

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

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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 non-financial and non-real estate companies (321 firm-year observations) listed on the Johannesburg Stock Exchange (JSE) during the period 2008 to 2023. Using panel regression methodology, it is found that in periods of stronger economic growth, increased firm CSP is correlated with a lower level of financial stability, particularly driven by its governance dimension, which could be diverting resources and attention away from core business operations. Secondly, during weaker economic growth periods the social dimension of CSP is negatively related to the level of financial distress, potentially emphasising the importance of stakeholder relationships in times of economic instability. These results are 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

1. 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?

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.

This study contributes to the existing literature in several ways:

Firstly, while many studies examine CSP through the lens of financial success (*e.g.*, Friede et al., 2015), there is limited research on CSP's role in mitigating firm failure or bankruptcy. Additionally, existing studies (*e.g.*, Haberman and Fischer, 2021) focus on mature markets, often neglecting the unique dynamics of emerging markets and the varying effects of CSP across different economic phases. This study addresses these gaps and provides novel insights by exploring the relationship between CSP and firm bankruptcy likelihood in an emerging market context, covering both periods of economic growth and decline.

Secondly, similar to Haberman and Fischer (2021), this study emphasises the relevance of stakeholder theory in explaining how CSP impacts firm financial distress across economic cycles, even if the benefits are not immediate. It recognises that while CSP investments during economic booms may not yield immediate positive effects, they serve as a form of insurance for shareholders during subsequent crises, balancing bankruptcy risk across economic cycles. By providing valuable insights into the optimal timing of such investments, this study offers practical guidance for policymakers, firm management, and investors in emerging markets. Policymakers can use these insights to develop strategies that incentivise CSP investments during periods of economic growth to proactively mitigate bankruptcy risk in crisis periods. Firm management can leverage CSP as a strategic tool to effectively manage financial risks. Investment practitioners, including investors and asset managers, can utilise the understanding of the relationship between CSP and a firm's susceptibility to financial distress for better investment decision-making and portfolio management.

Thirdly, previous research predominantly examine specific aspects of governance (*e.g.*, Darrat et al., 2014; Fich and Slezak, 2007; Platt and Platt, 2012) or focus on the social and environmental impacts of CSP (*e.g.*, Lin and Dong, 2018; Boubaker et al., 2020). However, the comprehensive impact of an integrated ESG approach encompassing all three pillars on firm financial distress remains relatively underexplored. Drawing from Haberman and Fischer (2021), this study thus investigates both the aggregated ESG effects on firm financial distress and the distinct impacts of the three individual ESG pillars.

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 decisions that consider the relationship between CSP and a firm's susceptibility to financial distress.

The remainder of this paper is structured as follows: Section 2 discusses financial distress, the concept of CSP, and the theories and empirical work motivating for a relationship between CSP and financial distress. Section 3 outlines the data and methodology used in this study, while Section 4 presents the descriptive statistics, analyses regression test results, and discusses their implications. Finally, Section 5 concludes.

2. THEORETICAL BASIS AND EMPIRICAL LITERATURE

Financial distress is a multi-faceted phenomenon that has been defined differently across academic literature. Some definitions focus on a company's inability to meet financial obligations (e.g., Altman, 1971) while others emphasise its deteriorating financial health (e.g., Kim and Kross, 2005). Cybinski's financial distress continuum theory suggests that companies go through various stages of distress before either failing or recovering, positioning them on a success-failure continuum (Cybinski, 2001). While financial distress does not guarantee company failure, it often leads to a significant decline in financial performance and can eventually result in bankruptcy. Direct costs of financial distress include legal, accounting, filing, and advisory fees, while indirect costs encompass the loss of creditors and stakeholders, value reduction due to self-interested actions by managers, foregone sales and competitive positions, higher operating costs, and missed investment opportunities.

3.1 Factors affecting financial distress

It is commonly assumed that economic downturns elevate the risk of financial distress for businesses. Factors such as decreased sales, cash flows, and profitability are expected consequences during such periods. Moreover, higher interest rates can amplify borrowing costs, particularly impacting heavily indebted firms. Unpredictable inflation and fluctuating exchange rates further compound operational uncertainties, hindering firms' ability to adjust pricing strategies and manage expenses effectively. Additionally, low GDP growth associated with economic downturns may result in diminished sales and profitability, exacerbating the risk of financial distress. Given these considerations, some researchers advocate for analysing data specific to economic cycles or, at the very least, controlling for cyclical effects. Failure to do so may introduce bias into the results (Habermann and Fischer, 2021). Habib et al. (2018) classify the determinants of financial distress into three primary categories: firm-level fundamentals, macroeconomic factors, and corporate governance factors at the firm level.

