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**The Effect of Information Asymmetry and Profitability on Real Earnings Management**

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**Abstract**

This research aims to determine the effect of information asymmetry and profitability on real earnings management. The research method used is quantitative with annual report data from a sample of manufacturing firms listed on the Indonesia Stock Exchange in 2016-2020 which were selected based on purposive sampling. The number of samples used in this study was 515 firm-years. The hypothesis was tested by multiple linear regression test. The findings found in this research are the independent variables, namely information asymmetry, which has a significant effect on real earnings management with abnormal Cash Flow Operations (Abn CFO) and abnormal production costs (Abn PROD), but has no significant effect on real earnings management with abnormal discretionary expenses (Abn DISC). Profitability has a significant effect on real earnings management with the three proxies (Abn CFO, Abn PROD, and Abn DISC). However, if the research focuses on firms suspecting real earnings management, information asymmetry has an effect on earnings management with the Abn DISC.

**Keywords:** real earnings management, information asymmetry, profitability

**1. Introduction**

Financial statements and the firm are inseparable. Financial statements are a means to inform the condition of the firm in a certain period and show the firm's achievements in generating income (Ghozali and Chariri, 2007). Management realizes that users of financial statements tend to pay attention to income, especially management whose performance is measured based on earnings information (Murni, 2018). Therefore, it is not uncommon for users of financial statement information to highlight the level of profitability. Profitability is the firm's ability to generate income. However, the information conveyed in the financial statements is sometimes not in accordance with the real conditions of the firm or what can be called information asymmetry.

Information asymmetry arises because of the imbalance of information held by managers and stakeholders. The more firm information owned by managers than stakeholders, the managers have the opportunity to carry out earnings management. Information asymmetry and the tendency of stakeholders to pay more attention to the profitability of the firm's performance parameters cause management to manipulate in showing earnings information (Agustia, 2013). This is often referred to as earnings management. When the firm obtains a small level of profitability in a period it will allow managers to carry out earnings management so that investors stay afloat.

The case of earnings management in manufacturing firms occurred at PT Krakatau Steel Tbk. The company recorded losses for 8 consecutive years from 2012 to 2019. In the third quarter of 2019 PT Krakatau Steel Tbk posted a loss of US\$211.91, prompting management to announce a debt restructuring of US\$2.2 billion or Rp30 trillion (assuming an exchange rate of Rp13 .663 per US dollar) (Rika, 2020). The many phenomena of earnings management in the manufacturing industry have not discouraged investors from investing in the manufacturing industry. This industry is still the industry that is most in demand by investors, because the development of the manufacturing industry is quite high, has a high average return, and is one of the pillars of national economic development by contributing the highest exports in 2019 (Ministry of Industry, 2019). In addition, according to data from the Ministry of Industry, the manufacturing industry made the largest contribution to 126.57 billion US dollars or 75.5% of the achievement of the national export value. Therefore, researchers are interested in researching manufacturing firms listed on the Indonesia Stock Exchange in 2016-2020.

Through this study, researchers chose information asymmetry and profitability as independent variables and real earnings management as the dependent variable because profitability is the most highlighted by stakeholders. However, on the one hand, information asymmetry is unavoidable. Therefore, there will definitely be a tendency for managers to carry out real earnings management because of information asymmetry and stakeholders pay more attention to the profitability of the firm's performance parameters. In addition, the existence of a research gap also strengthens the reason for the researchers to choose these variables. Wiyadi et al. (2016) states that profitability has no effect on real earnings management. These results are supported by research by Rianto and Herawaty (2019) which states the same thing. However, Putri and Nuswandari (2021) proves that profitability has a positive effect on real earnings management and Agustia and Suryani (2018) state that profitability has a negative effect on earnings management. Wicaksono (2015); Abad-Diaz et al. (2018) stated that information asymmetry has a positive and significant effect on real earnings management. However, research by Dasmaran and Odeh (2020); Puspitasari (2019) states that information asymmetry does not affect real earnings management. This study examines the effect of information asymmetry and profitability on real earnings management.

