

Do Managerial Ownership, Gender Diversity, and Intellectual Capital Matter in Predicting State-Owned Companies Financial Distress?

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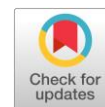
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ABSTRACT

The downward movement of some Indonesian state-owned companies during the pandemic because of financial problems has resulted in more public scrutiny of the companies. Managers need to take extra caution to prevent the occurrence of financial distress. This study investigated the role of managerial ownership, gender diversity, and intellectual capital in predicting financial distress in state-owned companies. In doing so, three research hypotheses were formulated. Based on the purposive sampling method, 19 state-owned companies in the Indonesia Stock Exchange (IDX) were selected as the research sample. Secondary data from each company's annual report from 2017 to 2020 were documented, resulting in 76 firm-year data as the final sample. The panel data regression was applied to test the hypotheses. A robustness test was also carried out to check the result's consistency. The study reports that intellectual capital had a positive impact in predicting financial distress, while managerial ownership and gender diversity did not affect it. These results may provide insight for managers of state-owned companies to prevent financial distress earlier by increasing their intellectual capital.



KEYWORDS

Financial Distress,
Gender Diversity,
Intellectual Capital,
Managerial Ownership



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Introduction

Financial distress has become an inherent phenomenon for several companies globally. The pandemic has paralyzed several business activities, resulting in difficulties in funding the company's operations. Not a few companies are experiencing financial problems from 2020 to 2021. Companies that have been in the public spotlight recently are State-Owned Enterprises (BUMN). In recent years, state-owned companies have experienced a downward movement. Despite experiencing negative profits for several periods, state-owned companies still receive funds from the government, known as State Capital Participation (PMN). It provides an excellent opportunity for state-owned companies to improve their performance to avoid financial problems. But in fact, the capital injection provided by the government has not produced better results. In 2021, 7 state-owned companies were disbanded due to illness and inability to maintain business continuity. The Minister of Finance of the Republic of Indonesia, Sri Mulyani, stated that of the many BUMNs injected with PMN funds, only 60% received profits, while the rest made losses from 2005-2021. (Sembiring, 2021).

Financial distress can be indicated when the company cannot pay its obligations after maturity, business failures are faced, and the equity has a negative sign (Fachrudin, 2021). This condition causes the company to experience financial distress in its operational activities. In addition, various other problems will arise when financial problems are addressed after a while. For example, financial distress occurs due to inefficient financial management in a company that is not handled appropriately (Zulaecha & Mulvitasari, 2021).

Therefore, predicting, measuring, reducing, and evaluating the risk of bankruptcy of a company before investing becomes attractive for investors (Agustia, Muhammad, & Permatasari, 2020). Several financial ratio calculations can be used to evaluate the company's financial health. Altman Z-Score is the most popular corporate financial failure prediction model because it has the highest level of accuracy.

Several previous studies have examined the factors that affect the company's financial distress, including managerial ownership, gender diversity, and intellectual capital. Managerial ownership is the percentage of total shares owned by the management of the total outstanding shares (Sunarwijaya, 2017). Managerial ownership significantly influences firm value because it could affect the company's performance (Candradewi & Sedana, 2016). The higher the percentage of shares owned by management, the higher the company's performance will be. Therefore, good company performance will prevent the company from financial distress.

Gender diversity is one of the most exciting issues in leadership. A stigma circulating in society states that men are better at leading than women. There is a significant relationship between gender diversity and the company's financial distress (Jia, 2019). The higher the gender variance in the leadership directors, the better financial performance (Gordini & Rancati, 2017). Gender diversity in the board of directors can increase the effectiveness of the board's performance so that the company avoids financial distress (Guizani & Abdalkrim, 2021). Significant participation by the female board of directors increases the capital structure, reducing the probability of bankruptcy (Garcia & Herrero, 2021).

