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KEYWORDS	ABSTRACT
Corporate Social Responsibility; Board Gender Diversity; Default Risk; Altman Z-score; ESG; Corporate Governance; Asian Emerging Economies	Corporate default risk remains a significant concern for investors, creditors, managers, and regulatory authorities because it reflects a firm's ability to sustain financial stability and meet its financial commitments. This study examines the relationship between corporate social responsibility (CSR) performance and board gender diversity (BGD) with default risk among listed non-financial firms in Pakistan, India, China, Malaysia, and Thailand over the period 2011 to 2023. The study uses firm-level secondary data collected from Thomson Reuters DataStream, comprising 7,023 firm-year observations. CSR performance is measured through Asset4 environmental and social scores, board gender diversity is assessed using the Blau heterogeneity index, and corporate default risk is evaluated using the Altman Z-score. The Hausman specification test supports the use of the Random Effects model for empirical analysis. The findings indicate that stronger environmental and social performance, along with greater board gender diversity, are positively associated with financial stability and lower default risk. Since a higher Altman Z-score represents better financial health and a reduced likelihood of distress, the results suggest that responsible corporate practices and inclusive governance mechanisms contribute to improving firms' resilience. The analysis further shows that profitability, firm size, liquidity, and operating cash flow enhance financial stability, whereas higher leverage increases financial vulnerability. The model demonstrates substantial explanatory power in predicting variations in corporate default risk. Overall, the findings support stakeholder and agency theory perspectives by highlighting that CSR engagement and diverse board structures can complement traditional financial factors in strengthening corporate sustainability and reducing the likelihood of financial distress.
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Introduction

Corporate default risk refers to the possibility that a firm will be unable to meet its contractual financial obligations. Its importance extends beyond the individual company because corporate distress can affect creditors, shareholders, employees, suppliers, and confidence in financial markets. Classical default-risk research has therefore focused on financial condition, leverage, profitability, liquidity, and market-based measures of solvency. Altman's (1968) bankruptcy-prediction framework and Merton's (1974) structural credit-risk model remain foundational examples of this tradition, while Vassalou and Xing (2004) illustrate the continuing relevance of default risk for asset pricing and investment decisions.

Financial indicators, however, do not fully capture the governance and stakeholder relationships that can shape a firm's resilience. Corporate Social Responsibility (CSR) has evolved from a largely philanthropic concept into a strategic practice encompassing environmental responsibility, employee and community relationships, ethical conduct, transparency, and broader stakeholder accountability. Responsible firms may face fewer reputational and regulatory disruptions, may enjoy stronger stakeholder trust, and may experience more stable financing conditions. Research has linked CSR to lower firm risk and financial distress, including evidence from Jo and Na (2012), Boubaker et al. (2020), Do (2022), and Chen et al. (2023).

Board gender diversity has also become an important corporate-governance issue. A diverse board can broaden the range of perspectives brought to monitoring, strategic deliberation, and risk oversight. Prior studies associate female representation with stronger monitoring and changes in risk-related decision making, while also recognizing that such effects are context dependent and should not be reduced to simple gender stereotypes (Adams & Ferreira, 2009; Croson & Gneezy, 2009; Faccio et al., 2016). Recent work also links meaningful female board representation to default risk (Abinzano et al., 2023).

The relevance of these issues is particularly strong in emerging Asian markets. Firms in Pakistan, India, China, Malaysia, and Thailand operate under different institutional, regulatory, and capital-market conditions, while facing common pressures related to financial volatility, changing sustainability expectations, and governance reform. The thesis underlying this paper therefore focuses on listed non-financial firms from these five economies over a thirteen-year period. The multi-country setting allows the analysis to examine whether non-financial governance attributes retain explanatory relevance after traditional financial controls are included.

A central research gap motivates the study. Existing work has often examined CSR and board diversity separately, while comparatively limited research places CSR dimensions and board gender diversity together in a default-risk model, particularly in selected Asian emerging economies. In addition, treating CSR as a single composite construct may conceal distinct environmental and social pathways. Environmental performance can affect compliance exposure, operational efficiency, and long-term resource risk; social performance can affect employee stability, stakeholder trust, reputation, and access to relational resources. The empirical

specification therefore separates environmental and social CSR scores and considers board gender diversity alongside core financial controls.

The study has two primary objectives: (1) to examine the relationship between corporate social responsibility and default risk, and (2) to assess whether board gender diversity is associated with default risk. For empirical testing, CSR is represented by its environmental and social components. The analysis also evaluates profitability, firm size, leverage, liquidity, and operating cash flow as control variables so that the contribution of governance and sustainability factors can be interpreted in the context of established financial determinants.

