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Impact of Earning Volatility, Real Earnings Management and Accruals on Investment Policy: Evidence from Indonesia

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Abstract

This study aims to analyze earnings volatility, real earnings management, and accrual earnings management on the company's investment policy. This study examines the effect of earnings volatility on investment policy in more depth, where the volatility of earnings can affect the company's earnings management activities and investment policy. The previous research was only related to cash flow volatility on investment policy, in fact, earnings volatility determines the investment policy, and earnings volatility is only related to debt policy, whereas debt policy is to maximize the company's investment. The sample used in this study was 117 manufacturing companies that were listed on the Indonesian stock exchange with a total of 351 observations during the year 2018-2020. This study used 2 models, each of which was tested by linear regression. The results showed that earnings volatility increased management motivation in carrying out real earnings management and accrual earnings management practices through the manipulation of production costs done by managers. However, a larger effect of volatility was found in the real earnings management model. Accrual earnings management affected the company's over-under investment policy, while real earnings management through operating cash flow and production costs had no significant effect on investment policy. Accrual earnings management was able to increase the company's over-under investment policy.

Keywords : Earnings Management; investment policy; volatility
JEL Classification : E22, F10, G10

1. INTRODUCTION

Company's management, stakeholders, and profit are the indicator to assess the good or bad a company in managing its business activities. The company's ability to generate profits is supported by the management's ability to maximize the resources owned by the company and the market conditions in which the company is located. In reality, the company does not always experience increasing profit, but it is fluctuating throughout the year of operation. It is earnings volatility that influences the company's stakeholders in making decision. According to research by Phua et al., (2021), shareholders do not particularly like the large amount of profit fluctuations every year, because this condition

will be considered as the investments made by the investors owns a risk that can affect the motivation of investors to invest.

Management, as the party that controls information, including fluctuating company's profit information, has the authority to determine the information presented to other parties, including the discretion to choose and change accounting methods and estimates that will affect financial statement information. Investors and creditors are users of financial statements who are often affected by the discretion of the management. Of the many information in financial statement which becomes the concern of investors, generally the center of attention is the profit information. Investors often focus on company's profit without paying attention to the procedures used to generate profit information (Dichev & Tang, 2009). This condition is often utilized by managers to carry out earnings management.

Earnings management means managerial effort to intervene the information contained in the financial statement by utilizing the freedom of choosing and using accounting methods and determining the value of accounting estimates. According to Ji et al., (2019), there are two earnings management instruments, namely decisions related to pure financial reporting such as changes in accounting methods, hereinafter referred to as accrual earnings management, and real operating decisions such as asset sales and changes in R&D expenditures which are then called real earnings management. Research on earnings management has been widely carried out in Indonesia. Rachmawati, (2019) concluded that there was an indication of income smoothing in Indonesia and the general target of income smoothing is the operating income. The conclusion is income smoothing tends to be done by companies with low profitability and tends to be risky (Moradi et al., 2021). In the research of Bhutto et al., (2021) regarding the return, stock, risk and income smoothing practices, concluded that there was no difference between the returns of smoothers and non-smoothers companies in giving their stock returns. Agus Irwandi, (2014) managed to find evidence that companies carry out real earnings management through operating cash flows and affect market performance in the group of the 50 best companies according to SWA100 which have total assets above Rp. 1 trillion and the best EVA. Yu et al., (2006) found that there was earnings management motivation when the company conducts a rights issue using classical earnings management measures, namely proxies for short-term discretionary accruals and long-term discretionary accruals as well as real activity manipulation through operating cash flows, but cannot prove the existence of real activity manipulation in production costs and discretionary costs.

Earnings management practices carried out by managers also affect the company's investment policy. The earnings volatility generated from the company's operating activities causes the assessment of the company by external parties such as shareholders, creditors, and suppliers to be uncertain. This assessment then affects the size of the company's possibility to obtain loan funds from creditors. These loan funds are obtained from creditors such as banks or other lending institutions which are then used by managers to run new projects for the company. Several studies that examined the effect of earnings management on investment have been carried out. Safrida et al., (2020) found that good quality accounting information could reduce asymmetric information between managers and shareholders which would then create more efficient company investments. Yazdani Chamzini et al., (2019) also found that the effect of the company's accruals quality was negatively significance on the company's over/under investment policy. Anwar, (2019) stated that earnings volatility could affect the debt policy. Meanwhile, Minton & Schrand, (1999) stated that cash flow volatility could affect the investment policy. Anwar, (2019) suggested that earnings volatility affected debt policy only, whereas in general, most of

debt policies are to maximize the company's investment with the company's investment policy (Lukas & Thiergart, 2019). Meanwhile, Minton's research only examined the volatility of cash flow on investment, whereas earnings volatility is more decisive in terms of the investment policies made. Based on the results of Saiful Anwar and Minton's research, this study examines the effect of earnings volatility on investment policy in more depth, where the volatility of earnings can affect the company's earnings management activities and investment policy.

