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The Determinants of Real Activity Manipulation

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ABSTRACT: This study aims to analyze the factors that influence real activity manipulation in corporations listed on the Indonesia Stock Exchange (IDX) during the 2016-2020 research period. A quantitative research method is designed in this research that collects secondary data from a company's annual report. The sample used in this research is 25 manufacturing corporations with the number of corporations observed for 5 years as many as 125 manufacturing companies. The analytical method utilized in this research is the panel data regression method that selects one of the three best models to analyze data, and the best analytical model result is the Fixed Effect Model (FEM) approach. The results show that institutional ownership, free cash flow, and voluntary disclosure effect negatively on real activity manipulation in corporations listed on the IDX. The limitation of this research is only using the samples from manufacturing corporations so that it cannot generalize the results to all types of companies and the research period of only 5 years narrows the number of companies observed.

KEYWORDS: Free Cash Flow, Institutional Ownership, Real Activity Manipulation, Voluntary Disclosure

INTRODUCTION

The approval of Sarbanes-Oxley (SOX) in 2002 was an initial step taken by the United States Government due to the weakening of public trust in the integrity and accountability of financial reporting caused by the many financial reporting scandals that were revealed to have brought major changes in earnings management practices. Previous earnings management that was carried out on an accrual basis had many limitations, such as frequent changes in accounting policies and easy detection by auditors and regulators. This fact has motivated managers to move accrual earnings management practices to real earnings management practices or also known as real activity manipulation. Significantly different from accrual earnings management practices, real activity manipulation utilizes and changes the firm's basic economic activities to deliver a real economic effect on firm performance (Xu et al., 2021), affecting cash flows by changing business operations (Wang & Zheng, 2020), and using the timing of transactions made throughout the year to achieve profit targets (Khunkaew & Qingxiang, 2019). A survey of 401 managers led by Graham et al. (2005) found that 78% of managers are more inclined to commit real activity manipulation even though they are aware of the risk of negatively long-term consequences on company performance. Observations by Cohen, Dey, & Lys (2008) and Zhang (2012) also find the fact that more and more US companies are turning to real activity manipulation practices, especially after the SOX endorsement. In addition, real activity manipulation is also difficult to detect by both auditors and regulators, although it is detected, it is not possible to ask the level of modified activity (Graham et al., 2005; Wang & Zheng, 2020).

Several studies have found that real activity manipulation practices have begun in Indonesia, such as Ratmono (2011) who found that public companies with poor financial performance are indicated to practice real activity manipulation. Ningsih (2020), Trisnawati et al. (2019), and Cahyawati & Setiana (2018) found that real activity manipulation had been carried out through a manipulation pattern of cash flows, production costs, and discretionary expenses. Then, the results of Livia's research (2014) obtained the fact that most companies indicated to manipulate real activities were manufacturing companies listed on the IDX that were motivated to avoid losses. Cahyawati & Setiana (2018) revealed that most cases of manipulation of real activities that occur in Indonesia are caused by conditions that allow and there are opportunities and loopholes to do so.

Real activity manipulation is a form of earnings management by changing and regulating earnings to be reported in the financial statements through suboptimal operating activities such as sales manipulation, excessive production, cutting research costs, and R&D development (Xu et al., 2021). Real activity manipulation can also be carried out by regulating changes in important economic policies that are prepared for the company's long-term operating activities such as a policy of delaying investment or reducing necessary expenses and expenditures (Ipino & Parbonetti, 2017; Gao et al., 2017). The impact of the action will influence the value of the company to be positive in the future. However, Sitanggang et al. (2020) found the fact that the act of manipulating

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real activities will cause greater costs to shareholders or investors. Real activity manipulation will undermine the main objective of accounting, which is to produce quality, accountable, and relevant financial information reporting. The quality of the information produced will affect the decision-making of stakeholders. So that the practice of real activity manipulation reduces the quality of financial information (Sitanggang et al., 2020) and will also have an impact on the lack of quality of decisions taken by stakeholders, especially investors so that they must be careful in making decisions (Wahyuni et al., 2015).

Various facts and phenomena related to the manipulation of real activities that have been described are interesting things to discuss regarding the appropriate and capable mechanism to prevent or reduce the practice of manipulation of real activities. Based on the literature survey, researchers obtained 3 factors that influence the manipulation of real activities, namely institutional ownership (Roychowdhury, 2006; Kamran & Shah, 2014; Hapsoro, 2012; Cahyawati & Setiana, 2018), free cash flow (Chung, et al., 2004; Bukit & Iskandar, 2009; Dewi & Priyadi, 2016; Bukit & Nasution, 2015; Utami & Handayani, 2019), and voluntary disclosure (Hapsoro, 2012; Wahyuni et al., 2015; Andriyani & Khafid, 2014; Nisa, Arfan, & Saputra, 2018; Consoni et al., 2017).