Firm-level variables associated with financial distress include profitability, leverage, liquidity, size, firm age and industry. Thus, most studies find that firms with lower profitability, as measured by ratios such as return on assets (ROA) and return on equity (ROE), are more prone to financial distress due to income not sufficiently covering cash needs (see, e.g., Altman, 1968; Beaver, 1966; Ohlson, 1980; and Taffler, 1984). However, other studies suggest more nuanced relationships between profitability and financial distress. For example, Berger and DeYoung (1997) identify a U-shaped relationship, and postulate that very high levels of profitability could lead to increased risk-taking behaviour and overextension of credit.

Leverage is similarly usually considered as positively correlated with measures of financial distress, as well as profitability, although some studies (e.g., Frank and Goyal, 2003; 2009) suggest a U-shaped relationship

where an optimal debt level minimizes tax burdens through the debt tax shield, particularly benefiting tax-burdened profitable entities. Furthermore, the predictive power of leverage for financial distress may vary depending on the type of leverage examined. While short-term debt is seen by some as a more immediate indicator due to its urgent repayment obligations, others argue that total debt is a more comprehensive measure because it encompasses all financing components rather than just transactional obligations (Rajan and Zingales, 1995).

Empirical research nearly always confirms an inverse correlation between liquidity (as measured by metrics such as the current ratio, quick ratio, and cash ratio) and the probability of financial distress (Altman, 1968; Beaver, 1966; Zavgren, 1985), although there are again a few studies that find a positive correlation (see, for example, Opler, 1999).

The relationship between firm size, typically measured by the natural logarithm of total assets (Haberman and Fischer, 2021) and financial distress is complex and debated. The traditional perspective considers economies of scale to be beneficial, while an alternative view emphasises potential managerial mismanagement. Researchers such as Gonenc (2005) and Dittmar (2004) suggest that larger firms could be prone to overleveraging due to higher asset tangibility or collateral value, leading to financial distress. Empirical studies offer mixed results with regards to size and profitability, and hence (indirectly) financial distress, although Amato and Burson (2007) and Lee (2009) do find negative associations.

Different industries exhibit differing levels of risk and volatility due to their unique operational models, cost structures, and market trends. These industry-specific characteristics can exert a substantial influence on the financial health and distress risk of the firms operating within them. However, studies in finance typically do not directly examine the impact of industry as a variable of interest on financial distress. Instead, they often control for industry-specific effects through the application of fixed-effect regression techniques (see Aroui and Pijourlet, 2015; and Habermann and Fischer, 2021). These methodologies allow researchers to isolate industry-specific unobservable effects or time-invariant industry effects while studying the influence of other variables of interest. In this way, researchers indirectly acknowledge the significance of industry as a determinant of financial distress, as they control for its effects and thereby ensure unbiased results.

Macroeconomic variables are also relevant to corporate financial distress research, which suggests that incorporating country risk and macroeconomic factors into firm-level distress prediction models can enhance their explanatory power (Tinoco and Wilson, 2013; Altman et al., 2016). A common approach to account for macroeconomic influences involves using macroeconomic indexes, which incorporate composite indicators representing broader macroeconomic conditions, such as GDP growth, unemployment rates, and the inflation rate (Asgharian et al., 2013). Another method uses event studies, allowing researchers to assess model performance changes in response to significant events like business cycle changes, often splitting data into periods of economic up- and downswings (Habermann & Fischer, 2021). Conversely, some researchers such as Kholisoh and Dwiarti (2020) conclude that variables like

inflation sensitivity, exchange rate sensitivity, and interest rate sensitivity do not significantly affect the likelihood of financial distress.

Corporate governance determinants: the role of corporate governance in financial distress has been extensively studied, focusing mostly on the board structure, CEO attributes and ownership structure facets of governance and financial distress. Thus, the presence of non-executive directors is crucial for effective management oversight and enhanced decision-making (Wang and Deng, 2006; Fich and Slezak, 2007). On the other hand, during distress periods, executive directors face elevated job insecurity, potentially fostering stronger motivation to steer a troubled company back on track compared to their non-executive counterparts (Fich and Slezak, 2007). Other corporate governance-related factors which play a role in financial distress risk is CEO duality, which increases bankruptcy risk due to the concentration of decision-making power (Daily and Dalton, 1994), and ownership structure. Specifically, some studies (e.g., Gilson, 1990) find that block ownership reduces financial risk by constraining risky actions, while others find that family-owned firms prioritise long-term survival (Gottardo and Moisello, 2017), and that venture capitalists (VCs) reduce financial distress risk post-IPO (Megginson et al., 2019).

