

THE BUSINESS CASE FOR CONSIDERING ESG DYNAMICS IN SOVEREIGN BONDS

SIGNATORY TYPE

Investment Manager

ASSETS UNDER MANAGEMENT

US \$2.5 bln

OPERATING COUNTRY

Denmark

[Global Evolution](#) is a specialist emerging and frontier markets investment manager. Our ESG sovereign screening and the Global Evolution ESG Research Programme is a closely integrated part of our investment process.

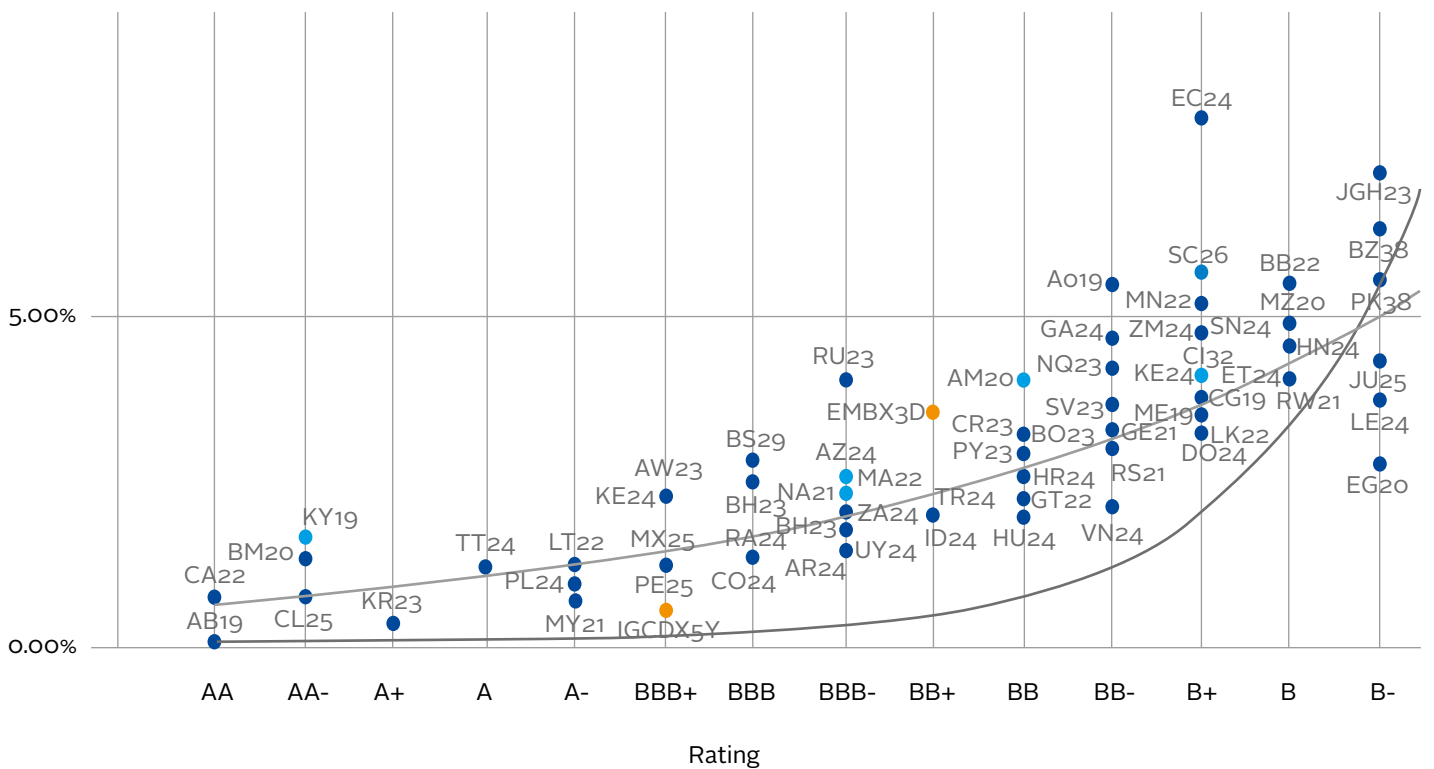
The PRI's Fixed Income Case Study series highlights examples of interesting and innovative approaches to responsible investment. Written by fixed income practitioners from around the world, the case studies cover topics such as integrating ESG, negative and positive screening, thematic investment and engagement.

Sharing these examples will enable investors to collectively build a concept of emerging good practice. The PRI aims to publish a set of these short pieces every quarter. If you would like to learn more or contribute your own case study please [contact us](#).

WHY ESG DYNAMICS MATTER FOR SOVEREIGN RISK ANALYSIS

Our regression analysis shows that credit ratings explain 38% of the difference in spreads across sovereign bonds, but that when combined with ESG dynamics (the change in ESG ratings over time), the explanatory power rises five percentage points to 43% – a 13% increase that represents a clear business case for considering ESG dynamics as part of the investment process. Adding the static ESG ratings themselves, rather than the changes in the ratings over time, generates no statistically significant effect: it is specifically the improvement or deterioration in countries' ESG performance that credit ratings are not sufficiently capturing.