Institutional ownership can increase monitoring and stricter supervision of company management by managers so that it will be able to reduce conflicts of interest and avoid opportunistic actions by managers to manipulate real activities. Al-Haddad & Whittington (2019) found that institutional ownership was able to reduce the real activity manipulation that occurred in sales manipulation activities and discretionary expenses. Sophisticated institutional investors in Jordan can investigate the long-term implications of recent managerial actions and act as a disincentive for managers who involve in real activity manipulation. This result is supported by several previous studies by Roychowdhury (2006), Zhang (2012), Liu & Tsai (2015), and Ramadhan (2016) which also found a significant effect between institutional ownership and real activity manipulation.

A high level of free cash flow can be good information for investors and shareholders as rights and welfare that distributed through dividends or share repurchases. High free cash flow can prevent managers' motivation to manipulate real activities because they avoid emergency conditions and demands to achieve profit targets to get satisfied the wishes of investors and shareholders. Therefore, low free cash flow conditions can increase the motivation of managers to manipulate real activities to maintain public perception and investor confidence. The low level of free cash flow also indicates that the company's finances are in an unwell condition and the targeted profit has not been achieved. Utami & Handayani (2019) found that free cash flow effects negatively on real activity manipulation, this finding indicates that companies that have low free cash flow will try to manipulate real activities to keep their financial condition looking well and guarantee the confidence of investors in the company. The results of his research are supported by Isnawati (2011), Agustia (2013), Yogi & Damayanthi (2016), Erma et al. (2019), Mierna (2017), and Hardirmaningrum et al. (2021) that free cash flow effects negatively on real activity manipulation.

Wider disclosure of information through voluntary disclosure can reduce the occurrence of information asymmetry and prevent opportunistic actions of managers in manipulating real activities. Watts & Zimmerman in Consoni et al. (2017) argue that managers will try to evaluate various alternative methods that can influence their wealth through the decisions they make regarding the disclosure of information that has been chosen. That manager's policy will certainly lead to information asymmetry between shareholders or investors and managers. According to Scott in Consoni et al. (2017), information asymmetry can be lessened through increased regulation and voluntary disclosure. In addition, Wahyuni et al. (2015), Consoni et al. (2017), and Nisa et al. (2018) also explain that an increase in wider voluntary disclosure will be able to lower the opportunity for information asymmetry so that the flexibility of managers to manipulate real activities decreases. Omar et al. (2021) found that voluntary disclosure affects negatively, non-unidirectionally, and significantly on real activity manipulation in companies that are on the LQ 45 index on the IDX. These results indicate that the higher the level of voluntary disclosure, the lower the opportunity for managers to manipulate real activities. The wider the voluntary disclosure made by the manager, the stronger the investor's trust in the manager by reducing the information asymmetry gap, thereby reducing the opportunity for manipulation of real activities. That results are supported by several prior research, Sanjaya & Young (2012), Veronica & Bachtiar (2003), Wahyuni et al. (2015), Hapsoro (2012), Consoni et al. (2017), and Nisa et al. (2018) which also found that disclosure voluntary effects negatively on real activity manipulation.

This research contributes to the development of the method used to examine the factors used by researchers on the independent variables of real activity manipulation. Tests on real activity manipulation will be carried out using the panel data regression method which is very different from previous studies which are often carried out using the linear regression method. The selection of the best regression analysis model in this panel data regression method is believed to be able to provide more relevant and precise test results.

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THEORETICAL FRAMEWORK AND HYPOTHESES

Agency Theory

Jensen and Meckling (1976) in Trisnawati et al. (2019) revealed that agency theory is a theory that clarifies the connection of a contract between principals (investors or shareholders) and agents (managers). The agency contract relationship began to emerge when the principal appointed the agent as the manager of the company for the interest of the principal (Ontorael & Geraldina, 2017). Agency theory describes the connection between principals and agents regarding the delegation of management authority and decision-making in the company. The principal is obliged to monitor and ensure that the agent performs his work following the interests of the principal and provides incentives for his services following the mutually agreed agreement (Cahyawati & Setiana, 2018).

The agency relationship that occurs between the principal and the agent will cause an agency conflict or conflict of interest between the two because each party will try to maximize its utility function (Adryanti, 2019). The principal certainly wants a large profit or return from his investment, while the agent will act in his interest to obtain a profit through greater incentives from the results of his work. Agency conflicts or conflicts of interest often occur due to the condition of information asymmetry between the principal and the agent. Agents who have the authority as managers and decision-makers in the company certainly have more access and information than the principal (Cahyawati & Setiana, 2018). This provides an opportunity and motivates agents to present the information they want. This conflict of interest and information asymmetry is a strong indication of the possibility of manipulation of real activities carried out by managers as agents to fulfill their interests and achieve company targets that have been set and maintain public perception

Real Activity Manipulation (RAM)

