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ACCRUAL AND REAL EARNINGS MANAGEMENT: ONE OF THE PERSPECTIVES OF PROSPECT THEORY

Imam Subekti
Brawijaya University
E-mail: subekti@ub.ac.id
MT Haryono Street 169 Lowokwaru, Malang, 65145, East Java, Indonesia

ABSTRACT

Earning management has become the practice in business. Yet, not all of the companies do this earning management. The study aims to investigate earnings management behavior measured by real and accruals transactions i.e. abnormal cash flow of operation, abnormal production cost, abnormal discretionary, short-term discretionary accruals, and long-term discretionary accruals. The study applies a perspective of prospect theory to predict earnings management behavior of management. In prospect theory, it is predicted that managers tend to manage earnings to avoid negative earnings. Positive earnings around zero is an indication of earnings managed to avoid negative earnings. It shows that most of Indonesian public companies tend to manage earnings based on real transactions than accruals transactions. All proxies of real earnings management support hypotheses that positive earnings around zero are managed through the real transactions. On contrary, only long-term discretionary accruals which support hypothesis revealing that positive earnings around zero is managed through accruals accounts. This result indicates that the Indonesian public companies engage in earnings management in accordance with the predictions of prospect theory, especially those based on real transactions.

Key words: *Real Earnings Management, Accruals Earnings Management, Zero and Negative Earnings, and Positive Earnings Threshold.*

MANAJEMEN LABA AKRUAL DAN RIIL: TINJAUAN DARI PERSPEKTIF TEORI PROSPEK

ABSTRAK

Manajemen laba sudah menjadi praktik di dalam usaha. Namun, tidak semua perusahaan melakukan manajemen laba ini. Penelitian in bertujuan untuk meneliti perilaku manajemen laba yang diukur dengan transaksi riil dan akrual, misalnya abnormal cash flow of operation, abnormal production cost, abnormal discretionary, short-term discretionary accruals, dan long-term discretionary accrual. Penelitian ini menerapkan prospect theory yang memprediksi perilaku manajemen laba. Dalam teori ini, diprediksikan bahwa manajer cenderung melakukan earning management untuk menghindari negative earning. Hasilnya menunjukan bahwa sebagian besar perusahaan di Indonesia cenderung mengelola penghasilan berdasarkan transaksi riil daripada akrual. Semua proksi manajemen laba riil mendukung hiposesis bahwa positive earning around zero ternyata dilakukan dengan transaksi riil. Sebaliknya, hanya pada diskresi akrual jangka panjang yang dilakukan dengan accrual accounts. Hasil ini menunjukkan bahwa perusahaan di Indonesia melakukan earning management sesuai dengan prediksi dari prospect theory, khususnya yang berdasarkan transaksi riil.

Kata Kunci: *Manajemen Laba Riil, Manajemen Laba Akrual, Laba Nihil dan Negatif, dan Ambang Laba Positif.*

INTRODUCTION

The fraudulence that has been accused so far has widespread throughout the globe. This practice related to the accounting problem has happened in some countries such America, Europe, and in Asia such as Enron, WorldCom, Xerox, Ahold and others. This existence has triggered accounting research topic, especially for earnings management. The information related to accounting cases revealed that some financial transactions have been manipulated and used as a basis for management companies to manage earnings. This misbehavior is done in order to achieve a predetermined profit targets.

The condition above seems to be interesting for the researcher to study in more detail, especially related to earnings management practices. The more attractive is when such a study is based on the real corporate transactions or activities related to the operation of the company's cash flow. Besides that, it can also be based on accrual transactions. For example, the transactions related to cash flow of the company have a major influence on the company survival. When the company mismanages such operational transaction it will result in serious economic consequences than compared to that is merely the management of accrual-based transaction.