Thus, the literature reports correlations between bankruptcy likelihood and firm-specific variables such as profitability, liquidity, leverage and size, various proxies for economic conditions, and corporate governance proxies such as board and ownership structure and CEO attributes. Table 1 summarises the theoretical and empirical findings related to the influence of critical financial distress determinants on the likelihood of experiencing financial distress.

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

	THEORETICAL PREDICTIONS						EMPIRICAL FINDINGS: ON BALANCE
	DETERMINANTS	<i>Trade-off Theory</i>	<i>Pecking Order Theory</i>	<i>Free Cash Flow Theory</i>	<i>Lifecycle Theory</i>	<i>Agency 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>					+/-	+/-

3.2 CSP and financial distress

This study adopts an inclusive view where corporate social responsibility encapsulates environmental, social, and governance objectives, with CSP serving as a reflection of performance across all these dimensions. This approach closely aligns with the framework presented by Habermann and Fischer (2021) and is grounded in the understanding that governance plays a fundamental role in ensuring accountability and ethical decision-making, thereby reinforcing a company's responsibility to society.

Two primary competing theories underpin the link between CSP and financial distress: shareholder theory and stakeholder theory. Shareholder theory states that a corporation's sole social responsibility is the enhancement of profits and the maximisation of shareholder wealth (Friedman, 1970). Consequently, this perspective suggests a possible trade-off between CSP and financial distress since the implementation of CSP initiatives might entail additional costs that could negatively affect profitability and overall financial performance. In contrast, stakeholder theory (Freeman, 1984) suggests that a company has responsibilities to a wide selection of stakeholders in addition to its shareholders. In this view, CSP activities positively influence a firm's financial performance by improving its relationships with stakeholders, including employees, customers, suppliers, and local communities. Fulfilling its responsibilities toward stakeholders can earn their support, trust, and loyalty, leading to increased sales, reduced costs, enhanced reputation, and improved financial performance, and hence lower financial distress risk.

A third theory relevant to the current study is Legitimacy Theory (Deegan, 2002), which focuses on the strategies that organisations use to gain and maintain legitimacy in society and highlights that CSP activities can enhance a firm's legitimacy in the eyes of stakeholders. This theory is grounded in the concept of a "social contract," where a company's survival depends on its willingness to adhere to society's perceptions of desirable behaviour to maintain access to necessary resources. Thus, companies that align with societal expectations and consider themselves responsible corporate citizens actively engage in CSR activities to legitimise their existence and distinguish themselves from firms that do not meet society's standards. Similarly, Oliver's (1991) Institutional Theory, which examines the broader social, cultural, and political forces influencing organisations and institutions, suggests that CSP activities enable firms to align with the expectations and norms of their institutional environment, thereby improving financial performance. However, institutional theory also posits that the positive effects of CSP may diminish over time due to mechanisms such as diffusion, adoption, and increased institutional similarity (Brower and Dacin, 2020).

Two main areas of research shed light on CSP's role in potentially mitigating financial distress (Boubaker et al., 2020). First, some studies have provided evidence of an inverse relationship between CSR and firm-specific risk. For example, Herremans et al. (1993) found that U.S. manufacturing companies with stronger CSR reputations not only achieved better stock returns but also exhibited reduced risk for investors. Jo and Na (2012) identified a negative relationship between CSR and firm risk, particularly in controversial industries, supporting the notion of risk reduction through CSR. Research by Lee and Faff (2009) demonstrated that socially responsible firms experienced lower idiosyncratic risk, attributed to enhanced performance in market portfolios. Similarly, studies by Husted (2005), Kim et al. (2014), and Mishra and Modi (2012) have all established negative significant relationships between firm CSR engagement and idiosyncratic risk. In sum, these studies collectively affirm that effective CSR policies empower firms to mitigate their risk exposure.

Secondly, CSR can enhance firms' financing conditions, thereby potentially reducing their financial distress. For instance, Sharfman and Fernando (2008) probed the impact of CSR on the cost of capital and found

that improvements in environmental risk management were associated with lower capital costs and an enhanced market perception of a firm's risk profile. El Ghouli et al. (2011) noted that firms with higher CSR scores exhibited lower costs of equity capital due to their lower perceived risk. Moreover, research by Goss and Roberts (2011) shed light on how improved CSR performance resulted in lower costs of bank loans, in alignment with the risk mitigation view. Literature also demonstrates a growing correlation between higher levels of CSR engagement, improved credit ratings, and a reduction in default risk (Attig et al., 2013; Jiraporn et al., 2014). This body of work collectively suggests that, for a given level of risk, more socially responsible firms enjoy higher credit ratings, along with reduced costs of equity and debt. Consequently, the confluence of evidence supports the premise that robust CSR practices can significantly lower firm risk and enhance financing conditions, and accordingly reduce the potential for financial distress risk.