Intellectual capital is an organization's knowledge-based asset to achieve and maintain its competitive advantage (Nigam et al., 2021). The critical role of intellectual capital is to create value-added for the company, which can later improve the company's performance to provide a competitive advantage (Mustika et al., 2018). Previous research showed that intellectual capital significantly affected the prediction of bankruptcy in companies (Shahwan & Habib, 2020; Cenciarelli et al., 2019). In addition, intellectual capital significantly affects company performance (Lestari, 2017). Therefore, the increase in intellectual capital in the company can reduce the possibility of financial distress.

There still needs to be more consistency in previous research. Previous research results stated that managerial ownership did not significantly affect the company's financial distress (Sunarwijaya, 2017; Khorraz & Dewayanto, 2020). Managerial ownership also negatively affected the quality of integrated reporting and liquidity in the stock market (Raimo et al., 2020; Abbassi et al., 2021). Gender diversity in leadership also did not affect the company's financial distress (Ariska et al., 2021; Salim & Dillak, 2021). A high percentage of female executives has a negative impact on company performance (Simionescu et al., 2021). In addition, intellectual capital was believed to have no significant effect on the analysis of financial distress (Dalwai & Mahdi, 2021).

The debate over the results of previous studies makes researchers interested in exploring more deeply the effects of managerial ownership, gender diversity, and intellectual capital in analyzing financial distress. In addition, research on the effect of intellectual capital on financial distress still needs to be done, especially in state-owned companies in Indonesia. So intellectual capital research on the prediction of bankruptcy in state-owned companies becomes a novelty in this study. This study will conduct a robustness check by testing panel data regression with two model approaches: the fixed effect model and the random effect model. The results of this study are expected to be a guideline for management to take new policies in maintaining or improving the company's financial distress.

Literature Review

Stewardship Theory

According to Donaldson and Davis (1991), stewardship theory is a theory that describes a situation where managers are not motivated by their personal goals but instead are aimed at the interests of the organization. Stewardship theory is built on philosophical assumptions about human nature, namely that humans are trustworthy, act responsibly, and have integrity and honesty toward others (Ananto et al., 2017).

Therefore, this theory is designed for executives, whereas stewards will be motivated to follow the principal's wishes. Stewards will act with methods and strategies to provide maximum benefits to principals.

Financial Distress

One way to predict the sustainability of a company's business is to analyze the financial distress. Companies that are not in good health can be said to be facing financial distress. Financial distress is when the company experiences a decrease in profitability from time to time (Mohemed, 2019) but has not been declared bankrupt (Munandari & Suryana, 2021). In addition, companies that experience financial distress experience negative wealth values. All total assets cannot cover the company's liabilities (Yirgu, 2017). Companies experiencing financial distress tend to suffer from low cash flows and ongoing losses despite not ending up in bankruptcy (Ohman, 2020). Although it does not reach bankruptcy, this condition seriously threatens the company's sustainability.

According to Fachrudin (2021), there are five stages of companies experiencing financial difficulties: (1) economic failure, (2) business failure, (3) technical insolvency, (4) insolvency in bankruptcy, and (5) bankruptcy legally. At the initial stage, the company's income cannot cover the expenses incurred, including the cost of capital. The company can continue its operations as long as it still gets financing from creditors and the owner of the company is willing to bear a rate of return below market value. The second stage is when the company's operations stop due to credit losses. In the third stage, the company experienced a temporary liquidity shortage but was able to survive. The next stage is a situation where the debt's book value exceeds the asset's market value. The last stage is where the court's decision declares the company legally bankrupt.

Financial distress in this study is measured using the Altman Z-Score model (Altman, 1968). The Altman Z-Score model is the most popular corporate financial failure prediction model and was developed by Edward I. Altman in 1968. The Altman Z-score has the highest accuracy compared to other calculation models, with an accuracy rate of 81% (Damayanti et al., 2019).