This paper extends the shorter conceptual paper by incorporating the methodology and empirical findings reported in the larger thesis. It presents a unified research article in which the theoretical argument, measurement strategy, panel-data design, statistical results, discussion, implications, limitations, and references are aligned with the reported empirical evidence.

Literature Review and Hypothesis Development

Corporate Social Responsibility and Default Risk

CSR integrates economic, environmental, social, and ethical considerations into corporate decision making beyond minimum legal compliance. In stakeholder terms, the firm depends on relationships with customers, employees, suppliers, creditors, investors, regulators, and communities. Responsible conduct can create intangible assets such as trust, legitimacy, reputation, and stakeholder cooperation. Freeman's (1984) stakeholder perspective provides a direct theoretical basis for viewing these relationships as economically relevant rather than merely peripheral social commitments.

The risk-reduction argument rests on several mechanisms. First, responsible environmental and social practices can reduce the likelihood of regulatory penalties, litigation, reputational damage, stakeholder conflict, and operational interruption. Second, CSR disclosure can improve transparency and reduce information asymmetry, strengthening investor and creditor confidence. Kim et al. (2014) link CSR with transparency-related capital-market outcomes, while Jo and Na (2012) document a risk-reduction role for CSR. Third, stronger stakeholder relationships may stabilize sales, employee commitment, and access to finance during periods of stress. Lins et al. (2017) similarly emphasize the value of social capital and trust during adverse conditions.

Empirical evidence directly connecting CSR with financial distress is increasingly supportive. Boubaker et al. (2020) find that CSR can reduce financial distress risk, and Do (2022) reports international evidence linking CSR with lower default risk. Chen et al. (2023) further connect managerial ability toward CSR with enterprise default risk. Together, these studies support the proposition that sustainability practices can have measurable financial-risk consequences, although the magnitude and channels may differ across contexts.

The present study operationalizes CSR through two Thomson Reuters Asset4 pillars. The environmental score captures resource use, emissions, and innovation-related performance, whereas the social score captures workforce issues, human rights, community relationships, and product responsibility. These two dimensions are jointly used to test the first hypothesis concerning the impact of CSR on default risk. Because a higher Altman Z-score represents stronger financial health and lower default risk, positive coefficients on the CSR dimensions indicate a risk-reducing relationship.

Board Gender Diversity and Default Risk

Board gender diversity refers to the representation of women and men in corporate board membership. Agency theory views the board as an important monitoring mechanism that can constrain managerial opportunism and improve accountability. Jensen and Meckling (1976) explain how conflicts between managers and shareholders arise when incentives and information are misaligned. A board with broader perspectives may strengthen scrutiny of financing, investment, reporting, and risk decisions, thereby reducing the likelihood that unchecked managerial choices increase financial vulnerability.

Prior governance research reports that women directors may contribute to monitoring intensity, board attendance, ethical oversight, and deliberative diversity. Adams and Ferreira (2009) provide influential evidence on women in the boardroom and governance. Fields et al. (2012) link board quality to debt financing conditions, and Datta et al. (2021) examine executive and board gender in financing decisions. Research on risk preferences also reports average gender differences in some experimental and financial settings (Byrnes et al., 1999; Croson & Gneezy, 2009), while Faccio et al. (2016) associate female leadership with corporate risk-taking and capital allocation.

These findings should be interpreted as governance mechanisms rather than deterministic claims about individual directors. Professional experience, board culture, institutional context, and the degree of meaningful participation all matter. The relevant theoretical proposition is that gender diversity can reduce groupthink and improve the breadth of monitoring and discussion. Cumming et al. (2015) connect gender diversity with lower securities fraud, and Abinzano et al. (2023) specifically examine meaningful board representation in relation to default risk. Nadaraja et al. (2020) likewise investigate board gender diversity and default risk in a global setting.

In the present study, gender diversity is measured using the Blau heterogeneity index. For two gender categories, the index ranges from 0, indicating a single-category board, to 0.5, indicating equal representation. A higher value therefore reflects greater gender heterogeneity. If diverse boards strengthen monitoring and risk discipline, a higher Blau index should be associated with a higher Altman Z-score and consequently lower default risk, providing the empirical basis for H2.

Default Risk and Financial Controls

Default risk is fundamentally linked to a firm's capacity to generate resources sufficient to meet debt obligations. Altman (1968) demonstrated that combinations of accounting ratios can distinguish financially healthy from distressed firms. Merton (1974) conceptualized default structurally as a state in which asset value becomes insufficient relative to liabilities, and Vassalou and Xing (2004) further show the importance of default likelihood for market outcomes. These perspectives justify controlling for core financial characteristics even when the main explanatory variables are non-financial governance measures.