Roychowdhury (2006) defines real activity manipulation as a deviation made by managers against the company's normal operational activities that can lead to non-optimal business consequences for the company. The practice of manipulating real activities is carried out by managers to deceive and mislead shareholders through the belief that the objectives of good financial reporting have been achieved in the normal operations of the company. This indicates that managers manipulate earnings not only through intervention in the financial reporting process in estimates and accounting methods but also on real policies in the company's operational activities throughout the current year. Based on several previous studies, several activities carried out by managers in their efforts to manipulate real activities include: 1) reducing research & development costs (Barber et al., 1991; Bushee, 1998); 2) stock repurchases to avoid dilution of EPS (Ben et al., 2003); 3) overproduction to reduce COGS; 4) sales manipulation through price discounts to increase sales volume; 5) reduction of discretionary costs such as selling, general, administrative, and advertising costs (Roychowdhury, 2006); and 6) the timing of the sale and investment of long-lived assets (Bartov, 1993).

Roychowdhury (2006) states that there are three techniques used by managers to manipulate real activities, namely manipulation of sales, overproduction (overproduction), and reduction of discretionary costs. Manipulation of real activity in sales occurs with efforts to increase sales volume carried out by loosening credit time or giving discounts to increase profits (Sanjaya, 2016). Manipulation of real activities in excessive production (overproduction) will reduce COGS (Puspitasari et al., 2016), affect the company's operating margins, and cash flow operating activities will be lower than normal sales levels (Sanjaya, 2016). Manipulation of real activities in reducing discretionary costs is a way to avoid the loss or negative financial reporting (Sanjaya, 2016), usually done by reducing certain costs such as sales costs, advertising costs, administration, and research & development costs.

The Effect of Institutional Ownership on the Manipulation of Real Activities

Institutional ownership is the ownership of several shares in companies owned by financial institutions, legal entities, foreign institutions, governments, trust funds, and other institutions (Setiana, 2018). Mahawyahrti & Budiasih (2016) added that institutional ownership in a company can trigger an increase in the completeness of disclosure and reporting by the company. Shareholders from institutions, especially those with large numbers of shares, have a great desire, ability, and resources to supervise, discipline, and influence all manager activities to prevent opportunistic behavior of managers (Bukit & Nasution, 2015; Al-Haddad & Whittington, 2019). Opportunistic behavior often arises as an impact of interest conflicts or agency conflicts that happen between shareholders and managers which often triggers managers' motivation to manipulate real activities.

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Agency theory can strengthen the relationship between institutional ownership and real activity manipulation. Jensen & Meckling in Setiana (2018) state that institutional ownership has an essential contribution to reducing conflicts of interest between managers (agents) and investors or shareholders (principals). The higher the institutional ownership in a company, the more it will increase and strengthen external supervision of the company's managers (agents) to reduce agency costs (Nisa, 2018). Thus, strict supervision from institutional owners will certainly limit and prevent the flexibility of managers in acting, especially committing fraud through the manipulation of real activities.

Roychowdhury (2006) found that institutional ownership effects negatively on real activity manipulation. The higher the percentage of institutional ownership in a company, the lower the opportunity for managers to manipulate real activities and conversely. The results of this study are supported by Cornett et al. (2006), Zhang (2012), Tarjo (2008), Liu & Tsai (2015), Kamran & Shah (2014), Ramadhan (2016), and Al-Haddad & Whittington (2019) which found the same effect. So, the researchers put forward the hypothesis that:

H_1 : Institutional ownership affects real activity manipulation.

Effect of Free Cash Flow on Real Activity Manipulation

Free cash flow is any cash available for the company which is no longer needed for working capital or investment and is available for distribution to shareholders or creditors (Hastuti, 2019). Utami & Handayani (2019) added that free cash flow can show the level of financial flexibility that a company has. Dewi & Priyadi (2016) explained that companies which more free cash flow will produce better performance than other companies due to the opportunity to take advantage of various available opportunities that are impossible to obtain by other companies. So low free cash flow can indicate poor company performance and motivate managers to manipulate real activities to maintain public perception and the company's financial condition that looks healthy.

Free cash flow owned by the company often creates agency conflicts. Agency theory clarifies the connection between managers (agents) and shareholders (principals) in the management of companies which often leads to different views and interests (conflict of interest). Managers (agents) are usually more motivated to produce high free cash flow to meet shareholder expectations with indications of reporting higher profits through changes in the profit figures obtained and hiding their opportunistic actions (Bukit & Nasution, 2015). This opportunistic manager's actions will lead to the practice of manipulating real activities to fulfill their interests and misleading shareholders with policies and information that are not reliable and relevant. Thus, the level of free cash flow owned by the company often triggers manipulation of real activities.