Managerial Ownership and Financial Distress

A company's shares can be purchased by anyone, even by parties within the company itself. Shares owned by the company manager are called managerial ownership shares. Managerial ownership is one of the effective GCG mechanisms because managers act as management and company owners (Sunarwijaya, 2017). A high proportion of managerial ownership can reduce the tendency of manipulative actions by the management. Rivandi (2018) stated that managerial ownership significantly influences firm value. In addition, managerial ownership could significantly influence firm performance (Candradewi & Sedana, 2016; & Novitasari et al., 2020). The higher the managerial ownership of the company, the healthier the financial distress, which is judged by the high Altman Z-score generated. For this reason, the hypothesis is proposed as follows:

H1. Managerial ownership has a positive effect on the financial distress

Gender Diversity and Financial Distress

The presence of women on the board of directors can reduce the risk of a company experiencing financial distress. The existence of women has been proven to provide a defense mechanism from risk, increase liquidity, and solvency, concentrate on internal investment, and improve the implementation of good corporate governance (Zhou, 2019). Previous studies have stated that gender diversity significantly affects bankruptcy prediction (Jia, 2019; Gordini & Rancati, 2017). A higher proportion of women on the board of commissioners can reduce the possibility of companies experiencing financial distress (Fejzovic, 2018). Increasing gender diversity in the board of directors and commissioners is expected to improve financial distress with Altman Z-Score result, reducing the possibility of financial distress. For this reason, the hypothesis is proposed as follows:

H2. Gender diversity has a positive effect on the financial distress

Intellectual Capital and Financial distress

Intellectual capital is information in the company that can be converted into something valuable. This information is essential for the company to produce a competitive advantage. Intellectual capital is also identified as "hidden value" because intellectual capital does not look like other tangible assets and is not visible in the company's financial statements. However, the increase in the value of intellectual capital influences and benefits the company's performance. Intellectual capital affects financial distress (Mustika et al., 2018; Shahwan & Habib, 2020). Companies with intellectual capital can predict bankruptcy in the company and significantly affect the company's performance (Lestari, 2017; Cenciarelli et al., 2019). The increase in intellectual capital in the company results in a higher Altman Z-Score value. In other words, the company is in good health and will not face financial distress. For this reason, the hypothesis is proposed as follows:

H3. Intellectual capital has a positive effect on the financial distress

Research Method

This type of research is quantitative research with secondary data type documentation. The data is obtained from the official website of the Indonesia Stock Exchange (IDX), namely www.idx.co.id, and the official websites of related companies. This study focuses on state-owned companies because of various exciting phenomena explained in the introduction. The sampling technique in this study used a purposive sampling technique. The purposive sampling technique was a sampling technique based on the criteria that the researcher had set. Based on the sample selection criteria, the sample in this study was 19 companies that met the requirements with four years of observation, namely 2017-2020. Thus, 76 samples of companies become the object of research.

This research data is panel data, a combination of time series and cross-section data. Therefore, the data analysis in this study used data regression analysis. This study also conducted a robustness test by testing the suitability of different models. The way of testing resilience in this study is to compare the statistical test results in the first equation with the second equation. The regression equations proposed in this study are as follows:

$$FD = \alpha + \beta_1 MO_{it} + \beta_2 GD_{it} + \beta_3 IC_{it} + \varepsilon \quad (1)$$

$$FDA = \alpha + \beta_4 MO_{it} + \beta_5 GD_{it} + \beta_6 IC_{it} + \beta_7 SZ_{it} + \beta_8 AG_{it} + \varepsilon \quad (2)$$

Where: FD is Financial Distress; MO is Managerial Ownership; GD is Gender Diversity; IC is Intellectual Capital; SZ is Firm Size; AG is Firm Age; α is Constanta; β is Coefficient Regression; and ε is Error Standard.