In this study, the authors intend to examine the effect of corporate earnings volatility on earnings management, both accrual and real, and the effect of earnings management on company's policy in determining their investment policy in the future, whether the investments made by managers are over-invested or under-invested. This research needs to be done considering that Indonesia is a potential investment place for foreign investors and the amount of investment that will be made by the company is based on the expectations of investors, creditors, and other interested parties which depend on the size of the company's revenue growth. Based on the description of the problems above, this study wants to investigate empirically related to 1). Does the earnings volatility that occurs in the company affect the level of earnings management practice, 2). Will the companies that perform earnings management in the previous year over-or under-invest in the following year? 3). Do real earnings management practices has a greater positive effect than accrual earnings management for companies in making investments?

2. HYPOTHESIS

Earnings Volatility and Earnings Management

The volatility of a company's earnings shows that the company is in a non-ideal condition because investors, creditors, including suppliers will assume that the companies with high volatility are at a higher risk. This will affect the confidence of investors, creditors, and suppliers in investing or providing loans to the company. Agency theory explains management's engrossment in earning management, considering stewardship and agency-principal relationship. At the cost of stewardship relationship, management of a firm, in a shadow, will protect their interest ahead of investors. High volatility will motivate management to carry out earnings management so that company profits become stable. According to Hussain et al., (2020), companies are worried about fluctuations in profits that arise because it can cause investors to withdraw their investment in the company. The possibility that companies do not distribute dividends due to fluctuations in their profits or they are unable to pay for the goods they buy or pay the principal loans given to the company makes external parties such as investors, creditors, and suppliers avoid companies with high-profit fluctuations. This is in accordance with the research of Huq (2016) which stated that an increase in earnings volatility could reduce the supply of debt to the company by creditors. Djaddang et al., (2016); Humeedat, (2018); Chen & Hung, (2021) proved that high fluctuations in earnings caused the management to perform earnings management. Based on the explanation of the theory and previous research, the hypothesizes of this research are:

H1:Earnings volatility increases management's motivation to perform accrual earnings management.

H2a: Earnings volatility increases management's motivation to perform real earnings management through operating cash flow.

H2b: Earnings volatility increases management's motivation to perform real earnings management through production costs.

Agency theory explains that earnings management as there is high informational asymmetry between the investors and the issuers at the time of the offering. Earnings management consists of two categories: discretionary accruals management and real activity manipulation. Under discretionary accruals management, companies adopt accounting policies that will increase reported earnings at the end of the year but do not affect its operations. In contrast, in real earnings management, real activity manipulation involves deliberate cuts in discretionary spending to increase income. For example, a company may decide to cut down on R&D spending to increase current year's revenue. Unlike discretionary accruals, manipulation of real activities tends to endanger a firm's long-term ability to generate revenue. Real activity manipulation includes a variety of deliberate actions including the use of discounts to increase current year's revenues, changes to delivery schedules and delays in maintenance expenditures. Earnings management practices that can be carried out by managers cause managers to choose or prioritize one of these earnings management techniques. Management adapts it to all risks that are the consequences of implementing earnings management, with market conditions and tight regulations from the government. According to research conducted by Suprianto & Setiawan (2020), accrual earnings management is an earnings management technique commonly used by managers in manipulating financial statements. However, in another study, Jeong & Bae (2016), found that managers prefer to perform real earnings management than accrual earnings management because of the tight regulations and auditor supervision on accrual earnings management practices, and the difficulty of detecting real earnings management practices. Frederick L et al., (2016) suggested that real earnings management might obstruct firms' technological progress and highlight the potential costs of managerial manipulation of R&D expenditures in order to modify reported earnings.