Utami & Handayani (2019) found that free cash flow effects negatively on real activity manipulation which is supported by Isnawati (2011), Yogi & Damayanthi (2016), Agustia (2013), Erma et al. (2019), Mierna (2017), and Hardirmaningrum et al. (2021). Based on these results, the lower the free cash flow owned by the company, the higher the motivation of managers to practice real earnings management to maintain the company's financial condition remains visible in a healthy condition and to maintain public perception and gain the trust of investors on the company's performance and conversely. So, the researchers put forward the hypothesis that:

H_2 : Free cash flow affects real activity manipulation.

The Effect of Voluntary Disclosure on the Manipulation of Real Activities

Based on the decision of BAPEPAM No. KEP-347/BL/2012, voluntary disclosure is a disclosure that is not required by regulations or accounting standards, so that the information disclosed by the company is freely chosen according to needs and is useful in decision making. Fahdiansyah (2016) adds that voluntary disclosure is usually done by companies that are listed or going public. Voluntary disclosure is often used as a strategy to increase investment by trying to attract the interest and attention of investors by presenting information that is good news and is in great demand by investors (Nisa, 2018). The need for a wider presentation of information will reduce the opportunity for managers to behave opportunistically and prevent the opportunity to manipulate real activities.

Agency theory explains that the agency relationship between managers (agents) and shareholders (principals) often creates conflicts of interest that are exploited by managers through information asymmetry conditions. Widespread presentation of voluntary disclosures by companies will decrease the level of information asymmetry between managers (agents) and investors or shareholders (principals) so that they have the opportunity to reduce manipulation of real activities and agency problems (Consoni et al., 2017;

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Wahyuni et al., 2015; Nisa et al., 2018). The higher the level of voluntary disclosure indicates that the available information is more extensive and transparent so that it can reduce the level of information asymmetry that is the source of agency problems, and can be an indication of the reduced manipulation of real activities.

Several previous research results of Consoni et al. (2017), Veronica & Bachtiar (2003), Sanjaya & Young (2012), Hapsoro (2012), Wahyuni et al. (2015), Nisa et al. (2018), and Umar et al. (2021) found that voluntary disclosure effects negatively on real activity manipulation. The lower the voluntary disclosure in presenting information, the higher the opportunities for managers to manipulate real activities, and conversely. The tendency of companies to manipulate real activities is also indicated by the less information being disclosed. Conversely, a wider level of voluntary disclosure in presenting information will reduce opportunities and prevent managers from manipulating real activities. So, the researchers put forward the hypothesis that:

H_3 : Voluntary disclosure affects real activity manipulation.

RESEARCH METHODS

Population and Sample

The population in this research are all manufacturing companies listed on the Indonesia Stock Exchange (IDX) from 2016-2020. The selection of the company population is only limited to manufacturing companies to maintain the homogeneity of the data and is more suitable with the measurement proxy for real activity manipulation. Sample selection was done by applying the purposive sampling technique, with the criteria set by the researcher. The unique criteria of the selected sample are companies that fall into the suspect criteria following Cohen et al. (2008), Nuha (2016), and Setiana (2018). The sample criteria in this study, namely 1) Manufacturing companies that are listed on the IDX and have never been delisted and report a complete annual report during the 2016-2020 observation period; 2) The annual report presents all information needs fully during the 2016-2020 observation period; 3) Manufacturing companies that fall into the suspect category during the 2016-2020 observation period, and 4) Manufacturing companies that report their annual reports in Rupiah. The population of manufacturing companies listed on the IDX in 2016-2020 is 196. After selecting the sample using the purposive sampling technique, the sample obtained is 25 companies with a research period of 5 years resulting in the number of samples being tested by 125 companies.

Variable Operations

Dependent Variable

The dependent variable studied is real activity manipulation, i.e earnings management carried out through real activities such as sales manipulation, overproduction (overproduction), and discretionary costs (Roychowdhury, 2006). In this study, the real activity manipulation proxy followed Puspitasari et al. (2016) which uses abnormal cash flows of operating (Abnormal CFO) which is the average value of operating cash flows that will be negative or smaller than 0 when real activity manipulation occurs. The formula for Abnormal CFO is as follows:

$$\frac{CFO_t}{A_{t-1}} = \alpha_0 + \alpha_1 \left(\frac{1}{A_{t-1}}\right) + \alpha_2 \left(\frac{S_t}{A_{t-1}}\right) + \alpha_3 \left(\frac{\Delta S_t}{A_{t-1}}\right) + \varepsilon_t$$

Independent variable

The independent variables utilized in this research are institutional ownership, free cash flow, and voluntary disclosure. The measurement of the independent variable is as follows:

1. Institutional Ownership (IO), i.e the number of shares owned by institutions, legal entities, or institutions such as financial institutions, legal entities, foreign institutions, governments, trust funds, pension funds, insurance companies, and other companies (Nisa, 2018; Cahyawati & Setiana, 2018). Institutional ownership in this study was measured by the measurements used by Nisa (2018) and Cahyawati & Setiana (2018), with the formula:

$$IO = \frac{Shares\ Owned\ by\ the\ Institution}{Total\ Shares\ of\ the\ Company\ Outstanding}$$