Few studies explicitly address the CSP-financial distress relationship, with most addressing the impact of different facets of corporate governance on financial distress, especially in terms of board characteristics (e.g., Ammari et al., 2016), CEO attributes (e.g., Ho et al., 2016) and ownership structures (e.g., Gottardo and Moisello, 2017). Generally, studies in this area have yielded mixed results, underscoring the notion that adopting uniform governance practices across firms may yield counterproductive results (Darrat et al., 2014). To a lesser extent, studies have ventured into examining the role of social and environmental factors concerning firm financial distress, often recognising that governance measures function uniquely within the realm of CSP and are employed without a primary intention to augment CSP (Fabrizi et al., 2013; Lin and Dong, 2018). In this context, two recent studies delved into the impact of CSR on firm financial distress in the U.S across all sectors, although their data was limited to periods marked by economic crises. Lin and Dong (2018), relying on the Altman Z-score¹ to identify financially distressed firms, employed logistic regressions to explore the impact of CSR on bankruptcy likelihood. In a similar vein, Boubaker et al. (2020) assessed financial distress risk levels, utilising three distinct proxies (Z score, Z-EM and O score²). The findings of both studies collectively indicated that higher CSR was associated with a reduced risk of financial distress, irrespective of the proxy used.

However, there is a noteworthy paucity of research examining how a comprehensive approach considering all three ESG pillars affects financial distress. Among the limited studies that have since ventured into this arena, Al-Hadi et al. (2017) identified an inverse correlation between CSR and financial distress in an examination of various Australian listed companies spanning all industries. These researchers also considered firms' life cycle stages as a moderating factor and observed that this negative relationship between CSR and financial distress was particularly pronounced among companies in mature life cycle

¹ The Z Emerging Market (Z-EM) model, following the original work by Altman (1968), is an extension and adaptation of the Z-score model tailored specifically for emerging markets.

² The Ohlson O-Score, developed by James Ohlson in 1980, represents an evolved version of the Z-Score model. It incorporates additional financial variables and employs logistic regression techniques to assess financial distress. Despite these advancements, empirical evidence supporting its superior predictive accuracy over the Z-Score remains limited (Agarwal and Taffler, 2008).

stages. Meanwhile, Cooper and Uzun (2019) employed t-tests and logistic regression on a matched sample of U.S bankrupt and non-bankrupt firms, concluding that higher CSP reduced bankruptcy likelihood. These studies however were all confined to periods marked by economic crises. To date, to the best of the author’s knowledge, only Habermann and Fischer (2021) have examined the relationship between CSP and bankruptcy likelihood during economic upswings. Their study produced intriguing findings: while a one-year lagged aggregated CSP score showed no notable impact on firm BL, dissecting CSP into individual dimensions revealed a paradoxical increase in firm BL underpinned higher governance scores. The authors contend that heightened and overly cumbersome governance structures during upswings may divert management attention from core operations. Nonetheless, their results mirrored earlier research findings when tested during crisis periods, demonstrating that elevated CSP levels, particularly in environmental and social dimensions, mitigate firm financial distress, emphasising the importance of stakeholder relationships during crises. The authors suggest that during economic upswings, the scarcity of distressed firms coincides with high demand and credit availability compared to downturns. Consequently, distressed firms may not rely on loyal stakeholders such as creditors, suppliers, and customers, as there are numerous willing stakeholders available to provide support. Thus, the positive effects of CSP on financial distress may only materialise during economic recessions when more firms face distress. Moreover, CSP has been found to mitigate firm-specific risks and improve financing conditions, thereby potentially reducing financial distress risk. Studies also suggest a negative relationship between environmental and social (E&S) factors and aggregated CSP during economic downturns. While Habermann and Fischer’s (2021) study suggests that this relationship may weaken during economic upswings as firms rely less on stakeholders, emerging market firms exhibit distinct risk profiles due to factors such as heightened volatility, regulatory uncertainties, and less mature institutional frameworks. These differences suggest that the impact of CSP on financial distress during times of instability and downturn could be particularly noteworthy in an emerging market context, possibly even more so than in developed markets. Conversely, during economic upswings, the relevance of CSP might still be pertinent for emerging market firms.