Based on the assertions above, this research attempts to reveal the earnings management. This management is based on the company's operational activities related to the company's operating cash flow and accrual transactions that are in short term and long term. This research was formerly supported by the results of research in the last decade suggesting that more corporate managers always manage their companies based on real transactions compared to the company's accrual transactions (Bushee 1998; Graham, Harvey, and Rajgopal 2005; Roychowdhury 2006).

The theory used as the basis in this study is the theory which is based on the prospect theory. In general, the research on earnings management has been based on this theory which is, in fact, still relatively small. The studies of earnings management are always based on agency theory and positive accounting theory. For example, research in Indonesia is still rarely found, especially those which are based on agency theory and the positive accounting theory. Thus, this study is expected to provide a significant contribution to the development of financial accounting research in particular for the study of earnings management.

In connection with the theory, it can be referred to some proponents. For example, Kahneman and Tversky (1979), in this case, have developed prospect theory which states that decision makers perceive the advantages and disadvantages of a particular reference point instead of the absolute level of value. In particular, this study uses zero earnings as a reference point.

As asserted above, the numbers around zero earnings can have both a positive and negative direction. However, the meaning of the same figure in different directions will provide very different meanings and slightly contradictory, especially for investors in the capital market. In this case, negative earnings figures, even though it is small, it shows that the performance is not good. This is different from the number of positive earnings, despite it is a small, it has value. Positive earnings figure, though it is small, may indicate a good performance.

Therefore, the prospect theory assumes that if the company has small negative earnings, they will manage it again to get positive earnings although its value is still small. Another advantage of this study is on the measurement of earnings management proxy variables. The implementation of earnings management proxy has its measurement model that is adapted to the conditions in Indonesia. For example, it can be done by adapting to one variable to another one variable in ever estimation model.

The estimation model of earnings management proxy can be formulated by the former creator (in the U.S.) in which it cannot be directly be applied in Indonesia due to

the condition of different economies. Therefore, it is necessary to adjust to the regression model in order to gain a better analysis. In addition, this study also applies prospect theory to distinguish between groups of companies suspected of earnings management (suspected firms) and those which do not do earnings management (unsuspected firms) based on the condition of Indonesia.

In the previous research, the measurement instruments were used to differentiate the two groups of companies in terms of their return on assets (ROA). In contrast, this study uses the measurement of earnings per share (EPS). The argument is that the characters of public companies in Indonesia are still largely controlled individuals or families, who are often in a state between the majority shareholders and management of being still family-oriented (Benny S Tabalujan 2002; Claessens, Djankov, & Lang 2000).

The condition above indicates that the majority of the shareholders and management are not always in conflict. However, the conflict even actually exists between the majority and minority shareholders (Claessens et al. 2000; Fitri Ismiyanti & Putu Anom Mahadwartha 2008, La-Porta, Lopez-de-Silanes, & Shleifer 1999). In that case, the EPS has become the center of attention by the shareholders, especially minority because EPS can reflect the company's growth and financial health.

The interests of the shareholders towards the EPS can motivate managers to undertake earnings management in order to go beyond the limits of the previously EPS set targets (Bhojraj, Hribar, Picconi, & McInnis 2009; Charoenwong & Jiraporn 2009). Besides that, the distribution of profits is based EPS which is clearer in measuring the company's performance compared to that based on ROA. For example, the distribution of income is to be used as the basis for classifying into the group of companies between the suspected earnings management and that are not. This idea is expected to provide a significant contribution in the development of theoretical accounting research in Indonesia.

THEORETICAL FRAMEWORK AND HYPOTHESIS

Prospect Theory

Prospect theory has been developed by Kahneman & Tversky (1979). It is developed in behavioral economics that discusses the irrational behavior. Furthermore, the prospect theory describes how the real human behavior makes decisions under the conditions with risk and uncertainty. Individual behavior is related to the existence of a range of options that are clearly not rational. From this perspective, prospect theory postulates that decision makers derive more value from the gains and losses with respect to a reference point instead of the absolute level of prosperity.