Therefore, this study adds an additional hypothesis, namely:

H3: Companies with high earnings volatility will choose real earnings management over accrual earnings

Earnings Management and Company's Investment Decision

Agency theory explains management's engrossment in earning management, considering stewardship and agency-principal relationship.The earnings management carried out by the company, whether carried out with real earnings management or accrual earnings management, will affect the investment policies for the next period. Real earnings management or accrual earnings management activities carried out in the previous period will affect the composition of the previous period's earnings, including the investment orientation of the next period whose funding comes from retained earnings. Research conducted by Park (2018), suggested that the companies who perform earnings management in their financial statements in the previous year would experience abnormal over or under investment in the following year. In another study, Kurniawan et al., (2022) stated that discretionary accruals were positively related to abnormal company investment or in this study over-under investment. Based on the explanation of the theory and previous research, the hypothesizes of this research are :

H4: Accrual earnings management in the previous year increases the company's over-under investment policy in the following year.

H5a: Real earnings management through operating cash flow in the previous year increases the company's over-under investment policy in the following year.

H5b: Real earnings management through production costs in the previous year increases the company's over-under investment policy in the following year.

In Indonesia, the research on the comparison of the effect of earnings management, both accrual and real, was conducted on the performance of companies conducting initial public offerings (IPO) by Liu & Lyu (2016). The result is that the company's motivation to perform earnings management when the company conducts an IPO can be detected by discretionary accruals, but not by real activity manipulation. Accrual earnings management is an earnings management technique preferred by management because of its ease of use. Therefore, after seeing the effect of each earnings management practice, the authors want to know which one has a positive effect on the company's over-under investment policy, the authors give the following hypothesis:

H6: Accrual earnings management in the previous year has a greater effect on improving decisions on the company's over-under investment for the current year rather than the real earnings management of the previous year.

3. METHODS

The population of this study are the manufacturing companies listed on the Indonesia Stock Exchange (IDX) on the year of 2018-2020, amounting to 195 companies. To determine the sample used, the purposive sampling method was applied with the criteria as follows: 1) Manufacturing companies that are consecutively listed on the IDX on the year of 2018-2020. 2) The annual reports provided are in Indonesian Rupiah currency. 3) Provide completeness of data in accordance with the measurement of variables. The number of samples in this study were 117 companies with a total of 351 observations. Manufacturing companies were chosen because they are relatively sensitive to changes in economic conditions that occur. The source of data acquisition comes from the company's financial statements published on the Indonesia Stock Exchange’s official website (www.idx.co.id).

Model 1

This study involved independent variables, dependent variables and control variables. To test hypotheses 1, 2 and 3 regarding the effect of earnings volatility on earnings management, the authors used a modified model from the research of Damayanty & Murwaningsari (2020) as follows:

Accrual earnings management, the model used to determine discretionary accruals is as follows:

$DA = \alpha_0 +_1 EBITDA_{it} +_2 Sales_{it} +_3 MBR_{it} + \varepsilon i,_t$ ……………… ……………………..…… (1)

Real earnings management, the model used is the same, only the dependent variable differs.

1) $AbnOCF = \alpha_0 +_1 EBITDA_{it} +_2 Sales_{it} +_4 MBR_{it} + \varepsilon i,_t$ ……………………….………(2)

2) $AbnPROD = \alpha_0 +_1 EBITDA_{it} + Sales_2 MBR_{it} + \varepsilon_{i,t}$ …………………………………..(3)

Note:

EBITDA : is a proxy for earnings volatility which duplicates research by Bradley et al. (1984) which is the measurement of volatility using company profits, indicated by EBITDA (Earnings Before Interest Depreciation and Amortization) from the company year calculated by the formula = / Total Assets year t * 100% where is the standard deviation of EBITDA every 3 years

$Sales_{it}$: change in net sales for the year, measured by = $sales_t – sales_{t-1} / sales_{t-1}$

MBR : the company's market-to-book ratio, calculated by the company's market value at the end of the current year divided by the company's total equity at the end of the current year.

DA : the company's discretionary accruals that have been predicted by the accrual earnings management model

AbnOCF : the value of abnormal operating cash flows that have been predicted by the real earnings management model.

AbnPROD : the value of abnormal production costs that have been predicted by the real earnings management model.

In Model 1, hypotheses 1, 2(a), 2(b), and 3 are proven by observing the effect of the independent variable EBITDA on the dependent variables DA, AbnOCF, and AbnPROD as proxies of earnings management, both accrual and real. The control variables used are Sales Growth (SG) and MBR

Model 2.

