

The effect of Ownership Structure on Financial Distress - Evidence from Egypt

أثر هيكل الملكية على الضائقة المالية - أدلة من مصر

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المستخلص:

القدرة على التنبؤ بالضائقة المالية تعد أساسية لبقاء ونمو الشركات. تقيّم هذه الدراسة العلاقة بين هيكل الملكية والضائقة المالية في الشركات غير المالية المدرجة في سوق الأوراق المالية المصري، EGX 100. باستخدام مجموعة بيانات تتألف من 30 شركة تغطي فترة خمس سنوات من 2018 إلى 2022، قمنا بتمثيل الضائقة المالية باستخدام درجة Z لـ Altman وأدرجنا متغيرات مستقلة تشمل أنواعًا مختلفة من الملكية. تشير النتائج إلى وجود علاقة ذات دلالة إحصائية بين أنواع الملكية ومدى الضائقة المالية، خاصة الملكية المؤسسية والإدارية. مع قيمة R-squared معدلة تبلغ 0.4801، يفسر هذا النموذج جزءًا كبيرًا جدًا من المتغير التابع. تثبتت هذه النتائج الدور المحوري الذي يلعبه هيكل الملكية في التخفيف من الفجوات المالية. تساهم هذه الدراسة في الأدبيات المتعلقة بالتفاعل بين آليات الحوكمة المؤسسية والصحة المالية، وبالتالي كيفية الحفاظ على الاستقرار في ضوء صدمات السوق. علاوة على ذلك، تقدم نتائجنا نظرة حول مدى فعالية التدابير التدخلية التي تركز على هيكل الحوكمة في تحسين المرونة المالية وبالتالي دعم النمو والاستدامة على المدى الطويل للشركات في الأسواق الناشئة.

الكلمات المفتاحية: هيكل الملكية؛ الضائقة المالية؛ مصر؛ الشركات غير المالية

Abstract

The ability to predict financial distress is core to the survival and growth of corporate organizations. This study evaluates the relationship between ownership structure and financial distress in non-financial firms listed on the Egyptian Stock Market, EGX 100. With a dataset of 30 firms covering a five-year period from 2018-2022, we proxied financial distress with Altman's Z-score and inserted independent variables comprising different types of ownership. The results indicate that there is a significant relationship between ownership types and the extent of financial distress, mostly of the institutional and managerial ownership. With an adjusted R-squared value of 91.4801%, this model explains a very large part of the dependent variable. These findings prove a pivotal role that the ownership structure plays in mitigating financial vulnerabilities. It contributes to the literature on the interplay of these mechanisms of corporate governance and financial health, hence how to maintain stability in light of market shocks. Moreover, our findings provide insight into how far intervention measures focused on governance structure might be effective in improving financial resilience and therefore supporting the long-term growth and sustainability of firms in emerging markets.

Keywords: Ownership Structure; Financial Distress; Egypt, Non-financial firms

1. INTRODUCTION

The financial fallout from the 2007-2008 financial crisis resulted in many financial issues for firms across the world. These issues were significant and had lasting impacts on entire economies. International Monetary Fund, 2012. The financial crisis was mostly due to micro-foundations factors. The investigations of corporate boards and ownership structures were conducted with great skill. The above assessments indicate that the need for good CG practices cannot be avoided of the financial performance of firms.

Agency theory comes in handy in explaining the relationship between matters of corporate governance and the likelihood of experiencing financial distress. Companies without a well-structured board are likely to experience agency problems, and this may lead to the manipulation of their financial systems, thereby giving rise to many financial crimes, such as money laundering, corruption, tax avoidance, or any other illegal dealings. Poor management with an absence of good corporate governance can be very disastrous for the stakeholders in general.

While interest in the issue of corporate governance has rapidly increased over the past years, little can be traced back to establishing a clear relationship between corporate governance and company failure. Several studies have been conducted to try

and establish a link between corporate governance and business performance. On the other hand, very few research papers have been done to establish a consistent link between corporate governance and company failure (Najjar et al. (2023)

Managerial ownership describes the share equity owned by executives within a firm and comprises members of the board of directors and commissioners. It is mentioned in agency theory that incentives have to be given to the managers in order for them to act in the best interests of the shareholders. Share-owning managers would become more careful in making decisions since they directly feel the impact of their decisions (Widhiadnyana and Ratnadi, 2019).

2. LITERATURE REVIEW AND DEVELOPMENT OF HYPOTHESES

2.1 Institutional Ownership (IO) and financial distress

Institutional ownership refers to the ownership of shares by corporations or other organizations, such as insurance companies, banks, investment firms, asset management businesses, and other institutional entities, as described by Witiastuti and Suryandari (2016). Institutional parties possess greater capacity for conducting more efficient supervision compared to managerial parties, owing to their enhanced access to information and their superior ability to evaluate all aspects pertaining to the Policy

Manager with greater efficiency. Institutional ownership enhances firm performance according to agency theory, as shareholders continuously oversee the company's activities. The role of institutional ownership in overseeing the company is crucial for maintaining its financial stability and ongoing performance. The citation "Handriani et al., 2021" refers to a publication by Handriani and colleagues in the year 2021.