## **2. Literature Review**

### *2.1 Agency Theory*

Agency theory states that there is a contractual relationship between company owners (principals) and management (agents) (Jensen and Meckling, 1976). The owner of the company

authorizes the management to carry out the company's operational activities. Then, the owner of the company expects management to utilize resources optimally for the welfare of the principal in the short and long term (Hery, 2017).

### *2.2 Signaling Theory*

Signaling theory is an action taken by the company's management to provide clues to investors regarding the company's prospects. Company executives who have better information about the company are encouraged to convey this information to potential investors so that the company's stock price increases (Brigham and Houston, 2014; Ross, 1977). Therefore, the manager is obliged to give a signal about the condition of the company to the owner as a form of responsibility for managing the company. In addition, managers are obliged to provide information because there is information asymmetry between managers and stakeholders.

### *2.3 Information Asymmetry*

Information asymmetry is where management as a party has more control over information than investors/creditors (Suwardjono, 2014). Two types of information asymmetry (adverse selection and moral hazard) according to Scott (2015) create additional risk for investors. The risk in adverse selection is the unknown parameter is the honesty of the insiders while the risk in moral hazard is the unknown parameter is the extent of the manager's negligence. When information asymmetry occurs, outside investors will protect themselves by bidding the price of securities with the expected amount of loss in the hands of people who have an information advantage, thereby increasing the company's cost of capital. The existence of asymmetry between management and other parties provides an opportunity for managers to carry out earnings management in order to increase their utility. The company is a collectivity of many interests which has raised a question, namely whether it is true that management in running the company is in harmony with the interests of other stakeholders (Jensen and Meckling, 1976).

### *2.4 Profitability*

According to Kasmir (2016) profitability is a ratio to assess the company's ability to seek profit. Therefore, the greater the change in profitability, the greater the management's ability to generate profits. This is supported by Purnama (2017) who says that profitability is important information for external parties because if profitability is high, the company's performance can be said to be good and vice versa. This can trigger investors to predict investment returns and risks (Fahmi, 2011).

### *2.5 Hypothesis*

#### *2.5.1 Information Asymmetry and Real Earnings Management*

Information asymmetry is an imbalance of information owned by firm management and firm parties. This party can only rely on the information provided by the manager if they want to know the performance and condition of the firm. The quantity and quality of information received and controlled by stakeholders is also highly dependent on the willingness of firm managers. This situation results in a tendency to be superior in mastering information compared to other parties. This is in line with agency theory which is always related to conflicts between agents and principals. One of the obstacles that arise, among others, and the principal is the existence of asymmetric information or asymmetric information. In firms with a high level of

information asymmetry, it will be more likely that real earnings management will occur. Several previous studies, namely Jasman and Amin (2017), Abad-Diaz et al. (2018), and Christiningrum and Grace (2020) state that information asymmetry affects real earnings management.

H<sub>1</sub>: Information asymmetry affects real earnings management.

### 2.5.2 Profitability and Real Earnings Management

Profitability is the firm's ability to generate profits. Profit is the most important factor in the firm so that the firm can survive. The greater the profitability ratio, the higher the firm's effectiveness in generating profits for each asset invested. In general, managers tend to try to avoid reporting losses. This action is in accordance with signal theory, namely that managers provide clues to investors about the firm's prospects. As a result, firms have great motivation to inform a better picture of firm performance and improve firm valuation (Astuti and Pangestu, 2019). Therefore, firms with a high level of profitability will be more likely to have real earnings management compared to those with low profitability. This statement is also in line with the results of research by Putri and Nuswandari (2021); Puspitasari (2019); Astuti and Pangestu (2019); Devi (2018) which state that profitability has a significant positive effect on real earnings management.

H<sub>2</sub>: Profitability affects real earnings management.

## 3. Method

### 3.1 Sample

This study uses secondary data in the form of annual reports obtained from the Indonesia Stock Exchange (IDX) and the official websites of related firms. The sample used in this study are manufacturing firms listed on the Indonesia Stock Exchange in the 2016-2020 period. This sampling technique uses purposive sampling which aims to obtain a representative sample in accordance with the specified criteria. The summary of sample selection procedure are given in Table 1. Table 1 shows that the number of samples used in this study is 515 firm-years.