2. Free Cash Flow (FCF), i.e cash available to the company that is not necessary for working capital or investment and is available for distribution to shareholders or creditors (Hastuti, 2019). This study follows Trisnawati et al. (2019), Utami & Handayani (2019), and Hardirmaningrum et al. (2021) to measure free cash flow with the formula:

$$FCF = \frac{CFO - CFI}{Total\ Assets}$$

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3. Voluntary Disclosure, i.e a statement that exceeds its obligations or is carried out voluntarily without any obligation from an exclusive institution (Wahyuni et al., 2015). Voluntary disclosures can be measured by comparing the number of items between presented disclosures and mandatory disclosures. The items to measure the number of voluntary disclosures follow the items issued by the Global Reporting Initiative (GRI). The level of voluntary breadth in financial statements can be measured by the Wallace index with the formula:

$$Indeks = \frac{n}{k}$$

Analysis Method

Panel data regression analysis method will be utilized as an analysis method in this research which will be regressed using the Eviews 10 program. The panel data regression method is an analysis technique for data that unites both cross-section and time series data. In this method, there is some process for selecting several models to obtain the best analysis model. The approach models contained in this method are the pooling least squares (Common Effect Model/CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). Then, selection to obtain one of the best models can be done through three tests, i.e the Chow test, the Hausman test, and the Lagrange Multiplier (LM) test. A Chow test was conducted to select the best model between FEM and CEM. Hausman test was conducted to select the best model between FEM and REM. Lagrange Multiplier (LM) test was conducted to select the best model between CEM and REM.

Considering that panel data is a combination of time series and cross-section data, the regression equation model can be formulated as follows:

$$Y = a + b_1(X_1)_{i,t} + b_2(X_2)_{i,t} + b_3(X_3)_{i,t} + e_{i,t}$$

Where:
Y = Real activity manipulation
a = Constant (intercept)
bi = Regression coefficient (i = 1,2,3)
X1 = Institutional Ownership
X2 = Free Cash Flow (FCF)
X3 = Voluntary Disclosure
i = Manufacturing Company
t = Year
e = Effect of other variables (epsilon) or residual (error term)

RESULTS AND DISCUSSION

This research takes manufacturing companies listed on the IDX during 2016-2020 as a population with several considerations, including maintaining data homogeneity and the long and complex operational activity process conditions of manufacturing companies are believed to be able to explain real activity manipulation. The total population of manufacturing companies during 2016-2020 obtained was 196 companies. After selecting the sample based on the purposive sampling technique, a sample of 25 companies was obtained with the number of companies observed for 5 years as many as 125 companies. The sampling process is available in Table 1 below:

Table 1. Determination of Research Sample

Criteria	Number of Company	Number of Observations for 5 Years
Companies listed on the IDX during 2016-2020	196	980
The company does not present an annual report for 2016-2020	-71	-355
The company has never been included in the suspect category (has a ROA of 0-0.005)	-92	-460
The company does not present financial information in Rupiah	-8	-40
Number of samples that compatible with the criteria	**25**	**125**

Source: Processed data, 2022

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Descriptive statistics

The results of descriptive statistical tests on the variables of institutional ownership, free cash flow, voluntary disclosure, and real activity manipulation were tested using the Eviews 10 program. The test result is available in Table 2 below:

Table 2. Descriptive Statistical Test

	Y	X1	X2	X3
Mean	8.00E-07	0.783358	0.100996	0.820975
Median	0.003900	0.828000	0.078300	0.862100
Maximum	0.265300	0.994900	0.439700	0.931000
Minimum	-0.263800	0.013400	-0.261200	0.034500
Std. Dev.	0.074508	0.209854	0.120344	0.102685
Skewness	-0.094554	-2.043605	0.432710	-3.757336
Kurtosis	4.897436	7.801726	3.590638	28.59638
Jarque-Bera	18.93763	207.0930	5.717735	3706.485
Probability	0.000077	0.000000	0.057334	0.000000
Sum	0.000100	97.91970	12.62450	102.6219
Sum Sq. Dev.	0.688378	5.460799	1.795866	1.307481
Observations	125	125	125	125