Institutional investors boost the effectiveness of organizations and improve corporate governance by using their professional experience, voting rights, and advanced managerial abilities to exercise influence over managerial decisions. These investors play a crucial role in improving the overall performance of the company by closely monitoring its activities. They help reduce the imbalance of information and address conflicts of interest, which are important for the smooth functioning of the organization. Adopting a proactive strategy is crucial for institutional investors who are dedicated to fostering sustained organizational success and averting financial difficulties. (Chenchehene, 2019).

External ownership by institutional investors, such as insurance companies, investment firms, and banks, can effectively enhance the control over managers' opportunistic conduct, as described by Widhiadnyana and Ratnadi in 2019. According to agency theory, institutional ownership helps to minimize conflicts between the management and shareholders by

giving institutional shareholders the ability to supervise the organization. This ensures that administrators do not act against the interests of shareholders. The reference for this information is Widhiadnyana and Ratnadi, 2019.

Previous research investigating the correlation between financial difficulty and institutional ownership have yielded the following findings: Natalia and Rudiawarni (2022) conducted a study where they utilized logistic regression analysis. The study utilizes data extracted from the financial and annual reports of non-financial companies that are publicly traded on the Indonesia Stock Exchange over the period of 2018 to 2020. The results suggest that the presence of institutional ownership can influence the decision-making process of management. Managers tend to be more cautious and prioritize the company's goals when there is institutional ownership, reducing the likelihood of fraudulent or opportunistic actions. Therefore, it seems that when institutions possess a significant portion of a company, it has the ability to decrease the likelihood of experiencing financial difficulties.

According to Mahmud and Adhariani (2017), institutional ownership has a small or negligible effect on the likelihood of financial hardship in organizations. This is because institutional owners often lack the necessary institutional power or additional motives to make major improvements in company performance. In addition, Jodjana et al. (2021) conducted a study that examined a sample of firms listed on the Indonesia Stock

Exchange (IDX) from 2015 to 2019, excluding those in the financial industry. The analysis concluded that institutional ownership does not have an impact on the probability of financial trouble. At times, institutional investors may be unable to closely supervise management behavior because they lack the necessary authority and incentives, which leads to a more passive role in overseeing them.

The monitoring technique is most effective in governing the performance of managers when there is a substantial level of institutional ownership, above 5%. The effective exploitation of firm assets will be impacted by the rise in institutional ownership, which has the ability to decrease the likelihood of financial difficulties (Widhiadnyana, & Ratnadi, 2019).

The researchers utilized secondary data extracted from annual reports spanning from 2009 to 2014, which were previously collected in a different study done by Pramudena (2017). The data was collected from consumer products manufacturing companies listed on the Indonesian Stock Exchange (BEI). The investigation's findings suggest that institutional ownership (IO) had a detrimental impact on financial distress. Therefore, it may be deduced that the likelihood of encountering financial difficulties diminishes as the amount of institutional ownership in a company rises. In addition, Ibrahim (2019) provides evidence that institutional ownership has a significant negative impact on financial distress among non-financial enterprises listed on the

Indonesia Stock Exchange (IDX) from 2012 to 2016. The researchers applied a purposive sampling method and collected 605 observations using binary logistic regression analysis techniques. They found that the likelihood of experiencing financial hardship decreased as the percentage of shares owned by an institution increased. Similarly, the study conducted by Udin et al. (2017) revealed that institutional ownership had a minimal and statistically insignificant impact on the likelihood of experiencing financial distress. A study was carried out on 146 Pakistani public-limited firms that were listed on the Karachi Stock Exchange from 2003 to 2012.

Similarly, Nour, et al. (2023) did a study to examine the impact of governance structures on corporate failure. The study utilized a hypothesis-testing research design to collect data from the annual reports of 35 firms listed on the Palestine Exchange between 2010 and 2019. The results suggest a strong beneficial relationship between institutional ownership and the decrease in corporate failures. The author argues that the inclusion of institutional investors can offer companies with important resources and experience, which can aid in preventing financial trouble. These investors possess the capacity to assess a company's investment viability and offer resources to support its growth and achievement.

2.2 Managerial Ownership (MO) and financial distress

Managerial ownership refers to the proportion of a company's shares that are owned by its directors. Shareholdings by directors, as per agency theory, decrease agency costs and hence decrease the probability of firms experiencing financial hardship (Ragab & Saleh, 2021). Managerial ownership pertains to the ownership that is held by the highest-ranking executives of a company. Increased ownership by top management mitigates agency difficulties by aligning the interests of managers with those of shareholders (Gaur et al., 2015).