To determine the effect of earnings management practices, both accrual and real on companies that do over/under investment, this study adopted the model used in the research of Hussain et al., (2020) as follows.

Accrual earnings management is used:

$$OVERUNDERIVT=\beta_0+\beta_1 DAi_{,t-2} +_2 DAi_{,t-1} +_3 DAi_{,t} + 4DAi_{,t+1} + \varepsilon_{i,t} \text{ ……...(4)}$$

Real earnings management through operating cash flows:

$$OVERUNDERIVT=\beta_0+\beta_1 AbnOCFi_{,t-2}+\beta_2 AbnCFOi_{,t-1}+\beta_3 AbnOCFi_{,t}+\beta_4 AbnOCFi_{,t+1} + \varepsilon i_{,t} \text{ ……...…….(5)}$$

Real earnings management through production costs:

$$OVERUNDERIVT = \beta_0 + \beta_1 AbnPRODi_{,t-2} + \beta^2 AbnPRODi_{,t-1} + \beta_3 AbnPRODi_{,t}+ \beta_4 AbnPRODi_{,t+1} + \varepsilon i_{,t} \text{ ……..…….(6)}$$

Note:

OVERUNDERIVT : value of over/under investment of a company in year *t*

DA : value of the company's discretionary accruals, seen from t-2, t-1, t and t+1

AbnOCF : abnormal operating cash flow value of the company, seen from t- 2, t-1, t and t+1

AbnPROD : the company's abnormal production cost value, seen from t-2, t-1, t and t+1

This study used t-2, t-1, t, and t+1 as the research periods because it is assumed that in year t-2, t-1 to t-0 managers could manipulate financial statements through earnings management where investors and creditors did not know the quality of the company's financial statements because of the less strict government regulations and audits of public accountants. However, at t+1, information regarding financial statements has actually been disclosed so that investors and creditors knew the actual financial condition of the company so that managers would no longer able to perform earnings management as to obtain funds and carry out over/under investment activities (Suprianto & Setiawan, 2020).

Operational Definition

Accrual Earnings Management Variable:

To obtain the value of discretionary accruals, the authors used the Jones model (1991):

$TA_{it}/Assets_{it-1} = k_1\ 1/Assets_{it-1} + k_2 Revit/Assets_{it-1} + k_3 PPE_{it}\ /Assets_{it-1} + \varepsilon i,_t$ …(7)

The estimated coefficient from the above equation was then used to estimate the company's level of normal accruals (NAit) specifically:

$NA_{it} = k_1\ 1/Assets_{it-1} + k2(\Delta Revit - AR\ it)/Assets_{it-1} + k3PPE_{it}/Assets_{it-1} + \varepsilon i,_t$…….(8)

For accrual earnings management, the authors measured discretionary accruals from the absolute value of the difference between total accruals and normal accruals from the above model, as follows:

$DA_{it} = (TA_{it}/Assets_{it-1})\text{-}NA_{it}$ ……..(9)

Description:

TAit : Total accruals owned by the company in year t, determined from TAit = EBXIit - OCFit

Nait : Normal accrual value owned by the company in year t

EBXI : Earning before extraordinary items and discontinued operations of the company i in year t.

OCFit : Operating cash flow of company i in year t

Assetsi, t-1 : Total assets of company i in year t-1

Revit : Changes in income from year to year

AR it : Changes in company receivables from year to year

PPEit : total value of land, property and company supplies in year t

Real Earnings

The real earnings management was represented by the dependent variables PROD (for abnormal production costs) and OCF (for abnormal operating cash flows). To obtain the value of abnormal cash flows and abnormal production costs, this study adopted the model used in Louisa Siahaya et al., (2021) namely:

a) Abnormal operating cash flow rate:

$OCF_{it}/\ Assets_{it-1} = k_1\ 1/Assets_{it-1} + k_2 Sales_{it}/Assets_{it-1} + k_3 Sales_{it}/Assets_{it-1} + \varepsilon i,_t$ ……..(10)

Abnormal operating cash flow is the absolute value of actual OCF minus rate Normal OCF calculated from the coefficient of the regression model.

b) Abnormal manufacturing cost levels:

Production costs are determined from the total COGS plus changes from inventories during the year.

