

Introduction

This project investigates the relationship between corporate social responsibility (CSR) and stock price crash risk (SPCR). While prior studies have established that CSR actions can reduce overall firm risk, the effect of CSR on SPCR has not been extensively studied. The project fills this gap by developing a novel CSR gap measure that captures the difference between a firm's CSR performance and its disclosure score. The project finds that a larger CSR gap is associated with a higher level of SPCR. However, the negative relationship between CSR gap and SPCR is moderated by analyst coverage, which reduces the level of asymmetric information. The project's findings contribute to the understanding of the role of CSR in reducing firm risk and provide insights for investors and financial analysts in assessing firm risk.

Data and Methodology

- In terms of data, we start with all firms in Thomson Reuters ASSET4 and Bloomberg databases.
 - Research period from 2003 to 2022.
 - We retrieve ESG performance and individual pillar score data from ASSET4.
 - We retrieve ESG disclosure data from Bloomberg.
 - We retrieve fundamental and return data from Datastream.
- CSR gap calculation method:
 $CSR_Decoupling/Gap = (Standardized\ Bloomberg\ ESG\ Disclosure\ Score - Standardized\ ASSET4\ ESG\ Performance\ Score)/10$
- No_Analyst = Number of analysts following the firm.

- To test the relationship between CSR gap, firm financial performance and SPCR, we run the following baseline panel regression:
- To test the moderating effect of analyst coverage in the relationship between CSR gap and firm financial performance, as well as CSR gap and SPCR, we include the analyst coverage variable and its interaction term with CSR gap into the baseline panel regression.

$$Risk_adjusted_return_{i,t}/Stock_price_crash_risk_{i,t} = \beta_0 + \beta_1 \cdot CSR_{i,t} + \beta_2 \cdot SIZE_{i,t} + \dots + \beta_3 \cdot ROA_{i,t} + \beta_4 \cdot LEV_{i,t} + \beta_5 \cdot MTB_{i,t} + \dots + \beta_6 \cdot DIV_{i,t} + \beta_7 \cdot SDROA_{i,t} + \beta_8 \cdot LIQ_{i,t} + \dots + \beta_9 \cdot Cash_{i,t} + \beta_{10} \cdot CAPEX_{i,t} \dots + YEAR + INDUSTRY + \varepsilon_{i,t}$$

$$Risk_adjusted_return_{i,t}/Stock_price_crash_risk_{i,t} = \beta_0 + \beta_1 \cdot CSR_{i,t} + \beta_2 \cdot CSR_{i,t} \cdot Analyst_Coverage_{i,t} + \beta_3 \cdot SIZE_{i,t} + \dots + \beta_4 \cdot ROA_{i,t} + \beta_5 \cdot LEV_{i,t} + \beta_6 \cdot MTB_{i,t} + \dots + \beta_7 \cdot DIV_{i,t} + \beta_8 \cdot SDROA_{i,t} + \beta_9 \cdot LIQ_{i,t} + \dots + \beta_{10} \cdot Cash_{i,t} + \beta_{11} \cdot CAPEX_{i,t} \dots + YEAR + INDUSTRY + \varepsilon_{i,t}$$

Results

	Dependent variable:		
	NCSKEW (1)	DUVOL (2)	CCOUNT (3)
ESG_Decoupling	0.024 (0.059)	0.020 (0.013)	0.146*** (0.047)
Size	0.222*** (0.019)	0.065*** (0.004)	0.116*** (0.015)
ROA	-0.263*** (0.084)	-0.009 (0.019)	-0.149** (0.068)
SDROA_5	-0.805*** (0.188)	-0.179*** (0.043)	-0.495*** (0.150)
LEV	-0.082 (0.068)	-0.024 (0.016)	-0.092* (0.055)
MTBV	-0.022*** (0.002)	-0.005*** (0.0005)	-0.008*** (0.002)
LIQ	0.069*** (0.007)	0.011*** (0.002)	0.013** (0.006)
DIV_1	2.158*** (0.217)	0.611*** (0.050)	1.332*** (0.174)
CURA	-0.007 (0.005)	-0.001 (0.001)	-0.002 (0.004)
Observations	54,711	54,712	54,712
R2	0.012	0.014	0.004
Adjusted R2	-0.168	-0.166	-0.176

Note: *p<0.1; **p<0.05; ***p<0.01

CSR gap has a significant positive impact on firms' stock price crash risk

Analyst coverage reinforces this relationship.

	Dependent variable:		
	NCSKEW (1)	DUVOL (2)	CCOUNT (3)
ESG_Decoupling	0.060 (0.101)	0.026 (0.023)	0.171** (0.081)
No_Analyst_RE	0.015*** (0.002)	0.004*** (0.001)	0.003 (0.002)
Size	0.171*** (0.020)	0.051*** (0.004)	0.104*** (0.016)
ROA	-0.285*** (0.084)	-0.015 (0.019)	-0.155** (0.068)
SDROA_5	-0.780*** (0.188)	-0.172*** (0.043)	-0.493*** (0.150)
LEV	-0.077 (0.068)	-0.023 (0.016)	-0.090 (0.055)
MTBV	-0.023*** (0.002)	-0.005*** (0.0005)	-0.009*** (0.002)
LIQ	0.068*** (0.007)	0.011*** (0.002)	0.013** (0.006)
DIV_1	2.144*** (0.217)	0.607*** (0.050)	1.328*** (0.174)
CURA	-0.007 (0.005)	-0.001 (0.001)	-0.002 (0.004)
ESG_Decoupling:No_Analyst_RE	-0.003 (0.006)	-0.001 (0.001)	-0.002 (0.005)
Observations	54,682	54,683	54,683
R2	0.013	0.016	0.004
Adjusted R2	-0.166	-0.163	-0.176

Note: *p<0.1; **p<0.05; ***p<0.01

Conclusion

The findings of the research project reveal a positive relationship between CSR gap and stock price crash risk. This discovery is significant as it helps to shed light on the materiality of CSR factors with respect to financial risk. By quantifying the difference between what a firm claims to do in terms of CSR and what it actually does, the CSR gap measure provides a way to assess the extent to which a firm's CSR activities are in line with its disclosures. The two methodologies developed in this project can be extended to other research topics and research fields.