The convergence-of-interests argument suggests that managerial ownership helps to match the interests of managers and shareholders, thus decreasing agency costs. The alignment is strengthened as management augment their ownership position in the organization. From this standpoint, external investors hold the belief that managers who possess substantial shares are motivated to make choices that enhance the value and performance of the company. While the convergence-of-interests hypothesis provides insight into the favorable consequences of managerial ownership, it is equally crucial to acknowledge the possibility of management entrenchment. Analyzing this feature enhances our understanding of how managerial ownership impacts management behavior and the underlying incentives, as explained by Shan et al. (2019). Companies retain managerial ownership in order to reduce agency issues with managers and to synchronize managerial incentives with those of

shareholders. The company's shareholders' ownership stake is perceived as strengthening management's responsibility in supervising operations to reduce the occurrence of financial trouble. (Mevania and colleagues, 2022).

Pramudena (2017) suggests that when a company's ownership is solely controlled by a board of directors or a board of commissioners, there is a higher probability of engaging in self-benefit expropriation activities. Consequently, when members of the management team own shares in a company, there is a tendency for more scrutiny and policy compliance, which in turn decreases the likelihood of financial difficulties.

According to Khurshid et al., 2018, when a firm is facing financial difficulties, the conflict of interests between management and other shareholders becomes more intense compared to normal situations. As a result of job instability, management prioritized personal gain over saving the company from financial difficulties. Managerial ownership is a crucial tool for aligning the interests of managers with those of other shareholders. According to Shan et al., 2023, managers effectively become shareholders when they possess the entire ownership of the organization. Nevertheless, in cases where managerial shareholding is below 100%, managers with greater ownership are more inclined than managers with lesser

ownership to engage in behaviors that maximize business performance and value.

Pramudena (2017) posits that managerial ownership (MO) has a negative effect on financial distress. Managers who have a financial stake in the firm are more likely to exercise caution in their management methods to avoid any unethical activity during the decision-making process, which could have severe consequences for the company in which they have ownership. Chen et al (2020) proposed the convergence-of-interest theory, which suggests that there is a direct correlation between the amount of shares owned by a manager and the overall worth of the company. The reason for this is because when the manager possesses a larger percentage of shares, there exists a more pronounced correlation between their personal wealth and the optimization of stockholder value.

Khurshid et al. (2018) conducted a study to investigate the impact of ownership structure and board composition on the financial distress of non-financial companies listed on the Pakistan Stock Exchange (PSX) from 2009 to 2016. Studies have demonstrated that a rise in managerial ownership has a beneficial effect on the financial health of organizations and reduces the likelihood of encountering financial hardships.

Widhiadnyana and Ratnadi (2019) found that a greater proportion of shares held by the board of commissioners and directors in a company is associated with a reduction in financial

distress. Hence, the ownership by management exerts an adverse influence on financial distress.

In contrast, a study was carried out utilizing a sample of 110 manufacturing enterprises from the FTSE 350 index during the period of 2014 to 2019. The study conducted by Gerged et al. (2022) found that management ownership did not have a significant effect on the likelihood of enterprises encountering financial difficulties. Mevania et al., 2022 did an independent investigation on companies listed on the IDX from 2019 to 2021. The results of this study challenge the principles of agency theory by demonstrating that increased ownership by managers does not always result in increased decision-making power during times of financial hardship.

Ibrahim (2019) employed a sample derived from non-financial companies that are publicly listed on the Indonesia Stock Exchange (IDX) from 2012 to 2016. The study utilized a purposive sampling method to acquire 605 observations and using binary logistic regression analytic techniques. The results suggest that there is no substantial correlation between managerial ownership and financial difficulty. This implies that the current ownership by firm management is ineffective in protecting enterprises from encountering financial difficulties. This can be mostly ascribed to the very small ownership stake held by directors and commissioners in most of the enterprises included in the sample.

In their 2007 study, Li et al. analyzed 404 struggling organizations listed on Chinese stock exchanges that were not related to finance. They compared these companies to a sample of 404 firms that were not experiencing financial difficulties. The study's findings indicate that there is no substantial correlation between management ownership and the distressed condition of these companies.