The model therefore includes profitability, firm size, leverage, liquidity, and operating cash flow. Profitability and cash flow reflect internal resource generation; liquidity reflects short-term payment capacity; firm size can capture diversification and access to capital; and leverage captures fixed debt obligations and financial pressure. The inclusion of these variables reduces the risk of attributing to CSR or board composition what may instead be explained by traditional balance-sheet strength.

Theoretical Framework

Stakeholder theory explains the CSR channel. By investing in environmental and social responsibility, firms can strengthen relationships with stakeholders who provide resources, legitimacy, and support. These relational assets may reduce operational disruptions and financing frictions, supporting stronger debt-servicing capacity. This logic is consistent with evidence linking CSR to reputation, stakeholder trust, and financial resilience (Freeman, 1984; Boubaker et al., 2020).

Agency theory explains the board-governance channel. Where managerial incentives diverge from shareholder interests, effective board monitoring can constrain excessive leverage, opportunistic reporting, and high-risk investment. Gender diversity may increase cognitive heterogeneity and monitoring breadth, thereby improving the board's ability to challenge managerial decisions. This interpretation is consistent with Jensen and Meckling (1976), Adams and Ferreira (2009), and subsequent gender-diversity research.

Gender-socialization arguments provide an auxiliary behavioral perspective. Some literature reports average differences in risk preferences, competitiveness, and ethical sensitivity that may influence board deliberation (Byrnes et al., 1999; Croson & Gneezy, 2009). The present paper does not assume that such tendencies apply uniformly to all directors. Rather, it treats diversity as a mechanism that can broaden perspectives and reduce homogeneity in decision making.

A financial-distress perspective completes the framework. Even strong governance cannot eliminate the effects of high debt, weak liquidity, or inadequate cash generation. CSR and board diversity are therefore expected to complement rather than replace financial fundamentals. The

empirical model tests whether their associations with financial health remain significant after controlling for profitability, size, leverage, liquidity, and operating cash flow.

Conceptual Integration and Hypotheses

CSR and board gender diversity may also be conceptually complementary. Gender-diverse boards can place greater emphasis on stakeholder accountability and the quality of sustainability oversight, while credible CSR systems can provide boards with more transparent information about environmental and social exposures. The shorter paper proposed that firms combining stronger CSR with diverse boards may be more resilient than firms emphasizing only one mechanism. The thesis narrative likewise discusses possible complementarity. However, the reported empirical regression table contains direct effects rather than an interaction term; accordingly, this completed paper does not present moderation as an empirically tested result.

Based on the theoretical arguments and prior empirical evidence, the study proposes two research hypotheses. The first examines the impact of Corporate Social Responsibility on corporate default risk, while the second examines the impact of Board Gender Diversity on corporate default risk. CSR is empirically represented by its environmental and social dimensions, and default risk is evaluated through the Altman Z-score. The hypotheses are stated as follows:

H1: Corporate Social Responsibility (CSR) has a significant impact on corporate default risk.

H2: Board Gender Diversity (BGD) has a significant impact on corporate default risk.

Research Methodology

Research Design, Population, and Sample

The study adopts a quantitative, explanatory, and longitudinal research design consistent with a positivist and deductive approach. It tests theory-driven relationships using measurable firm-level variables and panel-data econometric techniques. The unit of analysis is the listed non-financial firm. Financial institutions are excluded because their regulatory capital requirements, supervisory structures, and risk frameworks differ materially from those of non-financial companies.

The target population comprises listed non-financial firms in Pakistan, India, China, Malaysia, and Thailand. The study period runs from 2011 through 2023, providing thirteen years of longitudinal coverage. Firms are selected purposively according to data availability: observations require information on CSR, board gender diversity, the default-risk proxy, and the financial control variables. Firms or firm-years with incomplete information are excluded. The empirical results report 7,023 firm-year observations.

Secondary annual data are obtained from Thomson Reuters DataStream, including Asset4 ESG indicators and firm financial information. The resulting panel combines cross-sectional variation

across firms and time-series variation across years. This design is appropriate for analyzing how sustainability, governance, and financial characteristics co-vary with firm financial health over time.

Variable Measurement

Operational definitions in this paper follow the definitions reported with the empirical results in the thesis so that the methodology is aligned with the variables actually used in Chapter 4. Table 1 presents the role, operational measure, and interpretation of each variable included in the empirical model.

