

CORPORATE SOCIAL PERFORMANCE AS A DETERMINANT OF FIRM FINANCIAL DISTRESS: INSIGHTS FROM THE JOHANNESBURG STOCK EXCHANGE

Francois Toerien¹ and Nasif Bergstedt²

¹*Affiliation:* University of Cape Town; e-mail: francois.toerien@uct.ac.za

²*Affiliation:* University of Cape Town; e-mail: nasif.bergstedt@gmail.com

Abstract:

A firm's corporate social performance (CSP), which encompasses pursuing various environmental (E), social (S), and governance (G) objectives alongside financial goals, could affect its financial stability or level of financial distress. This study investigates the relationship between the level of firm financial distress and ESG performance, as well as the latter's subcomponents, for South Africa as an example of an emerging market. Further, the difference in this relationship is tested for periods of both stronger and weaker GDP growth, using a sample of 79 companies listed on the Johannesburg Stock Exchange (JSE) during the period 2008 to 2023. Using panel regression methodology, it is found that particularly in periods of stronger economic growth, increased firm CSP performance is correlated with a lower level of financial stability. This result is consistent with previous US evidence, and is relevant to firm management, regulators and investors in their decision making regarding CSP.

Keywords: CSP, ESG, financial distress, South Africa

INTRODUCTION

Companies are under increasing public, regulatory and investor pressure to operate sustainably, with a specific emphasis on the environmental (E) and social (S) impact of their operations, and their level of corporate governance (G) - these collectively sometimes referred to as their Corporate Social Performance (CSP). Stakeholder theory posits that when firms prioritise the concerns of diverse stakeholders through their CSP efforts, this can foster enhanced relationships and favourable financial results, consequently lowering the risk of financial distress. Shareholder theory, however, raises concerns that dedicating resources to CSP may have the unintended consequence of incurring agency costs, potentially affecting financial performance and heightening the risk of financial distress. Many academic studies address the relationship between CSP and firm financial performance (see, for example, Wang et al., 2016), and although findings are diverse, most studies suggest a positive association between CSP and firm financial performance (see, e.g., Friede et al., 2015).

A prominent research gap, however, emerges when analysing CSP's influence on firm risk of failure. Thus, while both CSP and financial distress are widely explored areas of research among academics, both are still viewed very much in isolation. Further, the few studies that do exist on this topic are dominated by Anglo-Saxon developed countries, such as the USA and the UK (see, e.g., Farooq and Noor, 2021, and Habermann and Fischer, 2021). Further, they focus predominantly on periods of economic downturns. Thus, while research in developed markets suggests that higher levels of CSP are associated with reduced financial distress during economic downturns (see Boubaker et al., 2020; Cooper and Uzun, 2019; Al-Hadi, 2017; and Lin and Dong, 2018), the effects of CSP investments in emerging markets is significantly under-researched, as is the influence of CSP across different economic phases. Thus, to the best of the authors' knowledge, only Habermann and Fischer (2021) have explored the link between CSP and firm bankruptcy likelihood during an economic upswing, finding no significant effect on firm bankruptcy likelihood for a US sample.

Given that firms in emerging markets have distinct risk profiles characterised by increased volatility, regulatory ambiguities, and less established institutional frameworks, this study poses the following questions specifically within the context of South Africa as a representative emerging market:

1. Do the positive effects of firms' involvement in CSP initiatives and the probability of facing financial distress during economic downturns, as noted in established markets, also apply in an emerging market environment such as South Africa?
2. Moreover, does this relationship remain valid across periods of economic expansion in an emerging market context?

The literature reports correlations between bankruptcy likelihood and firm-specific variables such as profitability, liquidity, leverage and size, and also corporate governance proxies such as board and ownership structure and CEO attributes. Various proxies for economic conditions are also found to affect bankruptcy likelihood.