Table 1: Theoretical and empirical findings on CSP’s impact on firm financial distress

CSP COMPONENT	THEORETICAL PREDICTIONS			EMPIRICAL FINDINGS				
	<i>Shareholder Theory</i>	<i>Stakeholder Theory</i>	<i>Financial Performance Studies</i>	<i>Firm Risk Studies</i>	<i>Financing Studies</i>	<i>Gov. Studies</i>	<i>E&S Studies</i>	<i>Agg. ESG Studies</i>
<i>ESG combined</i>	+	-	+/-	-	-			-
<i>Environmental Pillar</i>	+	-					-	
<i>Social Pillar</i>	+	-					-	
<i>Governance Pillar</i>	+	-				+/-		

Thus, based on the existing literature, the following alternative hypotheses are posited as basis for this study:

H1: Higher firm CSP levels (both overall and within each respective ESG pillar) are associated with a reduced firm financial distress during economic downswing periods.

H2: Higher firm CSP levels (both overall and within each respective ESG pillar) are associated with a reduced firm financial distress during economic upswing periods.

3. METHODOLOGY

The study sample consisted of all companies listed on the JSE at any stage between the beginning of 2008 and end of 2023, including those who subsequently delisted. 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, and the exclusion of Real Estate Investment Trusts (REITs), which similarly are constrained by regulation in terms of capital structure and cash holding and distribution policies, (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). This is analogous to Habermann and Fischer (2021), although the latter utilised the US National Bureau of Economic Research (NBER) definition to categorise economic states as either expansion or recession based on peak-to-trough GDP measurements, a classification which has some limitations and critiques (Romer and Romer, 1989) by oversimplifying economic conditions and misclassifying “floating” economic periods as either up or down cycles. Thus, our focus shifted to extreme values on a relative basis to better represent weaker and stronger economic periods. Data, including ESG and its three subcomponent performance scores were obtained from the TR Refinitiv Eikon database.

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 dependent variable in the models is the de la Rey K-score (de la Rey, 1981), a multidiscriminant-type level of firm financial distress (bankruptcy likelihood) measure analogous to the Altman z-score (Altman, 1968), but specifically developed for South Africa. Although the Altman z-score and its subsequently derived Altman-Z Emerging Market model (Z-EM model) score (Altman, 2005) could have been used, the former was developed in the context of US markets, and the latter in the Mexican market. Therefore, the application of seminal distress prediction models beyond the U.S. and Mexico has demonstrated inconsistent findings regarding coefficient significance and direction across various countries and time periods (Begley et al., 1996; Grice & Dugan, 2001). Further, while the Altman Z-score and Z-EM score have proven effective in predicting bankruptcy in previous studies, research conducted by Cassim (2016) and Marais et al. (2014) has raised doubts about their applicability to the South African market. In contrast, the De la Rey K-score model, developed by the Bureau of Financial Analysis at the University of Pretoria was specifically tailored for the South African context, and although relatively underrepresented in the literature due to the scarcity of South African distress studies, it has demonstrated exceptional accuracy in the few studies conducted. Research has shown it achieves a precision of 94.5% in forecasting non-failed firms and 98.6% in predicting failed firms two years before their failure, with an average success rate of 96.6% (Van Der Colff and Vermaak, 2015; Sewpersadh, 2020). Thus, given its proven accuracy and relevance to the South African market, this study utilises the K-score model to measure firm Bankruptcy Likelihood (BL) over traditional models.

Following Haberman and Fischer (2021) we use TR Refinitiv ESG performance scores as measures of CSP. TR performance scores rank firms based on public data reported by companies across the three ESG dimensions, which encompass ten sub-categories across the three pillars each with different respective weights. Mayer and Ducsay (2023) found that Refinitiv offers a more comprehensive perspective with broader indicators, strong correlations with other ratings, and sensitivity to firm size and geographical differences.

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

Model (1):

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

Model (2):

$$\text{K-score}_{i,t} = \beta_0 + \beta_1 E_{i,t-1} + \beta_2 S_{i,t-1} + \beta_3 G_{i,t-1} + \beta_4 \text{Leverage}_{i,t-1} + \beta_5 \ln(\text{Size})_{i,t-1} + \beta_6 \text{Profitability}_{i,t-1} + \beta_7 \text{Liquidity}_{i,t-1} + \delta_t + u_i + \epsilon_{i,t} \quad \text{Eq. 2}$$

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.

4. FINDINGS

The descriptive statistics of the study is shown in Table 3 below.

