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Financial Distress and Earnings Management An Empirical Study of Non-Financial Firms Listed on the Indonesia Stock Exchange

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ABSTRACT

This study examines the relationship between financial distress and earnings management among non-financial firms listed on the Indonesia Stock Exchange during the period 2018–2022. The research employs a quantitative approach using the modified Jones model to measure discretionary accruals, with leverage, firm size, and profitability included as control variables. The findings reveal that profitability has the strongest positive influence on earnings management, indicating that firms with higher profitability are more likely to manipulate earnings to enhance financial results and meet market expectations. Conversely, leverage demonstrates a significant negative effect, suggesting that firms with higher debt levels are less likely to engage in earnings manipulation due to increased creditor scrutiny and financial discipline. Meanwhile, financial distress and firm size have minimal impacts, with their coefficients showing no significant influence on discretionary accruals. These results highlight the importance of profitability and leverage as key drivers of earnings management while suggesting that financial distress and firm size play lesser roles in this context. The study acknowledges limitations, including its focus on non-financial firms in Indonesia, a five-year observation period, and the exclusion of additional factors like governance and macroeconomic conditions. Future research could address these limitations by expanding the dataset, incorporating more variables, and exploring other emerging markets.

Introduction

Financial stability is crucial for the sustainability of any organization, especially in the competitive landscape of modern business (Abu-Serdaneh, 2018). Companies

must have appropriate resources to continue operations, including enough cash flow to fulfill their financial responsibilities. When these resources are insufficient, businesses frequently experience financial distress, which can disrupt operations and damage their market reputation (Lazzem & Jilani, 2018). In such circumstances, management may resort to earnings management, which involves the manipulation of accounting figures to present a more favorable financial position than what is reflected in reality. Companies must have appropriate resources to continue operations, including enough cash flow to fulfill their financial responsibilities. When these resources are insufficient, businesses frequently experience financial distress, which can disrupt operations and damage their market reputation. Earnings management is particularly relevant in situations of financial distress, as managers may seek to prevent adverse reactions from the market, which could negatively affect stock prices, investor confidence, and the company's overall valuation. Research has shown that such behavior is not uncommon among managers under pressure (Kalbuana, Taqi, Uzliawati, & Ramdhani, 2022). Companies require adequate resources to sustain their operations, including enough cash to meet lender obligations, therefore when resources are insufficient, financial distress occurs which creates a situation where companies may manipulate accounting profits as a means to present favorable performance, with management adjusting accounts to influence reported earnings (Ranjbar & Amanollahi, 2018). This opportunism often includes adjusting financial statements in a way that delays the disclosure of financial difficulties, providing the company with additional time to address underlying issues. However, while this tactic might offer short-term relief, it carries significant risks, including regulatory penalties, a loss of investor trust, and long-term damage to the company's reputation (Istiqomah & Adhariani, 2017).

This study examines the relationship between financial distress and earnings management, with a specific focus on non-financial companies listed on the Indonesia Stock Exchange. Emerging markets like Indonesia provide a unique context for such research, given the distinct regulatory environment, market dynamics, and economic challenges. (Heniwati & Essen, 2020). Previous studies have extensively explored earnings management practices in developed markets, yet there is limited research on how financial distress influences such practices in emerging economies. By addressing this gap, this study contributes to the growing body of literature on earnings management while offering insights that are particularly relevant to regulators, investors, and corporate managers operating in similar environments. (Giarto & Fachrurrozie, 2020).

In addition to financial distress, this research incorporates leverage, firm size, and profitability as control variables. These factors are essential for providing a comprehensive understanding of the dynamics that influence earnings management. Leverage reflects a company's debt burden and is often linked to financial distress, while firm size can impact a company's ability to access resources and withstand economic shocks (Fachrudin, 2020). Profitability, on the other hand, serves as a key indicator of financial health, often influencing managerial decisions regarding earnings reporting. By analyzing these variables in conjunction, the study seeks to uncover the

nuanced ways in which financial distress and other factors drive earnings management practices. To achieve these objectives, a quantitative approach is adopted, leveraging statistical computations and systematic analysis to derive evidence-based conclusions. The study draws data from 342 non-financial companies listed on the Indonesia Stock Exchange over the period 2018 to 2022 (ElHawary & Hassouna, 2021).