This study analyzes financial distress using the Altman Z-Score bankruptcy prediction model. The calculation of the Z-Score value has several cut-off points. If the Z-Score value is less than 1.81, the company is in a state of distress. The company is in a gray area if the Z-Score calculation value is between 1.81-2.99. The company will be said to be healthy if the value of the Z-Score analysis is more than 2.99. The Altman Z-Score has a formula as follows:

$$Z = 1,2X_1 + 1,4X_2 + 3,3X_3 + 0,6X_4 + 1,0X_5 \quad (3)$$

Where: X_1 = Working capital/total assets; X_2 = Retained earnings/total assets; X_3 = Earnings before interest and taxes/total assets; X_4 = Market capitalization/book value of debt; X_5 = Sales/total assets.

The managerial ownership variable in this study was calculated according to previous research by dividing the total shares owned by the management by the total outstanding shares (Sunarwijaya, 2017). The gender diversity variable in this study was calculated by dividing the number of female board of directors and commissioners by the total number of members of the board of directors and commissioners in the company, according to previous research (Ariska, Arief, & Prasetyono, 2021). Finally, the intellectual capital variable was obtained from physical capital, human resources, and structural capital (Prasetya & Oktavianna, 2021). The formula used to find intellectual capital is as follows:

$$VAIC = VACA + VAHU + SCVA + \varepsilon \quad (4)$$

Where: VAIC (Value Added) = Operating profit + Employee cost + Depreciation + Amortization; VACA (Physical Capital) = Value added/Total Equity and Profit; VAHU (Human Capital) = Value added /Total Expenditure on Employees; and STVA (Structural Capital/Value Added) = (Value Added–Human Capital)/Value added.

Results and Discussion

Descriptive Statistics and Correlation Analysis

Table 1 shows the results of descriptive statistics in this study. The average result of the Altman Z-Score in the research sample shows a score of 1.441216. Managers who owned shares in the companies where they worked in this study had an average of 0.0929% shares. Gender diversity on the board of directors and commissioners in this study was 6.71% of women. The intellectual capital value in this study obtained an average score of 2,474. The size of the research sample companies, on average, had a natural logarithmic asset of 31,536 and was 14 years old since being listed on the Indonesia Stock Exchange.

Table 1. Descriptive statistics

No.	Variable	Mean	Std. Deviation	Minimum	Maximum
1	Financial Distress (FD)	1.441216	0.923991	-2.098612	3.571816
2	Managerial Ownership (MO)	0.000929	0.001979	0.000000	0.011229
3	Gender Diversity (GD)	0.067134	0.077057	0.000000	0.250000
4	Intellectual Capital (IC)	2.474384	2.965316	-18.53002	9.400700
5	Firm Size (SZ)	31.53615	1.671850	29.21111	34.95208
6	Firm Age (AG)	14.07895	7.639831	1.000000	29.00000

Source: Secondary Data Processed (2022)

Table 2 shows the correlation test results for each independent variable used in this study. All correlation coefficients between variables were < 0.8, so it can be ascertained that each independent variable in this study was free from multicollinearity problems.

Table 2. Correlation Test Results

No.	Variable	MO	GD	IC	SZ	AG
1	Managerial Ownership (MO)	1.000000				
2	Gender Diversity (GD)	0.177410	1.000000			
3	Intellectual Capital (IC)	0.110867	0.342625	1.000000		
4	Firm Size (SZ)	0.316336	0.320742	0.173996	1.000000	
5	Firm Age (AG)	-0.064729	0.079737	0.016547	0.450556	1.000000

Source: Secondary Data Processed (2022)

Before testing the hypothesis, the first step was selecting a suitable estimation model. Three approaches can be used, namely the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The selection of the first estimation model used the Chow test analysis. The Chow test was used to test which common or fixed effects were more in line with the research model. The second test was the Hausman test. The Hausman test was used to test which of the fixed effects or random effects was more in line with the research model. The third test was the Langrange Multiplier test to test whether the Common or Random Effect was the most suitable for the research model. The results of the model suitability test for this study are summarized in Table 3.