Table 1: Theoretical and empirical findings: determinants of firm financial distress

	DETERMINANTS	THEORETICAL PREDICTIONS						EMPIRICAL FINDINGS: ON BALANCE
		<i>Trade-off Theory</i>	<i>Pecking Order Theory</i>	<i>Free Cash Flow Theory</i>	<i>Lifecycle Theory</i>	<i>Agency Theory</i>	<i>Macro Theory</i>	
IMPACT ON FINANCIAL DISTRESS	<i>Profitability</i>		-	+				+/-
	<i>Leverage</i>	+						+
	<i>Liquidity</i>		-	+				-
	<i>Size</i>				+/-			+/-
	<i>Age/life cycle</i>				+/-			+/-
	<i>Industry</i>				+/-			+/-
	<i>Macro variables</i>						+/-	+/-
	<i>Governance</i>					+/-		+/-

Note: (+ increases BL; - reduces BL)

This study builds on the above literature, and most specifically the US study by Habermann and Fischer (2021), to investigate the relationship between ESG performance and bankruptcy likelihood for firms on the Johannesburg Stock Exchange, using panel regression methodology and controlling for firm leverage, size, profitability, liquidity, and time-fixed effects. The analysis is run on two samples drawn from the period 2008 to 2023, with one sample representing years of relatively high economic growth, and the other representing years of weak economic growth to investigate whether the relationship between ESG performance and bankruptcy likelihood differs depending on economic conditions.

The study firstly finds evidence that during periods of relatively stronger economic growth, the environmental and social dimensions of CSP do not significantly affect firm bankruptcy likelihood, aligning with recent research suggesting that high CSP, while fostering loyal stakeholders, may not be crucial when economic conditions are favourable enough to alleviate distress. However, higher aggregated CSP levels increase firm bankruptcy likelihood, primarily driven by the governance dimension, which is perceived to divert resources and attention from core business operations. Secondly, consistent with prior studies, higher social dimension levels of CSP reduces firm bankruptcy likelihood during weaker economic periods, emphasising the importance of stakeholder relationships in times of economic instability.

METHODOLOGY

The relationship between CSP/ESG activities and the level of financial distress of firms is academically relevant as both ESG and financial risk are key areas of academic research, and the intersection between the two is still relatively unexplored. This research question is of relevance to policymakers to develop balanced regulatory strategies that consider both ESG and financial risk, to firm management to understand

the possible risk-related impact of their CSP activities, and to investment practitioners to make better investment decision that consider the relationship between CSP and a firm's susceptibility to financial distress.

The study sample consisted of all companies listed on the JSE at any stage between the beginning of 2008 and end of 2023. The initial sample of 6150 firm-year observations (685 companies) was reduced to 321 firm-year observations (79 firms), mainly because of (a) the exclusion of financial firms due to their regulated capital structure and financial risk drivers as per Habermann and Fischer (2021) and others, (b) the unavailability of ESG performance data for many firms, especially in the earlier period of the study, and (c) the elimination of data corresponding to period of intermediate economic growth. The latter resulted from only the years of top- and bottom-quartile GDP growth over the 15-year period being used in the study to compare the financial distress CSP relationship during periods of stronger economic growth (174 firm-years) to periods of weaker economic growth (144 firm-years), analogous to Habermann and Fischer (2021).

Given that an unbalanced panel data set described above, panel regression methodology was used. In CSP-financial distress related studies (e.g., Harrison and Berman, 2015; and Habermann and Fischer, 2021) fixed effects models are preferred, which in this case was confirmed by a Hausman Test. Heteroskedasticity and autocorrelation were detected in the data, confirmed respectively by the Modified Wald test and Wooldridge test, and were addressed using Newey-White robust and clustered standard errors, consistent with Habermann and Fisher (2021). Variance Inflation Factor (VIF) testing indicated no issues with multicollinearity. Further, again following Habermann and Fisher (2021), the K-score variables were winsorized within year at the 1st and 99th percentiles. Additionally, a natural logarithm transformation was applied to the size control variable to achieve better symmetry. Subsequent Chi-squared joint tests for normality confirmed sufficient normality of error distributions. Lastly, to address concerns regarding endogeneity and reverse causality, explanatory and control variables were lagged by one period, following the methodologies of Fernando et al. (2017), Flammer (2015) and Habermann and Fischer (2021)

The models regressed separately for the two types of economic periods were:

Model (1):

$$\text{K-score}_{i,t} = \beta_0 + \beta_1 \text{ESGCombinedScore}_{i,t-1} + \beta_2 \text{Leverage}_{i,t-1} + \beta_3 \ln(\text{Size})_{i,t-1} + \beta_4 \text{Profitability}_{i,t-1} + \beta_5 \text{Liquidity}_{i,t-1} + \delta_t + u_i + \varepsilon_{i,t}$$