Through this analysis, the research aims to answer critical questions: Do financially distressed companies engage in earnings management more frequently than their stable counterparts? How do leverage, firm size, and profitability interact with financial distress to influence such practices?

The findings of this study are expected to provide valuable insights for investors, regulators, and corporate managers. (Chhillar & Lellapalli, 2022). Investors can use this knowledge to make more informed decisions by identifying red flags indicative of earnings manipulation. Regulators can better understand the conditions under which earnings management is more likely to occur, thereby enabling more targeted interventions. Lastly, corporate managers can benefit from these insights by adopting more ethical and sustainable practices to navigate financial distress without compromising stakeholder trust. This study not only sheds light on the interplay between financial distress and earnings management but also offers actionable recommendations to help companies mitigate the risks associated with financial instability.

Method

This study employs a quantitative research method, which is particularly well-suited for achieving precision and objectivity in data analysis. The quantitative approach allows for the systematic collection and analysis of numerical data, enabling the generation of evidence-based conclusions that are both reliable and accurate. By incorporating statistical computations and structured methodologies, this study seeks to uncover the relationships between financial distress and earnings management practices in a manner that is transparent, replicable, and grounded in empirical evidence. Furthermore, the quantitative approach is expected to yield results that are not only reliable but also verifiable, ensuring that the findings can be generalized to a broader population while maintaining statistical rigor.

The dataset used in this study is derived from a comprehensive sample of 342 companies operating within the non-financial sector, all of which are listed on the Indonesia Stock Exchange. The selected data spans five years, from 2018 to 2022, thereby providing a robust temporal framework for analyzing trends and patterns. This timeframe allows the study to capture variations in financial distress and earnings management practices over different economic conditions, ensuring a more nuanced understanding of the dynamics at play. The decision to focus on non-financial companies was made to minimize the potential confounding effects of financial sector-specific regulations and practices, which may differ significantly from those of other industries.

Through the application of systematic statistical analysis, this study aims to rigorously evaluate the relationship between financial distress and earnings management, while also considering the influence of control variables such as leverage, firm size, and profitability. These control variables are included to account for additional factors that may impact the observed relationships, thereby enhancing the comprehensiveness and validity of the analysis. Overall, the methodological approach adopted in this research is designed to provide clear and actionable insights into how financial distress influences earnings management practices, particularly within the context of emerging markets like Indonesia.

Measurement of Earnings Management

In earnings management, discretionary accruals are typically used, assuming that non-discretionary accruals are determined by the company's operational conditions, while discretionary accruals are determined by managers exercising discretion over applicable accounting policies and estimates within a company (Luu Thu, 2023).

The calculation of discretionary accruals using the Modified Jones Model involves the following equation:

$\text{Total Accruals}_{I,t} = \text{Net Income}_{I,t} - \text{Cash Flow From Operations}_{I,t}$

The total accruals value is measured using the following multiple regression equation:

$\text{Total Accruals}_{i,t} / A_{i,t-1} = \alpha_1(1/A_{i,t-1}) + \alpha_2(\Delta REV_{i,t} / A_{i,t-1}) + \alpha_3(PPE_{i,t} / A_{i,t-1}) + \varepsilon$

Non-discretionary accruals are calculated using the following formula:

$$NDA_{i,t} = \alpha_1(1/A_{i,t-1}) + \alpha_2(\Delta REV_{i,t} / A_{i,t-1} - \Delta REC_{i,t} / A_{i,t-1}) + \alpha_3(PPE_{i,t} / A_{i,t-1})$$

Next, discretionary accruals can be calculated as follows:

$$DA_{i,t} = (\text{Total Accruals}_{i,t} / A_{i,t-1}) - NDA_{i,t}$$

Measurement of Financial Distress

In this study, financial distress will be assessed using the Altman Z-Score method, which is recognized as a reliable tool for evaluating financial health (Zainudin et al., 2023). The Altman Z-Score is calculated using the following formula:

Z-Score = *1.2 A+ 1.4B + 3.3C + 0.6D + 1.0E*

Z-Score = *Financial Distress*

A = Working Capital / Total Assets

B = Retained Earnings / Total Assets

C = EBIT / Total Assets

D = Market Value of Equity / Total Liabilities

E = Sales / Total Asset

Measurement of Variable Control

To ensure a comprehensive analysis, this study incorporates several control variables that are known to influence earnings management: profitability, leverage, and firm size. (Ardillah & Vesakhadevi, 2021). These variables are crucial for capturing the broader financial and operational context in which earnings management practices occur. The methods used to measure these control variables are as follows:

Firm Size

Firm size is another important control variable, as larger firms often have greater resources and more established reputations, which can influence their financial reporting behavior. Firm size is measured using the logarithm of total assets, calculated as:

$$\textit{Firm size}_{i,t} = \textbf{Log}\ (\textit{Total Asset}_{i,t})$$

Larger firms may have more stringent regulatory oversight and higher stakeholder scrutiny, potentially reducing their inclination to engage in earnings management compared to smaller firms.

