The Effect of ESG Rating on Financial Performance and Green Bond Issuance within the United States

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Background

In 2019, the United Nations declared that there is only 11 years left to act before there is irreversible damage from climate change. Even though ESG scores have been around for decades, they have only recently become a popular investing subject. However, there is a downfall from there being no clear scoring equation like there is in the rest of finance, GAAP Accounting for example. Companies like MSCI, Refinitiv, and Bloomberg have emerged as leaders in this space to provide data and weighted scores for each of the Environmental, Social, and Governance spaces, and combining them all into one ESG score for a company. Green bonds on the other hand started in around 2007. This market has grown substantially within the past decade. Roughly $157 billion worth of bonds labeled as "green" were issued in 2019. This paper will analyze if ESG ratings are associated with performance for public companies within the United States and will also look into the impact that ESG rating has on corporate green bond issuance with a focus on the past decade.

Similar Studies

Since sustainable investing is a relatively new subject, there is a lack of literature and previous studies done on the topic. However, there have been some studies that have investigated ESG and green bonds' impact on performance and pricing. For example, Buallay (2017) looks into ESG scores and their impact on performance with a focus on the European banking sector. Buallay defines performance by using the Return on Assets (ROA), Return on Equity (ROE), and Tobin's Q (TQ). In her study, she finds that ESG is in fact related to positive performance of the banks. Other studies on the green bond market have also looked into the pricing and ownership of green bonds relative to conventional ones. Baker et al. (2018) finds that green bond ownership is very concentrated and investors are paying a premium. This means that investors are giving up returns for better social performances.

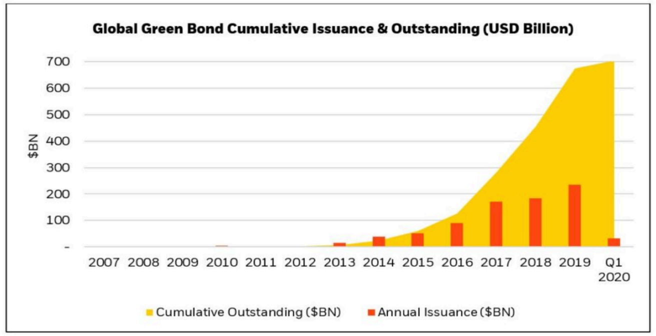
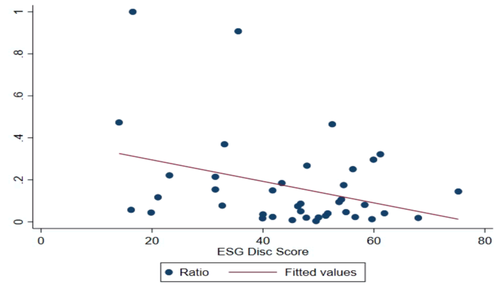


Figure 1. Global Green Bond Cumulative Issuance & Outstanding (USD Billion). Sources: Blackrock, Bloomberg, Environmental Finance, Climate Bonds Initiative (CBI), Fannie Mae, as of April 1, 2020.



Conclusion

After running many regressions, it is determined that there is no significant effect that ESG rating has on financial performance. Most regressions that were run show a lack of relationship, however, there is one that depicts a significantly positive relationship between the Tobin's Q and Governance Disclosure Score. Other than this, there is evidence of a lack of relationship. This shows that companies can invest in higher rated ESG companies without the risk of lowered returns. As for the effect on Green Bonds, there are not enough active Green Bonds within the United States to make an accurate conclusion. However, there is evidence of a possible negative relationship. My reasoning of this is that lower rated ESG companies are making strides to lowering their impact on the environment.

Methodology

$$Perf_{it} = \beta_0 + \beta_1 ED_{it} + \beta_2 CSRD_{it} + \beta_3 CGD_{it} + \beta_4 ESG_{it} + \beta_5 MKTCAP_{it} + \beta_6 D/E_{it} + \beta_7 CAPEX_{it} + \varepsilon$$

$$RGB_i = \beta_0 + \beta_1 ED_i + \beta_2 CSRD_i + \beta_3 CGD_i + \beta_4 ESG_i + \beta_5 MKTCAP_i + \beta_6 FCF_i + \beta_7 D/E_i + \varepsilon$$

Perf = Measured by three models (e.g., ROA model, ROE model and Tobin's Q model) of company (i), in the period (t).
RGB = the ratio of the total amount of company debt that is considered "green" to the total amount of debt, for company (i).
ED = the disclosure of companies' energy use, waste, pollution, natural resource conservation and animal treatment of company (i), in the period (t).
CSRD = the disclosure of the company's business relationships, donation, volunteer work, employees' health and safety of company (i), in the period (t).
CGD = the disclosure of corporate governance code of company (i), in the period (t).
ESG = the Bloomberg index which combines the ED, CGD and CSRD of company (i), in the period (t).
MKTCAP = the company specific control variable, the market capitalization for the company (i), in the period (t).
D/E = the company specific control variable, the debt-to-equity ratio, for the company (i), in the period (t).
CAPEX = the company specific control variables, Capital expenditures reported in the financial statement, for the company (i), in the period (t).
FCF = the company specific control variable, the Free Cash Flow of the company, for the company (i).
Ɛ = random error.

Analysis

ReturnonCommonEquity	Coef.	Std. Err.	t	P>|t|
ESGDisclosureScore	-.0068336	.1421815	-0.05	0.962
CurrentMarketCap	.0000985	.0000585	1.68	0.094
CapitalExpenditures	-.0003045	.0002203	-1.38	0.169
TotalDebttoTotalEquity	.0103509	.0619039	0.17	0.867

ReturnonAssets	Coef.	Std. Err.	t	P>|t|
SocialDisclosureScore	.0619997	.0335333	1.85	0.066
CurrentMarketCap	.0000684	.0000224	3.05	0.003
CapitalExpenditures	-.0002184	.0001007	-2.17	0.032
TotalDebttoTotalEquity	-.0057096	.00443	-1.29	0.199

TobinsQRatio	Coef.	Std. Err.	t	P>|t|
GovernanceDisclosureScore	.0094521	.0045149	2.09	0.038
CurrentMarketCap	6.47e-06	2.50e-06	2.59	0.010
CapitalExpenditures	1.08e-06	4.66e-06	0.23	0.817
TotalDebttoTotalEquity	-.0000478	.0001144	-0.42	0.677

	Ratio	ESGDis~e	MktCap	FCF	DebtEq~y
Ratio	1.0000				
ESGDiscScore	-0.3428*	1.0000			
MktCap	-0.2177	0.0270	1.0000		
FCF	-0.1851	0.1812	0.7300*	1.0000	
DebtEquity	-0.0912	-0.0893	0.0876	-0.0270	1.0000