Model (2):

$$\text{K-score}_{i,t} = \beta_0 + \beta_1 E_{i,t-1} + \beta_2 S_{i,t-1} + \beta_3 G_{i,t-1} + \beta_4 \text{Leverage}_{i,t-1} + \beta_5 \ln(\text{Size})_{i,t-1} + \beta_6 \text{Profitability}_{i,t-1} + \beta_7 \text{Liquidity}_{i,t-1} + \delta_t + u_i + \varepsilon_{i,t}$$

Where $K\text{-score}_{i,t}$ represents the de la Rey K-score (de la Rey, 1981), a level of firm financial distress measure analogous to the Altman z-score (Altman, 1968), but specifically developed for South Africa. Model 1 uses ESG performance as independent variable of interest, whilst Model 2 separates this variable into its three components. In line with the studies by Cooper and Uzun (2019) and Habermann and Fischer (2021), control variables encompassing leverage, size, profitability, and liquidity were incorporated to address established determinants of financial distress widely acknowledged in the literature. All data used are obtained from Thomson Reuters Eikon Refinitiv.

FINDINGS

The findings of the study are as per Table 2, below.

Table 2: CSP and the probability of bankruptcy in times of weaker and stronger GDP growth

Dependent variable (financial distress; k-score)	Weaker economic periods		Stronger economic periods	
	Model (1)	Model (2)	Model (1)	Model (2)
Explanatory variables				
ESGScore	0.0016 (0.0010)	-	-0.0022* (0.0011)	-
EnvPillar	-	0.0003 (0.0016)	-	-0.0007 (0.0015)
SocPillar	-	0.0025* (0.0014)	-	0.0004 (0.0015)
GovPillar	-	-0.0003 (0.0007)	-	-0.0020** (0.0007)
Leverage	-1.7889*** (0.1079)	-1.762851*** (0.1247)	-1.6947*** (0.1394)	-1.7367*** (0.1270)
Size	0.0065 (0.0344)	-0.0026 (0.0318)	-0.0659*** (0.0273)	-0.0600** (0.0277)
Profitability	9.3426*** (0.1357)	9.375*** (0.1443)	9.3451*** (0.2617)	9.3374*** (0.2504)
Liquidity	1.2270*** (0.2952)	1.2323*** (0.2991)	1.3825*** (0.3416)	1.2037*** (0.3404)
Time FE (δ_t) financial year				
FY2019	-0.0374 (0.0814)	-0.0787 (0.0742)	0.10845*** (0.0403)	0.111736** (0.0479)
FY2020	-0.0530 (0.0835)	-0.0967 (0.0755)	0.1027*** (0.0413)	0.1061** (0.0513)
FY2023	0.0047 (0.0858)	-0.0291 (0.0842)	0.1954899*** (0.0537)	0.1852*** (0.0611)
Constant	0.0001 (0.7413)	0.1876 (0.6915)	1.6667*** (0.6427)	1.5676** (0.6604)
Observations	174	174	147	147
R-squared	0.9674	0.9667	0.9828	0.9836
F [prob.]	1234.74 [0.0000]	974.95 [0.0000]	564.60 [0.0000]	392.46 [0.0000]
σ_u	0.2081	0.2097	0.2187	0.2149
σ_e	0.0944	0.0945	0.0987	0.0976

Clustered and heteroskedasticity-robust standard errors are displayed in parentheses.
***, **, and * signify significance at the levels of 1%, 5%, and 10% respectively.

The findings suggest a positive yet statistically non-significant relationship between aggregated CSP and financial distress during periods of weak economic growth. Further, while the environmental and governance dimensions remain non-significant, firms with higher social dimension levels reduce their bankruptcy likelihood during downswing periods. This aligns with prior research undertaken during crisis periods (see Boubaker et al., 2020; Cooper and Uzun, 2019; Lin and Dong, 2018), offering additional evidence that cultivating strong stakeholder relationships, such as those with customers, employees, and suppliers, can bolster firm resilience amid periods of economic instability. The control variables in both Model (1) and Model (2) indicates that all explanatory variables, with the exception for size, demonstrate statistical significance at the 1% level with the expected signs. Although it is generally anticipated that larger

firms, with their greater economic and political influence, would manage financial distress more effectively compared to smaller firms (Al-Hadi et al., 2017), the absence of significance regarding firm size in this study could be due to the low size variability of this sample. Additionally, F-tests demonstrate the joint significance of all explanatory variables on financial distress at the 1% level.