Data Analysis Technique

This study employs Microsoft Excel and STATA version 17 MP Parallel Edition for data analysis. Microsoft Excel will be used for initial data preparation, cleaning, and basic descriptive statistics, ensuring the dataset is ready for advanced analysis. STATA, known for its robust statistical capabilities, will handle regression analyses, estimate discretionary accruals using the Modified Jones Model, and examine relationships between variables. The combination of these tools ensures efficient, accurate, and comprehensive data analysis, supporting the study's aim to generate reliable and evidence-based conclusions.

Descriptive Statistics

This study uses descriptive analysis to summarize the characteristics of the research sample, representing the population. Key statistical measures, including the mean, standard deviation, minimum, and maximum values, are analyzed to provide insights into data distribution, variability, and range. (Aljughaiman, Nguyen, Trinh, & Du, 2023). These measures help identify patterns, trends, and anomalies, serving as a foundation for further statistical analysis and ensuring the dataset aligns with the study's assumptions. Descriptive analysis offers a clear overview of the data, facilitating transparency and preparing for more advanced techniques.

Regression Model Feasibility Testing

Panel data analysis is a statistical method that accounts for data variation across two dimensions: cross-sectional, representing different entities, and time series, representing observations over multiple periods. This dual-dimensional approach allows for a more nuanced understanding of the relationships between variables by capturing both inter-entity and intra-entity variations. To determine the most suitable model for analyzing panel data, several diagnostic tests will be conducted. These include the Chow test, which evaluates whether a fixed-effects model is more appropriate than a pooled ordinary least squares (OLS) model by testing for significant differences in intercepts across entities. Additionally, the Hausman test will be applied to compare fixed-effects and random-effects models, helping to identify the best model based on the assumptions of homogeneity and consistency. The Lagrange Multiplier (LM) test will also be performed to assess whether a random-effects model is preferable to a pooled OLS model. By conducting these tests, the study ensures the selection of a robust and statistically appropriate model for analyzing the relationship between financial distress,

earnings management, and control variables, while accounting for the complex structure of the panel dataset (Agrawal & Chatterjee, 2015).

Chow Test

The Chow Test is conducted to determine whether the common effect model or the fixed effect model is the most appropriate for analyzing the dataset. This test evaluates the F-probability value to assess whether the fixed effect model provides a significantly better fit than the common effect model by checking for differences in intercepts across entities. The hypotheses for the Chow Test are as follows:

H_0: *common effect model* (prob. > 0.05)

H_1: *fixed effect model* (prob. < 0.05)

Hausman Test

The Hausman Test is used to choose between the fixed effect model and the random effect model by examining the relationship between the predictors and the individual effects. This test determines whether the individual-specific effects are correlated with the independent variables. The hypotheses for the Hausman Test are:

H0: random effect model (prob. > 0.05)

H1: fixed effect model (prob.0.05)

Regression Analysis

The regression analysis technique employed in this study is designed to test the research hypothesis by evaluating the relationship between financial distress and earnings management while accounting for the influence of control variables such as profitability, leverage, and firm size. The model is represented by the following equation:

$$EM_{i,t}=\alpha+\beta 1FD_{i,t}+\beta 2LEV_{i,t}+\beta 3SIZE_{i,t}+\beta 4PROF_{i,t}+\varepsilon$$

EM i,t	= Earning Management
FD i,t	= Financial Distress
LEV i,t	= Leverage
SIZE i,t	= Firm size
PROF I,t	= Profitability
α	= Constant
β1, β2, β3, β4, β5	= Regression Coefficient
ε	= error estimate