Table 1. Variable definitions and operational measurement

Variable	Role	Operational measure	Interpretation
Altman Z-score (Z)	Dependent	$1.2X_1 + 1.4X_2 + 3.3X_3 + 0.64X_4 + 1.05X_5$	Higher = stronger financial health / lower default risk
Environmental Score (ES)	Independent	Thomson Reuters Asset4 environmental score, 0–100	Higher = stronger environmental performance
Social Score (SS)	Independent	Thomson Reuters Asset4 social score, 0–100	Higher = stronger social performance
Board Gender Diversity (BGD)	Independent	Blau index: $1 - \sum p_k^2$; range 0–0.5 for two categories	Higher = greater gender diversity
Profitability (PROF)	Control	Net income / total assets	Higher = stronger profitability
Firm Size (SIZE)	Control	Natural logarithm of total assets	Higher = larger firm
Leverage (LEV)	Control	Total debt / total assets	Higher = greater debt burden
Liquidity (LIQ)	Control	Current assets / current liabilities	Higher = greater short-term liquidity
Cash Flow Ratio (CFR)	Control	Operating cash flows / current liabilities	Higher = stronger operating cash-flow coverage

Note. X_1 = working capital / total assets; X_2 = retained earnings / total assets; X_3 = EBIT / total assets; X_4 = market value of equity / market value of total liabilities; X_5 = sales / total assets. The Z-score is a financial-health/default-risk proxy, not a literal probability. Higher values imply lower distress risk.

Empirical Model and Estimation

The direct-effects panel specification can be written as follows:

$$Z_{it} = \beta_0 + \beta_1 ES_{it} + \beta_2 SS_{it} + \beta_3 BGD_{it} + \beta_4 PROF_{it} + \beta_5 SIZE_{it} + \beta_6 LEV_{it} + \beta_7 LIQ_{it} + \beta_8 CFR_{it} + u_i + \varepsilon_{it}$$

where i indexes firms, t indexes years, u_i captures firm-specific effects, and ε_{it} is the idiosyncratic error term. Positive coefficients indicate higher Z -scores and therefore lower default risk; negative coefficients indicate weaker financial health and higher default risk.

The analysis proceeds through descriptive statistics, pairwise correlation analysis, panel-regression estimation, and a Hausman specification test to choose between Fixed Effects and Random Effects. The reported Hausman test favors Random Effects. Stata is used for data management, statistical analysis, hypothesis testing, and model estimation.

Because the data are observational, the reported coefficients are interpreted as conditional associations rather than definitive causal effects. This distinction is especially important because governance and CSR choices may themselves be influenced by firm financial condition.

Empirical Results

Descriptive Statistics

Table 2 presents the descriptive statistics for the dependent, independent, and control variables used in the analysis. The reported means and standard deviations summarize the central tendency and dispersion of CSR performance, board gender diversity, default-risk conditions, and firm-level financial characteristics across the study sample.

Table 2. Descriptive statistics of study variables

Variable	Mean	Standard deviation
Environmental Score (ES)	38.564	25.253
Social Score (SS)	43.998	24.357
Altman Z-score	4.003	57.061
Board Gender Diversity (BGD)	0.092	0.141
Profitability	0.205	0.081
Firm Size	17.889	2.264
Leverage	0.116	0.213
Liquidity	27.317	47.463
Cash Flow Ratio	7.278	18.554

Note. The table reports the mean and standard deviation for the variables used in the empirical analysis.

As shown in Table 2, the Environmental Score has a mean of 38.564 with a standard deviation of 25.253, while the Social Score has a mean of 43.998 with a standard deviation of 24.357, indicating considerable variation in CSR performance across firms. The Altman Z-score records a

mean of 4.003 and a standard deviation of 57.061, showing substantial dispersion in financial health and default-risk conditions. Board Gender Diversity has a mean Blau index of 0.092 with a standard deviation of 0.141, which is low relative to the theoretical maximum of 0.5 and indicates limited gender heterogeneity across boards. Among the control variables, profitability averages 0.205 (SD = 0.081), firm size 17.889 (SD = 2.264), and leverage 0.116 (SD = 0.213). Liquidity has a mean of 27.317 (SD = 47.463), while the Cash Flow Ratio has a mean of 7.278 (SD = 18.554), both displaying substantial cross-firm dispersion. Overall, Table 2 confirms meaningful heterogeneity in sustainability, governance, and financial characteristics, supporting the use of multivariate panel analysis to evaluate the study relationships.