Table 1. Summary of Sample Selection Procedure

No	Sample Selection Criteria	The Total of Samples				
		2016	2017	2018	2019	2020
1	Manufacturing firms that are listed and not delisted from the Indonesia Stock Exchange and publish annual reports for 2016-2020	147	158	166	170	181
2	Manufacturing firms that do not display the data and information used to analyze each variable in the study during 2016-2020	(21)	(23)	(24)	(24)	(27)
3.	Manufacturing firms that have information asymmetry < 0 during 2016-2020	(41)	(33)	(31)	(53)	(20)
4.	Firms with annual reports not ending December 31	(2)	(2)	(2)	(2)	(2)
Number of sample firms		83	100	109	91	132
Number of observation data (firm-years)		515				

### 3.2 Variable Definition and Measurement

Real earnings management is calculated by the approach used by Roychowdhury (2006) and Cohen and Zarowin (2010), which is as follows:

Abnormal Cash Flow Operations:

$$\frac{CFO}{A_{t-1}} = a_0 + a_1 \left( \frac{1}{A_{t-1}} \right) + \beta_1 \left( \frac{St}{A_{t-1}} \right) + \beta_2 \left( \frac{\Delta St}{A_{t-1}} \right) + \varepsilon_t$$

Abnormal Production Cost:

$$\frac{PROD}{A_{t-1}} = a_0 + a_1 \left( \frac{1}{A_{t-1}} \right) + \beta_1 \left( \frac{St}{A_{t-1}} \right) + \beta_2 \left( \frac{\Delta St}{A_{t-1}} \right) + \beta_3 \left( \frac{\Delta S_{t-1}}{A_{t-1}} \right) + \varepsilon_t$$

Abnormal Discretionary Expenses:

$$\frac{DISC_t}{A_{t-1}} = a_0 + a_1 \left( \frac{1}{A_{t-1}} \right) + \beta \left( \frac{\Delta S_{t-1}}{A_{t-1}} \right) + \varepsilon_t$$

where:

$CFO_t$  = The operating cash flow of firm i in year t.

$PROD_t$  = Cost of goods sold plus changes in inventory.

$DISC_t$  = Research and development costs plus advertising costs plus selling, administrative, and general costs.

$A_{t-1}$  = Total assets of the firm at the end of year t-1.

$S_t$  = Firm sales at the end of year t.

$\Delta S_t$  = Changes in the firm's sales in year t compared to sales at the end of year t-1.

$S_{t-1}$  = Changes in the firm's sales in year t-1 compared to sales at the end of year t-2.

$\alpha, \beta$  = Regression coefficient.

$\varepsilon$  = Error.

Roychowdhury (2006) added, to detect whether the firm is doing real earnings management with the equation:

$$Y_t = \beta_0 + \beta_1 \text{Suspect\_}NI_t + \beta_2 NI_t + \beta_3 CL_t + \varepsilon_t$$

where:

$Y_t$  = Real earnings management

$\text{Suspect\_}NI_t$  = Indicator variable with a value of 1 for the suspect firm – namely firms with total net income/assets worth 0-0.005, are assumed to have the motivation to do real earnings management because of their poor performance and are given a value of 0 for the others (non-suspect firms/rest of the sample).

$NI$  = Net income before extraordinary items divided by total assets.

$CL$  = Current liabilities divided by total assets.

$\varepsilon$  = Error.

NI and CL are control variables, with the conclusion:

1.  $Y_t$  = abnormal CFO, if  $\beta_1$  has a significant negative value, the firm suspects that it has manipulated sales so that it has lower abnormal operating cash flows than other firms.
2. For  $Y_t$  = abnormal production costs, if  $\beta_1$  has a significant positive value then the firm suspects to manipulate by producing excessively so that it has abnormal production costs that are higher than other firms.
3. For  $Y_t$  = abnormal discretionary expenses, if  $\beta_1$  is negative and significant then the firm suspects to be manipulating by reducing discretionary costs so that it has abnormal discretionary costs that are lower than other firms.