$PROD_{it}/Assets_{it-1} = k_1\ 1/Assets_{it-1} + k_2Sales_{it}/Assets_{it-1} + k_3Sales_{it}/Assets_{it-1} + k_4Sales_{it}/Assets_{it} + \varepsilon i_{,t}$ …… ……..(11)

Abnormal production costs are the absolute value of actual production costs minus the level of normal production costs calculated from the coefficient of the regression model.

Description:

OCFit : Operating cash flow of company i in year t

PRODit : Production cost of company i in year t, determined by COGSit + INVit

Salesit : Net sales of company i in year t

Salesi t-1 : Growth in net sales of company i from year t -2 to t-1

Salesi t : Growth in net sales of company i from year t-1 to t

Assetsi, t-1 : Total assets of company i in year t-1

Over/Under Investment in Company's Investment

The value of over/under investment is determined by the amount of investment predicted by the model used by Chiu et al., (2020) as follows:

$CAPEX = \gamma_0 + {}_1LOG\_ASSETi_{,t-1} + {}_2MKT\_BK\ i_{,t-1} + LEVERAGE_3i_{,t-1} + {}_4SLACK\ i_{,t-1} + {}_5OP\_CYCLE\ i_{,t-1} + {}_6LOSSI_{,t-1} + {}_7TANGIBLEi_{,t-1} + {}_8DIVIDEND_{,t-1} + \varepsilon i_{,t}$ …… (12)

Note:

CAPEX : amount of investment spent the company is scaled by total assets in year t

LOG_ASSET: proxy to determine company size

MKT_BK : ratio of market value of equity divided by book value of total assets

LEVERAGE : ratio of long term debt to market value of equity

SLACK : ratio of cash to property, land and equipment

OP_CYCLE : value of logarithm of receivables to sales plus value Inventory to cost of goods sold is then multiplied by 360

LOSS : dummy which is worth one if net income before extraordinary items is negative or zero if not

TANGIBLE : ratio of property, land and equipment to total assets

DIVIDEND **:** variable dummy that is worth one if the company pays dividends or zero if no

After determining the amount of the normal investment value, in this study using capital expenditure, the next step is to determine the amount of over/under investment by subtracting the investment value from the investment value or the capital expenditure. The positive or negative sign obtained from the results of the reduction showed that the company is investing more than it needed (over investment) or the company is actually reducing their level of investment from what it should be (under investment).

4. RESULTS AND DISCUSSION

Testing hypotheses 1, 2(a), 2(b) and 3

The following Table 1 is the result of testing the hypothesis of the first model.

Table 1. *Results of Regression Model 1*

Variable	Expected Sign	DA		AbnOCF		AbnProd Coef	
		.	Prob. (1 Tail)	Coef.	Prob. (1 Tail)	Coef.	Prob. (1 Tail)
C	None	0.071899	*0.000	0.07233	*0.000	0.08825	*0.000
EBITDA	+	0.003850	***0.100	0.00210	0.317	0.00904	**0.030
SG	+	0.258828	*0.000	0.07360	**0.040	0.20173	** 0.041
MBR	+	-0.002231	**0.057	0.03435	*0.000	0.04722	*0.000
N		351		351		351	
Adjusted R-Square		0.066		0.144		0.199	
F-statistic		9.33		22.53		22.91	
Prob(F-statistic)		0.000		0.0000		0.011	
DW-statistic		2.0476		2.08		2.0900	

*significant at alpha 1%, **significant at alpha 5%, ***significant at alpha 10%

The results of hypotheses 1,2(a) and 2(b) testing can be seen in Table 1, that the probability t-statistic for the EBITDA earnings volatility variable shows a probability that is within the 10% significance level in research that uses discretionary accruals as a proxy for accrual earnings management and production costs as a proxy for real earnings management. This is consistent with the research conducted by Djaddang et al., (2016) which showed that earnings volatility had positive effect on earnings management. Two earnings management practices that have been shown to have significant effect, earnings volatility has a greater influence on the possibility of earnings management, namely through the real activity of production costs, seen from its R-squared. Thus, hypothesis 2(b) and hypothesis (3) are also accepted because earnings volatility has positive effect on real earnings management practices, namely through manipulation of production costs. This is because the sector of this research sample is the manufacturing sector where most of the companies in it are companies that produce in large volumes so that the profit manipulation can be more easily carried out in calculating production costs, for example from overproduction so that the final inventory value increases. In addition, the results of this test are also consistent with the research of Hussain et al. (2020) which stated that management tend to use real earnings management practices than accrual earnings management, which in this study is due to high earnings volatility that encourages managers to perform real earnings management than accrual earnings management.