3. RESEARCH VARIABLES AND MODELS

This study examines the impact of operating systems (OS) on file deletion (FD). The choice of variables is based on prior research and is in line with the study goals. The formulas used to measure the independent variables of institutional ownership and managerial ownership are as follows: The institutional ownership percentage is calculated by dividing the number of shares held by institutions by the total number of outstanding shares, and then multiplying it by 100%. Similarly, the management ownership percentage is calculated by dividing the number of managerial shares by the total number of outstanding shares, and then multiplying it by 100%. The citation is from Pramudena, S. M. in 2017. (Natalia, I., & Rudiawarni, F. A., 2022). The Altman Z-score is used to measure the dependent variable, FD. The linear equation utilized is derived from many variables encompassed inside the ratio scale. The Z-score is a very reliable technique for predicting financial trouble, surpassing other approaches in accuracy. It proves to be immensely valuable for managers,

investors, and stakeholders in their future decision-making. The Altman Z-score measures four ratios: liquidity, profitability, leverage or solvency, and performance. The equation is represented as $Z = 0.012X_1 + 0.014X_2 + 0.033X_3 + 0.006X_4 + 0.0999X_5$. X_1 represents the ratio of working capital to total assets, X_2 represents the ratio of retained earnings to total assets, X_3 represents the ratio of earnings before interest and taxes (EBIT) to total assets, X_4 represents the ratio of stock market value to total debt, and X_5 represents the ratio of sales to total assets. Z represents the overall index (Santoso, L., & Nugrahanti, Y. W., 2022). The chosen measurements are in accordance with recognized accounting literature and will enable a comprehensive study of the hypotheses. The selection and measurement of variables will support a rigorous assessment of the research topics. Table 1 summarizes the variables and measurements.

TABLE (1): Definitions and measurement of research variables

Variables	The type of the measure	Measurement	Reference
Independent variable			
Institutional ownership	Ration	IO = Number of shares owned by institution/Total number of outstanding shares	(Pramudena, 2017)
Managerial Ownership	Ration	MO = (Number of managerial shares) / (Total shares outstanding) × 100%	(Pramudena, 2017)
Dependent variable			
Financial Distress	Altman Z-score.	Altman Z-score. $Z = 0.012X_1 + 0.014X_2 + 0.033X_3 + 0.006X_4 + 0.0999X_5$	(Santoso,& Nugrahanti,2022)

Accordingly, this paper formulates the relationship between the variables as follows below:

H_1 : There is a significant impact of ownership structure on firm financial distress.

The following model has been formulated:

Model (1): The relationship between ownership structure and firm financial distress.

$$FD_{it} = \alpha + \beta_1 IO_{it} + \beta_2 MO_{it} + \varepsilon_{it}$$

The visual representation in Figure (1) of our work gives a model that effectively captures the central research emphasis in an easily understandable manner. This visual depiction is intended to effectively communicate the complex interaction among these important factors, offering a clear and thorough summary of the theoretical underpinning of our study.



FIGURE.1 Research Model: FS moderating the impact of OS on FD

METHODOLOGY

4.1 Sampling and data collection

This study uses a sample consisting of 30 firms listed on the Egyptian stock market, selected based on the criteria of not being

merged or delisted during the period of this research, and for which all required data is available. The population consists of all the EGX 100 companies listed in the Egyptian Stock Market, which have issued their financial reports covering the period from 2018 to 2022. The financial sector—bank and financial services firms—are not considered in the research because they are particularly distinctive organizations. This study collected data from financial statements of these firms, which have been taken from www.egx.com.eg, www.investing.com, and www.mubasher.info/countries/eg. The researchers will extract annual data for 5 years from the 30 companies listed under EGX_100; therefore, the final sample size will be 30 companies, with each having an annual time series of 5 years from the year 2018 to 2022, so the total final number of applied study samples will be 150 observations.

Study Hypothesis

This study is intended to examine the following hypothesis

H_1 : There is a significant impact of ownership structure on firm financial distress.

4.2 Analysis and results

4.2.1 Descriptive Analysis

The primary variables under investigation will be examined to ascertain the measures of central tendency, which include the

mean, maximum, and minimum values, as well as the dispersion measures, which are presented in the form of the standard deviation and coefficient of variation for each variable.

TABLE (2): Variables descriptive analysis

Variable	N	Minimum	Maximum	Mean	Standard Deviation	Coefficient of Variation
Institutional ownership	150	0.00	1.00	0.68	0.21	0.32
Managerial ownership	150	0.00	0.92	0.28	0.31	1.13
Financial distress	150	-7.00	37.00	2.98	5.47	1.84

Source: prepared by the researchers from E-views software output.

Table (2) offers essential insights into the central tendencies and dispersions of the main variables being studied. The analysis includes a thorough dataset of 150 observations, which does not contain any missing values. When looking at the ownership structure factors, the mean for institutional ownership is 0.68, which suggests that there is a significant number of institutional investors in the sample firms. The coefficient of variation (0.32) indicates a moderate level of dispersion around the central tendency. On the other hand, the average value of managerial ownership is 0.28, but there is a significant range in insider equity stakes across the sample, as indicated by a coefficient of variation of 1.13.

These findings emphasize the significance of considering the diversity in ownership structures, firm characteristics, and financial distress profiles when studying their complex

interconnections. The variances revealed in management ownership and financial distress metrics emphasize the necessity for rigorous empirical analysis that can accommodate these dispersions. Moreover, the sample composition itself—including a wide array of firms that differ in size and financial condition—further strengthens the applicability of the findings of this research and gives scope to broader inferences pertaining to the relationship between ownership structures and vulnerabilities to financial distress.

