Ownership Diversity and Financial Distress: Evidence from Financial Sector Companies Listed on the Colombo Stock Exchange

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Abstract

This study examines the impact of ownership diversity on the financial distress of financial sector firms listed in the Colombo Stock Exchange (CSE). A stratified random selection was used to select a sample of 15 firms in the financial sector (4 commercial banks, 8 diversified financial institutions, and 3 insurance entities), and panel data from 2016 to 2024 (135 firm-year observations) were analyzed. The degree of ownership dispersion was measured using the modified Herfindahl-Hirschman Index (1-HHI) for six ownership categories, and financial distress was measured using Altman's revised Z"-Score (double-prime model), a framework for predicting financial distress for non-manufacturing and emerging-market firms. Hausman test confirmed the appropriateness of random-effects panel regression. The results computed with robust standard errors show that ownership diversity has no significant impact on financial distress, while leverage has a significant negative impact. The sub-sample analysis (pre-COVID-19 period (2016-2019) vis-à-vis COVID-19 and recovery period (2020-2024)) showed that the negative effect of leverage was aggravated during the pandemic, and firm size played a crucial role in reducing the impact, whereas ownership diversity remained insignificant throughout. The findings imply that financial risk management is the dominant factor for financial stability, overriding ownership structure, considering that the financial industry is well regulated, with implications for regulators, investors and corporate governance.

***Keywords*:** ownership diversity; financial distress; Altman Z"-Score; Herfindahl-Hirschman Index; COVID-19; Colombo Stock Exchange

1. Introduction

The corporate ownership structure has long been seen as an important determinant of the firm's corporate behavior, financial performance, and fiscal stability (Roberson et al., 2017). Ownership diversity, i.e., the distribution of ownership and power among different kinds of shareholders, influences managerial choices, the level of oversight, and the harmony of interests between managers and shareholders, and hence, the firm's financial distress risk (Santoso et al., 2022). Financial distress is a situation where a firm cannot meet its financial

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obligations. This is either because of the inability to service short-term debts or the need to reorganize obligations to avoid bankruptcy (Bogamuwa & Perera, 2022). Distress events are costly not only for shareholders but also for the broader economy, especially via the financial sector, which is the primary channel for capital allocation. Consequently, understanding the determinants of distress in financial institutions is of importance to regulators and policymakers. No worldwide findings are available about the connection between the ownership structure and the financial crisis. Some studies show that diversified ownership increases monitoring and reduces the probability of distress (Faccio & Lang, 2002; Jostarndt & Sautner, 2008). In some studies, ownership concentration is associated with a lower risk of distress because of increased monitoring by concentrated block holders (Li et al., 2008; Hu & Zheng, 2015; Rodrigues et al., 2024). Some researchers have found no significant correlation (Udin et al., 2017; Jodjana et al., 2021). This contradictory evidence calls for further empirical investigations, particularly for institutional settings that have been less explored by scholars. The study has mainly focused on the non-financial companies in Sri Lanka (e.g., Bogamuwa & Perera, 2022; Manawaduge & De Zoysa, 2013; Sugathadasa, 2019). Due to the historical differences in financial reporting requirements between the financial and non-financial sectors, a collective analysis has not been possible. This leaves a big gap. The financial sector, comprising banks, diversified financial institutions, and insurance companies, is arguably the sector of the economy that has the most consequential systemic impact from financial turbulence, but considering ownership diversity in Sri Lanka, it has not been empirically investigated.

This study explicitly addresses this gap by examining the impact of ownership diversity on the financial turbulence of financial sector firms listed on the CSE during the period 2016-2024. Ownership diversity is measured using the modified Herfindahl-Hirschman Index (1-HHI) with six ownership categories. Altman's revised Z"-Score (double prime model) is used to measure financial distress, which is a distress prediction model for non-manufacturing companies and emerging market settings (Altman, 2005). Furthermore, the analysis compares pre- COVID-19 (2016-2019) and COVID-19 and recovery (2020-2024) sub-groups to detect any structural change attributable to the COVID-19 pandemic. The study contributes to the existing literature in three ways: (i) extending the debate on ownership diversity and financial distress to an under-researched industry in Sri Lanka, (ii) using a measure of distress that is relevant to financial institutions as opposed to measures developed for the manufacturing sector, and (iii) directly examining the impact of the pandemic on the strength of the relationship.