Correlation Analysis

Table 3 reports the Pearson correlation matrix for the dependent, independent, and control variables. Pearson correlation analysis was conducted to examine the direction and strength of the linear relationships among the study variables before estimating the panel regression models. The matrix provides preliminary evidence regarding the associations among the variables and serves as an initial diagnostic assessment of potential multicollinearity. Although correlation analysis does not establish causal relationships, it indicates the extent to which the variables move together and whether the observed associations are consistent with the theoretical expectations of the study.

Table 3. Pearson correlation matrix

Variable	CDR	CSR	BGD	Firm Size	LEV	Profitability	Cash Flow
CDR	1.000						
CSR	0.384***	1.000					
BGD	0.241***	0.417***	1.000				
Firm Size	0.308***	0.529***	0.286**	1.000			
LEV	-0.451**	-0.183*	-0.097*	0.274***	1.000		
Profitability	0.597***	0.296***	0.161**	0.231***	-0.402**	1.000	
Cash Flow	0.463***	0.228***	0.082*	0.147**	-0.291***	0.611***	1.000

*Note. This table reports Pearson correlation coefficients among the study variables. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively. Correlation coefficients below 0.80 indicate that severe pairwise multicollinearity is unlikely (Gujarati & Porter, 2003).*

Interpretation

Table 3 presents the Pearson correlation coefficients among the study variables. The results indicate that Corporate Default Risk (CDR), measured through Altman's Z-score, is positively and significantly correlated with Corporate Social Responsibility (CSR) ($r = 0.384$, $p < 0.01$) and Board Gender Diversity (BGD) ($r = 0.241$, $p < 0.01$). These preliminary findings suggest that firms with stronger CSR engagement and greater gender diversity on boards tend to exhibit higher financial stability and lower default risk.

Among the explanatory variables, CSR demonstrates a moderate positive association with BGD ($r = 0.417$) and Firm Size ($r = 0.529$), suggesting that larger firms and firms with more diverse boards generally demonstrate stronger CSR engagement. Profitability and Cash Flow show the strongest correlation among the control variables ($r = 0.611$, $p < 0.01$), reflecting the expected relationship between operating performance and internally generated liquidity.

The control variables also demonstrate theoretically consistent relationships. Profitability ($r = 0.597$, $p < 0.01$), Cash Flow ($r = 0.463$, $p < 0.01$), and Firm Size ($r = 0.308$, $p < 0.01$) are positively associated with CDR, whereas Leverage shows a negative relationship with CDR ($r = -0.451$, $p < 0.01$), indicating that higher leverage is associated with increased financial vulnerability.

Importantly, none of the pairwise correlation coefficients exceeds the commonly accepted threshold of 0.80, indicating that severe multicollinearity is unlikely to affect the regression estimates. However, since correlation analysis alone cannot fully diagnose multicollinearity, Variance Inflation Factor (VIF) analysis is subsequently conducted to provide additional confirmation before estimating the panel regression models.

Model Selection: Hausman Test

Table 4 reports the Hausman specification test used to choose between the Fixed Effects and Random Effects estimators. The reported chi-square statistic is 14.67 with $p = .192$. Because the p -value exceeds .05, the null hypothesis that the Random Effects estimator is consistent is not rejected. The study therefore proceeds with the Random Effects specification.

Table 4. Hausman specification test

Statistic	Reported value
Chi-square	14.67
p-value	.192
Selected model	Random Effects

Decision rule used in the thesis: $p > .05$ supports retaining the Random Effects specification.

Random Effects Regression Results

Table 5 presents the reported Random Effects regression estimates. The dependent variable is the Altman Z-score. This orientation is important because a positive coefficient indicates stronger financial health and therefore lower default risk, while a negative coefficient indicates greater financial vulnerability.

Table 5. Random Effects regression: dependent variable = Altman Z-score

Predictor	Coefficient	Std. error	t-value	p-value
Environmental Score (ES)	0.018	0.006	3.00	.002

Social Score (SS)	0.011	0.004	2.75	.006
Board Gender Diversity (BGD)	0.022	0.010	2.20	.028
Profitability	0.041	0.008	5.12	<.001
Firm Size	0.009	0.002	4.50	<.001
Leverage	−0.038	0.007	−5.43	<.001
Liquidity	0.027	0.005	5.40	<.001
Cash Flow Ratio (CFR)	0.014	0.004	3.50	.001
Constant	0.472	0.033	14.30	<.001

Model statistics reported in the thesis: $N = 7,023$; overall $R^2 = .388$; within $R^2 = .275$; between $R^2 = .482$; $\chi^2 = 1,246.88$; $Prob > \chi^2 < .001$.