4.2.2 Test of normality

The researchers conducted the Shapiro-Wilk test to ascertain whether the primary variables of the study adhere to the normal distribution. The Shapiro-Wilk test is a Chi-squared test of normality. The null hypothesis posits that the variables are not normally distributed if the test p-value is less than or equal to 0.05, while the alternative hypothesis posits that the variables are normally distributed if the test p-value is greater than or equal to 0.05.

TABLE (3): Shapiro-Wilk test of normality

Variable	Statistic	<i>df</i>	<i>P-value</i>
Institutional ownership	0.956	150	0.000
Managerial ownership	0.791	150	0.000
Financial distress	0.951	150	0.000

Source: prepared by the researchers from E-views software output.

Table (3) indicates that the independent variables, moderator variable, and dependent variable are not normally distributed, as their p-value of the Chi-square statistic is less than 0.05. Consequently, the alternative hypothesis will be accepted, indicating that the variables do not follow a normal distribution.

4.2.3 Correlation Matrix

Upon performing a normality test on the independent variables, moderator, and dependent variables of the study, it was determined that the study variables do not adhere to a normal distribution. Hence, the Spearman correlation coefficient is the most appropriate measure for assessing the strength and direction of the relationship between each pair of variables. Afterwards, the correlation coefficient is assessed by a t-test, in which the null hypothesis asserts that there is no correlation if the p-value of the test exceeds 0.05.

TABLE (4): Spearman correlation matrix

Variables	Z-Score Y	IO	MO	FS
Z-Score Y	1			
P-value	-			
IO	-0.400**	1		
P-value	0.000	-		
MO	0.120*	-0.075	1	
P-value	0.021	0.362	-	

Source: prepared by the researchers from E-views software output.

Table 4 presents the Spearman correlation matrix, describing the relationships between financial hardship (Z-Score Y), institutional ownership, and managerial ownership. The correlation coefficients and p-values in a correlation matrix are used to assess the correlations and their statistical significance.

The data indicates a negative relationship (-0.400 , $p\text{-value} < 0.001$) between the financial distress measured by Z-Score Y and institutional ownership, with increasing institutional ownership reflecting decreasing financial distress. Chung, Firth, and Kim, 2002, postulated that institutional investors are able to identify the possibility of financial instability.

MO and Z-Score Y have a significant positive correlation of 0.120 with a p-value of 0.021 . According to Rashid et al. (2020), managerial and shareholder interests increase the risk-taking and financial distress.

IO and FS are positively and statistically significantly correlated (0.241 , $p\text{-value} = 0.003$). This means that the institutional investors like large firms. Due to their stability and liquidity, institutional investors will target larger and more established enterprises, according to Wu et al. (2023). MO and FS are weakly correlated (coefficient = 0.013 , $p\text{-value} = 0.877$). These two factors seem to have no meaningful relationship in the sample.

Preliminary results of the Spearman correlation matrix show that ownership structure can influence financial distress. Correlation does not imply causation. Further research is

therefore necessary to establish cause-effect relationships and the moderating variables that may influence the results. Table 4: Spearman correlation matrix: Z-Score Y, IO, and MO

The table presents the correlation coefficients and their corresponding p-values, describing the magnitude of the bivariate relationships and the probability associated with each observed relationship.

The results also show a strong negative correlation of -0.400 with a p-value less than 0.001 between financial distress, measured by the Z-Score Y, and institutional ownership. In other words, it means that high levels of ownership connote low financial distress. That is, institutional investors are actually continuing to monitor and reduce financial crisis, as concluded by Chung et al. (2002).

The second point is that the coefficient of financial distress, Z-Score Y, and management ownership, MO, is very high and significant at 0.120 with a p-value of 0.021. This portrays that management ownership increases financial difficulty. This could be because managerial goals align with shareholder goals, resulting in risk-taking that may finally lead to financial distress as argued by.

Although the Spearman correlation matrix gives preliminary insight into how various factors of interest may be associated, largely with a view to how ownership structure may cause financial distress, while putting up this matrix, one has to make a caveat that correlation need not necessarily imply causality.

Further investigations will therefore be required in order to confirm that the causal relationship holds and, where necessary, identify confounding variables.

4.3 Testing hypothesis

Testing the impact of institutional ownership and managerial ownership on firm financial distress:

The researchers will utilize the panel diagnostics tests, namely Table (5), to ascertain the most suitable linear panel regression for testing the hypothesis.