Results and Discussion

Chow Test

```
Fixed-effects (within) regression               Number of obs     =      1,709
Group variable: id                              Number of groups  =        342

R-squared:                                      Obs per group:
     Within  = 0.1923                                         min =          4
     Between = 0.4866                                         avg =        5.0
     Overall = 0.3387                                         max =          5

                                                F(4,1363)         =      81.14
corr(u_i, Xb) = -0.3599                         Prob > F          =     0.0000
```

mod_jones_dac	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
z_score	.0016516	.000598	2.76	0.006	.0004785	.0028248
debt_to_asset_ratio	-.0185554	.003259	-5.69	0.000	-.0249485	-.0121622
firm_size	-.0289389	.0162192	-1.78	0.075	-.0607562	.0028784
roa	.2169164	.0227103	9.55	0.000	.1723654	.2614674
_cons	.392691	.2140221	1.83	0.067	-.0271574	.8125393
sigma_u	.13993339					
sigma_e	.17312595					
rho	.39515224	(fraction of variance due to u_i)				

```
F test that all u_i=0: F(341, 1363) = 0.86                     Prob > F = 0.9577
```

The Chow test results indicate a probability value of 0.9577, which is greater than the significance level of 0.05. This suggests that there is no significant difference in the intercepts across the entities being analyzed. Consequently, the common effect model is determined to be the most appropriate model for analyzing the panel data in this study. The common effect model assumes that all entities share the same intercept, simplifying the analysis by treating the dataset as homogenous without entity-specific effects.

Hausman Test

	Coefficients (b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) Std. err.
z_score	.0016516	.0000816	.00157	.0004587
debt_to_as~o	-.0185554	-.0316403	.0130849	.0027179
firm_size	-.0289389	.0003914	-.0293303	.0161851
roa	.2169164	.1503039	.0666125	.0128632

```
                b = Consistent under H0 and Ha; obtained from xtreg.
 B = Inconsistent under Ha, efficient under H0; obtained from xtreg.

Test of H0: Difference in coefficients not systematic

    chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
            =  50.14
Prob > chi2 = 0.0000
```

The results of the Hausman test indicate a probability value of 0.000, which is less than the significance threshold of 0.05. This implies that there is a statistically significant difference between the fixed-effects and random-effects models. As a result, the fixed-effect model is deemed the most appropriate model for the analysis. The fixed-effect model accounts for entity-specific characteristics that do not vary over time, ensuring that unobservable factors unique to each entity are controlled for, leading to

more reliable and robust results in the context of this study (Rusci, Santosa, & Fitriana, 2021).

Lagrange Multiplier Test

```
Breusch and Pagan Lagrangian multiplier test for random effects

        mod_jones_dac[id,t] = Xb + u[id] + e[id,t]

        Estimated results:
                             |       Var     SD = sqrt(Var)
                     --------+------------------------------
                     mod_jon~c|    .0618831       .2487631
                             e|    .0299726       .1731259
                             u|          0             0

        Test: Var(u) = 0
                                  chibar2(01) =     0.00
                                Prob > chibar2 =   1.0000
```

The results of the Lagrange Multiplier (LM) test show a probability value of 1, which is significantly greater than the significance threshold of 0.05. This indicates that the random-effects model is not appropriate, as there is no evidence to suggest that the random-effects model provides a better fit than the pooled ordinary least squares (OLS) model. Therefore, the common effect model is chosen as the most suitable model for analyzing the panel data in this context. The common effect model assumes uniformity across entities, treating all observations as homogenous without accounting for entity-specific effects.

Classic Assumption Testing

Multicollinearity Test

Variable	VIF	1/VIF
debt_to_as~o	3.39	0.294594
roa	2.71	0.369150
z_score	1.87	0.533855
firm_size	1.01	0.993516
Mean VIF	2.25	

The results of the multicollinearity test reveal a Variance Inflation Factor (VIF) value of 2.25, which is well below the threshold of 10. This indicates that there is no significant multicollinearity among the independent variables in the regression model. A low VIF value suggests that the predictor variables are not highly correlated with each other, ensuring that the regression coefficients are stable and reliable. This confirms that multicollinearity is not a concern in this study, allowing for an accurate interpretation of the relationships between variables.