2. Literature Review

Agency theory is based on the assumption that the relationship between shareholders (principals) and managers (agents) is a contractual agreement, in which the latter is delegated the responsibility for decision-making in return for the realization of the objective of the former (Jensen & Meckling, 1976). The assumption that both parties would act in their own self-interest creates a core conflict, known as the agency dilemma, which creates monitoring and bonding expenses (Eisenhardt, 1989; Van Puyvelde, 2013). While much research suggests that concentrated ownership aggravates this problem: a small number of blockholders wielding

excessive control could act in self-interest and harm minority shareholders, thus increasing agency conflict and, subsequently, financial turmoil (Donker et al., 2009; Mangena & Chamisa, 2008; Syifa et al., 2017). From this perspective, a more diversified ownership structure weakens control and reduces the possibility of any individual shareholder seeking personal benefits and thus improves internal monitoring and the governance environment (Bogamuwa & Perera, 2022). An alternative view is presented by the stewardship theory, which argues that managers are intrinsically motivated to act as accountable stewards of the organization, rather than as self-interested agents requiring tight control (Davis et al., 1997). Managers are better off advancing common organizational goals than pursuing individual profit (Neubaum et al., 2016). A united principal-steward relationship is more essential to improve firm performance than a fragmented ownership model (Eddleston & Kellermanns, 2007; Caldwell et al., 2002). The coexistence of these two theoretical views - one linking ownership diversity to lower distress through better oversight and the other proposing that governance quality works mostly independently of ownership distribution - accounts for the inconsistency of empirical results on this relationship across different contexts and sectors.

Ownership diversity is defined as the distribution of ownership and control between different stakeholders. Previous research has conceptualized ownership variety in quite different ways. According to Roberson et al. (2017), the concept of ownership structure of a company looks at who owns the company or discusses how individuals or organizations hold shares in a company. Hughes (2009) analyses the cash-flow rights of ultimate controllers; La Porta et al. (1999) examine the voting rights of the dominant shareholder; Elyasiani and Jia (2010) study institutional ownership; and Thomsen and Pedersen (2000) use the equity share of the largest single owner as an indicator of concentration. Management, family, institutional, and other block holder classifications of ownership (Donker et al., 2009). Among them, some researchers argue that diversified ownership structures contribute to better monitoring, less agency conflicts, and low risk of distress (Boubaker et al., 2018; Faccio & Lang, 2002). Some other researchers emphasize that diversified ownership can increase the chance of mismanagement, weaken control, and lead to more financial distress (Porta & Shleifer, 2000). The Herfindahl-Hirschman Index (HHI) and Blau's Index have become the most prevalent and methodologically sound measures of ownership dispersion as they take into account the relative shareholding of each category of ownership, rather than using a reference group (Bogamuwa & Perera, 2022; Yiğit & Anıl, 2012). In this study, the independent variable, ownership diversity, is measured using the modified Herfindahl-Hirschman Index (1 – HHI). The value received from the HHI ranges between zero and one. Higher HHI values indicate a highly diversified ownership structure, and lower HHI values indicate an ownership concentration.

There are also many rival forecasting models that have been adopted for financial distress. The tool most used to predict distress is the original Altman Z-Score (1968) based on five financial ratios. However, it was developed for manufacturing firms; Therefore, this original model may give misleading results when applied to banks or other financial services institutions. Banks and other financial institutions do not have sales and earn income through interest or premiums. Furthermore, since financial institutions often hold large amounts of assets, the asset turnover ratio (X5) is small, and as a result, the Z score is low, which can

indicate that even financial institutions with high financial health are financially distressed. Therefore, the Double Prime (revised Altman's Z"-score) model was developed to measure the financial distress of nonmanufacturing companies and companies operating in emerging markets (Altman, 2005; Gyawali, 2023). This model eliminates the asset turnover ratio, making it more suitable for measuring the financial distress of financial sector companies, including banks, insurance, and leasing companies. Other measures of distress are the Emerging Market Score (Bogamuwa & Perera, 2022) and Ohlson's (1980) O-Score, which is built on a logistic regression model incorporating the size of the business, total liabilities, operational performance, and liquidity.