TABLE (5): The pooled panel model diagnostics and verification tests for the first hypothesis

Test	Purpose	Test-statistic result	<i>P-value</i>	Fitted panel model
F-test	Comparing between Pooled panel and Fixed Effect Panel	F = 36.3875	5.61383e-046	Fixed effect
Breusch-Pagan test	Comparing between Pooled panel and Random Effect Panel	LM = 217.019	4.04238e-049	Random effect
Hausman test	Comparing between Fixed Effect Panel and Random Effect Panel	H = 15.282	0.000480353	Fixed effect

Source: Prepared by the researchers depending on E-views software output.

After comparing the three panel effects (pooled, fixed, and random) the researchers found that fixed effect linear panel regression is the most fitted model for forecasting the firm financial distress.

TABLE (6): The fixed-effect panel model of the first hypothesis

Model	<i>Fixed effect Panel</i>	Dependent variable		Z-score	VIF Test
Independent variables	<i>Coefficient</i>	<i>t-ratio</i>	<i>p-value</i>	Significance	
Constant	3.46200	1.997	0.0481	Significant	
Institutional ownership	-9.14839	-4.131	<0.0001	Significant	1.006
Managerial ownership	20.8189	4.398	<0.0001	Significant	1.006
F-test	40.87053	<i>p-value</i>		1.83e-49	
Ramsey Reset test	0.4518	<i>p-value</i>		0.41172	
Heteroskedasticity test	0.0358	<i>p-value</i>		0.335717	
Adjusted R-squared			91.4801%		

Source: Prepared by the researchers depending on E-views software output.

Institutional and management ownership affect Z-score financial stress in the fixed-effect panel model (Table 6). The model's adjusted R-squared score of 91.48% reveals that independent factors explain dependent variable variation. The model is significant with an F-test of 40.87053 and a p-value of 1.83e-49. This implies one independent variable strongly affects the dependent variable.

For economic considerations, the Ramsey Reset test (p-value = 0.41172) demonstrates no omitted variable bias and the heteroskedasticity test (p-value = 0.335717) reveals no homoscedasticity violation. Both independent variables have almost 1 VIF, indicating no multicollinearity.

Individual coefficients demonstrate a statistically significant negative relationship between institutional ownership and financial stress. Coefficient -9.14839 has a p-value below 0.0001.

Institutional ownership may reduce financial hardship because investors monitor risk and support excellent corporate governance (Elyasiani & Jia, 2010).

Management ownership is positively and significantly associated with financial issues (coefficient = 20.8189, p-value < 0.0001). The entrenchment theory states that managers who control too much of a company may operate in ways that make them hard to dismiss. Poor decisions and financial ruin may result (Morck, Shleifer, & Vishny, 1988).

These corporate governance studies show the complicated links between ownership structures and financial crisis. Institutional and managerial ownership have different consequences, requiring a balanced ownership structure to permit monitoring and align managerial incentives with shareholder interests. This study uses the fixed-effect panel model to account for unobserved time-invariant firm-specific effects. The overall equation for forecasting the financial distress is:

$$Z - \widehat{score}_{it} = 3.46200 - 9.14839 \text{ Institutional ownership}_{it} + 20.8189 \text{ managerial ownership}_{it}$$

5. DISCUSSION

The results from this study add to the body of literature that enhances the understanding of this complex interplay among ownership structure, and financial distress in the context of Egypt

the results will certainly have to be put within a wider framework of the existing literature. At this point, one needs to come up with an exhaustive table that provides both empirical findings and, at the same time, integrates them with the expected outcomes derived from prior literature and theoretical bases.

The negative association observed between institutional ownership and financial distress, significant at a 99% confidence level, is resonant with the monitoring role ascribed to institutional investors by Chung et al. (2002) and Elyasiani and Jia (2010). What this finding points out is that institutional shareholders with vested interests and professional expertise could indeed mitigate agency conflicts and ensure prudent decision-making that reduces a firm's vulnerability to financial distress. The view of the agency theory agrees with this assertion, emphasizing the role of institutional oversight in ensuring that the standards of corporate governance are upheld.

In contrast, the positive relationship of managerial ownership to financial distress is significant at a 95% confidence level, providing support for an entrenchment hypothesis advanced by Morck et al. (1988) and Shan et al. (2019). Results are suggestive of how excessive levels of managerial ownership lead to entrenchment behavior in which managers take actions that directly benefit them at the expense of shareholders and increase the exposure of firms to financial risk. The finding, therefore, is emphasizing the need for a balanced ownership structure in a

way that aligns incentives and, at the same time, ensures appropriate monitoring mechanisms.

While the present study provides a few valuable insights, some limitations need underlining. First and foremost, it is limited by the strictly Egyptian context, hence providing a view in an emerging market that cannot be generalised to other economic contexts. Future studies may hence broaden their analysis to cross-country or regional settings that would provide more understanding of the phenomena under investigation. This can create some potential limitations solely based on the fact that the study relies on publicly available financial data. Some additional qualitative or survey-based data can be quite useful in eliciting deeper insights into the decision-making processes and governance dynamics within firms.