Environmental performance is positively and significantly associated with the Z-score ($\beta = .018$, $p = .002$). Holding other variables constant, firms with stronger environmental scores exhibit higher financial-health scores and lower inferred default risk. This result provides support for H1 and is consistent with the view that resource efficiency, environmental compliance, and reduced exposure to environmental controversies can strengthen corporate resilience.

Social performance is likewise positive and statistically significant ($\beta = .011$, $p = .006$). Firms performing more strongly on workforce, human-rights, community, and product-responsibility dimensions have higher Z-scores after controls. Together with the environmental result, this finding provides further support for H1 and is consistent with stakeholder-based mechanisms involving trust, reputation, employee stability, and relational capital.

Board gender diversity is positive and significant ($\beta = .022$, $p = .028$). Greater gender heterogeneity on the board is therefore associated with stronger financial health and lower default risk, supporting H2. The finding accords with agency-based arguments that broader board representation can strengthen monitoring, deliberation, and risk oversight.

All five financial controls are statistically significant in the reported model. Profitability ($\beta = .041$), firm size ($\beta = .009$), liquidity ($\beta = .027$), and cash flow ($\beta = .014$) increase the Z-score, while leverage reduces it ($\beta = -.038$). These patterns reinforce the importance of traditional financial fundamentals: governance and sustainability variables add explanatory value, but debt burden, profitability, liquidity, and internally generated cash remain central to solvency.

The overall R^2 of .388 indicates that the included CSR, governance, and financial variables jointly explain 38.8% of the reported variation in the dependent variable. This leaves substantial unexplained variation, which is expected in cross-country firm-level default-risk research and suggests room for macroeconomic, industry, institutional, and dynamic factors in future models.

Hypothesis Decisions

Table 6. Summary of hypothesis tests

Hypothesis	Empirical result	Decision
H1: CSR has a significant impact on corporate default risk	ES: $\beta = .018$, $p = .002$; SS: $\beta = .011$, $p = .006$	Supported
H2: BGD has a significant impact on corporate default risk	$\beta = .022$, $p = .028$	Supported

Table 6 summarizes the hypothesis decisions. H1 is tested through both the environmental and social dimensions of CSR, while H2 is tested through the board gender diversity coefficient.

Discussion

The empirical findings indicate that CSR and board gender diversity are relevant to firm financial stability even after conventional financial characteristics are controlled. The positive coefficients on environmental and social scores imply that sustainability performance is associated with stronger Altman Z-scores. In substantive terms, the findings support the central proposition of the original paper: CSR is not only a reputational or ethical activity but can also function as a risk-management and resilience mechanism.

The environmental result is consistent with a pathway through compliance, resource efficiency, innovation, and reduced exposure to environmental disruption. Firms that manage environmental issues more effectively may face fewer regulatory penalties and operational shocks and may be better positioned to respond to stakeholder and financing expectations. The significant environmental coefficient is therefore consistent with broader evidence that responsible practices can influence financial risk (Jo & Na, 2012; Boubaker et al., 2020; Do, 2022).

The social result highlights a distinct relational pathway. Employee welfare, human rights, community engagement, and product responsibility can strengthen trust and reduce stakeholder conflict. These relationships may support customer loyalty, employee commitment, and creditor confidence during periods of stress. Stakeholder theory is especially relevant here because it links the firm’s continued access to resources and legitimacy to the quality of its relationships with parties beyond shareholders (Freeman, 1984).

The board gender diversity result supports the proposition that board composition has implications for financial risk. Agency theory suggests that boards reduce managerial opportunism through oversight and challenge. Greater gender heterogeneity may broaden the information and perspectives available in board deliberations, reducing groupthink and supporting more careful scrutiny of financing and investment choices. The finding is consistent with prior evidence on women in governance and risk-related outcomes (Adams & Ferreira, 2009; Faccio et al., 2016; Abinzano et al., 2023).

The control variables reinforce the limits of a purely non-financial explanation. Profitability, liquidity, cash generation, and size are positively associated with financial health, whereas leverage is negatively associated with the Z-score. Thus, responsible governance appears to work alongside, not instead of, sound balance-sheet management. The source thesis also notes that the magnitudes of several financial coefficients are larger than the CSR coefficients, which is consistent with the expectation that default risk remains fundamentally tied to financial capacity.

The bivariate correlation results and multivariate estimates are not identical. For example, environmental performance has a very small negative simple correlation with the Z-score but a positive coefficient after controls. This difference highlights the importance of multivariate analysis, as simple correlations fail to isolate the effect of correlated financial and governance characteristics. The Random Effects estimates provide the principal basis for hypothesis decisions in this paper.