There is empirical evidence for both sides of the theoretical spectrum. Faccio and Lang (2002) find that different ownership structures are associated with different monitoring and risk of distress. Jostarndt and Sautner (2008) also find that concentrated ownership is a significant indicator of financial distress. Santoso et al. (2022) find that managerial, institutional, and foreign ownership reduce distress risk in Indonesian manufacturing, while government ownership has no significant effect. However, Widhiadnyana (2020), using a similar Indonesian dataset in a similar time period, finds that managerial ownership is not significant when an audit committee is included, illustrating the sensitivity of these results to model specification.

By contrast, a large body of research shows that concentration of ownership rather than variety is associated with a lower risk of distress. Li et al. (2008) find that in China, the concentration of ownership in publicly listed companies reduces the likelihood of distress because large shareholders exercise better monitoring. Hu and Zheng (2015) and Rodrigues et al. (2024) reach a similar conclusion, arguing that concentrated blockholders, particularly family owners, are better equipped to make difficult decisions and utilize strong supplier relationships during adversity. Gerged et al. (2023 found a positive relationship between ownership concentration and financial distress, with institutional ownership and board independence reducing it, contradicting the common belief that concentration reduces distress and indicating a split in this area of research. Miglani et al. (2015) also finds an inverse association between director and blockholder ownership and the probability of distress, and emphasizes the protective role played by comprehensive corporate governance structures.

This uncertainty is evident in Sri Lanka's evidence. The study by Bogamuwa and Perera (2022) revealed that ownership diversity positively correlates with financial distress, and this is because the monitoring costs are higher in a more fragmented ownership structure. Manawaduge and De Zoysa (2013) state that ownership structure has no significant effect on firm performance. Sugathadasa (2019) finds mixed results, with positive and negative effects of managerial and block ownership on the performance of manufacturing firms. Importantly, none of these studies cover the financial sector, which has consistently been excluded from studies of ownership structures in Sri Lanka due to differences in financial reporting standards (Bogamuwa & Perera, 2022) - despite the financial sector's significant systemic importance and its recent vulnerability to severe macroeconomic pressures, including the 2022 economic crisis and the COVID-19 pandemic (Central Bank of Sri Lanka, 2023). Given this combination

of theoretical vagueness and a neglected institutional context, the this study tests the following hypothesis:

> *H_1: Ownership diversity has a significant impact on the financial distress of finance sector companies listed on the CSE.*

3. Methods

This research adopts a quantitative, positivist methodology; the correlation between ownership diversity and financial distress can be quantified and measured using objective numerical data (Saunders et al., 2023). The design is explanatory, relating ownership structure to distress outcomes. The study uses panel data that is a combination of cross-sectional and time-series observations. This design captures firm-specific heterogeneity well, while increasing degrees of freedom and reducing multicollinearity compared to pure cross-sectional designs (Hsiao, 2014).

The population includes all financial sector entities, namely commercial banks, diversified financial institutions, and insurance organizations that are registered with the CSE as at 30 September 2025, totaling 43 companies. Stratified random sampling technique was used to select fifteen firms from the population, with strata based on the institutional sub-type to ensure a proportional representation of each sub-type in the sector. Here, the first step is to split the total population into homogeneous strata as per the nature of the financial institution, i.e., banks, diversified financials (Finance and leasing companies), and insurance companies. The stratification ensures that every subsector of the financial industry is represented in the sample appropriately. After the creation of strata, companies are chosen at random within each stratum. The number of institutions selected from each stratum was determined proportionally, based on the representation within the entire financial sector companies of CSE. The final sample contains 4 commercial banks, 8 diversified financial institutions, and 3 insurance companies and is followed for the years 2016–2024 on a yearly basis, resulting in 135 firm-year observations. However, the relatively small sample size may reduce the statistical power to detect significant relationships, particularly where the effect sizes are relatively small. It may also affect the generalizability of the results because the 15 companies included in the study may not be reflective of all 43 companies in the financial sector listed on the Colombo Stock Exchange. Thus, the results are specific to the sample selected and the time frame of the study (2016-2024). Data were collected only from secondary sources, primarily audited annual financial statements adhering to Sri Lanka Accounting Standards, supplemented with Colombo Stock Exchange disclosures chosen for their reporting accuracy and economic consistency over a nine-year duration. The dependent variable: Financial distress is measured using Altman's (2005) revised Z"-Score as specified in equation 1.