It can be seen in the DA variable, there is a decrease in the average discretionary accruals from 2018 to 2020 but still shows a positive sign. The standard deviation that continues to shrink from 2018 to 2020 shows a smaller range of discretionary accruals and the smaller the percentage of discretionary accruals used by companies in accrual earnings management practices in their financial reporting, although in 2020 the standard deviation has increased again, which indicates an increasing practice of accrual earnings management at that time. There is a decrease in the average, the smallest value and the largest value of discretionary accruals indicating a decrease in the use of discretionary accruals in earnings management due to strict regulations and audit quality that is getting better from year to year.

Descriptive Statistics Model 2

Table 2 below are descriptive statistics from model 2

Table 2. Descriptive

Variabel	Observasi	Mean	Standar Deviasi	Min	Max
OVERUNDERIVT	351	-0.0044	0.0351	-0.0484	0.0908
DAt2	351	0.0978	0.0965	0.0053	0.3649
DAt1	351	0.0945	0.0742	0.0104	0.2554
DAt0	351	0.0808	0.0642	0.0033	0.2146
DA1	351	0.0718	0.0781	0.0054	0.2997
AbnProdt2	351	0.1701	0.1724	0.0059	0.6588
AbnProdt1	351	0.1599	0.1331	0.0205	0.4653
AbnProdt0	351	0.1417	0.1108	0.0180	0.3581
AbnProd1	351	0.1704	0.1606	0.0143	0.5909
AbnOCFt2	351	0.0970	0.0862	0.0052	0.2559
AbnOCFt1	351	0.1320	0.0971	0.0132	0.3513
AbnOCFt0	351	0.0916	0.0588	0.0098	0.2649
AbnOCF1	351	0.1124	0.0961	0.01118	0.3513

In the AbnProd variable, it is known that there was a decrease in the average abnormal production cost from 2018 to 2020 and then it increased again in 2020. According to Hussain et al., (2020), an increase in abnormal production costs indicates that there are real earnings management practices carried out by the companies. Likewise, what happened to the standard deviation which continued to decrease from 2018 to 2019 showed a smaller range of abnormal production cost values and the possibility of a lower percentage of abnormal production costs arising from real earnings management practices.

Hypothesis Testing 4, 5(a), 5(b) and 6

Table 3 below is the results of hypothesis testing of research model 2

Table 4. Results of Regression Model 2

Variable	Expected Sign	Coefficient	Prob. (1 Tail)
C	None	-0.0081	0.090
DAt2	+	0.0269	0.212
DAt1	+	0.1100	0.007**
DAt0	+	0.0017	0.488
DA1	-	-0.1129	0.006**
N		351	
Adjusted R- quared		0.0479	
F-statistic		3.1211	
Prob (F- statistic)		0.0202	
DW- statistic		2.0306	

Note: **level significance at 5%

In the AbnOCF variable, it can be seen that there was an abnormal average cash flow fluctuation from 2018 to 2020. The same thing also happened to the standard deviation. The occurrence of a decrease in the average abnormal operating cash flow from 2019 to 2020 indicates the existence of real earnings management practices, in accordance with Louisa

Siahaya et al. (2021) which states that when companies carried out real earnings management for income increasing purposes, the value of their abnormal operating cash flows would decreased.

The results of hypothesis 4,5(a), 5(b) and 6 testing can be seen in Table 3, that only the accrual earnings management model has a significant effect on the company's over/under investment in next. Thus, hypothesis 4 which states that the previous year's accrual earnings management has a positive effect on the company's over/under investment policy in the following year is accepted, and hypotheses 5(a) and 5(b) are rejected. This study is consistent with the research conducted by Agus Irwandi (2014) which stated that discretionary accruals had a positive effect on the company's abnormal investment. The existence of earnings management practices and over/under investment policy making in the company can reduce the value of the company in the eyes of investors. The results of this study are also in line with the research conducted by Ji et al. (2019) but not with the results of research on the effect of real earnings management on over/under investment because the models (2B) and (2C) do not show that the independent variable real earnings management does not show a relationship. which are jointly significant to the practice of over/under investment. This is allegedly caused by managers in Indonesian companies who are too optimistic about the company's ability to manage their accrual components from year to year, such as allowance for receivables. Thus, the company looks as if it has a good ability to manage their assets so that over-investment or under-investment occurs. Another assumption is the difference in the characteristics of the data samples used from Indonesia.