The conceptual literature suggests that CSR and gender-diverse boards may reinforce one another, because diverse boards may support more credible sustainability oversight and stronger stakeholder orientation. Nevertheless, the reported regression table does not include CSR $\times$ BGD interaction terms. The present results therefore, establish significant direct associations but do not empirically demonstrate moderation or synergy. Testing that complementarity remains a logical next step.

Implications

Theoretical Implications

The findings extend stakeholder theory by linking environmental and social responsibility to a concrete financial-health outcome. Stakeholder relationships are often discussed in terms of reputation or performance; the present evidence suggests that they are also relevant to solvency and distress risk. CSR can therefore be viewed as part of the firm's broader risk infrastructure.

The results also extend agency-based governance reasoning by showing that demographic board diversity is associated with financial stability after controlling for conventional firm characteristics. This broadens the governance discussion beyond board independence and ownership structure to include the composition of the monitoring body itself. At the same time, the findings should be interpreted as evidence of association rather than proof that gender composition alone causes changes in default risk.

Managerial and Board Implications

Managers should treat CSR as an integrated strategic and risk-management function rather than an isolated philanthropic activity. Environmental programs that reduce resource waste and regulatory exposure, and social programs that strengthen workforce and stakeholder relationships, can support resilience when they are connected to core operating and governance processes.

Boards should also consider diversity as part of governance effectiveness. Meaningful representation should be accompanied by participation, expertise, access to information, and a board culture that enables directors to challenge assumptions. The evidence does not imply that diversity substitutes for financial discipline: the negative leverage coefficient and positive profitability, liquidity, and cash-flow coefficients show that capital structure and operating strength remain essential.

Implications for Investors and Creditors

Investors, banks, and other creditors may use environmental performance, social performance, and board diversity as supplementary indicators in credit and risk screening. These variables should not replace established solvency measures, but they can provide additional information about governance quality, stakeholder exposure, and long-term resilience. Firms with weak CSR and low board diversity may warrant closer qualitative review, especially when leverage is high or liquidity and cash generation are weak.

Policy Implications

For regulators and policymakers in emerging Asian economies, the findings support continued emphasis on transparent sustainability reporting and meaningful board-diversity practices. Better-quality non-financial disclosure can improve the information available to capital providers, while governance reforms that expand effective participation in boards may strengthen oversight. Policy design should focus on substantive implementation and disclosure quality rather than symbolic compliance alone.

Conclusion, Limitations, and Future Research

Conclusion

This study examines the relationship between corporate social responsibility, board gender diversity, and default risk among listed non-financial firms in Pakistan, India, China, Malaysia, and Thailand over 2011–2023. Using Thomson Reuters DataStream data, Asset4 environmental and social scores, the Blau index of board gender diversity, and the Altman Z-score as a financial-health/default-risk proxy, the study estimates a Random Effects panel model on 7,023 firm-year observations.

The reported evidence supports both research hypotheses. Environmental CSR and social CSR are positively and significantly associated with the Altman Z-score and are therefore associated with lower default risk, jointly supporting H1. Board gender diversity is also positively and significantly associated with the Altman Z-score, supporting H2. Profitability, firm size, liquidity, and operating cash flow strengthen financial health, while leverage increases financial vulnerability. The results reinforce the view that responsible and inclusive governance can contribute to resilience, while strong financial fundamentals remain indispensable.

The completed paper therefore moves beyond the original conceptual review by integrating the thesis methodology and empirical results into a single article-style narrative. Its central conclusion is that sustainability and board composition provide useful non-financial information about firm stability when evaluated alongside traditional financial determinants.

Limitations

First, the sample is limited to selected non-financial firms in five Asian economies, which constrains generalizability to other regions, institutional settings, financial institutions, or unlisted companies. Second, the sampling process depends on the availability and quality of DataStream/Asset4 information, so database coverage and measurement choices may influence the final sample and variables.

Third, the empirical model reported in the thesis is a static Random Effects specification. It does not fully address dynamic persistence, reverse causality, or other sources of endogeneity. Fourth, the dependent variable is an Altman Z-score proxy rather than a directly estimated probability of default; terminology should therefore distinguish financial health from literal default probability. Fifth, CSR is represented by environmental and social pillars, while the governance pillar is excluded. Finally, although the theoretical discussion proposes complementarity between CSR and board gender diversity, the reported regression table does not include interaction terms, so moderation remains untested in the evidence presented here.

Future Research

Future studies can address these limitations by estimating dynamic panel models such as Generalized Method of Moments (GMM), incorporating lagged default-risk measures, and using alternative structural credit-risk proxies such as distance-to-default. Replication with verified raw statistical outputs would also allow more comprehensive diagnostic and robustness testing.