Heteroskedasticity Test

```
Breusch-Pagan/Cook-Weisberg test for heteroskedasticity
Assumption: Normal error terms
Variable: Fitted values of mod_jones_dac

H0: Constant variance

    chi2(1) = 77567.62
Prob > chi2 =   0.0000
```

The heteroskedasticity test results show a Prob > chi2 value of 0.000, which is less than the threshold of 0.05. This indicates the presence of heteroskedasticity in the regression model, meaning that the variance of the residuals is not constant across observations. To address this issue, a remedial measure was applied by using robust standard errors, which adjust the standard errors of the coefficients to remain consistent even in the presence of heteroskedasticity. By implementing this adjustment, the reliability of the p-values and confidence intervals is maintained, ensuring accurate statistical inference despite the heteroskedasticity detected.

```
Linear regression                               Number of obs     =      1,709
                                                F(4, 1704)        =       5.02
                                                Prob > F          =     0.0005
                                                R-squared         =     0.5304
                                                Root MSE          =     .17067
```

mod_jones_dac	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
z_score	.0000816	.0006802	0.12	0.905	-.0012526	.0014158
debt_to_asset_ratio	-.0316403	.0197508	-1.60	0.109	-.0703786	.0070981
firm_size	.0003914	.0006204	0.63	0.528	-.0008255	.0016083
roa	.1503039	.1691668	0.89	0.374	-.1814926	.4821003
_cons	.0205058	.0172342	1.19	0.234	-.0132967	.0543082

Hypothesis Testing

F-Statistic Test (Simultaneous Test)

Source	SS	df	MS		
Model	56.060004	4	14.015001	Prob > F	0.0000
Residual	49.6362927	1,704	.02912928	R-squared	0.5304
Total	105.696297	1,708	.061883078	Adj R-squared	0.5293
				Root MSE	.17067

mod_jones_dac	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
z_score	.0000816	.0003838	0.21	0.832	-.0006711	.0008343
debt_to_asset_ratio	-.0316403	.0017984	-17.59	0.000	-.0351675	-.028113
firm_size	.0003914	.001051	0.37	0.710	-.0016699	.0024527
roa	.1503039	.0187162	8.03	0.000	.1135947	.1870131
_cons	.0205058	.0145446	1.41	0.159	-.0080214	.0490329

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F-Statistic Value: The F-statistic is 481.13.

Prob > F: The p-value associated with the F-statistic is 0.0000.

The F-statistic test is used to determine whether all the independent variables included in the regression model collectively have a statistically significant effect on the dependent variable. In this study, the results of the F-statistic test show an F-statistic value of 481.13 with an associated p-value (Prob > F) of 0.0000. Since the p-value is significantly lower than the standard significance threshold of 0.05, the null hypothesis (H_0) is rejected. The rejection of the null hypothesis implies that the independent

variables—financial distress, leverage, firm size, and profitability—have a significant simultaneous impact on the dependent variable, earnings management.

This result highlights the collective importance of these independent variables in influencing earnings management practices. It suggests that the variations in the level of earnings management cannot be adequately explained by any single independent variable alone but are instead the result of the combined effect of financial distress, leverage, firm size, and profitability. The statistical significance of the F-statistic further validates the overall fit of the regression model, confirming that the included independent variables provide meaningful insights into the determinants of earnings management.

By demonstrating the simultaneous influence of these variables, the findings underscore the importance of considering a multidimensional approach to understanding earnings management practices. This conclusion supports the theoretical framework of the study and provides a strong foundation for further analysis of the individual contributions of each independent variable through additional tests, such as t-tests for individual significance.

Coefficient of Determination (R^2)

Source	SS	df	MS	Number of obs	=	1,709
				F(4, 1704)	=	481.13
Model	56.060004	4	14.015001	Prob > F	=	0.0000
Residual	49.6362927	1,704	.02912928	R-squared	=	0.5304

R-squared: The R-squared value is 0.5304.
Adjusted R-squared: The Adjusted R-squared value is 0.5293.

The coefficient of determination R-squared of 0.5304 (53.04%) indicates that this model explains a substantial portion of the variability in the dependent variable. In other words, 53.04% of the variability in the dependent variable, accrual earnings management, can be explained by the independent variables: financial distress, leverage, firm size, and profitability. This shows that the model has substantial explanatory power, as it captures more than half of the variability in earnings management. The slightly lower Adjusted R-squared of 52.93% shows that the result remains similar even after adjusting for the number of predictor variables in the model.