Figure 1: The traditional view: better credit ratings are correlated with lower spreads, but our analysis shows that the correlation can be improved by adding ESG dynamics to the equation



HOW WE MEASURE ESG DYNAMICS' IMPACT ON SOVEREIGN RISK ANALYSIS

We calculate how many notches the credit ratings would have to be adjusted by to appropriately account for ESG dynamics. We call this adjustment the ESG Risk Factor.

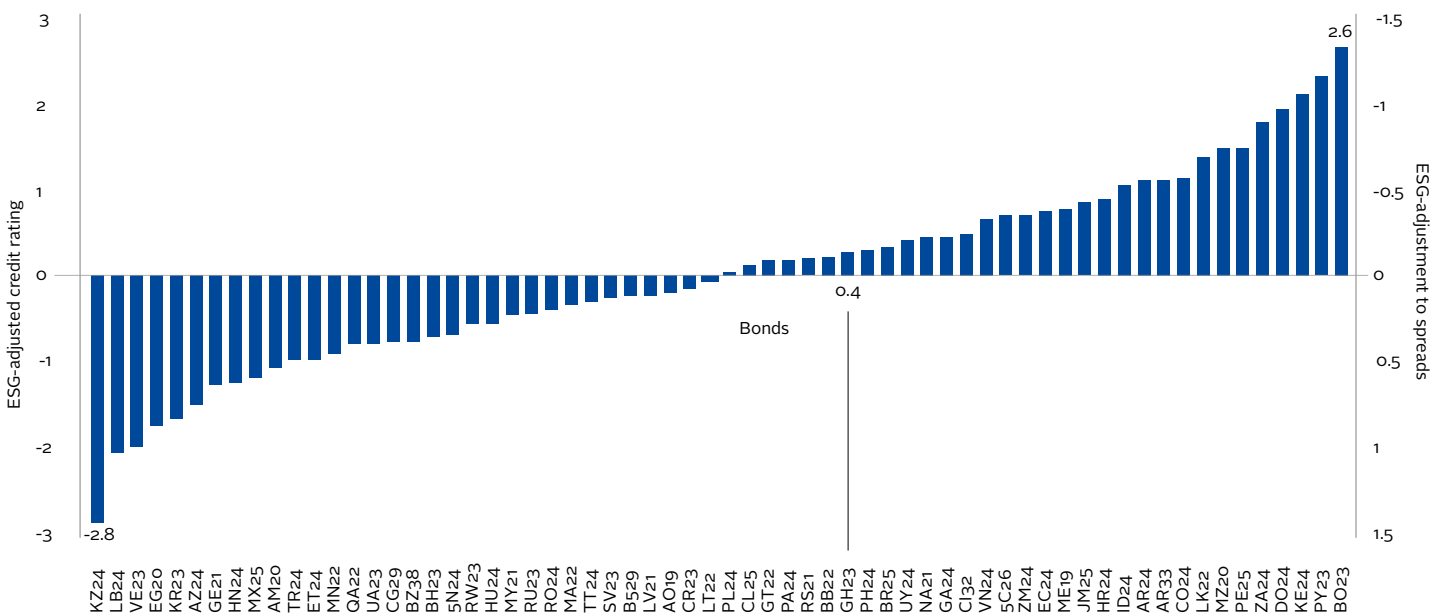
The ESG adjustment per country is estimated by an ordinary least squares (linear) multiple regression: $s = \alpha + \beta_1 CR + \beta_2 ESG$, where s is the spread, CR is the credit rating, ESG is the ESG dynamics and α and β are regression coefficients. (Both explanatory variables are statistically significant at maximum 2% (p-value); a small variance inflation factor indicates no multicollinearity).

Isolating CR in the regression ($CR = \beta_2/\beta_1 ESG - (\alpha + s)/\beta_1$), identifies the effect on credit ratings from ESG dynamics as $\beta_2/\beta_1 ESG$. Multiplying β_2 and ESG shows the effect of ESG dynamics on spreads.

About the data: spreads are measured over Libor; credit ratings are from S&P, Moody's or Fitch; ESG dynamics are expressed as percentage changes in ESG ratings (from 2013 to 2014) and are based on a weighted average of five risk indices, split across environmental, social and governance factors.

CASE STUDY: EMERGING MARKETS

The following chart shows the Global Evolution ESG Risk Factor for a set of emerging markets countries:



Taking Ghana's GH23 bond as an example, the model shows its B- credit rating should be about half a notch higher to take into account ESG improvements. The model simulates that Ghana's ESG rating improvement of approximately 1% over the 2013/14 period has caused the spread to drop 0.14 percentage points. This spread-compression is not accounted for by the credit rating – so taking ESG dynamics into account better accounts for spreads.

At the extremes of the scale are Bolivia's bond BO23 and Kazakhstan's bond KZ24. Bolivia's BB bond should be rated more than two notches higher to account for ESG improvements in the 2013/14 period, and its spread has dropped 1.26%. Kazakhstan's BBB bond should be rated more than two notches lower to account for ESG deteriorations, and the spread has widened 1.34%.

RESEARCH AMBITIONS

Further research will analyse: the effect of sovereign ESG dynamics on different asset classes; forward-looking ESG dynamics; which specific ESG factors correlate most closely with spreads; the effect of different weightings between ESG indices in creating the ESG ratings from which ESG dynamics are measured; more sophisticated modelling than simple ordinary least squares regressions.

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