Table 3. First Model Fit Test Results

No.	Name of Test	Probability Value
1	Chow Test	Chi-square Cross-section 0.000
2	Hausman Test	Random Cross-section 0.3192
3	Langrange Multiplier Test	Breusch-Pagan 0.0000

Source: Secondary Data, 2022

Table 3 describes the results of the model suitability test for the first regression equation. In the Chow test results, the chi-square cross-section's probability value was $0.0000 < 0.05$, which means that the fixed effect model was fitter. In the second model suitability test, the random cross-section probability value in the Hausman test obtained $0.3192 > 0.05$, which means that the random effect model was the most suitable. Testing the model's suitability continued on the Lagrange multiplier test and obtained a probability value at Breusch-Pagan $0.0000 < 0.05$. It shows that the most suitable model was the random effect model approach. After knowing the model that fit the research, the next step was hypothesis testing. The results of hypothesis testing with panel data regression of the random effect model can be seen in Table 4.

Table 4. Random Effect Test Results

Variable	Coefficient	Std. Error	Probability Value
Constant	1.166816	0.194371	0.0000
Managerial Ownership (MO)	-1.513005	30.46313	0.9605
Gender Diversity (GD)	-1.926042	0.986317	0.0547
Intellectual Capital (IC)	0.163721	0.016630	0.0000
Adjusted R ²	0.558577		

Source: Secondary Data Processed (2022)

Table 4 shows the regression test results for managerial ownership, gender diversity, and intellectual capital variables in the analysis of the financial distress, which was calculated using the Altman Z-Score. The MO variable had an insignificant negative effect on the Z-Score. Thus, the percentage of managerial ownership does not impact the Z-Score of the company. The result of this study is in line with previous research, which stated that high managerial ownership did not improve the company's financial performance (Sunarwijaya, 2017; Khorraz & Dewayanto, 2020). Companies with high managerial ownership also do not make the company's integrated reporting quality better (Raimo et al., 2020). Managers are proven to work for personal interests and ignore the interests of other shareholders (Abbassi et al., 2021). Managers own company shares only to gain personal interest from the profits of shares distributed by the company and ignore the company's financial distress. The results of this study did not support the stewardship theory, which states that managers are not motivated by their personal goals but instead are aimed at the interests of the organization.

The GD variable in Table 4 also had an insignificant negative effect, which means that the female on the board of directors and commissioners has no relationship with the company's financial distress. The results of this study were consistent with Ariska et al. (2021) and Salim and Dillak (2021), who stated that gender diversity in the leadership ranks did not affect the company's financial distress. Increasing gender diversity did not positively affect financial performance and corporate governance (Wang, 2021). The proportion of female directors is still relatively low in Indonesia. Women still face social discrimination in their ability to lead a company. Women need more management skills, so it takes a long time to make policies that will lower the company's performance (Simionescu et al., 2021). It makes it difficult for the female board of directors and commissioners to optimally show their performance contribution in predicting the company's bankruptcy. The results of this study did not support previous research, which stated that a high proportion of women on the board of commissioners could reduce the possibility of companies experiencing financial distress (Fejzovic, 2018).

As seen in Table 4, the IC variable obtained a significant value and a positive coefficient on the financial distress. It shows that the higher the company's intellectual capital will improve the financial distress. The results of this study supported the statement that companies with intellectual capital could predict bankruptcy in the company. Companies with high intellectual capital values had good company performance (Lestari, 2017; Cenciarelli et al., 2019). Intellectual capital is a knowledge-based resource, such as experience, innovative thinking, and employee creativity, which do not appear as tangible assets in financial statements. Therefore, intellectual capital is a hidden value that provides a competitive advantage

to the company. The results of this study indicated that when the company had a high value of intellectual capital, it would significantly improve its financial condition to avoid experiencing financial distress.

Robustness Check

This study added company size and age as control variables, resulting in different models' suitability. It aimed to test the robustness of the hypothesis result test. The testing method was the same as the first model test, namely through a model suitability test before testing the results of the hypothesis. The results of the second model suitability test are shown in Table 5.