In more specific discussion, prospect theory explains the diversification of decision or alternative based on the effect of the results that may be obtained from either of these options associated with prosperity. This theory assumes that a person in general tend to avoid the risk if all the changes associated with prosperity are perceived to yield an advantage. On the contrary, the person will not like the risk when all the changes associated with the prosperity are perceived as a loss. If a function is described in the individual value, the individual value function is in the form of convex for a loss and concave for a profit. For that reason, the individual will derive the highest value when the prosperity moves on the loss to the profit.

The application of prospect theory is clear. In relation to the performance of companies in the capital markets, the existence can be in the forms of hope, and expectations by the investors about the company's performance. This can be related to the company's profit by criteria such as: (i) a positive earnings, (ii) greater profits than the previous year and (iii) higher profit than analysts forecast.

All of this are expected to have a positive assessment of the implications of the company's stock price (Kinney, Burgstahler, & Martini 2002; Skinner & Sloan 2002).

Furthermore, in relation to the issues of corporate performance, the prospect theory provides the advice, in which in the ceteris paribus, the investors prefer investing in the companies that report a series of smaller profits than those with volatile earnings (Koonce & Mercer 2005). This argument can be clarified with the hypothesis of prospect theory which states that a small loss is extremely more unpleasant than a small gain in the amount equal to the loss. This is due to the fact that reporting a small profit is expected to result in a higher valuation premium.

The phenomenon of investors in the capital markets punish the companies that reported negative earnings despite the very small value may lead management to do something to avoid a negative earnings especially small value. Thus, profit exposure has been widely used as a key performance indicator of a company's commercial activities and it is also the main target of the management.

The results of the survey on the Chief Financial Officers (CFOs) conducted by Graham et al. (2005) showed that the number of accounting earnings, especially earnings per share (EPS) is a key figure that becomes focus of investors in the capital market. This is because of the following: (1) investors require a reference (benchmark) to evaluate the performance of companies that can lower the cost of information processing in conjunction with the abundance of available information, (2) EPS is easy to obtain because, it is often announced by the media, (3) the analyst can make a prediction of the future value of a better company because they can base their assumptions on the rate of EPS, (4) the analysts evaluate the progress of the company based on EPS (Graham et al. 2005).

Real and Accrual Earnings Management

It is argued by Healy and Wahlen (1999) and Schipper (1989), that earnings management occurs when managers use policies in the preparation of the financial statements and structuring transactions to alter financial statements and trick the company's stakeholders about the company's economic performance or affect the outcome of the contract depending on the figures of the accounting reports. In other words, earnings management can be performed by managers through the accrual transactions or transactions of real enterprises.

The model of measurement should be based on the accrual transaction and the earnings management (discretionary accruals or DA) which remains considered unable to reveal the full details of earnings management. This is because the model ignores the relationship between the transaction of cash flows and accruals (Dechow, Sloan, & Sweeney 1995; Guay, Kothari, & Watts 1996; Kothari 2001; Kothari, Leone, and Wasley 2005; Subramanyam 1996).

Thus, the measurement model of earnings management that uses the value of DA also finds difficulty in expressing the exact pattern of the distribution of earnings managed the company manager (Beaver, McNichols, and Nelson 2003; Dechow, Richardson, and Tuna 2003). Criticisms are asserted by Kothari et al. (2005) who has developed a model modification `from Jones (1991). They integrated with the company's performance that is return on assets (ROA).

The results of the development of this model show that the model has a stronger predictive power than the previous model because the model was able to provide additional control over the proxy of earnings management. Based on this argument so this study uses a model modification Jones combined with the performance of the model, known as Kothari et al. (2005). Furthermore, this study separates DA values, combined with the performance of a short-term (short-term DA) and long term (long-term DA). This is done in order to know more detail about the patterns used by managers in managing corporate profits in particular are based on accrual transactions.