$$Z'' = 6.56X1 + 3.26X2 + 6.72X3 + 1.05X4 \text{ ----------(1)}$$

X1 is working capital/total assets. X2 is retained earnings/total assets. X3 is EBIT/total assets. X4 is book value of equity/total liabilities. Entities with a score above 2.60 are classified as financially secure; those in the range of 1.10 to 2.60 are in a “grey zone” of moderate risk, and those below 1.10 are identified as in financial distress. Independent Variable - Ownership

Diversity. Ownership diversity is measured by the modified Herfindahl-Hirschman Index as soecified in equation 2.

$$HHI = 1 - \Sigma si^2 \ (i = 1 \ldots n) \text{ ----------(2)}$$

Where *si* represents the ownership proportion of each of the six classifications - domestic institutional, domestic individual, foreign institutional, foreign individual, government, and other ownership - and n = 6; the resulting index is in the interval [0,1], with higher values indicating a higher degree of dispersion of ownership and lower values indicating a higher degree of concentration. Control variables in accordance with Ting and Lean (2011) and Bogamuwa and Perera (2022): three organizational-level control variables are used: company size (natural logarithm of total assets), leverage (total debt/total assets), and profitability (net profit/total assets, ROA).

The relationship is tested using the panel regression model illustrated in equation 3. In the equation, *FD* is financial distress (Z"-Score), *OD* is ownership diversity, *FS* is firm size, *LEV* is leverage, *PR* is profitability, and εit is the error term for firm *i* in year *t*.

$$FDit = \beta_0 + \beta_1 ODit + \beta_2 FSit + \beta_3 LEVit + \beta_4 PRit + \varepsilon_{it} \text{ ----------(3)}$$

A Hausman specification test was used to assess whether fixed-effects or random-effects estimators were more appropriate. The chi-square statistic was 7.948 (p = .940), which does not reject the null hypothesis of no systematic variance between the two estimators, favoring the more efficient random-effects model. Robust standard errors were used for all the models to address the heteroscedasticity and autocorrelation often experienced in panel financial data (Bogamuwa & Perera, 2022). Pearson correlation analysis was used to identify bivariate relationships and multicollinearity, and Spearman's rank correlation was used as a robustness check because of the non-normality observed in some of the variables. To investigate whether the COVID-19 pandemic changed the association between ownership diversity and distress, the panel was further divided into pre-COVID-19 (2016–2019, n = 60) and COVID-19 and recovery period (2020–2024, n = 75) subsamples and re-evaluated independently, following the methodology of Begley et al. (1996), who suggest that distress models should be periodically re-examined to confirm the temporal consistency of their predictive associations.

4. Results and Findings

The average value of the Z-score of 0.588 is far below the distress threshold of 1.10, which indicates that, on average, the financial sector firms under study were in the distress zone during the study period. The wide range (-2.384 to 4.867) and high standard deviation (0.909) imply that there is a wide variation in the financial stability of the firms. The average ownership diversity was 0.391 (median 0.425), indicating a moderate level of ownership distribution amongst the financial enterprises listed on the CSE, which is consistent with the overall moderate ownership diversity amongst the CSE-listed entities (Uthayakumar, 2025). Leverage had a high mean (0.763) and high negative skewness (-1.139), indicating the debt-burdened capital structures typical of financial companies. The Z-score and profitability had a high

kurtosis of 6.806 and 6.463, respectively; thus, no outliers were removed from the sample to maintain data integrity. Robust standard errors were used to mitigate the effect of extreme values on the regression results.

The relationship between the diversity of ownership and the Z"-Score was not statistically significant (r = -.012, n = 135, p = .888). This means that there is no linear relationship between dispersion of ownership and financial distress in this sector. Neither did the size of the firm show a significant association with distress (r = .062, p = .477). In contrast, leverage had a significant negative correlation with the Z"-Score (r = -.467, p < .001), while profitability had a significant positive correlation with the Z"-Score (r = .396, p < .001). This means that more debt is associated with more distress, and higher profitability is associated with more stability. Spearman's rho produced results that were both directionally and substantively coherent for leverage (-.451) and profitability (.392). The non-normality of the Z was confirmed. The score and profitability measures did not bias the Pearson estimates. The highest correlation among predictors, between company size and ownership diversity (r = .322, p < .001), was far below the typical .70 threshold for problematic multicollinearity.