In the context of stronger economic growth, on the other hand, a significant inverse association is found between aggregated CSP (Model 1) and financial distress, indicating that higher aggregate CSP levels elevate firm BL during better economic times. This trend is predominantly driven by the governance pillar (Model 2), while the social and environmental dimensions exhibit no noticeable impact. This finding aligns with the perspective put forth by Habermann and Fischer (2021), suggesting that firms may not derive substantial benefits from CSP investments during upswings, given the limited number of firms facing financial distress and increased creditor willingness to lend, buoyed by favourable macroeconomic conditions. Furthermore, these results validate the assertion made by Habermann and Fischer (2021) regarding governance, revealing that increased governance expenditure paradoxically exacerbates financial distress during economic upswings, which they attribute to diverted efforts and distractions from core business operations. All control variables during better economic periods are statistically significant at the 1% level and behave as expected.

CONCLUSIONS

The key finding, consistent with Habermann and Fischer (2021), is that increased CSP during periods of relative economic prosperity increases bankruptcy likelihood, with governance playing a pivotal role. This could indicate that the financial and others costs of governance measures implemented during these periods exceed their benefits, resulting in a possible counterproductive outcome, namely an increase in the level of financial distress with greater CSP investment. This study is limited by the small sample available in the South African market, a problem common to most emerging markets. The core recommendation is that investors, regulators and firms should consider the possible negative effects on firm financial stability that may result from an excessive focus on CSP, particularly during times of relatively strong economic growth.

REFERENCES

- Al-Hadi, A., Chatterjee, B., Yaftian, A., Taylor, G. & Monzur Hasan, M. 2017. Corporate Social Responsibility Performance, financial distress and firm life cycle: Evidence from Australia. *Accounting & Finance*. 59(2):961–989. DOI: 10.1111/acfi.12277.
- Altman, E.I. 1968. Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The Journal of Finance*. 23(4):589–609. DOI: 10.1111/j.1540-6261.1968.tb00843.x.
- Boubaker, S., Cellier, A., Manita, R. & Saeed, A. 2020. Does corporate social responsibility reduce financial distress risk? *Economic Modelling*. 91:835–851. DOI: 10.1016/j.econmod.2020.05.012.
- Cooper, E. & Uzun, H. 2019. Corporate Social Responsibility and Bankruptcy. *Studies in Economics and Finance*. 36(2):130–153. DOI: 10.1108/sef-01-2018-0013.
- De la Rey, J. H. (1981). Finansiële verhoudingsgetalle en die voorspelling van finansiële mislukking by nywerheidsondernemings in die Republiek van Suid-Afrika ("Financial ratios and the prediction of financial distress of industrial companies in the Republic of South Africa"). University of Pretoria: Bureau of Financial Analysis.
- Farooq, M. & Noor, A. 2021. The impact of corporate social responsibility on financial distress: Evidence from a developing economy. *Pacific Accounting Review*. 33(3):376–396. DOI: 10.1108/par-10-2020-0196.

- Fernando, C.S., Sharfman, M.P. & Uysal, V.B. 2017. Corporate environmental policy and shareholder value: Following the smart money. *Journal of Financial and Quantitative Analysis*. 52(5):2023–2051. DOI: 10.1017/s0022109017000680.
- Flammer, C. 2015. Does corporate social responsibility lead to superior financial performance? A regression discontinuity approach. *Management Science*. 61(11):2549–2568. DOI: 10.1287/mnsc.2014.2038.
- Friede, G., Busch, T. & Bassen, A. 2015. ESG and Financial Performance: Aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance and Investment*. 5(4):210–233. DOI: 10.1080/20430795.2015.1118917.
- Habermann, F. & Fischer, F.B. 2021. Corporate social performance and the likelihood of bankruptcy: Evidence from a period of economic upswing. *Journal of Business Ethics*. 182(1):243–259. DOI: 10.1007/s10551-021-04956-4.
- Harrison, J.S. & Berman, S.L. 2015. Corporate Social Performance and Economic Cycles. *Journal of Business Ethics*. 138(2):279–294. DOI: 10.1007/s10551-015-2646-9.
- Lin, K.C. & Dong, X. 2018. Corporate Social Responsibility engagement of financially distressed firms and their bankruptcy likelihood. *Advances in Accounting*. 43:32–45. DOI: 10.1016/j.adiac.2018.08.001.
- Wang, Q., Dou, J. & Jia, S. 2016. A meta-analytic review of Corporate Social Responsibility and corporate financial performance. *Business and Society*. 55(8):1083–1121. DOI: 10.1177/0007650315584317.