Source: Eviews 10, 2022

Table 2 displays the results of the descriptive statistics of the dependent variable (Y) real activity manipulation obtained the minimum value is -0.263800 (-26%) at PT. H.M. Sampoerna Tbk. in 2018 and the maximum value is 0.265300 (26%) at PT. Alakasa Industriindo Tbk. in 2020. The mean or average value of real activity manipulation is 8.000000 with a standard deviation of 0.074508 indicating lower than the average value, which means that the level of distribution of real activity manipulation data has a low variation. Descriptive statistical results of the independent variable (X1) obtained the minimum value of institutional ownership is 0.013400 (1.34%) at PT. Intanwijaya Internasional Tbk in 2020 and the maximum value is 0.994900 (99.49%) at PT. Indomobil Sukses Internasional in 2016. The mean or average value of institutional ownership is 0.783358 with a standard deviation of 0.209854 indicating it is lower than the average value, which means that the level of distribution of institutional ownership data has a low variation. Descriptive statistical results of the independent variable (X2) free cash flow obtained the minimum value is -0.261200 (-26.12%) at PT. Alakasa Industriindo Tbk. in 2020 and the maximum value is 0.439700 (43.97%) at PT. Ultra Jaya Milk Industry & Trading in 2020. The mean or average value of free cash flow is 0.100996 with a standard deviation of 0.120344 indicating higher than the average value, which means that the distribution of free cash flow data has a high variation. Descriptive statistical results of the independent variable (X3) voluntary disclosure obtained a minimum value of 0.034500 (3.45%) at PT. Intanwijaya Internasional Tbk. in 2016 and the maximum value is 0.931000 (93.1%) at PT. Indofarma Tbk. in 2019, PT. Kimia Farma Tbk. in 2016-2020, & PT. Kalbe Farma Tbk. in 2016-2020. The mean or average value of voluntary disclosure is 0.820975 with a standard deviation of 0.102685 indicating lower than the average value, which means that the level of distribution of voluntary disclosure data has a low variation.

Selection of Analysis Approach Model

The selection of one of the best choice analysis models from pooling least squares (Common Effect Model/CEM), fixed effects approach (Fixed Effect Model/FEM), and random effects approach (Random Effect Model/REM). The selection was carried out through 3 tests, namely the Chow test, Hausman test, and the Lagrange multiplier (LM) test. Chow test was conducted to obtain the best model between the Common Effect Model (CEM) and Fixed Effect Model (FEM). The result of the chow test is available in Table 3 below:

Table 3. Results of Chow Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	4.673891	(24,97)	0.0000
Cross-section Chi-square	96.056572	24	0.0000

Source: Eviews 10, 2022

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Table 3 displays the Cross-section F value is 0.0000 (0%) smaller than the significance value (<0.05 or 5%). This result indicates that the Fixed Effect Model (FEM) is the best model to perform panel data regression analysis. Furthermore, it is necessary to carry out the Hausman test. Hausman test is a test to obtain the best model between Fixed Effect Model (FEM) and Random Effect Model (REM). The result of the Hausman test is available in Table 4 below:

Table 4. Results of Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	7.596556	3	0.0551

Source: Eviews 10, 2022

Table 4 displays the random cross-section value of 0.0551 (0.05%) is smaller or equal to the significance value (≤0.05 or 5%). This result indicates that the Fixed Effect Model (FEM) is the best model to perform panel data regression analysis. The results of the two tests show consistent results that the Fixed Effect Model (FEM) is the best model, so there is no need to do the Lagrange multiplier (LM) test.

Classic Assumption Test Results

Based on Basuki (2021) who explains that in the case of panel data model regression testing, the classical assumptions that only need to be done are multicollinearity and heteroscedasticity tests. The result of the multicollinearity test is available in Table 5 below:

Table 5. Results of Multicollinearity Test

	X1	X2	X3
X1	1.000000	0.064469	0.327496
X2	0.064469	1.000000	0.184523
X3	0.327496	0.184523	1.000000

Source: Eviews 10, 2022

Table 5 displays the result of the multicollinearity test that the correlation value between the independent variables is below the value of 0.8. This result means that the selected regression model does not occur in multicollinearity. While the result of the heteroscedasticity test is available in Table 6 below:

Table 6. Results of Heteroscedasticity Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.083774	0.035422	2.365024	0.0200
X1	-0.058086	0.038040	-1.526974	0.1300
X2	-0.033133	0.023804	-1.391911	0.1671
X3	-0.015843	0.025015	-0.633353	0.5280

Source: Eviews 10, 2022

6 shows all the probability values of the independent variables having a value greater than the significance value (> 0.05 or 5%). These results mean that the selected regression model does not occur heteroscedasticity.

Hypothesis Testing Results

Testing of research hypotheses regarding the effect of institutional ownership, free cash flow, and voluntary disclosure on real activity manipulation in manufacturing companies listed on the IDX in 2016-2020 was analyzed by the panel data regression method using Fixed Effect Model (FEM). Data is regressed by the Eviews 10 program, the regression results are available in Table 7 below:

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Table 7. Results of Regression Test

Sample: 2016 2020
Periods included: 5
Cross-sections included: 25
Total panel (balanced) observations: 125

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.254509	0.064301	3.958114	0.0001
X1	-0.155980	0.069052	-2.258862	0.0261
X2	-0.462115	0.043211	-10.69442	0.0000
X3	-0.104326	0.045409	-2.297488	0.0237

