors, or risk aversion/risk appetite drivers, will likely be driven by beta more than alpha relative to a more closed economy. Thus, small or open EM economies whose business and financial cycles are commodity dominated will tend to be much higher beta than more isolated EM economies, even those that are similar in terms of income levels or financial development.

Finally, policy can make a major difference, overcoming structural or geographic features – but only up to a point. A small, resource-rich or otherwise trade-heavy economy with a relatively small population will tend to be dominated by global commodity and growth/inflation cycles; such features are very difficult to change (for example, Ecuador) but policies that encourage savings and the accumulation of precautionary official reserves of private foreign assets can help cushion cyclical shifts and beta (for example, Singapore or Chile).

On the other hand, high reliance on cross-border portfolio capital flows and financial markets can render even a relatively large, diversified economy with modest trade exposures heavily exposed to global financial conditions and thereby, a high-beta country (for example, Brazil or Russia). A large closed but high-deficit country would be high beta, but through external, fiscal/monetary and structural adjustment can reduce exposure to global macro factors and risks (for example, India from 2013–14/15).

The overall framework of policies across countries can also make a major difference. Many EM countries have moved from fixed exchange rates mainly against the dollar (which effectively limited their monetary policy freedom) toward managed floats with inflation targeting (which means that currencies now act as the main economic shock absorber, rather than interest rates, allowing central banks much greater autonomy to set interest rates).

These changes in the typical EM macro policy regime imply shifts in the degree of systematic influence across asset classes. When exchange rates were fixed, traded in corridors or in crawling pegs, currencies would not adjust to external shocks – at least not initially, and usually not until severe pressures had accumulated. Instead, the size of central bank balance sheets and domestic interest rates would respond to global trade and capital flows. The financial and economic logic underlying this result strongly suggests that this phenomenon will continue, maintaining the rank order of "beta-ness" across asset classes, amid variability.

Gauging macro (high-level) risk – how we integrate the approach

The above results tie directly into our analytical framework and our investment process. We start with the fact that top-down global macro trends tend to dominate bottom-up country-specific factors in driving excess returns. Put another way, on average, we believe that having the right EM country or credit (idiosyncratic or alpha) view will not save the performance of an EM investment portfolio that is constructed with an inappropriate sensitivity to 'common' (systematic) factors. Assessing the direction and level of systematic risk, or beta, to these risk factors, is crucial, in our view, in calibrating risk appropriately in portfolios, given that these macro (high-level) risks will tend to be the key determinants of portfolio performance.

We believe having the right bottom-up, idiosyncratic view can substantially enhance returns in a portfolio that is appropriately oriented to common global macro 'beta' factors. We also believe the uncertainty and variability in the weights of systematic and idiosyncratic factors in explaining returns calls for complementing top-down with bottom-up analysis.

As such, as part and parcel of our process, we continuously assess the extent to which common factors are driving asset returns. This allows us to calibrate the extent of 'beta-ness' we wish to represent in our portfolios. This, as we have seen, varies across strategies, depending on whether it is credit or local currency, for example.

Furthermore, we take active views on common factors that tend to influence market directionality. We believe this provides us with greater scope to appropriately gauge the extent of macro risk prevalent within our portfolios.

We then place EM country and single-name analysis within this beta framework. This approach enables us to focus our analysis on specific cases where a bottom-up narrative can generate alpha, even in the context of the beta view.

In forthcoming pieces, we will 1) seek to quantify the influence of alpha and beta in driving excess returns at the country level; and 2) compare the "beta-ness" of EM against other asset classes as well as consider the impact of sector-level beta factors in EM corporate credit returns.

Notes

1 The independent variables used in the regression are the S&P 500 index, US 10-year yield, VIX Index, EUR/USD exchange rate, Bloomberg Commodity Index, Barclays High Yield Spread Index, Citi Developed Market Growth Surprise Index of G10 and Citi Developed Market Inflation Surprise Index of G10. The Citi Surprise Growth Index tracks the data releases pertaining to real growth of the major economies against economist expectations. A large negative number represents economic data that has come in below economist expectations. The Citi Surprise Inflation Index tracks the data releases pertaining to inflation of the major economies against economist expectations. A large negative number represents economic data that has come in below economist expectations.

2 IMF Global Financial Stability Report, April 2014.

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