According to Hartono (2008), the indicator used to measure the information asymmetry variable can be seen from the difference between the lowest buying price and the highest selling price. Therefore, information asymmetry can be formulated:

$$SPREAD_{it} = \frac{(ask_{it} - bid_{it})}{(ask_{it} + bid_{it})/2} \times 100$$

where:

$SPREAD_{i,t}$  = Bid-ask spread of firm i on day t

$ask_{i,t}$  = The highest ask price of firm i's shares on day t.

$bid_{i,t}$  = The lowest bid price of firm i's shares on day t

This study uses a return on assets (ROA) measurement because ROA is a measure of top-level management performance, in other words ROA can describe how management can utilize these assets into firm earnings (Murni, 2018). According to Kasmir (2011), ROA is calculated by comparing earnings after taxes with total assets with the formula:

$$ROA = \frac{\text{Earning after tax}}{\text{Assets}}$$

### 3.3 Hypothesis Testing

This study uses multiple linear regression in determining the magnitude of the influence between the independent variables, namely information asymmetry ( $X_1$ ) and profitability ( $X_2$ ) on real earnings management ( $Y$ ). The multiple linear regression model used is as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + e$$

where:

$Y$  = Real earnings management

$X_1$  = Information asymmetry

$X_2$  = Profitability

$e$  = error term

4. Results and Discussion

4.1 Descriptive Statistics

The results of research conducted descriptively in this study can be seen in Table 2 following.

Table 2. Descriptive Statistics of Research Variables

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
IA	515	0.05	45.10	1.4946	2.58514
ROA	515	-0.45	13.40	0.0861	0.60565
Abn CFO	515	-0.77	1.79	-0.0015	0.15048
Abn PROD	515	-1.68	3.12	0.0003	0.35723
Abn DISC	515	-0.45	12.84	0.0007	0.80522
Valid N (listwise)	515				

4.2. Results

This study examined the effect of information asymmetry and profitability on real earnings management. The hypothesis testing results for all firms are shown in Table 3. Then, hypothesis testing results for suspect firms are shown in Table 4.

Table 3. Hypothesis Testing Results

Model	Abn CFO		Abn PROD		Abn DISC	
	B	Sig.	B	Sig.	B	Sig.
(Constant)	-0.015	0.032**	-0.015	0.474	-0.070	0.000***
1 IA	-0.011	0.001***	0.027	0.006***	0.001	0.749
ROA	0.421	0.000***	-0.327	0.022**	0.240	0.000***

Notes: \*Significance level at 0.10; \*\*Significance level at 0.05; \*\*\*Significance level at 0.01; Dependent variable is real earnings management (Abn CFO, Abn PROD, Abn DISC); IA = information asymmetry; ROA = return on assets.

Based on Table 3, the significance value of the information asymmetry variable is less than 0.05 (0.001 and 0.006), which means that the information asymmetry variable has a significant effect on real earnings management with abnormal CFO and abnormal PROD. Then, the significance value of profitability variable (ROA) is less than 0.05 (0.000, 0.022, and 0.000), which means that the profitability variable has a significant effect on real earnings management with the abnormal CFO, abnormal PROD, and abnormal DISC. So it can be concluded that H<sub>1</sub> and H<sub>2</sub> in this study are supported or acceptable.



Table 4. Hypothesis Testing Results of Suspect Firms

Model		Abn CFO		Abn PROD		Abn DISC	
		B	Sig.	B	Sig.	B	Sig.
1	(Constant)	-0.002	0.821	-0.005	0.751	-0.023	0.524
	Suspect_NI	-0.035	0.189	0.092	0.155	0.001	0.994
	IA	0.001	0.120	0.001	0.633	0.008	0.001***
	ROA	0.000	0.785	0.000	0.576	0.000	0.768

Notes: \*Significance level at 0.10; \*\*Significance level at 0.05; \*\*\*Significance level at 0.01; Dependent variable is real earnings management (Abn CFO, Abn PROD, Abn DISC); Suspect\_NI = Suspect\_Net Income; IA = information asymmetry; ROA = return on assets.

Table 4 shows that in the information asymmetry variable, it was found that the significance level in the abnormal DISC < 0.05 (0.001) if focused on the suspect firm, produced information that information asymmetry had a significant effect on real earnings management.