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.815600	Mean dependent var	8.00E-07
Adjusted R-squared	0.764272	S.D. dependent var	0.074508
S.E. of regression	0.036175	Akaike info criterion	-3.606499
Sum squared resid	0.126937	Schwarz criterion	-2.972957
Log likelihood	253.4062	Hannan-Quinn criter.	-3.349124
F-statistic	15.88997	Durbin-Watson stat	2.089844
Prob(F-statistic)	0.000000		

Source: Eviews 10, 2022

Based upon the results of the regression test in Table 7 above, the following linear equation is obtained:

$$Y = 0,254509 - 0,155980(X_1)_{i,t} - 0,462115(X_2)_{i,t} - 0,104326(X_3)_{i,t} + e_{i,t}$$

The Effect of Institutional Ownership on the Manipulation of Real Activities

Based on the regression test in Table 7, the significance value Prob. obtained institutional ownership is 0.0261 with a coefficient value of -0.155980. The significance value Prob. from the result is lower than the significance value (<0.05 or 5%). This result indicates that institutional ownership effects negatively on real activity manipulation and is in accordance with the researcher's hypothesis (H1), so H1 can be accepted. Thus, the higher the percentage of institutional ownership in company shares, the lower the opportunities for managers to manipulate real activities, and conversely. So, it can be referenced that a high level of institutional ownership in a company will be able to prevent and reduce the practice of manipulating real activities carried out by managers.

This result is appropriated with the agency theory that clarifies the relationship of the influence of institutional ownership on the manipulation of real activities. Agency conflicts that happen between shareholders and managers can be reduced by conditions of high institutional ownership. Institutional shareholders have higher quality capabilities and resources to improve control and supervision of manager performance to prevent and reduce real activity manipulation.

The results of this research correspondingly with the results of several previous studies by Zhang (2012), Roychowdhury (2006), Ramadhan (2016), Liu & Tsai (2015), and Al-Haddad & Whittington (2019) which also found that institutional ownership had a significant effect negatively on real activity manipulation. Institutional shareholders have the ability, expertise, and a great desire to always monitor, discipline, and even influence every action taken by managers to avoid personal interests and fraud. The presence of institutional shareholders can be a third party to prevent agency conflicts between managers (agents) and shareholders (principals). So that it will be able to reduce conflicts of interest and prevent managers from behaving opportunistically. Thus, a high percentage of institutional ownership in company shares can reduce agency costs and be able to prevent and minimize opportunities for manipulation of real activities in the company. In addition, if the percentage of share ownership by institutions in the company is low, it will open up opportunities for managers to manipulate real activities. This is due to the lower ability, expertise, and desire of ordinary shareholders so they are unable to supervise and control the company's opportunistic behavior. Companies

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with low institutional shareholders tend to give company managers greater flexibility and freedom to manage the information submitted and make personally beneficial decisions.

This result can be a contribution as an extension of information for users, especially companies and shareholders or investors. Companies can increase institutional ownership to prevent and reduce opportunities for manipulation of real activities. Shareholders or investors can make investment decisions in companies that have a high percentage of institutional ownership because it is safer and more convincing.

Effect of Free Cash Flow on Real Activity Manipulation

Based on the regression test in Table 7, the significance value Prob. obtained free cash flow is 0.0000 with a coefficient value of -0.462115. The significance value Prob. from the result is lower than the significance value (<0.05 or 5%). This result indicates that free cash flow effects negatively on real activity manipulation and is in accordance with the researcher's hypothesis (H2), so H2 can be accepted. Thus, it can be interpreted that the higher the free cash flow owned by the company, the lower the motivation and desire of managers to manipulate real activities, and conversely. So, it can be referenced that a high level of free cash flow in a company will be able to prevent and reduce the practice of manipulating real activities carried out by managers.

The test results are in accordance with agency theory which explains the relationship of the influence of free cash flow on real activity manipulation. High free cash flow conditions can reduce conflicts of interest between managers and shareholders because high free cash flow indicates the company's financial condition is in healthy condition and can provide dividends to shareholders. The result of this research is appropriate to several previous research by Agustia (2013), Isnawati (2011), Mierna (2017), Yogi & Damayanthi (2016), Utami & Handayani (2019), Erma et al. (2019) and Hardirmaningrum et al. (2021) which found that free cash flow effects negatively on real activity manipulation. Companies that have low free cash flow will tend to manipulate real activities to pursue company targets to pay dividends or invest to gain more profits. The condition of low free cash flow indicates the company's financial condition is not healthy. So, the company tries to cover up this fact to maintain investor confidence and public perception as well as the motivation to obtain more incentive benefits through future investments. On the other hand, the high free cash flow conditions of the company will reduce the motivation of managers to manipulate real activities because they focus more on decision-making issues on dividend payment policies and the company's future investments. The condition of high free cash flow indicates good company performance and describes the level of financial flexibility of the company in a healthy condition so that it is very flexible to use. This condition allows the company to take advantage of various opportunities that are not possible for other companies.