Research can further compare emerging and developed economies, examine sector-specific effects, and test how institutional quality or macroeconomic conditions such as interest rates, inflation, and GDP growth alter the CSR–default risk relationship. An explicit CSR × BGD interaction model would directly test the conceptual complementarity proposed in the literature. Qualitative interviews with directors and executives could complement panel evidence by explaining how sustainability and diversity influence actual board risk decisions.

References

- Abinzano, I., Martinez, B., & Poletti-Hughes, J. (2023). Women in power with power: The influence of meaningful board representation on default risk. *International Review of Financial Analysis*, 89, 102771.
- Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics*, 94(2), 291–309.

- Altman, E. I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *Journal of Finance*, 23(4), 589–609.
- Attig, N., El Ghouli, S., Guedhami, O., & Suh, J. (2013). Corporate social responsibility and credit ratings. *Journal of Business Ethics*, 117(4), 679–694.
- Bear, S., Rahman, N., & Post, C. (2010). The impact of board diversity and gender composition on CSR and firm reputation. *Journal of Business Ethics*, 97(2), 207–221.
- Becchetti, L., Ciciretti, R., Hasan, I., & Kobeissi, N. (2012). Corporate social responsibility and shareholder's value. *Journal of Business Research*, 65(11), 1628–1635.
- Boubaker, S., Cellier, A., Manita, R., & Saeed, A. (2020). Does corporate social responsibility reduce financial distress risk? *Economic Modelling*, 91, 835–851.
- Byrnes, J. P., Miller, D. C., & Schafer, W. D. (1999). Gender differences in risk taking: A meta-analysis. *Psychological Bulletin*, 125(3), 367.
- Carroll, A. B. (1991). The pyramid of corporate social responsibility. *Business Horizons*, 34(4), 39–48.
- Chen, H., Ho, K. C., Zhang, M., & Zhang, Q. (2023). Effect of managerial ability toward corporate social responsibility on enterprise default risk. *Finance Research Letters*, 54, 103700.
- Croson, R., & Gneezy, U. (2009). Gender differences in preferences. *Journal of Economic Literature*, 47(2), 448–474.
- Cumming, D., Leung, T. Y., & Rui, O. (2015). Gender diversity and securities fraud. *Academy of Management Journal*, 58(5), 1572–1593.
- Datta, S., Doan, T., & Toscano, F. (2021). Top executive gender, board gender diversity, and financing decisions: Evidence from debt structure choice. *Journal of Banking & Finance*, 125, 106070.
- Do, T. K. (2022). Corporate social responsibility and default risk: International evidence. *Finance Research Letters*, 44, 102063.
- Faccio, M., Marchica, M. T., & Mura, R. (2016). CEO gender, corporate risk-taking, and the efficiency of capital allocation. *Journal of Corporate Finance*, 39, 193–209.
- Fields, L. P., Fraser, D. R., & Subrahmanyam, A. (2012). Board quality and the cost of debt capital: The case of bank loans. *Journal of Banking & Finance*, 36(5), 1536–1547.
- Freeman, R. E. (1984). *Strategic Management: A Stakeholder Approach*. Pitman.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.
- Jo, H., & Na, H. (2012). Does CSR reduce firm risk? Evidence from controversial industry sectors. *Journal of Business Ethics*, 110(4), 441–456.
- Kim, Y., Li, H., & Li, S. (2014). Corporate social responsibility and stock price crash risk. *Journal of Banking & Finance*, 43, 1–13.
- Lins, K. V., Servaes, H., & Tamayo, A. (2017). Social capital, trust, and firm performance. *Journal of Finance*, 72(4), 1785–1824.
- Merton, R. C. (1974). On the pricing of corporate debt: The risk structure of interest rates. *Journal of Finance*, 29(2), 449–470.
- Nadaraja, S., Huang, A., Liu, B., & Ali, S. (2020). Does board gender diversity reduce default risk? A global analysis. *Academy of Management Proceedings*, 2020(1), 14718.
- Vassalou, M., & Xing, Y. (2004). Default risk in equity returns. *The Journal of Finance*, 59(2), 831–868.

- Van der Merwe, J., & Al Achkar, Z. (2022). Data responsibility, corporate social responsibility, and corporate digital responsibility. *Data & Policy*, 4, e12.
- Zamir, F., Shailer, G., & Saeed, A. (2022). Do corporate social responsibility disclosures influence investment efficiency in the emerging markets of Asia? *International Journal of Managerial Finance*, 18(1), 28–48.