Table 3: Descriptive statistics: higher and lower economic growth periods

	Weaker economic growth period N = 174					Stronger economic growth period N = 147				
	Mean	Median	SD	Min	Max	Mean	Median	SD	Min	Max
K-score	0.047	0.0433	1.189	-4.944	6.104	0.758	0.555	1.499	-3.242	8.7822
ESGScore	51.367	53.060	16.666	6.651	86.762	51.009	51.400	15.240	7.650	80.431
EnvPillar	46.920	47.632	22.221	0.000	89.825	47.445	49.634	21.321	0.000	88.393
SocPillar	57.523	59.236	19.581	2.797	94.569	55.195	55.114	19.170	2.935	5.450
GovPillar	51.290	52.225	22.463	7.892	92.264	53.396	54.363	22.059	8.566	97.455
Leverage	0.274	0.256	0.181	0.000	0.800	0.230	0.203	0.179	0.003	0.977
Size	23.879	23.775	1.239	20.583	27.783	23.818	23.753	1.160	20.696	27.401
Profitability	0.024	0.027	0.111	-0.420	0.652	0.094	0.064	0.138	-0.239	0.882
Liquidity	0.093	0.078	0.068	0.000	0.363	0.096	0.081	0.076	0.000	0.347

Unsurprisingly, K-scores on average appear to be lower during the weaker economic period compared to its stronger counterpart, as does profitability. Also, in line with theory average leverage appears higher in the weaker economic period compared to the stronger one, whereas liquidity appears relatively unaffected by economic period for this particular sample. The composite ESG score is not obviously affected by economic growth period, but interestingly its social pillar is higher on average in the weaker growth period than in the stronger one, potentially supporting Haberman and Fischer's (2021) hypothesis that a favourable general environment may suffice to alleviate distress. On the other hand, this decline was offset by improvements in both the governance and environmental pillar scores when comparing the stronger economic growth period to the weaker one, suggesting that companies might continue to prioritise ESG spending to mitigate risks linked to non-compliance or financial distress despite better economic conditions.

The Spearman correlation matrices for the weaker and stronger economic growth periods are shown in Tables 4A and 4B, respectively.

Table 4A: Spearman correlation matrix: weaker economic growth period

	K-Score	ESG Score	E- Score	S-Score	G-Score	Leverage	Size	Profitability	Liquidity
K-Score	1								
ESG-Score	0.1510**	1							
E-Score	0.0766	0.7708***	1						
S-Score	0.1409*	0.8161***	0.6906***	1					
G-Score	0.1428*	0.6706***	0.3128***	0.4040***	1				
Leverage	-0.4671***	-0.0290	0.0109	-0.0046	-0.1009	1			
Size	0.0532	0.3165***	0.3693***	0.4357***	0.1668**	0.1162	1		

Profitability	0.8999***	0.1913***	0.1539**	0.1873***	0.1421*	-0.1926***	0.1456**	1
Liquidity	0.1636**	0.0601	0.0173	0.0710	0.0334	-0.3120***	0.0787	0.0828

***, **, and * signify significance at the levels of 1%, 5%, and 10%, respectively

Table 4B: Spearman correlation matrix: stronger economic growth period

	K-Score	ESG Score	E- Score	S-Score	G-Score	Leverage	Size	Profitability	Liquidity
K-Score	1								
ESG-Score	0.0574	1							
E-Score	0.1158	0.7241***	1						
S-Score	0.0065	0.8341***	0.5932***	1					
G-Score	0.0783	0.5639***	0.1843**	0.2981***	1				
Leverage	-0.5885***	-0.1166	-0.0978	-0.0012	-0.1988***	1			
Size	-0.0909	0.3013***	0.3987***	0.3949***	0.0961	0.0413	1		
Profitability	0.9209***	0.0282	0.1039	0.0114	0.0495	-0.3413***	-0.0233	1	
Liquidity	0.1496*	0.1674**	0.0584	0.0751	0.1122	-0.1228	0.0	0.1529*	1

***, **, and * signify significance at the levels of 1%, 5%, and 10%, respectively

In Table 4A (the weaker growth period), the significant correlation between the K-score and aggregated ESG-score lends preliminary support to the idea that increasing CSP may potentially reduce firm financial distress during downturns, consistent with prior literature (Boubaker et al., 2020; Cooper and Uzun, 2019; Lin and Dong, 2018). This effect appears to be driven by both social and governance pillars of ESG, both of which are significant, suggesting the importance of stakeholder relationships and responsible governance practices during periods of economic instability. All control variables, apart from company size, demonstrate significance with the theoretically anticipated directions. More profitable firms might prioritise spending on ESG initiatives, as evidenced by the significant correlation between profitability and ESG scores. However, firms may prioritise preserving liquidity over discretionary spending on ESG activities during crises, potentially explaining the lack of significant correlations between liquidity and ESG scores. Despite size's standalone non-significance, its significant correlation with aggregated ESG and respective ESG pillars suggest that larger firms tend to pursue higher ESG ratings, potentially due to greater resources allocation (Haberman and Fischer, 2021).