Finally, in line with the research of Yazdani Chamzini et al. (2019), hypothesis 6 which states that the practice of earnings management, namely accrual earnings management in the previous year, has a greater positive influence in the following year than real earnings management in the previous year, which affects the practice of over/under investment policies the company's current year is accepted, it can be seen from the accrual earnings management model that can be used to predict its effect on over/under investment from year to year compared to real earnings management models such as operating cash flow and production costs.

5. CONCLUSION

This study provides empirical evidence that earnings volatility increases management motivation in carrying out accrual earnings management practices and real earnings management through the manipulation of production costs by managers but the effect of greater volatility is found in real earnings management models. This is because managers prefer real earnings management practices compared to accrual earnings management because they are more difficult to detect. Only accrual earnings management has an effect on the company's over-under investment policy, while real earnings management through operating cash flow and production costs has no significant effect on the investment policy. Accrual earnings management is able to increase the company's over-under investment policy.

The limitation of this study is that this study does not use the discretionary cost model as proxy in real earnings management. This is because few companies disclose their R&D costs in the financial statements. This study only uses capital expenditure as a proxy for company investment. This study does not use non-capital expenditures as used in the study of Ajay & Madhumathi (2015) because of the difficulty of obtaining information regarding R&D costs and acquisition expenditures made by the company. The implication of the

results of this study is that shareholders should have an understanding related to earnings management activities, both accrual and real, especially in the production division so that shareholders do not lose their rights in obtaining returns on their shares.

REFERENCES

Agus Irwandi, S. (2014). The effect of real earnings management through operating cash flow approach on company performance. *The Indonesian Accounting Review*, *4*(01). https://doi.org/10.14414/tiar.v4i01.283

Ajay, R., & Madhumathi, R. (2015). Do corporate diversification and earnings management practices affect capital structure?: An empirical analysis. *Journal of Indian Business Research*, *7*(4). https://doi.org/10.1108/JIBR-01-2015-0008

Anwar, S. (2019). The Influence of Ownership Structure, Asset Structure, and Earning Volatility on Debt Policy in Indonesia. *Journal of Accounting and Strategic Finance*, *2*(1), 93–106. https://doi.org/10.33005/jasf.v2i1.54

Bhutto, N. A., Shaique, M., Kanwal, S., Matlani, A., & Zahid, H. (2021). Impact of Earnings Management Practices on Stock Return. *Indonesian Capital Market Review*, *13*(1). https://doi.org/10.21002/icmr.v13i1.12839

Chen, R. C. Y., & Hung, S. W. (2021). Exploring the impact of corporate social responsibility on real earning management and discretionary accruals. *Corporate Social Responsibility and Environmental Management*, *28*(1), 333–351. https://doi.org/10.1002/csr.2052

Chiu, W., Cho, H., & Chi, C. G. (2020). Consumers' continuance intention to use fitness and health apps: an integration of the expectation–confirmation model and investment model. *Information Technology and People*, *34*(3). https://doi.org/10.1108/ITP-09-2019-0463

Damayanty, P., & Murwaningsari, E. (2020). The Role Analysis of Accrual Management on Loss-Loan Provision Factor and Fair Value Accounting to Earnings Volatility. *Research Journal of Finance and Accounting*. https://doi.org/10.7176/rjfa/11-2-16

Dichev, I. D., & Tang, V. W. (2009). Earnings volatility and earnings predictability. *Journal of Accounting and Economics*, *47*(1–2). https://doi.org/10.1016/j.jacceco.2008.09.005

Djaddang, S., Ghozali, I., & Achmad, T. (2016). The determinant on accrual management and earning volatility: A study on hedged and unhedged company in Indonesia. *Social Sciences (Pakistan)*, *11*(21). https://doi.org/10.3923/sscience.2016.5071.5079

Frederick L, B., HSU, P.-H., & Rotenberg, W. (2016). The Real Effects of Real Earnings Management: Evidence from Innovation. *Contemporary Accounting Research*, *38*(1), 42–49. https://doi.org/10.1111/1911-3846.12376

Humeedat, M. M. (2018). Earnings Management to Avoid Financial Distress and Improve Profitability: Evidence from Jordan. *International Business Research*, *11*(2), 222. https://doi.org/10.5539/ibr.v11n2p222

Huq, A. M. (2016). Effect of Earnings Volatility on Cost of Debt : The case of Swedish Limited Companies. In *Dalarna University, Master's in Business Studies*.