Although the survey was characterized by different limitations, it still managed to inject fresh insights and some empirical evidence in an underresearched context to the debate of corporate governance and financial distress. Its implications are multifaceted and provide results that would be useful for policy makers, investors, and corporate decision-makers at large, particularly in the context of emerging economies where governance mechanisms are different from those in the developed ones and institutional environments are vigilant.

6. CONCLUSION

The paper discusses the ownership structure and its impact on corporate financial distress. This work therefore had major objectives aimed at establishing whether institutional and managerial ownership have impacts on financial distress. The current research adds to these previous works in a developing economy. The empirical analysis elucidates the governance–distress link for developing countries using data from Egyptian listed companies. Understanding these relationships is important for policymakers, investors, and business decision-makers in emerging economies, where institutional frameworks and the condition of markets can differ greatly from those of the industrialized economies. This paper offers further insight and strengthens generalizability to more economic scenarios by considering this research challenge in the context of a developing market such as Egypt.

The hypothesis, which relates ownership structure to corporate financial trouble, is empirically significantly confirmed in the analysis. The results from the panel model include a highly significant F-test statistic of 40.87053 with a p-value of 1.83e-49, along with an adjusted R-squared value of 91.4801%. As such, institutional and management ownership are the drivers of variance of financial hardship. Particularly, institutional ownership worsens financial hardship and management

ownership improves it. The constant term statistically affects financial difficulty too.

The findings are consistent with the studies of Pramudena (2017) and Ibrahim (2019), where the authors used annual report data of consumer product manufacturing firms listed at the Indonesian Stock Exchange from the period spanning 2009 to 2014. Similar to the current analysis, the findings reveal a negative association between institutional ownership and financial difficulty. In their study, however, Nour et al. (2023) established a significant positive link relating institutional ownership to firm failure, thus calling for more research.

The findings support Shan et al. (2024), that management ownership leads to financial problems. The study was done on Chinese listed companies from the year 2010 to 2020. The management ownership ranging from 12% to 18% led to financial problems. However, Pramudena, 2017; Chen et al., 2020 concluded that managerial ownership exacerbated the financial stress. Their study suggests that managerial ownership aligns incentive and makes decisiveness more cautious. According to Khurshid et al. (2019), in a 2009–2016 study of non-financial organizations in Pakistan, an increased management ownership is found to improve financial well-being and reduce financial stress.

The empirical data in this research clearly indicates that institutional and managerial ownership structure significantly

relates to financial problems in organizations. Which highlights the significance of contextual factors in these links. These findings make a case for extending previous literature on the link between corporate governance and financial hardship, with a call for future research in different contexts and industries.

Limitations and future research

This focus on the Egyptian context, though useful in adding to the research, has some inherent limitations with respect to generalizing findings into other contexts. That said, the limitation regarding Egypt is partially mitigated by its status as an economic power in both African and Middle Eastern and North African regions, and its rich historical heritage. Thus, the lessons learned can deepen understanding of similar developing economies and act as a useful benchmark for cross-country comparative studies.

The findings and limitations of this research offer some useful avenues for future research. First, the search including family ownership and other ownership structure variables can provide an insight into the relationship of governance with adversity. Family-owned organizations constitute a large proportion of businesses in most developing countries, and their peculiar governance structures and incentive systems affect financial distress in a variety of ways.

Moreover, future research should aim to establish the moderating or mediating effect of mechanisms of corporate governance in preventing corporate failures. For instance, firm size, the number of women representing companies as non-executive directors or being appointed as CEOs or chairpersons of companies would affect the kind of decisions made and the level of risk taken and hence affect a company's proneness to financial crisis. It is in these factors that one could make out valuable observations with respect to the consequences of gender diversity in corporate governance and the implications this has for business performance and financial prosperity.

This would further provide an avenue for cross-national comparative studies aimed at ascertaining the reliability of the observed correlations in various institutional and cultural settings. Participating in this would not only enhance practicality but also add to the wider understanding of the relationship between ownership arrangements, governance systems, and financial distress in various economic situations.

References

- Ahmad, H. M., & Adhariani, D. (2017, November). Corporate governance determinants for the mitigation of the likelihood of financial distress. In International Conference on Business and Management Research (ICBMR 2017) (pp. 1-11). Atlantis Press.