#### 4.3. Discussion

##### 4.3.1. The Effect of Information Asymmetry on Earnings Management with Proxy Calculation of Abnormal CFO and Abnormal PROD

The results of hypothesis testing mean that information asymmetry has a significant effect on real earnings management using Abnormal CFO and Abnormal PROD proxies. The tendency of investors who only know little information about the company makes managers or agents have the opportunity to manipulate earnings. One of them is through the manipulation of real activities through the flow of operating activities. For investors, company policies will have implications for cash flow prospects in the future, while for regulators (government) will have an impact on the amount of taxes that will be received and the effectiveness of the role of providing protection to the public in general. Therefore, in line with signal theory, managers are obliged to provide information in the form of reports on the condition of the company to shareholders and stakeholders. This finding is consistent with agency theory and research by Abad-Diaz et al. (2018) and Christiningrum and Grace (2020) which state that information asymmetry affects real earnings management. The occurrence of information asymmetry makes it easier for managers to take real earnings management actions so that it will have a bad impact on shareholders in influencing investors to make decisions and for regulators in influencing tax collection.

##### 4.3.2. The Effect of Information Asymmetry on Earnings Management with Abnormal DISC

Information asymmetry test results mean that information asymmetry has no significant effect on real earnings management using the abnormal DISC proxy. This finding does not support agency theory which states that information asymmetry arises when managers know more about internal information and firm prospects in the future than shareholders and stakeholders. This result is consistent with the research by Dasmara and Odeh (2020) and Putri and Machdar (2017) which states that information asymmetry has no significant effect on real earnings management. The absence of information asymmetry effect on earnings management is due to two possibilities,



namely the existence of tight internal control, and the possibility that the manager is also an investor. When this happens, the information asymmetry that occurs between managers and owners is reduced (Dwijaya, 2012).

#### 4.3.3. The Effect of Profitability on Earnings Management with Proxy Calculation of Abnormal CFO, Abnormal PROD, and Abnormal DISC

Profitability has a significant effect on real earnings management practices, meaning that the higher a firm's ROA, the higher real transaction earnings management practices. These results are in accordance with research conducted by Putri and Nuswandari (2021) and Ashari and Haryono (2021) which states that profitability has an effect on real earnings management. This finding is also in line with the signal theory where the firm's management must provide instructions for investors regarding the firm's prospects, in this case the signal that is trying to be given is in the form of a good level of profitability. Therefore, if the firm has a low level of profitability, the firm will tend to do real earnings management so that the firm's prospects are seen to increase and share prices increase.

#### 4.3.4. Testing Against Suspected Firms

Tests on Abnormal CFO, Abnormal PROD, and Abnormal DISC resulted in the finding that initially information asymmetry had no effect on earnings management with the abnormal DISC proxy but if it focused on firms suspected of conducting earnings management, information asymmetry still had a significant effect on earnings management with the abnormal DISC proxy. Therefore, this study succeeded in proving that the information asymmetry and profitability had an effect on real earnings management.

### 5. Conclusion

This study examines the effect of information asymmetry and profitability on real earnings management. Information asymmetry has a significant effect on earnings management with abnormal CFO and abnormal PROD proxies in manufacturing firms listed on the IDX in 2016-2020. Information asymmetry has no significant effect on earnings management with the abnormal DISC proxy in manufacturing firms listed on the IDX in 2016-2020. However, if the research focuses on firms suspecting earnings management, information asymmetry has an effect on earnings management with the abnormal DISC proxy. Profitability with ROA proxy has a significant effect on earnings management with the three proxies (Abnormal CFO, Abnormal PROD, Abnormal DISC) in manufacturing firms listed on the IDX in 2016-2020.

The limitations of this study are that the type of sector used in this study still uses the sector division based on the Jakarta Stock Industrial Classification (JASICA) index, while as of January 19, 2021, there has been a change in the type of sector that previously used the Jakarta Stock Industrial Classification (JASICA) index to IDX. Industrial Classification (IDX-IC). This research contributes to adding to the wealth of knowledge and can be a consideration for investors and regulators in making policies.

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