Corporate Social Responsibility and Market Efficiency: Evidence from ESG and Misvaluation Measures

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Introduction

Increasing importance of Corporate Social Responsibility

- Sustainable investing becomes a worldwide trend (GSIA, 2018)
- Increasing demand for high ESG-rated companies → Highly-ranked ESG universe is limited → pressure on a firm's pricing efficiency due to level of ESG engagement

Literature review reveals interesting results

- Cao et al. (2020) find that socially responsible institutions (SRIs) are less likely to buy underpriced stocks or sell overpriced ones
- Starks et al. (2018) find that institutional investors with longer horizons prefer high ESG rated firms and behave more patiently, e.g. these investors do not immediately react to negative signals of firm value
- Socially responsible investors derive non-financial utility from investing in accordance with socially responsible criteria; are willing to accept suboptimal financial performance (Riedl and Smeets, 2017)

Research question & Contribution

- Does ESG lead to misvaluation of firms?
- We are the first to investigate the direct relationship between ESG and misvaluation on the firm-level.

Data & Methodology

Data

- Data for misvaluation measures, the ASSET4 ESG score as well as control variables for 1,817 US companies are obtained from REFINITIV over the sample period 2004 - 2017

Misvaluation measures

- Residual Income model (based on Ohlson (1995)) & RRV-misvaluation model (Rhodes–Kropf et al., 2005) → well-established in the corresponding literature (e.g. Dong et al. (2020); Fu et al. (2013))
- Misvaluation (MSV) is calculated as a ratio of actual market value of equity to (imputed) true equity value

$$MSV_{i,t} = \frac{M_i(t)}{V_i(t)}. \tag{1}$$

- Residual Income model relies on Earnings Forecasts to approximate a true value → forward looking perspective of misvaluation
- RRV misvaluation 'true' value as a function of a company's *Book value of equity*, *Net income* and *Leverage* → backward looking perspective of misvaluation

Empirical Analysis

- Panel data for the period 2004-2017 empirically analyzed based on fixed-effects estimations with $y_{i,t}$ as respective dependent variable and $y_{i,t-1}$ the lagged dependent variable, $ESG_{i,t-1}$ is the company's ESG score and $x_{i,t}$ is a vector of control variables

$$y_{i,t} = \beta_1 y_{i,t-1} + \beta_2 ESG_{i,t-1} + \beta_3 x_{i,t} + \upsilon_i + \epsilon_{i,t}\ . \tag{2}$$

Results

ESG effects on misvaluation measures

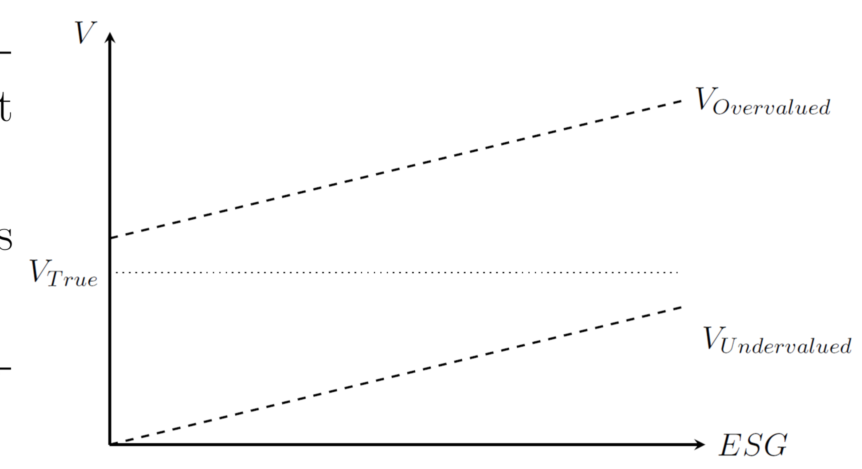
Table 1: ESG effects on misvaluation measures

	(1) RES^{MSV}	(2) RES^{MSV}	(3) RES^{MSV}	(4) RRV^{MSV}	(5) RRV^{MSV}	(6) RRV^{MSV}
L. Dep. Var		0.0587***	0.0221		0.268***	0.0478
		(0.0199)	(0.0205)		(0.0316)	(0.0314)
L. ESG score	0.0404***	0.0416***	0.0323***	0.00782***	0.00709***	0.00277***
	(0.00334)	(0.00327)	(0.00361)	(0.00121)	(0.000989)	(0.000928)
Controls	No	No	Yes	No	No	Yes
Firm-year obs.	7,917	7,080	6,243	9,056	8,978	7,949
R^2	0.021	0.027	0.084	0.009	0.070	0.426
Obs.	1,439	1,318	1,093	1,582	1,574	1,333

Remark: This table presents the fixed-effects estimations of the effects of a company's lagged ASSET4 *ESG score* on its respective misvaluation. The dependent variables are the residual income misvaluation measure RES^{MSV} according to Ohlson (1995) in models (1), (2) and (3) as well as the Rhodes–Kropf et al. (2005) misvaluation measure RRV^{MSV} in models (4), (5) and (6). Standard errors are clustered at firm-level and reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Analysis of most overvalued (top 20%) and undervalued (lowest 20%) firms

- ESG has positive effect on misvaluation ratios for both samples, but with different implications
- ESG engagement for overvalued companies increases the overvaluation
- ESG engagement of undervalued companies lowers the undervaluation



The moderating role of information asymmetry

- Misvaluation-ESG relationship can be accompanied by impact of information asymmetry → prior literature shows that CSR engagement of companies affects information asymmetry of firms
- Proxies for information asymmetry: bid-ask spreads, illiquidity, volatility of I/B/E/S analysts' earnings forecasts, forecast error of earnings forecasts
  → We do not observe a significant impact of information asymmetry

Increasing relevance of CSR

- Google Trends' Search Volume Index for sustainability topics as proxy for sentiment
  → Higher sustainability sentiment raises the misvaluation ratios induced by ESG

Robustness

- Robust to 2SLS instrumental variables estimations
- Robust to dynamic panel GMM estimations

→ Results are robust to potential endogeneity concerns

Conclusion

- Increase in a firm's *ESG score* leads to a significant rise in its misvaluation measures.
- Increase in the *ESG score* expands misvaluation for overvalued firms (i.e. market inefficiency), but moves undervalued firms towards the true value (i.e. market efficiency)
- Sentiment towards sustainability intensifies the impact of ESG on misvaluation

References & Further Information

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