Evaluating the Relationship Between ESG and Corporate Fixed Income

15.915 Laboratory for Sustainable Business
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"Examining ESG criteria adds a new level of rigor to fundamental analysis. It looks to realistically assess the reliability of future cash flows, ability to repay, and price of a bond. It also rewards practices that focus on long-term viability through lower costs, lower waste and greater efficiencies."—Breckinridge Capital Advisors

What is "ESG"?

Environmental

- ESG analysis has become a proxy for measuring corporate activities related to sustainability

Social

- Over 72% of companies in the S&P 500 have incorporated sustainability into their annual reports[1]

Governance

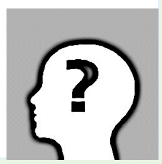
- More than 1 out of every 6 dollars managed in the United States have integrated ESG into their investment analysis[2]

1: From the Stockholder to the Stakeholder; Arabesque Partners, University of Oxford; 2015
2: US Sustainable, Responsible, and Impact Investing Trends 2014; US SIF; 2014

Problem Statement

While a number of academic and industry studies have looked at ESG issues and their impact on the performance of public equities, ESG impacts on corporate fixed income and spread analysis have received little attention to date, providing an opportunity for investors to ask:

What about ESG and bonds?



Data Analysis

- Between 2005 and 2015, companies with higher ESG scores tend to have lower, less volatile spreads than their peers:

Table 1: OAS Averages (bps) per ESG Rank, equal weighted

OAS - Mean					
Rank	1	2	3	4	5
ESG	179.78	232.93	282.96	278.04	347.68
E	169.50	222.78	214.58	250.25	283.59
S	193.58	242.36	279.86	285.09	286.89
G	198.64	244.30	197.90	240.54	379.97

Table 2: OAS Standard Deviations (bps) per ESG Rank, equal weighted

OAS - Std Dev					
Rank	1	2	3	4	5
ESG	137.88	131.05	237.88	226.68	278.53
E	133.86	137.11	127.58	173.66	245.53
S	125.48	172.03	188.35	231.11	233.58
G	159.01	166.79	241.60	151.32	282.71

- This relationship holds throughout long market cycles, however becomes even more evident during periods of market turmoil:

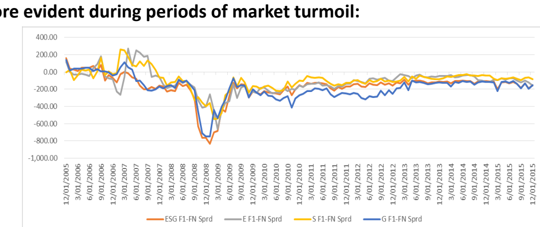


Figure 1: F1-FN Spread of ESG scores using OAS (bps), equal weighted

Project Scope

The overall scope of this project was to investigate the relationship between ESG scores and corporate fixed income market performance. In particular, research was directed to identify predictable outcomes (eg change in Option Adjusted Spreads) based on ESG rating changes. The overall goal was to provide additional clarity for fixed income managers looking to incorporate ESG data into their investment processes.

The project is composed of two parts to be distributed internally at MIT Sloan. These components are:

- A quantitative analysis to assess the relationship between Bloomberg ESG disclosure scores and corporate bond spreads for investment-grade bonds.
- Case studies that illustrate specific examples of the relationships uncovered through the data analysis.

Recommendations

The integration of ESG analysis may not satisfy every sustainability-oriented investor, however using ESG analysis may offer downside protection that should be valuable to anyone regardless of interest in sustainability.

Recommendation for ESG fixed income managers:

1. Use ESG scores as high level indicators of sustainability, as well as high level indicators of reduced risk among corporate debt securities.
2. Take caution applying correlations between ESG scores and credit spreads—there may exist other idiosyncratic variables that outweigh the impact of ESG on credit risk.

Improvements in ESG Have Been Good for Harley Davidson (HOG-US) Bondholders

With over $6B revenues and approximately one third of the global market share in heavyweight motorcycles, Harley Davidson is one of the most widely known and respected brands on the road today. In recent years, however, Harley has come under significant pressure due to changes in consumer preferences in the global motorcycle market. These developments have eroded much of Harley's market share and should be of some concern to both equity and debt investors.

Over the time period analyzed (2005-2015), Harley Davidson experienced a decline in quality regarding all key metrics identified as indicating financial performance (Debt/EBITDA, Debt/Equity and ROA). Despite weakening financial health, Harley Davidson's ESG score improved significantly as it has made considerable efforts in reducing water consumption and carbon emissions during manufacturing as well as increasing usage of recyclable materials. While Harley's spread over the risk-free-rate was predictably volatile through the financial crisis of 2008, its OAS has seen a remarkable rate of contraction corresponding to ESG improvement. With an average 2011 OAS of 248bps, bondholders now (2015) enjoy an average OAS of 83bps.

Harley Davidson offers a compelling example of the benefit to incorporating ESG criteria into fixed income portfolios. The positive correlation between higher ESG scores and lower OAS demonstrated by Harley over this time period is a common attribute of many companies analyzed.

Project LiveWire™
The first Harley-Davidson® motorcycle with an electric engine