This result can also be a contribution as an extension of information for users, especially companies and shareholders or investors. Companies must develop strategies and company operating policies that can increase free cash flow to avoid the practice of manipulating real activities. Shareholders and investors should be more aware of companies with low free cash flow and decide to invest in companies with high free cash flow.

The Effect of Voluntary Disclosure on Real Activity Manipulation

Based on the regression test in Table 7, the significance value Prob. obtained voluntary disclosure is 0.0237 with a coefficient value of -0.104326. The significance value Prob. from the result is lower than the significance value (<0.05 or 5%). This result indicates that voluntary disclosure effects negatively on real activity manipulation and is in accordance with the researcher's hypothesis (H3), so H3 can be accepted. Thus, it can also be interpreted that the higher the level of voluntary disclosure presented by the company, the lower the opportunities for managers to manipulate real activities, and vice versa. So, it can be referenced that the high level of voluntary disclosure presented by the company will be able to prevent and reduce the practice of manipulating real activities carried out by managers.

The test result is in accordance with agency theory which explains the effect of voluntary disclosure on real activity manipulation. A high level of voluntary disclosure will be able to reduce information asymmetry between managers and shareholders, thereby reducing agency conflict. A high voluntary disclosure will make financial statements more transparent and reduce the opportunity for managers to take opportunistic actions through the practice of manipulating real activities. The result of this research is appropriate to several previous research by Consoni et al. (2017), Hapsoro (2012), Veronica & Bachtiar (2003), Wahyuni et al. (2015), Sanjaya & Young (2012), Nisa et al. (2018), and Umar et al. (2021) that voluntary disclosure effects negatively on real activity manipulation. Wider disclosure of information through voluntary disclosure can reduce the level of

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information asymmetry between managers (agents) and shareholders (principals) thereby reducing agency conflicts and preventing opportunistic behavior of managers. The low level of information asymmetry and preventing opportunistic behavior of managers can minimize the opportunities for managers to manipulate real activities. The need for broad disclosure of information through voluntary disclosure is usually carried out as a strategy to attract investors and maintain the trust of shareholders. This need will trigger higher levels of voluntary disclosure and lower levels of real activity manipulation practices. In addition, companies that are in an unhealthy financial condition tend to limit and reduce the information they want to present. Companies that do not disclose and present information widely tend to manipulate real activities. Low levels of voluntary disclosure can provide opportunities and opportunities for managers to act opportunistically by misleading investors or shareholders to manipulate financial information of companies that are in an unhealthy condition and cover up the traces of information that can expose the practice of manipulating real activities carried out by managers.

This result can also be a contribution as an extension of information for users, especially companies and shareholders or investors. Companies must continue to be consistent and increase the amount of information presented in voluntary disclosures to attract investors, maintain public trust, and prevent manipulation of real activities. Shareholders and investors should request extensive voluntary disclosure of information and choose to invest in companies with a high level of voluntary disclosure.

CONCLUSION, LIMITATIONS, AND SUGGESTIONS

Conclusion

Based on the results of research and discussion on the effect of institutional ownership, free cash flow, and voluntary disclosure on real activity manipulation in manufacturing companies listed on the IDX during 2016-2020, can be drawn several conclusions:

1. Institutional ownership effects negatively on real activity manipulation. The higher the percentage of institutional ownership in company shares, the lower the opportunities for managers to manipulate real activities, and conversely. High institutional ownership increases supervision and control of the manager's opportunistic behavior, while low will increase the manager's flexibility in acting, including manipulating real activities.
2. Free cash flow effects negatively on real activity manipulation. The higher the free cash flow owned by the company, the lower the motivation of managers to manipulate real activities, and conversely. High free cash flow describes the company's good performance and healthy financial condition, while low free cash flow indicates poor financial condition so that it is motivated to manipulate real activities.
3. Voluntary disclosure effects negatively on real activity manipulation. The higher the level of voluntary disclosure presented by the company, the lower the opportunities for managers to manipulate real activities, and conversely. Broad information disclosure will reduce information asymmetry and prevent opportunistic actions of managers from manipulating real activities, while companies that present little information and even cover it are indicated to manipulate real activities.

Limitations

This research is still not completely perfect even though it is better and more accurate by using the panel data regression method to perform hypothesis testing and analysis. This study only uses manufacturing companies listed on the Stock Exchange as a sample so the results are not accurate enough to generalize to all types of companies. Furthermore, this study also uses a research period of only 5 years so that there are fewer observation companies.

Suggestion

Future research is expected to expand the research sample using various types of companies, increase the number of observation companies by increasing the research period of more than 5 years, and also try to use other determinants to get more diverse results. The next suggestion is for stakeholders who need the information presented in the company's financial statements to be more careful in using it for decision-making, especially if the information has been manipulated through manipulation of real activities. The results of this study are expected to be useful by knowing the determinants of real activity manipulation such as institutional ownership, free cash flow, and voluntary disclosure.

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