Referring to Table 4B (the stronger economic period), the absence of significant correlations between aggregated ESG and individual ESG dimensions with the K-score lends preliminary credence to Haberman and Fischer's (2021) findings. The latter argue that during times of economic upswings CSP does not seem to reduce the likelihood of bankruptcy (financial distress), possibly because, unlike in weak economic environments, in a stronger economic context the costs of increasing CSP dominates the impact of any positive business effects on the level of financial distress.

Lastly, the correlation matrices shown in Tables 4 and 5 indicate no concerns with multicollinearity. This was further confirmed with VIF tests, which confirmed no multicollinearity among the independent variables.

The results of the regression models are shown in Table 5 on the next page.

Table 5: 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)
<u>ESGScore</u>	0.0016 (0.0010)	- -	-0.0022* (0.0011)	- -
<u>EnvPillar</u>	- -	0.0003 (0.0016)	- -	-0.0007 (0.0015)
<u>SocPillar</u>	- -	0.0025* (0.0014)	- -	0.0004 (0.0015)
<u>GovPillar</u>	- -	-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]
<u>sigma_u</u>	0.2081	0.2097	0.2187	0.2149
<u>sigma_e</u>	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 levels of financial distress 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. While most control variables behave as expected and are statistically significant at the 1% level, the lack of significance for firm size in downswings, possibly the result of uniformity among firm sizes (which persists in upswings), contrasts with the significant and negative coefficient for size observed during upswings. This finding is however consistent with previous research indicating that larger firms may be susceptible to overleveraging during upswings, potentially leading to financial distress (Gonenc, 2005; Dittmar, 2004).

Lastly, Table 5 reveals an interesting insight regarding Time FE: its non-significance during downturns contrasts with its significance during upswings. These results can be explained by the notion that economic upswings may often prompt firms to ramp up investments in innovation and technology. Consequently, it is posited that the impact of Time FE, which reflects these innovation-related dynamics, becomes more evident during upswing periods.

In summary, the first key finding of the study is that investment in the social dimension of CSP reduces firm bankruptcy likelihood during weaker economic periods, emphasising the importance of stakeholder relationships during economic instability. While Habermann and Fisher (2021) observed an increased financial distress correlated with aggregated CSP and individual social and environmental dimensions, this study finds significance solely within the social dimension. This discrepancy could be because in a developing country such as South Africa, where poverty and social challenges are acute, CSR activities that benefit society are far more valued than those that benefit the environment. In a developed country such as the US (the context of the Habermann and Fisher study), it is likely that both elements are more equally valued by society. Thus, while the findings partially support H1, indicating that higher social pillar scores mitigate firm bankruptcy likelihood during downturns (Boubaker et al., 2020; Cooper and Uzun,

2019; Lin and Dong, 2018), there is insufficient evidence in the South African context to support this hypothesis in terms of the environmental and governance variables.

The second finding is that during stronger economic periods, the social and environmental pillars exhibit no discernible effect on firm bankruptcy likelihood. This is consistent with those of Habermann and Fisher (2021), who argue that while high CSP fosters loyal stakeholders, during expansionary periods, there may be no need for such measures as the general environment is sufficient to alleviate distress. Moreover, higher aggregated CSP levels and higher governance scores increase firm bankruptcy likelihood, corroborating Habermann and Fisher (2021), who suggest that heightened governance investment during upswings exacerbates the risk of financial distress by diverting efforts and attention from core business operations during boom periods. This aligns with prior research highlighting governance's distinct role within the ESG framework (Fabrizi et al., 2013; Kim et al., 2012; Lin and Dong, 2018), often implemented without the intention of directly enhancing stakeholder relations

Thus, no support is found for H2, which posits that CSP may still be beneficial during economic expansions in an emerging market environment.

Consequently, bolstering CSP during upswings likely results in costs, thereby increasing firm bankruptcy likelihood. However, higher social dimension levels of CSP can mitigate the risk of financial default during subsequent crisis periods. Therefore, CSP investments during upswings, although not immediately beneficial, can help balance bankruptcy risk across economic cycles. This suggests that CSP acts as a mechanism for balancing bankruptcy risk across economic cycles, as posited by Habermann and Fisher (2021), echoing the stakeholder-oriented, insurance-like effect of CSP highlighted by Bouslah et al. (2016).