Table 1: Correlation Results

Variable	Z"-Score	Diversity	Firm Size	Leverage	Profitability
Z"-Score	1.000				
Diversity	-.012	1.000			
Firm Size	.062	.322*	1.000		
Leverage	-.467*	-.107	.207*	1.000	
Profitability	.396*	-.135	.123	-.094	1.000

*Note: *denotes p < .05.*

Table 2: Random Effects Regression Results (2016-2024)

Variable	Coefficient	Std. Error	*z*-statistic	*p*-value
Ownership Diversity	-.304	.636	-0.48	.633
Firm Size (ln)	.085	.051	1.66	.096
Leverage	-2.421	.663	-3.65	.000
Profitability (ROA)	1.137	1.056	1.08	.281
Constant	.424	1.179	0.36	.719

Notes: Observations = 135; Overall R^2 = 0.315; Wald χ^2 = 53.352; p < 0.001.

Table 3: Sub-Sample Regression Results - Pre-COVID-19 (2016-2019)

Variable	Coefficient	Std. Error	z-statistic	p-value
Ownership Diversity	.075	.471	0.16	.873
Firm Size (ln)	-.040	.066	-0.60	.549
Leverage	-.783	1.13	-0.69	.489
Profitability (ROA)	.587	1.506	0.39	.697
Constant	2.221	1.611	1.38	.168

Notes: Observations = 60; Overall R^2 = 0.037; Wald χ^2 = 8.177; p = 0.085

The overall model was statistically significant (Wald $\chi 2$ = 53.35, p < .01) and accounted for approximately 31.5% of the variance in financial distress. At the individual predictor level, ownership diversity was not statistically significant in relation to distress (β = -.304, p =.633), nor were company size (β = .085, p =.096) or profitability (β = 1.137, p =.281). The only

significant predictor was leverage (β = -2.421, p <.01). For every one-unit increase in the leverage ratio, the Z decreased by 2.421 units. The results suggest that leverage is the only statistically significant predictor of financial distress for the financial institutions listed on the CSE during the period under review. To examine whether COVID-19 altered these relationships, Tables 3 and 4 present separate regression results for the pre-COVID-19 (2016-2019) and COVID-19 and recovery (2020-2024) periods.

The overall regression model was not significant at 5% level for pre-COVID 19 period ($\chi 2$ =8.177, p = .085). None of the four predictors, including ownership diversity (β = .075, p = .873), had a significant effect on financial distress. The overall regression model was statistically significant at 1% level for post COVID 19 period ($\chi 2$ =124.075, p < .01) and explained 22.3% of the variation in distress. Leverage was still quite high, and its expected effect was more pronounced (β = -3.468, p < .01, versus -2.421 over the whole period), suggesting that the weight of debt on financial stability was increasingly harmful after the pandemic. Coefficient of Firm size during this sub-period (β = .124, p < .05) suggests that larger financial institutions were better able to absorb the shocks generated by the pandemic. The diversity of ownership was not significant at the conventional 5% level in the COVID-19 and recovery era, but its coefficient was close to marginal significance (β = -.81, p = .071).

Table 4: Sub-Sample Regression Results - COVID-19 and recovery period (2020-2024)

Variable	Coefficient	Std. Error	z-statistic	p-value
Ownership Diversity	-.810	.448	-1.81	.071
Firm Size (ln)	.124	.040	3.11	.002
Leverage	-3.468	.377	-9.20	.000
Profitability (ROA)	1.711	1.124	1.52	.128
Constant	.371	1.142	0.32	.745

Notes: Observations = 75; Overall R^2 = 0.223; Wald χ^2 = 124.075; p < 0.001

Overall, the results suggest that ownership diversity does not have a statistically significant impact on the financial distress of financial sector firms listed on CSE. The nonexistence of a significant link between ownership diversity and financial distress for the entire sample and for both COVID-19 periods indicates that, for the CSE-listed financial sector, the degree of ownership dispersion is of minimal consequence to a firm's probability of experiencing financial distress. This result is in line with the claim of Udin et al. (2017), which is based on dynamic GMM, that ownership diversity is not significant on distress, and the conclusion of Jodjana et al. (2021) that ownership concentration and institutional ownership do not effectively predict the probability of distress. This is in line with the findings of Manawaduge and De Zoysa (2013) that the ownership structure does not have any significant effect on the overall business performance of the non-financial sector in Sri Lanka.

