4. KAP Siddharta, Siddharta, and Widjaja affiliated with Klynveld Peat Marwick Goerdeler (KPMG).

Public accounting firm or KAP size is measured by nominal scale through dummy variable. Value 1 is representing the firm audited by KAP Big-4, whereas value 0 is for the firm audited by KAP non-Big 4.

3.3.1.4. Firm Size

Firm size is a value that indicates the size of the company, where it can be measured by using total assets. Assets, according to Kieso (2011), is a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity. Total assets are chosen as a proxy of firm size because it is relatively more stable than any other measure to assess the size of the company (Sudarmadji and Sularto, 2007).

Firm size is obtained from the natural logarithm of total assets of the company in the research period.

$$\text{SIZE} = \ln(\text{Total Assets})$$

3.3.2. Dependent Variable

In this research, earnings management through real activities manipulation will serve as the dependent variable. According to Roychowdury (2006), real earnings management is departures from normal operational practices, motivated by managers' desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations. Real earnings management can be detected by using three proxies: abnormal cash flows, abnormal production costs, and abnormal discretionary expenditures. In this research, Roychowdury (2006) model are used:

$$\frac{CFO_t}{Assets_{t-1}} = \alpha_0 \left(\frac{1}{Assets_{t-1}}\right) + \alpha_1 \left(\frac{Sales_t}{Assets_{t-1}}\right) + \alpha_2 \left(\frac{\Delta Sales_t}{Assets_{t-1}}\right) + \acute{\varepsilon}_t \qquad (1)$$

$$\frac{PROD_t}{Assets_{t-1}} = \alpha_0 \left(\frac{1}{Assets_{t-1}}\right) + \alpha_1 \left(\frac{Sales_t}{Assets_{t-1}}\right) + \alpha_2 \left(\frac{\Delta Sales_t}{Assets_{t-1}}\right) + \alpha_3 \left(\frac{\Delta Sales_{t-1}}{Assets_{t-1}}\right) + \acute{\varepsilon}_t \qquad (2)$$

$$\frac{DISX_t}{Assets_{t-1}} = \alpha_0 \left(\frac{1}{Assets_{t-1}}\right) + \alpha_1 \left(\frac{Sales_{t-1}}{Assets_{t-1}}\right) + \acute{\varepsilon}_t \quad (3)$$

Description:

- CFO = cash flow from operations as reported on the statement of cash flows
- PROD = production costs, defined as the sum of cost of goods sold and change in inventory
- Assets = total assets
- Sales = total sales
- DISX = discretionary expenditures, defined as the sum of advertising expenses, R&D expenses, selling, general and administrative expenses (SG&A). Discretionary expenses are expenses occurred due to management's discretionary (Carter, 2006). Salary and tax expenses are excluded as both of them are non-discretionary.

In this research, residuals are taken as level of abnormal cash flow from operations, abnormal production costs, and abnormal discretionary expenses. For the sake of convenience and uniformity, residuals of abnormal cash flow from operations and abnormal discretionary expenses are multiplied by -1 (Tabassum et. al., 2013). The higher the residuals means the higher level of real earnings management through cash flow from operations, abnormal production costs, or abnormal discretionary expenses. According to Tabassum et al. (2013), this research uses REM Index to measure the overall of real activities manipulation.

REM Index is calculated by using the equation below:

$$\text{REM Index} = -\text{residuals AbnCFO} + \text{residuals AbnProd} - \text{residuals AbnDiscExp}$$

Description:

Residuals Abn_CFO = Abnormal cash flow from operations residual

Residuals Abn_Prod = Abnormal production residual

Residuals Abn_DiscExp = Abnormal discretionary expenses residual

3.4. Empirical Model

To test the hypotheses, this research uses the following multiple linear regression model:

$$\boldsymbol{EM = \beta 0 + \beta 1\ INST + \beta 2\ MGOW + \beta 3\ AQ + \beta 4\ FS + \varepsilon}$$

- EM = total residuals of earnings management through real activities manipulation
- INST = institutional ownership
- MGOW = managerial ownership
- AQ = public accounting firm or KAP size
- FS = firm size
- ε = an error term

3.5. Data Analysis Methods

Data analysis methods used in this research include statistics descriptive analysis, normality test, classical assumption analysis (multicollinearity, heteroscedasticity, and autocorrelation), and multiple linear regression to test the hypotheses.

IV. Descriptive Statistics Analysis and Discussion

Descriptive statistics is an analysis that describes research data. Descriptive statistic that is used in this research includes minimum value, maximum value, and standard deviation. From the descriptive statistics analysis, EM (Real Earnings Management) as the dependent variable has the minimum value of -2.0339, maximum value of 1.714, average value of -0.0742, and the standard deviation of 0.4572.

INST (Institutional Ownership) as an independent variable has the minimum value of 0.00, maximum value of 0.92, average value of 0.1422, and the standard deviation of 0.2308. MGOW (Managerial Ownership) as an independent variable has the minimum value of 0.00, maximum value of 0.33, average of 0.0101, and the standard deviation of 0.0373. AQ (Audit Quality) has the minimum value of 0, maximum value of 1, average value of 0.37, and the standard deviation of 0.482.

