COMBINING EMERGING MARKETS WITH ESG AI AND BIG DATA

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GlobalEvolution

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By Ole Jorgensen, Director of Research, Ph.D.

A new potential alpha driving capability: Striving to measure the unmeasurable! Historically, ESG metrics have high statistical correlation to Emerging Market Debt (EMD) prices. Back in 2014, we found that ESG levels and dynamics accounted for 24% of the variation in the performance of its sovereign frontier markets fund. However, it has been extremely challenging to quantify ESG themes and topics until we found a way to leverage Artificial intelligence (AI) and "big data" to better measure ESG.

Information from emerging markets (EM) is often infrequent and lagging. One key impediment to gauge ESG developments is the ESG ratings of countries. But these are only updated quarterly, annually, or even more rarely in most instances, and it is very difficult to get access to ESG data and information of higher frequency.

To help address this challenge, Global Evolution (GE) has spent years harnessing AI and Natural Language Processing (NLP) capabilities. While the investment process remains qualitative, the application of AI has the potential to enhance the way the team digests and evaluates information about EM countries and companies, and it adds a new potentially alpha driving capability. The evidence for these claims is very strong, and the learning in the investment team is currently ongoing.

A pilot study deploying NLP systems to read news in Spanish, Portuguese and English language news started with two EM countries – Argentina and Brazil. Later, scouring news on all markets for the theme 'political risk' across a data of 400bn characters produced very promising results. For instance in the case of Brazil, 2.6 million news articles related to political risk were read and scored by the computer and provided evidence that more than two-thirds of the variation in the Brazilian Real can be accounted for by political risk. This theme of political risk is linked to the 'G' of ESG, and it has the highest statistical importance among price-drivers in EMD by tapping into the pivotal phenomenon of investor sentiment – positively and negatively biased.

By integrating this technology in the investment process, GE quantifies political risk as a sentiment driver in its proprietary models and compare it to the importance of other drivers. Traditional forecast models never had such important sentiment factors incorporated before. By integrating AI driven data, we can potentially improve the accuracy of the forecasts and trading signals that lead to more informed investment decisions. For instance, inflation is a well-known driver of sovereign bond prices, but it now possesses the second highest explanatory power and lags 'political risk' by a distance in some of our models.

GE's forecast models, using 'political risk' indicator together with more traditional macroeconomic, financial, commodities, and global drivers, explain about half of the variation in EMD prices. Combining sentiment indicators with fundamental data can, in some cases, give a statistically significant lead-time of several days, shown by 'Granger Causality'[1] analysis of causality. For example, in the case of Belarus, our model shows that the concept of 'government risk' sentiment is leading the sovereign bond spread by five to seven days with statistical significance, providing valuable information about potential bond price movements in the investment process. The number of lead-days varies across countries and sentiment indicators but has astonishing potential to extract additional and previously unseen information.

GE has since broadened the application of AI to the 'E' and 'S' of ESG and is currently integrating it into its toolkit. The information is available at a daily basis which is much more high-frequent than such indicators have historically been observed and made available. GE now has market sentiment indicators across ESG and business themes which is expected to add value to in the investment process and has the potential to add a new potentially alpha driving capability. Deploying NLP in combination with ESG is one of the most important findings the ESG Research team of GE has had to date.

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[1] The Granger causality test is a statistical hypothesis test for determining whether one time series is useful in forecasting another. Granger causality in economics measures the ability to predict the future values of a time series using prior values of another time series.

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