This result is contrary to Bogamuwa and Perera (2022), who found a significant positive relationship between ownership diversity and financial distress in CSE-listed non-financial companies, and the global evidence suggesting significant negative relationships (Faccio & Lang, 2002; Jostarndt & Sautner, 2008; Donker et al., 2009). The most plausible explanation for this discrepancy is the sector-specific institutional framework. Financial entities in Sri

Lanka are subject to stringent prudential supervision and regulation by the Central Bank of Sri Lanka, including capital adequacy, liquidity, and governance requirements that apply irrespective of the ownership structure of the organization, unlike non-financial corporations. Such a framework may displace the internal monitoring role that ownership diversity is thought to provide with regulatory oversight, thus constraining the channel through which ownership composition would normally influence distress risk. This finding is consistent with agency-theoretic principles at the sectoral level: in environments where external regulatory oversight is already strong, the incremental benefit of ownership-driven internal monitoring in reducing agency costs and, thereby, distress is expected to be small.

The Z"-Score is consistently and negatively affected by leverage, especially in the COVID-19 and recovery period, in line with a large body of prior literature (Altman, 1968; Ohlson, 1980) that explicitly links leverage to the risk of distress and emphasizes that capital structure is a more immediate determinant of financial stability in this industry than governance arrangements. The post-COVID accentuation of this association (β from -2.421 to -3.468) indicates that the economic turmoil caused by the pandemic worsened the vulnerability of highly leveraged financial entities, perhaps because of lower asset quality, tighter liquidity conditions, and fewer refinancing options during the crisis. The fact that firm size becomes a key buffer only for the COVID-19 recovery sub-sample ($\beta = .124$, $p < .05$) suggests a flight to size under the extreme pressure: larger financial institutions, with greater capital buffers, multiple sources of income, and greater regulatory scrutiny, appear to be better equipped to absorb macroeconomic shocks than smaller firms - a pattern that was not evident in the relatively stable pre-COVID-19 period. Taken together, our results suggest that the determinants of financial distress in this industry are dynamic and respond to changes in the external economic environment, with balance-sheet fundamentals becoming more important during periods of systemic stress.

5. Conclusions

Using the modified Herfindahl-Hirschman Index to measure ownership diversity and Altman's revised Z-Score to measure financial distress, the panel regression analysis with random effects and robust standard errors, validated with sub-sample comparisons during the COVID-19 pandemic, consistently showed no statistically significant relationship between ownership diversity and financial distress.

This finding has immediate implications for the authorities in the financial sector. The link between ownership diversity and distress is not significant when there is sector-specific regulatory supervision, and thus the focus of regulation should be on financial risk indicators – capital adequacy, leverage constraints, and liquidity reserves – rather than on imposing or encouraging particular ownership structures as a governance safeguard. The findings indicate that for corporate executives and boards in financial institutions, controlling leverage proactively in internal financial risk management is more critical than restructuring ownership in reducing distress risk. Management should also focus on conservative capital structures and stress-test debt exposure prior to external shocks, given the strong negative correlation between leverage and financial distress, especially during periods of macroeconomic distress.

The results indicate that the diffusion of ownership is not, by itself, a reliable measure for investors of the risk of a financial institution's distress. Ownership-structure indicators are less important than leverage ratios, profitability, and company size in terms of financial stability, investment, and portfolio decisions toward CSE-listed financial institutions. The study adds to the existing literature on ownership diversity and financial distress in Sri Lanka, as it examines an unexplored sector. Its null finding, contrasted with the positive relationship found in non-financial firms (Bogamuwa & Perera, 2022), suggests that the relationship between ownership diversity and distress is not universal but depends on the strength of the regulatory framework. This proposition should be directly tested in future cross-sectoral comparative studies.

There are few limitations to these conclusions. First, the sample of 15 firms, observed over nine years (135 observations in total) and further segmented into sub-samples of 60 and 75 observations, is relatively small. Although the panel regression models are formally significant (p = .071), the marginal ownership-diversity coefficient of the COVID-19 and recovery sub-sample leaves open the possibility of a subtle effect that a larger cross-section could detect with greater statistical power. Second, the study relies on a single distress prediction model (the Z"-Score), which, although adequate for financial sector entities, other models such as the Emerging Market Score or Ohlson's O-Score could be used to check the robustness of the results. In the final analysis, ownership diversity is treated as an exogenous variable. The possibility of reverse causality, that is, the current state of a company affecting its future ownership structure, was not explicitly tested and remains an open question for further research.

