

Cameron Hume

Fixed Income Specialist

What are ESG factors and are they reflected in bond prices?

The term ESG factors means different things to different people, reflecting the many origins of the Responsible Investment movement. The PRI provide a broad, workable definition:

"Responsible investment is an approach to investing that aims to incorporate environmental, social and governance (ESG) factors into investment decisions, to better manage risk and generate sustainable, long-term returns."

So, the PRI think it is about incorporating non-financial factors into investment decision making, with the intent of improving financial outcomes. The word "sustainable" signals the embedding of the UN Sustainable Development Goals. In 2015 Ban Ki-Moon described sustainability as:

"At its essence, sustainability means ensuring prosperity and environmental protection without compromising the ability of future generations to meet their needs."

A significant omission from the PRI's definition of responsible investing given above is an explanation of what ESG factors are. The PRI's Fixed Income Investor Guide provides the following elaboration:

"...a key application for ESG information is to inform analysis of issuer creditworthiness. ESG issues, such as corruption or climate change, are potential risks to macro factors that may affect an issuer's ability to repay its debt.The fundamental elements of issuer analysis remain the same for all types of issuers."

This is the definition that we have adopted at Cameron Hume. An ESG factor is a non-financial measure that we consider likely to influence significantly an issuer's ability and willingness to service its financial obligations. Crucially, we believe the assessment should be ours, but the measurement should not be. A third party measure means that our clients are able independently to monitor the investment decisions we make on their behalf. Although there are many suppliers of ESG data and their definitions of ESG factors and their interpretation differ, we believe that investment managers will increasingly incorporate the measures of one or more of these suppliers into their investment process.

Naturally, individual investment managers will weigh the significance of ESG factors differently from the third party assessment and this will inform their views on the relative creditworthiness of an issuer. However, they will incorporate other factors into their investment views, such as the currency, maturity, credit quality and sector of the bonds as well as more traditional aspects of credit analysis such as the issuer's corporate structure, business strategy and competitive position.

It is reasonable to ask whether these third party ESG measures have a distinct influence on bond prices. That is, can we see an effect after taking into account the contribution that other more traditional credit factors make to bond spreads? In the following we look at one third party's, MSCI, overall ESG score and seek to assess its influence on the spreads of bonds from a cohort of issuers. This is a limited exercise, we consider only MSCI's overall score and not the subsidiary indicators they also publish; but if ESG factors are priced then we expect to see that the MSCI score influences spreads: a higher score leads to lower spreads all else being equal. Clearly this leaves open the question whether the extent of any influence on spreads is adequate, but that is beyond the scope of this exercise.

¹ <https://www.unpri.org/about/what-is-responsible-investment> - Accessed on 5th December 2017.

² <http://www.who.int/pmnch/media/news/2015/idea/en/>

³ https://www.unpri.org/download_report/15026 - Accessed 5th December 2017.

⁴ See for example:
<https://www.msci.com/documents/10199/123a2b2b-1395-4aa2-a121-ea14de6d708a>
<http://www.sustainalytics.com/esg-research-ratings/>
<http://www.ftse.com/products/downloads/ESG-ratings-overview.pdf?217>

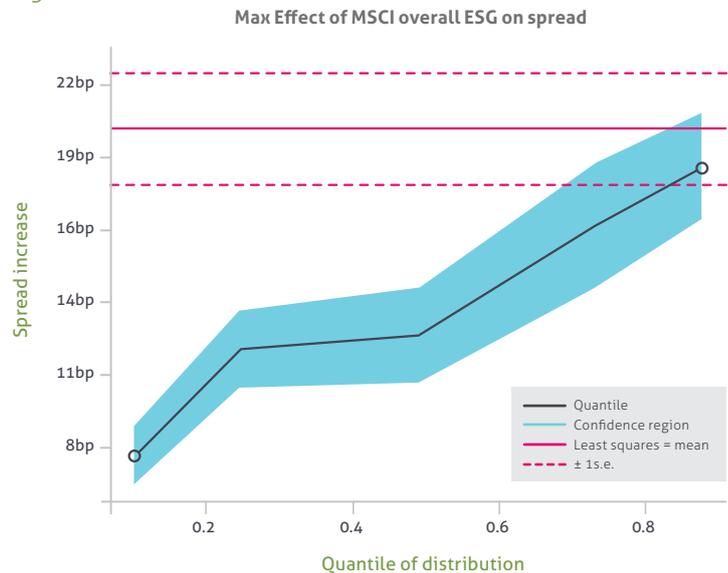


The factors that we expect to be important in determining spreads are the maturity of the bond, the credit rating, the sector, the currency of the bond and whether the issuer is a domestic or foreign issuer. In order to produce a balanced sample, we chose a cohort of investment grade corporate and supranational issuers that have bonds in both euros and US dollars. There were 4785 bonds in this cohort on the 13th February 2018, which we used as the valuation date for this exercise.

We were seeking to explain the influence of each of the factors on the spreads of the bonds. The data present a technical difficulty. As spreads are typically greater than zero, the spread data are not normally distributed, which means that ordinary least squares regression results can be biased. We have therefore used quantile regression⁵ which is robust to these effects. Ordinary least squares regression estimates the mean effect of the explanatory variables and so is influenced by all the data in the sample. Quantile regression on the other hand estimates the effect at the specified quantile of the distribution and is most strongly influenced by the data at that point of the distribution.

In Figure 1 we plot the estimated effect of the overall ESG score⁶ for the quantile regression at the 10%, 25%, 50%, 75% and 90% quantiles and have also plotted the mean response from ordinary least squares⁷. The mean response says that an issuer with the poorest overall ESG rating pays 20 basis points (0.2 percentage points) more than a comparable bond from an issuer with the best overall ESG score. This number is small but not negligible – it is of the same scale as the difference in spread of AA- and A+ credits. We can also see the skewed nature of the response in the upward slope of the response with increasing quantile⁸. However, the most telling feature of the graph is that the mean response, is greater than the response at all of the measured quantiles. This means that the average response is driven by the responses in the tail of the distribution. Our interpretation of this result is that ESG factor exposures are only priced after the event, i.e. only after something ‘bad’ has happened do investors demand a significant risk premium for poor ESG risks.

Figure 1



In conclusion, we believe that it is best to use measures of ESG factors provided by a third party and we find evidence that they are modestly priced. Investors should make their own judgement of whether significant ESG factor risks are discounted by the market. There is evidence that issuers with poor ESG scores have modestly higher borrowing costs, but the distribution of responses is highly skewed. This suggests to us that ESG factor exposures are only priced after an ‘event’ and, therefore, there is value to our clients of incorporating consideration of ESG factors into issuer selection decisions.

⁵ Quantile Regression, Roger Koenker, Cambridge University Press.

⁶ In the regression model we rescaled the MSCI score to lie in the range 0 to 1.

⁷ All the factors that we considered are statistically significantly different from zero and therefore influence the spreads of bonds.

⁸ If the responses were equally distributed we would expect to see a flat line, like that of the mean, but instead the response increases with the quantile.

Contact

Keith Logan

keith.logan@cameronhume.com

T +44 (0) 131 603 6988

M +44 (0) 7860 925 131

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