The next development in the measurement of earnings management leads to

measurement based on distortion or manipulation of operational activities of the company. For example, the measurement of earnings management has been found with empirical evidence by Bushee (1998), Dechow and Sloan (1991), Graham et al. (2005) and Roychowdhury (2006). In this case, the company's operating cash flows have the same opportunities accrual transactions in relation to the practice of earnings management (Myers, Myers, & Skinner 2007).

Some transaction policies are generally intervened by the managers such as the acceleration of sales, changes in delivery schedules, and delays in research and development, expenses and maintenance costs (Healy & Wahlen 1999). Management intervention is referred to in some literature as a form of real earnings management. For example, Roychowdhury (2006) defines real earnings management as a form of earnings management which is done through manipulating the company's operational activities.

Such manipulation above s measured in the presence of a deviation from the normal practice of the company's operations. Management motivation to do this is the desire to "trick" the company's financial reporting for the stakeholders in order to meet certain goals. This distortion is not actually adding value to the company but merely to meet reporting goals for managers.

The definition of Roychowdhury is consistent with the results of studies by Graham et al. (2005) who found evidence that there is the following tendency: (a) financial executives weighed several transaction policy that aims to meet profit targets as profit is not negative, the same as the previous earnings and forecasts from analysts, (b) finance executives also wanted to manipulate real activities in order to meet targets through aggressive price cuts to boost sales volume, and increased production volumes.

The practice above can result in lower sales margins. Yet, empirical evidence on the existence of real earnings management is always related to the opportunity to lower the costs of research and development (R & D) to increase the profits of the company (Bens, Nagar, & Wong 2002; Bushee 1998). Bens et al. (2002) suggests that managers buying back all shares to avoid the negative effects of diluted EPS which is funded by the cost research and development costs. On the contrary, Bushee (1998) found that the decrease in research and development costs is done in order to meet earnings benchmarks.

The next evidence of the real earnings management is associated with a decrease in discretionary costs identified by Graham et al. (2005) which states that fund managers do more real earnings management in the form of reduced costs compared with the transaction discretionary accruals. The existence of real earnings management is also related to sales transactions, operating cash flow, cash production costs and administrative activities of the company. It was found by Roychowdhury (2006) and Bartov (1993). The Company made real earnings management in order to avoid negative earnings and zero earnings. Some are used to manipulate in order to acquire an abnormal operational activity as described by (Roychowdhury 2006) as the following.

1. Sales manipulation refers to speeding up sales and making additional sales which is not maintained through increased price discounts or extended credit terms. This is done in order to increase operating cash flow.
2. Decrease in discretionary cash costs.
3. Overestimate the production of goods in order to report the cost of goods sold is lower.

Earnings per share (EPS) as a reference for managers was found in Bhojrat et al (2009) that suggest that corporate managers in America conducted earnings management to meet EPS targets predicted by financial analysts. Furthermore, EPS is used as a reference by managers for performing particular earnings management to avoid reporting negative earnings also found by Charoenwong & Jiraporn (2009). The results of these studies indicate that managers of public companies in Singapore and Thailand per-

Table 1
Procedures of Sampling

Description	Number
The number of companies listed on the Stock Exchange in 2006	339
The listed companies are less than 12 years (1995-2006)	42
Companies that are not included as manufacture sector	178
The companies not the accounting period ended on 31 December	2
Companies whose financial statements are in Euro	4
Companies whose financial statements are not complete	16
Number of Sample	97

form earnings management in order to avoid losses and negative earnings growth.

Based on the arguments and assertion as based on some literature reviews, the following hypotheses are raised in this research.

H1: Managers do real earnings management to avoid negative EPS by increasing cash flow of the operations.

H2: Managers do real earnings management to avoid negative EPS by increasing the number of production or increasing the end inventory of finished goods.

H3: Managers do real earnings management to avoid negative EPS by minimizing the costs of discretionary cash.