References

Altman, E. I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The Journal of Finance, 23*(4), 589–609. https://doi.org/10.2307/2978933

Altman, E. I. (2005). An emerging market credit scoring system for corporate bonds. *Emerging Markets Review, 6*(4), 311–323. https://doi.org/10.1016/j.ememar.2005.09.007

Begley, J., Ming, J., & Watts, S. (1996). Bankruptcy classification errors in the 1980s: An empirical analysis of Altman's and Ohlson's models. *Review of Accounting Studies, 1*, 267–284. https://doi.org/10.1007/BF00570833

Bogamuwa, S., & Perera, W. (2022). Effect of ownership diversity on financial distress: Evidence from Colombo Stock Exchange. *International Journal of Accounting and Finance, 8*, 86–109. https://doi.org/10.4038/ijabf.v8i2.126

Caldwell, C., Bischoff, S., & Karri, R. (2002). The four umpires: A paradigm for ethical leadership. *Journal of Business Ethics, 36*, 153–163. https://doi.org/10.1023/A:1014230002724

Central Bank of Sri Lanka. (2023). *Annual report 2023*. https://www.cbsl.gov.lk/sites/default/files/cbslweb_documents/publications/aer/2023/en/Full_Text.pdf

Davis, J. H., Schoorman, F. D., & Donaldson, L. (1997). Davis, Schoorman, and Donaldson reply: The distinctiveness of agency theory and stewardship theory. *The Academy of Management Review, 22*(3), 611–613.

Donker, H., Santen, B., & Alzahir, S. (2009). Ownership structure and the likelihood of financial distress in the Netherlands. *Applied Financial Economics, 19*, 1687–1696. https://doi.org/10.1080/09603100802599647

Eddleston, K. A., & Kellermanns, F. W. (2007). Destructive and productive family relationships: A stewardship theory perspective. *Journal of Business Venturing, 22*(4), 545–565. https://doi.org/10.1016/j.jbusvent.2006.06.004

Eisenhardt, K. M. (1989). Building theories from case study research. *The Academy of Management Review, 14*(4), 532–550. https://doi.org/10.2307/258557

Elyasiani, E., & Jia, J. (2010). Distribution of institutional ownership and corporate firm performance. *Journal of Banking & Finance, 34*(3), 606–620. https://doi.org/10.1016/j.jbankfin.2009.08.018

Faccio, M., & Lang, L. H. P. (2002). The ultimate ownership of Western European corporations. *Journal of Financial Economics, 65*(3), 365–395. https://doi.org/10.1016/S0304-405X(02)00146-0

Gerged, A. M., Yao, S., & Albitar, K. (2023). Board composition, ownership structure and financial distress: Insights from UK FTSE 350. *Corporate Governance: The International Journal of Business in Society, 23*(3), 628–649. https://doi.org/10.1108/CG-02-2022-0069

Gyawali, S. (2023). Exploring financial distress through Altman Z″ score: Example of selected private commercial banks in Nepal. *Journal of Emerging Management Studies, 1*, 94–107. https://doi.org/10.3126/jems.v1i1.60165

Hsiao, C. (2014). *Analysis of panel data* (3rd ed.). Cambridge University Press. https://doi.org/10.1017/CBO9781139839327

Hu, D., & Zheng, H. (2015). Does ownership structure affect the degree of corporate financial distress in China? *Journal of Accounting in Emerging Economies, 5*, 35–50. https://doi.org/10.1108/JAEE-09-2011-0037

Hughes, J. (2009). *Ultimate controllers and the probability of filing for bankruptcy in Great Britain*. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.1470789

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. https://doi.org/10.1016/0304-405X(76)90026-X

Jodjana, J., Nathaniel, S., Rinaningsih, R., & Pranoto, T. (2021). The effect of board and ownership structure on the possibility of financial distress. *Journal of Accounting and Investment, 22*, 581–601. https://doi.org/10.18196/jai.v22i3.12659

Jostarndt, P., & Sautner, Z. (2008). Financial distress, corporate control, and management turnover. *Journal of Banking & Finance, 32*, 2188–2204. https://doi.org/10.1016/j.jbankfin.2007.12.040

La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (1999). Corporate ownership around the world. *The Journal of Finance, 54*(2), 471–517.