- Chen, C. C., Chen, C. D., & Lien, D. (2020). Financial distress prediction model: The effects of corporate governance indicators. *Journal of Forecasting*, 39(8), 1238-1252.
- Chenchehene, J. (2019). Corporate governance and financial distress prediction in the UK (Doctoral dissertation, Bournemouth University).
- Chung, R., Firth, M., & Kim, J. B. (2002). Institutional monitoring and opportunistic earnings management. *Journal of Corporate Finance*, 8(1), 29-48.
- 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>
- Gaur, S. S., Bathula, H., & Singh, D. (2015). Ownership concentration, board characteristics and firm performance: A contingency framework. *Management Decision*, 53(5), 911-931.
- Gerged, A. M., Yao, S., & Albitar, K. (2022). 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.
- Handriani, E., Ghozali, I., & Hersugodo, H. (2021). Corporate governance on financial distress: Evidence from Indonesia. *Management Science Letters*, 11(6), 1833-1844.
- Ibrahim, R. (2019). Corporate governance effect on financial distress: evidence from In-donesian public listed companies. *Journal of Economics, Business & Accountancy Ventura*, 21(3), 415.

- Jodjana, J. 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(3), 602-624.
- Khurshid, M. K., Sabir, H. M., Tahir, S. H., & Abrar, M. (2018). Impact of corporate governance on the likelihood of financial distress: Evidence from non-financial firms of Pakistan. *Pacific Business Review International*, 11(4), 134-149.
- Mevania, S., Wahyuni, S., Setyadi, E. J., & Inayati, N. I. (2022). The Effect of Managerial Ownership, Company Size, Liquidity, and Profitability on Financial Distress. *Jurnal Manajemen Bisnis, Akuntansi Dan Keuangan*, 1(2), 127-142.
- Morck, R., Shleifer, A., & Vishny, R. W. (1988). Management ownership and market valuation: An empirical analysis. *Journal of Financial Economics*, 20, 293-315. [https://doi.org/10.1016/0304-405X\(88\)90048-7](https://doi.org/10.1016/0304-405X(88)90048-7)
- Natalia, I., & Rudiawarni, F. A. (2022). The Effect of Board Size, Institutional Ownership and Insolvency Risk on Financial Distress Before and During Covid-19. *Jurnal Dinamika Akuntansi*, 14(2), 13-29.
- Nour, A. I., Najjar, M., Al Koni, S., Abudiak, A., Noor, M. I., & Shahwan, R. (2023). The impact of corporate governance mechanisms on corporate failure: an empirical evidence from Palestine Exchange. *Journal of Accounting in Emerging Economies*.
- Pramudena, S. M. (2017). The impact of good corporate governance on financial distress in the consumer goods sector. *J. Fin. Bank. Review*, 2(4), 46-55.

- Ragab, Y. M., & Saleh, M. A. (2022). Non-financial variables related to governance and financial distress prediction in SMEs—evidence from Egypt. *Journal of Applied Accounting Research*, 23(3), 604-627.
- Rashid Khan, H. U., Khidmat, W. B., Hares, O. A., Muhammad, N., & Saleem, K. (2020). Corporate governance quality, ownership structure, agency costs and firm performance. Evidence from an emerging economy. *Journal of Risk and Financial Management*, 13(7), 154.
- Santoso, L., & Nugrahanti, Y. W. (2022). The Effect of Ownership Structure on Financial Distress: Evidence in Indonesian Manufacturing Companies. *Jurnal Riset Akuntansi Kontemporer*, 14(1), 55-64.
- Shan, Y. G., Troshani, I., & Tarca, A. (2019). Managerial ownership, audit firm size, and audit fees: Australian evidence. *Journal of International Accounting, Auditing and Taxation*, 35, 18-36.
- Shan, Y. G., Troshani, I., Wang, J., & Zhang, L. (2024). Managerial ownership and financial distress: evidence from the Chinese stock market. *International Journal of Managerial Finance*, 20(1), 192-221.
- Udin, S., Khan, M. A., & Javid, A. Y. (2017). The effects of ownership structure on likelihood of financial distress: an empirical evidence. *Corporate Governance: The international journal of business in society*, 17(4), 589-612.
- Widhiadnyana, I. K., & Ratnadi, N. M. D. (2019). The impact of managerial ownership, institutional ownership, proportion of independent commissioner, and intellectual capital on financial distress. *Journal of Economics, Business & Accountancy Ventura*, 21(3), 351.

- Witiastuti, R. S., & Suryandari, D. (2016). The influence of good corporate governance mechanism on the possibility of financial distress. *Review of Integrative Business and Economics Research*, 5(1), 118.
- Wu, B., Gu, Q., Liu, Z., & Liu, J. (2023). Clustered institutional investors, shared ESG preferences and low-carbon innovation in family firm. *Technological Forecasting and Social Change*, 194, 122676.

List of abbreviations

Abbreviation	Full Form
CG	Corporate Governance
EGX	Egyptian Stock Exchange
IO	Institutional Ownership
MO	Managerial Ownership
FD	Financial Distress
VIF	Variance Inflation Factor
NED	Non-Executive Director
CEO	Chief Executive Officer
IDX	Indonesia Stock Exchange
PSX	Pakistan Stock Exchange
FTSE	Financial Times Stock Exchange
BEI	Bursa Efek Indonesia (Indonesian Stock Exchange)
MENA	Middle East and North Africa