H4: Managers do accrual earnings management to avoid negative EPS by minimizing the burden of short-term discretionary accruals.

H5: Managers do accrual earnings management to avoid negative EPS by minimizing the burden of long-term discretionary accruals.

RESEARCH METHOD

Population and Sample

The population in this research includes public companies in Indonesia listed during 1995 to 2006, selected by purposive sampling method. The number of sample is 97 firms for 12 years or 1164 observations (company year). The criteria and number of samples selected are as shown in Table 1.

This study takes the sample of the companies which are classified as industrial manufactures sector with the proxy measure of earnings management that is cost of production. The expense of production is only in the industrial manufacture sector. In addition, the number of Indonesian public companies is mostly the companies of manufactures. The criteria defined above are aimed to reduce bias in the data analysis.

Type and Sources of Data

The data were taken from the financial statements of the Capital Market Pojok BEI Universitas Brawijaya Database and of the Indonesia Stock Exchange (IDX) through the website www.idx.co.id.

DATA ANALYSIS AND DISCUSSION

Descriptive statistics of research data is presented in Table 2. Table 2 shows that most of the research data have a mean value which is higher than the value of the standard deviation. This condition indicates that the data are normally distributed and did not show any remote data. It can support the analysis of the data so as to avoid violating the assumptions of classical regression equations which are made.

Measurement of Earnings Management Proxy

There are five proxies of earnings management (a combination of real and accrual earnings management), in which 3 proxies are based on the operating activities of the companies that are involved in real Abnormal operating cash flow (Abn.CFO), abnormal production costs in cash (Abn.PROD), and the expense of discretionary cash (Abn.DISCR) and 2 proxies are based on the accrual account of the short-term discretionary accruals (DA SHORT), and long-term discretionary accruals (DA LONG). SHORT DA and LONG DA refer to the model of Kothari et al. (2005) which are broken up into two parts, namely

Table 2
Descriptive Statistics Research Data (in Millions of US $ unless ROA and EPS)

	Mean	Median	Standard Deviation
Sales	2,523,298	3,810,250	2,406,584
Operating Cash flow	245,339	239,910	113,286
Cash Production Cost	474,351	462,992	301,886
Discretional Cash Cost	981,220	837,688	233,865
Total of Accrual	5,299,280	3,605,000	430,462
Short term accrual	607,243	749,500	478,774
Long term accrual	1,238,556	1,929,000	1,076,491
Net Earnings	564,456	965,500	549,731
Earnings per share (EPS)	228	318	167
Total of Asset	1,611,099	1,399,749	743,965
Log. Of total asset	5.710	5.600	0.583
Account receivables	1,317,612	1,655,600	972,936
Inventories	1,375,023	1,400,320	1,264,572
Other current assets	441,223	520,158	359,033
Account payables	1,394,363	1,559,400	350,470
Payable tax	145,293	193,000	97,967
Other accounts payables	253,908	364,260	174,738
Fixed assets	873,432	932,415	659,295
Intangible assets	92,373	127,100	73,191

short-term and long-term.

This study applies the modifications in calculating the value of earnings management proxies, namely the transformation of the logarithm of the value of total assets in each model of the estimation. The purpose of this modification is to obtain a better analysis. This is done because the value of the variable 1 / At-1 (total assets) in the estimation model produces the 0 from all observations. Therefore, if it is processed in the analysis, it will not obtain the coefficients for these variables Thus, the model estimates produces regression parameter after modification as the following.

a. Activity *cash flow of operation*

$$CFO_t / A_{t-1} = \alpha_0 + \alpha_1(1/Log.A_{t-1}) + \beta_1(S_t / A_{t-1}) + \beta_2(\Delta S_t / A_{t-1}) + \varepsilon_t \quad (1)$$

b. Activities *production cost*

$$PROD_t / A_{t-1} = \alpha_0 + \alpha_1(1/Log.A_{t-1}) + \beta_1(S_t / A_{t-1}) + \beta_2(\Delta S_t / A_{t-1}) + \beta_3(\Delta S_{t-1} / A_{t-1}) + \varepsilon_t \quad (2)$$

c. Activity of discretionary expense

$$DISCR_t / A_{t-1} = \alpha_0 + \alpha_1(1/Log.A_{t-1}) + \beta(S_{t-1} / A_{t-1}) + \varepsilon_t \quad (3)$$

Description:

A_{t-1} = Total asset of the company at year t-1.