Li, H., Wang, Z., & Deng, X. (2008). Ownership, independent directors, agency costs and financial distress: Evidence from Chinese listed companies. *Corporate Governance, 8*, 622–636. https://doi.org/10.1108/14720700810913287

Manawaduge, A., & De Zoysa, A. (2013). The structure of corporate ownership and firm performance: Sri Lankan evidence. *Corporate Ownership and Control, 11*, 723–734. https://doi.org/10.22495/cocv11i1c8art3

Mangena, M., & Chamisa, E. (2008). Corporate governance and incidences of listing suspension by the JSE Securities Exchange of South Africa: An empirical analysis. *The International Journal of Accounting, 43*, 28–44. https://doi.org/10.1016/j.intacc.2008.01.002

Miglani, S., Ahmed, K., & Henry, D. (2015). Voluntary corporate governance structure and financial distress: Evidence from Australia. *Journal of Contemporary Accounting & Economics, 11*(1), 18–30. https://doi.org/10.1016/j.jcae.2014.12.005

Neubaum, D., Thomas, C., Dibrell, C., & Craig, J. (2016). Stewardship climate scale: An assessment of reliability and validity. *Family Business Review, 30*. https://doi.org/10.1177/0894486516673701

Ohlson, J. A. (1980). Financial ratios and the probabilistic prediction of bankruptcy. *Journal of Accounting Research, 18*(1), 109–131. https://doi.org/10.2307/2490395

Roberson, Q., Ryan, A., & Ragins, B. (2017). The evolution and future of diversity at work. *Journal of Applied Psychology, 102*, 483–499. https://doi.org/10.1037/apl0000161

Rodrigues, L., Pindado, J., & Keasey, K. (2024). The determinants of the costs of financial distress in SMEs.

Santoso, L., & Nugrahanti, Y. (2022). The effect of ownership structure on financial distress: Evidence in Indonesian manufacturing companies. *Jurnal Riset Akuntansi Kontemporer, 14*, 55–64. https://doi.org/10.23969/jrak.v14i1.5178

Saunders, M., Lewis, P., & Thornhill, A. (2023). *Research methods for business students*. Pearson.

Sugathadasa, K. (2019). Ownership structure on firm performance: Special reference to manufacturing companies in Colombo Stock Exchange. *Journal of Economics and Finance, 10*, 10–17. https://doi.org/10.9790/5933-1004041017

Syifa, H., Kristanti, F., & Dillak, V. (2017). Financial distress, kepemilikan institusional, profitabilitas terhadap konservatisme akuntansi. *Jurnal Riset Akuntansi Kontemporer, 9*, 1–6. https://doi.org/10.23969/jrak.v9i1.361

Thomsen, S., & Pedersen, T. (2000). Ownership structure and economic performance in the largest European companies. *Strategic Management Journal, 21*(6), 689–705.

Ting, I. W. K., & Lean, H. H. (2011). Capital structure of government-linked companies in Malaysia. *Asian Academy of Management Journal of Accounting and Finance, 7*, 137–156.

Udin, S., Khan, M., & Javid, A. (2017). The effects of ownership structure on likelihood of financial distress: An empirical evidence. *Corporate Governance: The International Journal of Business in Society, 17*, 589–612. https://doi.org/10.1108/CG-03-2016-0067

Uthayakumar, R. (2025). Impact of ownership structure on financial performance of listed companies in Sri Lanka. *International Journal of Research and Innovation in Social Science, 9*, 7940–7965. https://doi.org/10.47772/IJRISS.2025.909000647

Van Puyvelde, S. (2013). *Applying agency theory to nonprofit governance: Theoretical and empirical contributions*.

Widhiadnyana, I. (2020). The effect of ownership structure on financial distress with audit committee as moderating variable. *International Research Journal of Management, IT and Social Sciences, 7*. https://doi.org/10.21744/irjmis.v7n1.830

Wooldridge, J. (2012). *Introductory econometrics: A modern approach*. Cengage Learning.

Yiğit, İ., & Anıl, İ. (2012). The effect of executive and ownership structure on diversification behavior: A research about businesses listed in Istanbul Stock Exchange. *Procedia - Social and Behavioral Sciences, 58*, 108–117. https://doi.org/10.1016/j.sbspro.2012.09.984