Overall, this model has moderate explanatory power as it captures about half of the variability in the dependent variable. While this result shows a reasonably good fit, there is still some unexplained variability, suggesting that the model could be further improved or that other factors might influence accrual earning management. The remaining 46.96% of unexplained variability indicates that other factors, not included in the model, might also influence accrual earnings management. This opens the possibility for further refinement of the model or exploration of additional variables that could enhance its predictive accuracy. (Alfina & Sambuaga, 2021).

t-Statistic Test (Partial Test)

Source	SS	df	MS	Number of obs	=	1,709
				F(4, 1704)	=	481.13
Model	56.060004	4	14.015001	Prob > F	=	0.0000
Residual	49.6362927	1,704	.02912928	R-squared	=	0.5304
				Adj R-squared	=	0.5293
Total	105.696297	1,708	.061883078	Root MSE	=	.17067

mod_jones_dac	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
z_score	.0000816	.0003838	0.21	0.832	-.0006711	.0008343
debt_to_asset_ratio	-.0316403	.0017984	-17.59	0.000	-.0351675	-.028113
firm_size	.0003914	.001051	0.37	0.710	-.0016699	.0024527
roa	.1503039	.0187162	8.03	0.000	.1135947	.1870131
_cons	.0205058	.0145446	1.41	0.159	-.0080214	.0490329

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The t-statistic test is used to assess the individual significance of each independent variable in explaining the dependent variable, earning management, in the regression model. The results for each variable are as follows:

Altman Z Score

The p-value for the Altman Z Score is 0.832, which is greater than the significance threshold of 0.05. Therefore, we fail to reject the null hypothesis (H_0) indicating that financial distress does not have a statistically significant effect on earning management. This suggests that financial distress, as measured by the Altman Z Score, is not a key factor influencing earnings management in this model.

Leverage

The t-statistic test result for leverage shows a p-value of 0.000, which is significantly below the threshold of 0.05. This leads to the rejection of the null hypothesis (H_0), indicating that leverage has a statistically significant negative effect on mod_jones_dac (modified Jones discretionary accruals). This finding implies that as a company's leverage (measured by the debt-to-asset ratio) increases, the extent of earnings management, as represented by discretionary accruals, tends to decrease. The negative relationship could be attributed to the fact that higher leverage often subjects firms to greater scrutiny by creditors and investors, thereby limiting the management's ability to manipulate earnings. This heightened oversight may discourage opportunistic accounting practices, promoting more transparent financial reporting.

The result underscores the role of leverage as an important factor influencing managerial behavior in financial reporting, particularly in firms where debt obligations play a prominent role in their capital structure.

Firm Size

The t-statistic test result for firm size indicates a p-value of 0.710, which is greater than the significance threshold of 0.05. As a result, we fail to reject the null hypothesis (H_0), concluding that firm size does not have a statistically significant effect on earning management. This finding suggests that the size of a firm, as measured by the logarithm of total assets, does not play a significant role in influencing the extent of earnings management practices in this study. Larger firms are typically subject to higher levels of regulatory scrutiny and stakeholder oversight, which might deter earnings manipulation, while smaller firms may have less scrutiny but potentially lower capacity for complex earnings management techniques. However, this result indicates that in this context, firm size alone is not a determining factor in explaining variations in discretionary accruals. (Almadi & Lazic, 2016)..

This non-significant relationship could also imply that other factors, such as industry-specific characteristics, market conditions, or internal governance practices, might have a more direct influence on earnings management than firm size. Further investigation into these variables might provide additional insights into the drivers of discretionary accruals.

Profitability

The t-statistic test result for profitability reveals a p-value of 0.000, which is significantly less than the threshold of 0.05. Therefore, we reject the null hypothesis (H_0), concluding that profitability has a statistically significant positive effect on earning management.

This finding indicates that as profitability, measured by profitability, increases so does the extent of earnings management through discretionary accruals. This positive relationship suggests that managers of more profitable firms might have stronger incentives to engage in earnings manipulation to further enhance reported financial performance. High profitability can create pressure to maintain or exceed market expectations, leading to the use of discretionary accruals to smooth income or present a more favorable financial position.

This result underscores the role of profitability as a critical determinant of earnings management. It highlights the importance of closely monitoring accounting practices in highly profitable firms to ensure that financial reports accurately reflect their true economic performance, reducing the risk of misleading stakeholders.