Hussain, A., Akbar, M., Kaleem Khan, M., Akbar, A., Panait, M., & Catalin Voica, M. (2020). When Does Earnings Management Matter? Evidence across the Corporate Life Cycle for Non-Financial Chinese Listed Companies. *Journal of Risk and Financial Management*, *13*(12). https://doi.org/10.3390/jrfm13120313

Jeong, K., & Bae, S. (2016). Real Earnings Management and the Persistence of Earnings and Cash Flows. *Korean Journal of Accounting Research*, *21*(6). https://doi.org/10.21737/kjar.2016.12.21.6.135

Ji, S. H., Oh, H. M., Yoon, K. C., & An, S. B. (2019). A study on earnings management in companies achieving sustainability: Accruals-based and real earnings management. *Journal of Distribution Science*, *17*(9). https://doi.org/10.15722/jds.17.09.201909.103

Kurniawan, H., Syifaudin, A., Nurasiah, N., & Rani Iswari, H. (2022). A Literature Review of Various Approaches, Conditions, and Factors That Become Earning Management Motives. *Budapest International Research and Critics Institute (BIRCI-Journal)*. https://doi.org/10.33258/birci.v5i1.3884

Liu, Y., & Lyu, C. (2016). Research on methods of IPO earnings management: case of Guirenniao. *Nankai Business Review International*, *7*(4). https://doi.org/10.1108/NBRI-01-2016-0003

Louisa SIAHAYA, S., Paulina SANDANAFU, S., Aponno, C., & Lilian Angela SADUBBUN, V. (2021). Factors Affecting Real Earning Management: Evidence from Indonesia Stock Exchange. *Journal of Asian Finance*, *8*(8).

Lukas, E., & Thiergart, S. (2019). The interaction of debt financing, cash grants and the optimal investment policy under uncertainty. *European Journal of Operational Research*, *276*(1), 284–299. https://doi.org/10.1016/j.ejor.2018.12.036

Minton, B. A., & Schrand, C. (1999). The impact of cash flow volatility on discretionary investment and the costs of debt and equity financing *. *Journal of Financial Economics*, *54*(3), 423–460. https://doi.org/10.1016/S0304-405X(99)00042-2

Moradi, M., Ghozat, H., Soukhakian, I., & ... (2021). Investigation of the Role of Competitors' Performance in Earning Management. In *Journal of Financial ….*

Park, S. (2018). The effect of investor sentiment on the means of earnings management. *Investment Management and Financial Innovations*, *15*(1). https://doi.org/10.21511/imfi.15(1).2018.02

Phua, L. K., Lok, C. L., Chua, Y. X., & Lim, T. C. (2021). Earnings volatility, the use of financial derivatives and Earnings management: Evidence from an emerging market. *Malaysian Journal of Economic Studies*, *58*(1). https://doi.org/10.22452/MJES.vol58no1.1

Rachmawati, S. (2019). Company Size Moderates the Effect of Real Earning Management and Accrual Earning Management on Value Relevance. *ETIKONOMI*, *18*(1). https://doi.org/10.15408/etk.v18i1.9381

Safrida, E., Riswanto, & Meily, S. (2020). Effect of Quality of Accounting Information and Asymmetric Information on the Cost of Capital (Case Study on the Indonesia Stock Exchange). *European Journal of Business and Management*. https://doi.org/10.7176/ejbm/12-3-18

Suprianto, E., & Setiawan, D. (2020). Accrual earning management and future performance: Evidence from family firm in Indonesia. *Jurnal Akuntansi & Auditing Indonesia*, *24*(1). https://doi.org/10.20885/jaai.vol24.iss1.art4

Yazdani Chamzini, A., Motalebian Chaleshtori, M., & Bakhshinejad, M. (2019). Effect of the Quality of Accruals on the Investment Efficiency of the listed Companies in Tehran Stock Exchange. *Journal of Management and Accounting Studies*, *4*(04).

https://doi.org/10.24200/jmas.vol4iss04pp8-15

Yu, Q., Du, B., & Sun, Q. (2006). Earnings management at rights issues thresholds-Evidence from China. *Journal of Banking and Finance*, *30*(12). https://doi.org/10.1016/j.jbankfin.2006.01.011