Ultimately, these findings underscore the applicability fresh perspectives brought forth by Habermann and Fischer (2021) to an emerging market environment, highlighting the importance of stakeholder theory in understanding CSP effects, which remains relevant across economic cycles even when immediate impacts are less apparent.

5. CONCLUSION

While prior research has primarily concentrated on analysing the relationship between CSP and financial distress during recessionary phases within a developed market context, this study heeds the call made by Habermann and Fisher (2021) to expand the literature across economic cycles within a developing market context. The findings of this study is consistent with Haberman and Fischer (2021), revealed that increasing CSP during periods of economic prosperity increases bankruptcy likelihood, with governance playing a pivotal role. Investments in the environmental and social pillars, however, exhibited no discernible impact. Moreover, findings align with prior crisis literature, indicating that bolstering investment in the social dimension of CSP reduces firm BL during economic downturns.

Contributions to the scholarly discourse are multifaceted. Firstly, while many studies have primarily examined CSP through the lens of financial success (Friede et al., 2015), there is limited research on CSP's

role in mitigating firm failure or bankruptcy. Additionally, existing studies have largely focused on mature markets, often neglecting the unique dynamics of emerging markets and the varying effects of CSP across different economic phases (Haberman and Fischer, 2021). This study addresses these gaps and provides novel insights by exploring the relationship between CSP and firm bankruptcy likelihood in an emerging market context, covering both periods of economic growth and decline.

Second, building on the foundational work of Haberman and Fischer (2021), the findings of this study extend their fresh perspectives brought forth on stakeholder theory in understanding the impact of CSP on firm bankruptcy across economic cycles to an emerging market context. By offering insights into the optimal timing of CSP investments to mitigate firm bankruptcy risks, this research provides actionable guidance for policymakers, firms, and investors alike. Overall, policymakers ought to encourage firms to allocate resources to CSP during stable economic conditions as a precautionary measure against subsequent crises, notwithstanding the initial negative impact of CSP. Firm management can leverage CSP as a strategic tool to effectively manage financial risks. Investment practitioners, including investors and asset managers, can utilise the understanding of the relationship between CSP and a firm's susceptibility to financial distress for better investment decision-making and portfolio management. These contributions are particularly pertinent given the significant impact of corporate failures on macroeconomic and societal objectives in emerging economies.

Third, while prior studies focused on specific governance or environmental and social pillars, the holistic methodology employed in this research differentiates between distinct ESG pillars, acknowledging that just as uniform governance practices have been found to be counterproductive across firms (Darrat et al., 2014), prioritising different facets of the social and environmental pillars can similarly yield diverse outcomes among firms of different sizes and industries.

Lastly, this research enriches the literature on firm financial distress determinants by advancing our understanding of key dimensions of CSP that influence firm financial distress. It underscores the importance of firms aligning their practices with ESG societal norms and expectations and contributes to the evolving recognition of CSP, or elements thereof, as an important component of firms' risk management strategies.

Despite these contributions, several limitations warrant acknowledgment.

Firstly, the focus on a specific multivariate proxy model tailored for South Africa, the De la Rey K-score, may limit the applicability of findings to firms in other emerging market contexts. Moreover, South Africa is considered one of the more developed emerging markets with robust institutions and financial markets, potentially restricting broader generalisability.

Secondly, the study's scope was confined to non-financial and non-real estate firms listed on the JSE, which restricts the findings' relevance to sectors excluded from the analysis. Additionally, the study's temporal scope covered economic cycles from 2008 to 2023, and as economic conditions and regulatory

environments evolve, the relationship between CSP and firm financial distress may vary, necessitating ongoing examination in future studies.

Thirdly, despite efforts to mitigate survivorship, concerns remain about the effectiveness of these measures. The absence of ESG and financial data for delisted firms highlights ongoing challenges in addressing survivorship bias adequately, potentially compromising statistical robustness and introducing biases in regression estimates.

Fourthly, while methodologies from Fernando et al. (2017), Flammer (2015), and Haberman and Fischer (2021) were employed to address endogeneity concerns, complete elimination of endogeneity risks is challenging. Advanced techniques like IV regression, though beyond this study's scope, could offer further refinement in future research.

Lastly, while the study utilised high-quality CSP measurement as advocated by various researchers Haberman and Fischer (2021), the complexity of CSP extends beyond the three basic ESG dimensions. Individual ESG dimensions comprise numerous aspects, each potentially influencing firm financial distress differently across industries. Incorporating these diverse aspects into analysis could provide deeper insights into sub-pillar effects within specific industries.

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