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## THE EFFECT OF FINANCIAL DISTRESS, FIRM VALUE, AND INVESTMENT OPPORTUNITY ON EARNINGS MANAGEMENT WITH SALES GROWTH AS MODERATING

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### ABSTRACT:

This study measures the effect of Financial Distress, Firm Value, and Investment Opportunity on Earnings Management with Sales Growth as Moderation. The method used in this study is a regression moderation analysis by testing the earnings management model produce a better sensitivity analysis of earnings management practices. The sample in this study is public companies listed on the Indonesia Stock Exchange (IDX) in 2018-2022, namely the basic and chemical industry, miscellaneous industries, and the consumer goods industry. The results of the study show that (1) Financial Distress has a positive effect on the Earnings Management Model Kothari et al. (2005). (2) Firm Value has a positive effect on the Earnings Management Model Kothari et al. (2005). (3) Investment Opportunity does not affect both Earnings Management Models (4) Sales Growth reinforces the positive effect of Financial Distress, Firm Value, and Investment Opportunity on both Earnings Management Models. (5) Leverage has a positive effect on the Earnings Management Model Kothari et al. (2005). (6) Firm Age has a negative effect on both Earnings Management Models. It can be concluded that Dechow et al.'s Earnings Management Model. (1995) and Kothari et al. (2005) produced an incomplete sensitivity analysis (mixed result). The results of the coefficient of determination - Adjusted R<sup>2</sup> Earnings Management Model Dechow et al. (1995) are higher than the Kothari et al. model. (2005). While the results of the t-test of the Earnings Management Model Kothari et al. (2005) produce a better probability when compared to Dechow et al.'s Earnings Management Model. (1995), except for the Investment Opportunity variable, which does not affect either Earnings Management Model.

**Keywords:** Financial Distress, Firm Value, Investment Opportunities, Sales Growth, Leverage, Company Age

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## INTRODUCTION

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The company's business activities are closely related to risks that may affect the company's performance. One of the risks companies face is financial distress, hereinafter referred to as financial difficulties. Financial difficulties are a situation when a company tries to generate profits to fulfill its obligations to creditors or investors (Malau, 2020); (Julasaria & Mandal, 2022); (Chhillar & Lellapalli, 2022); (Purba et al., 2022). Conditions of financial difficulties include increasing costs in line with illiquid assets, continuous decline in revenues, and unfavorable global economic conditions for the company (Purba et al., 2022); (Younas et al., 2021)

The mechanism that is often used to produce positive financial performance is earnings management (Karina & Soenarno, 2022). Earnings management is an intervention in financial reporting to meet certain objectives (Bachmid et al., 2021). This strategy is defined as an effort to meet the objectives of financial statements (Grosu et al., 2023). So, the company seeks to achieve profit growth and increase the predictability of reported earnings (Grosu et al., 2023).

On the other side, the company does not only prioritize profits, maintaining and/or increasing firm value, hereinafter referred to as corporate value, is also the main hope

that the company wants to achieve (Situmorang et al., 2021). Corporate value is defined as a description of the welfare of shareholders (shareholders). This is reflected in the nominal value per share of the company. In addition, company value also reflects investors' expectations for the future (Iswajuni et al., 2018). The company's value will increase if it is supported by informative company profits (Malau, 2020). If the valuation of the stock price decreases, it has the potential to affect investor interest. In the current development of accounting science, managers carry out earnings management to maintain and increase company value (Almari et al., 2021).

Investment opportunities made by investors tend to rely on accounting numbers. The aim is to assess the company's financial performance. Accounting numbers are a basis for making investment decisions (Bui et al., 2022). Information about company earnings is often used as the main point for investors in analyzing the feasibility of placing investment instruments. This information helps investors identify the company's strengths and weaknesses, assess the company's liquidity and solvency, project the need for additional capital from shareholders, and project the need for external funding.

The authors' background chose the sample above because the sector requires

large capital to carry out its operational activities. Companies often use this capital for working capital, capital expenditures, investments, and refinancing of maturing corporate debt. So, companies look for funding sources from external sources such as banks, non-bank financial institutions, and the issuance of debt securities (Bui et al., 2022). Providing credit facilities from creditors and/or purchasing debt securities from investors is based on an analysis of the company's financial performance and business prospects (Agustina & Malau, 2023). This drives companies to make maximum efforts to produce positive financial performance.

(Karina & Soenarno, 2022) proved that financial distress positively affect earnings management. Investors and creditors must be aware of the profits reported by companies because companies tend to cover up their actual financial conditions. (Rosner, 2003) Proves that financial difficulties do not affect earnings management. Conditions of financial distress are considered temporary predictions.

(Haniftian & Dillak, 2020) Prove that company value positively affects earnings management. Earnings management is reflected in the disclosure of financial statement information. (Almari et al., 2021) prove that company value does not affect earnings management. Discretionary accrual earnings management is carried out to cover the actual financial condition, which decreases company value.