Table 5. Second Model Fit Test Results

No.	Name of Test	Probability Value
1	Uji Chow: Chi-square Cross-section	0.0000
2	Uji Hausman: Random Cross-section	0.0199

Source: Secondary Data Processed (2022)

Table 5 shows the results of the model suitability test for the second regression equation. In the Chow test results, the chi-square cross-section's probability value was $0.0000 < 0.05$, which means that the fixed effect model was fitter. In the second model suitability test, namely the Hausman test, the probability value of a random cross-section was $0.0199 < 0.05$, which means that the fixed effect model was the most suitable. The Chow and Hausman tests showed a suitable model for the second equation, namely the fixed effect, so there was no need to do a third suitability test, namely the Lagrange multiplier test. After knowing the appropriate model, the next step was testing the second model's hypothesis. The results of hypothesis testing with fixed effect panel data regression can be seen in Table 6.

Table 6. Fixed Effect Test Results

Variable	Coefficient	Std. Error	Probability Value
Constant	25.05532	10.15376	0.0169
Managerial Ownership (MO)	11.47260	28.62335	0.6902
Gender Diversity (GD)	-0.867696	0.963817	0.3721
Intellectual Capital (IC)	0.168242	0.018733	0.0000
Firm Size (SZ)	-0.748121	0.339795	0.0321
Firm Age (AG)	-0.027696	0.053030	0.6037
Adjusted R ²	0.874492		

Source: Secondary Data, 2022

Table 6 shows the regression test results of managerial ownership, gender diversity, and intellectual capital variables in the analysis of financial distress with the fixed effect approach model. The table shows that the MO variable has an insignificant positive effect on the financial distress. The GD variable has an insignificant negative effect on the financial distress. The IC variable has a positive coefficient and is significant for the financial distress. The SZ variable has a negative and significant coefficient on the financial distress. Companies with large total assets can only sometimes overcome financial problems that occur in the company. It supported previous research, which stated that total assets negatively affected firm performance as calculated by ROA (Simionescu et al., 2021). The greater the total assets owned by the company did not increase the stock prices (Abbassi et al., 2021). The AG variable has an insignificant negative effect on the financial distress. It means that the longer the company is listed on the stock exchange, its financial distress does not improve. The longer company on the stock exchange did not make them more experience dealing with financial distress.

The results of the second model regression test using a fixed effect approach on the MO, GD, and IC variables on FD are consistent with the results of the second model regression test with a random effects approach. Both results of hypothesis testing show managerial ownership and female on the board of directors and commissioners did not affect the financial distress. Only intellectual capital positively and

significantly affected the company's financial distress in the first and second models. In other words, the test results of this research were robust.

Conclusion

This study examines the effect of managerial ownership, gender diversity, and intellectual capital on the analysis of financial distress. The sample of this study is a state-owned company listed on the Indonesia Stock Exchange from 2017-2020. The results of panel data regression tests with random effects and fixed effects approaches produce a consistent effect, so the results of this study are robust. Managerial ownership and gender diversity do not improve a company's financial distress. It happens because managers who bought shares in the company they worked for only pursue personal gain, namely from the dividends distributed by the company, and do not fully care about the company's business continuity. In addition, the proportion of women on the board of directors and commissioners was still relatively low in Indonesia. Directors and commissioners are still dominated by men, making it difficult for female directors and commissioners to perform optimally, especially in predicting company bankruptcy. Meanwhile, intellectual capital had a positive and significant effect on financial distress. When the company has a high value of intellectual capital, it would significantly improve its financial distress to avoid the possibility of bankruptcy.

This research has a theoretical and practical contribution. Increasing the value of knowledge to employees through intellectual capital was proven to prevent possible bankruptcy in companies. This research result provides a reference for the company to invest in increasing the value of employee knowledge. It could help the company to mitigate financial distress. Future research is expected to explore more deeply the effect of managerial ownership, female board of directors and commissioners, and other GCG roles related to company performance. In addition, research can be carried out for other corporate sectors and use other bankruptcy prediction calculations such as the Zmijewski, Springate, or Grover models to obtain comprehensive research results.

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