Normality test is conducted by using One Sample Kolmogorov-Smirnov Test. Based on normality test of 686 manufacturing firms as a sample, significance value showed $0.0000 \leq 0.05$, which means sample is not normally distributed. Therefore, trimming is conducted to eliminate outlier data to make sample normally distributed. Outlier identification is conducted, and found 109 samples need to be eliminated. After normality test is reconducted, significance value showed $0.057 \leq 0.05$, which means sample is normally distributed.

Multicollinearity test is conducted to test the correlation of independent variables in research model. Multicollinearity can be detected Multicollinearity can be detected by Variance Inflation Factor (VIF) and tolerance value (TOL) as a rule of thumb. Below is the result of multicollinearity test:

Table 4.1
Multicollinearity Test Result

Variable	Collinearity Statistics	
	Tolerance	VIF
INST	0.986	1.014
MGOW	0.962	1.039
AQ	0.753	1.328
SIZE	0.739	1.353

Based on the table above, the multicollinearity test shows that tolerance value of each independent variable is higher than 0.1 and VIF value of each independent variable is lower than 10. This result means that there is no multicollinearity in this research.

Heteroscedasticity test is conducted to test the regression model whether there is a dissimilarity of variance in residual from one observation to another observation. A good regression model should have a similarity of variance in residual (homoscedasticity) (Ghozali, 2009). Below is the result of heteroscedasticity test:

Table 4.2
Heteroscedasticity Test Result

Variable	Significance
INST	0.891
MGOW	0.153
AQ	0.524
SIZE	0.191

Based on heteroscedasticity test, the significant value of institutional ownership (INST), Managerial Ownership (MGOW), Audit Quality (AQ), and Firm Size (SIZE) is more than 0.05 (0.891 > 0.05; 0.153 > 0.05; 0.524 > 0.05; 0.191 > 0.05), which means there is no heteroscedasticity in this research.

The purpose of autocorrelation test is to test whether there is correlation between one observable residual to another residual. A good regression model possesses no autocorrelation. Autocorrelation test in this research is done by using Breusch-Godfrey Test. Below is the result of autocorrelation test:

Table 4.3
Autocorrelation Test Result
Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.753783	Probability	0.6439
Obs*R-squared	6.103997	Probability	0.6356

Based on the table above, the Breusch-Godfrey test result shows that Probability Obs*R-Squared (0.6356) is higher than 0.05. This result proves that there is no autocorrelation in this research.

The purpose of hypothesis testing is to measure the correlation between independent variable that affects the dependent variable. The results of multiple regression analysis are as follows:

Table 4.4
Research Model Regression Result

Variable	Coefficients (β)	Prob.
C	-0.843	0.000
INST	0.369	0.088
MGOW	2.071	0.271
AQ	-0.265	0.130
SIZE	0.049	0.002
F-statistic	12.295	
Prob. (F-statistic)	0,000	
Adjusted R^2	0.073	
Dependent Variable: EM		

Probability (F-statistic) value of 0.000 ≤ 0.05 shows that this research model is feasible to be conducted. Adjusted R^2 value of 7.3% shows that institutional ownership, managerial ownership, audit quality, and firm size are able to explain the variation of EM by 7.3%, where the rest (92.7%) is explainable by other variables outside the research model.

Hypothesis testing proves that institutional ownership, managerial ownership, and audit quality do not have any impact toward real earnings management, while firm size does have a positive significant impact toward real earnings management. Institutional ownership, in average, only consists of 14%, where mostly the institutional firms are not the majority owner in the sample companies. The institutional ownership cannot

limit the real earnings management practiced by manufacturing firms as they ignore the presence of the institutional investors while engaging in earnings management through real activities manipulation.

Managerial ownership does not have any impact on real earnings management as in average, only 1% shares is owned by the management, therefore managerial ownership is not able to align the interests in order to reduce the conflict of interests caused by owners and managers. Audit quality does not have any impact on real earnings management, as the presumed higher quality auditor which is Big-4 public accounting firm audited 37% from total of 577 samples, 211 companies in detail. The rest is audited by non-Big-4 public accounting firm which has audited 63% from total of 577 samples, 366 companies in detail. The status of Big-4 auditors does not necessarily give a better quality audit than non-Big-4 auditors. According to Siregar and Utama (2005), the status of Big-4 public accounting firm may not be a proper proxy for audit quality in Indonesia.

Firm size has a positive significant impact towards real earnings management, thus the H4 is accepted. This result supports the political cost hypothesis which assumes that firms will tend to show their profits lower by using different accounting methods and procedures so that the firm does not attract the attention of politicians, who will have an eye on high profit industries (Deegan, 2009).

V. Conclusion and Research Limitation and Suggestions

This research is conducted to investigate the impact of institutional ownership, managerial ownership, audit quality, and firm size towards earnings management through real activities manipulation proxied by REM Index. This research involves 577 companies listed in Indonesian Stock Exchange (IDX) for the year 2009-2014. As the research shows, institutional ownership, managerial ownership, audit quality does not give any significant impact towards earnings management through real activities manipulation. In the other hand, this research proves that firm size gives a positive significant impact towards earnings management through real activities manipulation.

The limitation of the research is that its adjusted R^2 is only 7.3% means the independent research variables is able to explain 7.3% of variation in real earnings

management variable, while the rest (92.7%) is explainable by other variables outside the research model, means that there are more variables outside the research model that can explain and affect the research model.

For the next research, non-manufacturing industries can be included to extend the result, not limited to manufacturing industries only. Related to low adjusted R^2, another proxy can also be included e.g. audit committee, audit fee, and audit industry specialization in order to extend the result.

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