(Zainuddin et al., 2021) Prove that investment opportunities positively affect earnings management. The company's opportunity to carry out investment activities is predicted to increase company profits. (Saifi, 2019) Proves that investment opportunities are a company's growth prospects. The higher the investment opportunity, the higher the company's financial performance achievement.

(Edison & Nugroho, 2020) Prove that sales growth positively affects earnings management. These conditions are desirable for creditors/investors to assess the company's business prospects. (Elleuch Hamza & Kortas, 2019) Proves that sales growth does not affect earnings management. Companies tend to manage earnings on other income items, not the company's main income.

Previous research motivates the author to expand on previous research or retest previous research hypotheses with contradictory results. The novelty in this study is the measurement of earnings management using two regression models, namely the earnings management model proposed by (Dechow et al., 1995) and (Kothari et al., 2005). Testing earnings management with two regression models was carried out by several international researchers, including (Muñoz Mendoza et al., 2021), who tested earnings management practices in Latin American companies. Meanwhile, the authors suspect that using two regression models is rarely studied in Indonesia. The use of these two models is

intended to provide a more accurate estimation of discretionary accruals as well as to provide a comparison between the suitability of firm performance effectiveness and performance measured in accrual regression to produce a better sensitivity analysis of earnings management practices (Mendoza et al., 2020).

## RESEARCH METHODS

The design of this study was conducted to test and provide empirical evidence regarding the effect of Financial Distress,

Firm Value, and Investment Opportunities on Earnings Management with Sales Growth as a Moderator. This study applies panel data that combines time series data and cross-section data. The data used in this research is secondary data. Secondary data was obtained from the financial reports of public companies listed on the Indonesia Stock Exchange (IDX) for 2018-2022. The sectors used in this study are the basic and chemical industries, various industries, and the consumer goods industry.

**Figure 2**  
**Variable Measurement**

Variable	Formula	Scale
EM Dechow et al. (1995)	$\frac{DA_{it}}{TAS_{it-1}} = \beta_0 + \beta_1 \left( \frac{1}{TAS_{it-1}} \right) + \beta_2 \left( \frac{\Delta RE_{it} - \Delta REC_{it}}{TAS_{it-1}} \right) + \beta_3 \left( \frac{PPE_{it}}{TAS_{it-1}} \right) + \varepsilon_{it}$	Ratio
EM Kothari et al. (2005)	$\frac{DA_{it}}{TAS_{it-1}} = \beta_0 + \beta_1 \left( \frac{1}{TAS_{it-1}} \right) + \beta_2 \left( \frac{\Delta RE_{it} - \Delta REC_{it}}{TAS_{it-1}} \right) + \beta_3 \left( \frac{PPE_{it}}{TAS_{it-1}} \right) + \beta_4 ROA_{it} + \varepsilon_{it}$	Ratio
The residual value of $\varepsilon_{it}$ from the model of Dechow et al. (1995) and the model of Kothari et al. (2005), is a discretionary accrual (DA <sub>it</sub> /TAS <sub>it-1</sub> ) used to measure earnings management. This model is scaled back with the company's total assets in period t-1 (TAS <sub>it-1</sub> ) to test heteroscedasticity.		
FS Altman (1968)	$Z'' = 3,25 + 6,56 (X_1) + 3,26 (X_2) + 6,72 (X_3) + 1,05 (X_4)$	Ratio
	$Q = \frac{(\sum \text{Outstanding Shares} \times \text{Closing Price}) + \text{Total Liabilities}}{\text{Total Asset}}$	Ratio

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FV Tobin (1977)		
IO Myers (1976)	$\text{Market capitalization divided by Book Value of Equity}$	Ratio
SG Ung et al., (2018)	$\text{Sales Growth} = (\text{Sales}_t / \text{Sales}_{t-1}) - 1$	Ratio
LEV Hoang & Phung (2019)	$\text{Leverage} = \frac{\text{Total Liabilities}_t}{\text{Total Assets}_t}$	Ratio
FA Khanh & Khuong (2018)	$\text{Firm's Age:} \\ \text{The Year Under Investigation} - \text{The Firm's Year of Birth}$	Ratio

Sources: Authors' elaboration

The sample used the purposive sampling method, namely determining the sampling using the criteria set by the researcher (Hartman et al., 2015). The following are the criteria set by the author, namely:

- Public companies in the basic and chemical industries, various industries, and the consumer goods industry listed on the IDX in 2018-2022 (already adjusted to the Changes in the Industry

Classification of Listed Companies in 2021).

- The company operated commercially during the study period.
- Never been delisted from IDX.
- Availability of financial reports and annual reports during the study period.
- An Independent Auditor has audited the financial statements and get a Fair Opinion Without Modification.
- Financial reports denominated in Rupiah.

## Data analysis method

### Regression Models:

The analytical method used in this study adopts the analytical model used by Mendoza et al. (2020) using 2 Profit Management models. The Profit Management Model was adopted from research by Dechow et al. (1995), and the Profit Management Model was adopted from the research of Kothari et al. (2005).