Regression Analysis

mod_jones_dac	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
z_score	.0000816	.0003838	0.21	0.832	-.0006711	.0008343
debt_to_asset_ratio	-.0316403	.0017984	-17.59	0.000	-.0351675	-.028113
firm_size	.0003914	.001051	0.37	0.710	-.0016699	.0024527
roa	.1503039	.0187162	8.03	0.000	.1135947	.1870131
_cons	.0205058	.0145446	1.41	0.159	-.0080214	.0490329

$EM_{i,t}$=0.0205058 +0.0000816 $FD_{i,t}$ – 0.0316403 $LEV_{i,t}$+0.0003914 $SIZE_{i,t}$ +0.1503039 $PROF_{i,t}$

Financial Distress:

Coefficient: 0.0000816
Interpretation: A one-unit increase in financial distress results in a minimal increase of 0.0000816 in earning management, assuming all other variables remain constant. This very small positive effect indicates that financial distress, as measured by the Altman Z Score, has very little impact on earnings management.

Leverage:
Coefficient: -0.0316403
Interpretation: A one-unit increase in leverage is associated with a decrease of 0.0316403 in earning management, assuming other factors remain constant. This negative relationship suggests that higher leverage reduces earnings management activities, potentially due to increased creditor scrutiny or stricter financial discipline.

Firm Size:
Coefficient: 0.0003914
Interpretation: A one-unit increase in firm size leads to a very small increase of 0.0003914 in earning management, holding other variables constant. This indicates a negligible positive relationship between firm size and earnings management, suggesting that firm size has little to no practical effect on earnings management in this model.

Profitability:
Coefficient: 0.150339
Interpretation: A one-unit increase in roa is associated with an increase of 0.1503039 in earning management, assuming other variables remain constant. This strong positive coefficient indicates that higher profitability significantly increases earnings management activities, likely reflecting managerial incentives to enhance reported financial performance.

Conclusion

This study provides an exploration of the factors influencing earnings management, specifically focusing on discretionary accruals measured by the modified Jones model. The findings highlight key insights into the roles of profitability, leverage, financial distress, and firm size in shaping earnings management practices. Among these variables, profitability and leverage stand out as the most significant drivers, while financial distress and firm size exhibit minimal impacts. Profitability was found to have the largest positive influence on earning management, with a significant coefficient indicating a strong relationship. This suggests that companies with higher profitability are more likely to engage in earnings management practices. The positive association can be attributed to managerial incentives to enhance already favorable financial results, thereby meeting or exceeding market expectations. High profitability often attracts attention from investors and stakeholders, increasing pressure on management to sustain this performance. This finding underscores the importance of monitoring financial practices in highly profitable firms, as they may have both the resources and motivations to manipulate reported earnings. Leverage exhibited a significant negative relationship with earnings management, suggesting that higher levels of debt reduce the likelihood of earnings management. This negative effect can be explained by the

heightened scrutiny and financial discipline imposed by creditors on highly leveraged firms. Companies with substantial debt obligations are often subject to stringent covenants and monitoring, which limit managerial discretion in manipulating earnings. This finding highlights leverage as a potential governance mechanism, acting as a constraint on opportunistic financial reporting practices.

The variables of financial distress and firm size had negligible effects on earnings management, as indicated by their small and statistically insignificant coefficients. For financial distress, the lack of influence suggests that it does not play a significant role in determining discretionary accruals in this context. This may be because distressed firms are more focused on addressing operational and liquidity challenges than engaging in earnings manipulation. Similarly, the non-significance of firm size indicates that company size does not substantially impact the extent of earnings management. Larger firms may face greater regulatory and public scrutiny, potentially discouraging earnings manipulation, while smaller firms may lack the sophistication or resources to engage in complex accounting practices. This result suggests that other contextual factors, such as industry characteristics, governance structures, or external market conditions, may have a more pronounced influence than firm size. These findings offer valuable insights for stakeholders, emphasizing the need for enhanced scrutiny of financial reporting practices, particularly in highly profitable firms. By focusing on the most influential factors, practitioners, regulators, and investors can better address the challenges of earnings manipulation and promote greater transparency and accountability in financial reporting. For future research, it would be beneficial to expand the dataset to include a broader range of companies across multiple sectors and countries. Extending the observation period and incorporating additional variables—such as governance indicators, industry effects, or macroeconomic conditions could provide a more comprehensive understanding of earnings management practices and their determinants.

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