This study aims to measure the effect of Financial Distress, Firm Value, and Investment Opportunities on Earnings Management with Sales Growth as Moderating. This test applies two models of moderated regression analysis with the following statistical equations:

### Earnings Management Dechow et al. (1995):

$$NDA\_ACCR\_DC = \beta_0 + \beta_1 FS_t + \beta_2 FV_t + \beta_3 IO_t + \beta_4 FS_t \cdot SG_t + \beta_5 FV_t \cdot SG_t + \beta_6 FA + \beta_7 LEV + \epsilon$$

NDA_ACCR_DC	Earnings Management Dechow et al. (1995)
$\beta_0$	Constant
$B_1 - \beta_8$	Beta coefficient
FS	Financial Distress
FV	Firm Value
IO	Investment Opportunity
SG	Sales Growth
LEV	Leverage
FA	Firms Age
$\epsilon$	Error

### Earnings Management Kothari et al. (2005):

$$NDA\_ACCR\_KT = \beta_0 + \beta_1 FS_t + \beta_2 FV_t + \beta_3 IO_t + \beta_4 FS_t \cdot SG_t + \beta_5 FV_t \cdot SG_t + \beta_6 FV_t \cdot SG_t + \beta_7 FA + \beta_8 LEV + \epsilon$$

NDA_ACCR_KT	Earnings Management Kothari et al. (2005)
$\beta_0$	Constant
$B_1 - \beta_8$	Beta coefficient
FS	Financial Distress
FV	Firm Value
IO	Investment Opportunity
SG	Sales Growth
LEV	Leverage
FA	Firms Age
$\epsilon$	Error

The author uses two earnings management models, to provide a more accurate estimate of discretionary accruals and to provide a comparison between the suitability of performance effectiveness and performance as measured in the accrual regression to produce a better sensitivity analysis of earnings management practices (Mendoza et al., 2020).

## RESULTS AND DISCUSSION

### Sample Selection Results

The population of this study amounted to 88 companies, but the number of samples that can be used is as much as 67 companies. The research period for the last 5 years is the year 2018-2022.

### Descriptive Statistics Earnings Management Dechow et al. (1995):

	EM	FS	NFV	IO	SG	LEV	FA
Mean	0.029697	8.619252	2.041152	3.082902	0.239291	0.433095	41.92537
Minimum	-0.047404	-23.28397	0.230876	-4.766517	-0.997914	0.061132	9.000000
Maximum	0.868443	23.00758	28.97216	56.79190	30.77200	2.899874	93.00000
Std. Dev.	0.054724	4.702809	2.368819	6.167815	1.836688	0.260343	16.46109
Observations	335	335	335	335	335	335	335

Source: Eviews 12

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Source: Eviews 12

### Sensitivity Analysis Results

#### Comparison of the Results of the Coefficient of Determination Earnings Management Model Dechow et al. (1995) and Kothari et al. (2005)

Model	R <sup>2</sup>	Adjusted R <sup>2</sup>
Dechow et al. (1995)	0.741	0.735
Kothari et al. (2005)	0.623	0.614

Source: Eviews 12

#### Comparison of Test Results t Earnings Management Model Dechow et al. (1995) and Kothari et al. (2005)

Variable	Expected Sign	Prob. <sup>o</sup> Dechow et al. (1995)	Actual Sign Dechow et al. (1995)	Prob. <sup>o</sup> Kothari et al. (2005)	Actual Sign Kothari et al. (2005)
C		0.0430		0.0001	+
FS	+	0.1225	-	0.0000	+
FV	+	0.0877	-	0.0000	+
IO	+	0.3409	-	0.0790	-
FSXSG	+	0.0000	+	0.0000	+
FVXSG	+	0.0000	+	0.0000	+
IOXSG	+	0.0026	+	0.0015	+
LEV	+	0.1229	-	0.0000	+
FA <sup>(*)</sup>	+	0.0001	-	0.0344	-

<sup>\*)</sup> 5% Significance Level.

<sup>\*\*)</sup> Coefficient is Negative.

Source: Eviews 12

It can be concluded that the Profit Management Model of Dechow et al. (1995) and Kothari et al. (2005) produced an incomplete sensitivity analysis (mixed result). The results of the coefficient of determination - Adjusted R<sup>2</sup> Profit Management Model Dechow et al. (1995) of 0.735, higher than Kothari et al. (2005), which amounted to 0.614. Meanwhile, on the results of the t-test, Kothari et al. Profit Management Model. (2005) produces a better probability when compared to Dechow et al.'s Profit Management Model. (1995), except for the Investment Opportunity variable, which does not affect either Earnings Management Model.

### CONCLUSION

The results of the study show that (1) Financial Distress has a positive effect on the Earnings Management Model Kothari et al. (2005). (2) Firm Value has a positive effect on the Earnings Management Model Kothari et al. (2005). (3) Investment Opportunity does not affect both Earnings Management Models (4) Sales Growth reinforces the positive effect of Financial Distress, Firm Value, and Investment Opportunity on both Earnings Management Models. (5) Leverage has a positive effect on the Earnings Management Model Kothari et al. (2005). (6) Firm Age has a negative effect on both Earnings Management Models. It can be



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