S_t = Sales of the company at year t-1

ΔS_t = Changes in sales of the company year t-1.

ΔS_{t-1} = Changes of sales of the company year t-1 and t-2

α, β = Constant and Regression coefficient

ε = Error term at the end of year t

The abnormal value of each activity is calculated from the difference between the actual activity and the expected value of the activity. The measurement model is developed by Roychowdhury (2006). The expected value of the activity is calculated based on the regression coefficients of each estimation model.

d. Short-term discretionary accruals (SHORT_DA)

SHORT DA is calculated from the difference between the total short-term accruals (STACC) and a total real short-term accruals predicted from the model estimates. The formula for calculating the DA SHORT is as follows.

$$SHORT\_DA_{i,t} = \frac{STACC_{i,t}}{A_{i,t-1}} - \left\{\alpha_1\left(\frac{1}{Log.A_{i,t-1}}\right) + \alpha_2\left(\frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{A_{i,t-1}}\right) + \alpha_3\left(\frac{INC_{i,t}}{A_{i,t-1}}\right)\right\} \quad (4)$$

Table 3
The Parameter of Regression for Each Earning Management Proxy

	CFO_t/A_{t-1}	$PROD_t/A_{t-1}$	$DISCR_t/A_{t-1}$	$STACC_t/A_{t-1}$	$LTACC_t/A_{t-1}$
Intercept	0.039	-0.074	0.127**	0.186**	0.163
	(1.740)	(-0.696)	(3.856)	(3.123)	(1.842)
$1/Log.A_{t-1}$	-0.139**	0.523**	0.407**	0.069**	0.875*
	(-3.617)	(5.876)	(3.040)	(3.208)	(2.903)
S_t/A_{t-1}	0.049**	0.667**			
	(7.050)	(44.265)			
$\Delta S_t/A_{t-1}$	-0.001**	0.067*			
	(-4.171)	(2.398)			
$\Delta S_{t-1}/A_{t-1}$		-0.093**			
		(-3.266)			
S_{t-1}/A_{t-1}			0.092**		
			(8.398)		
$(\Delta REV_t - \Delta REC_t)/A_{t-1}$				0.064**	
				(2.941)	
PPE_t/A_{t-1}					0.161**
					(5.043)
INT_t/A_{t-1}					-0.190**
					(-5.209)
INC_t/A_{t-1}				0.265**	-0.264*
				(2.942)	(-2.164)
F-value	17.186**	766.933**	40.185**	6.336**	15.086**
Adjusted R^2	0.041	0.725	0.063	0.044	0.066

*Significant level at 5%. **Significant level at 1%.

Description: (5)

SHORT Dai, t = Discretionary accrual term company i at year end t

STACCj, t = Total real short-term accruals for company i in year t

ΔREVj, t = sales in year t less revenues in year t-1 company

ΔRECj, t = t Accounts receivable subtracted by accounts receivable in year t-1 company i

INC it = net income in year t of company i

Ait-1 = total assets of company i in year t-1

e. Long-term discretionary accruals (DA LONG)

LONG DA is calculated from the difference between total accruals real long-term and long-term total accruals predicted by the model estimate. The formula for a LONG DA is:

$$LONG\_DA_{i,t} = \frac{LTACC_{i,t}}{A_{i,t-1}} - \left[\omega_1\left(\frac{1}{Log.A_{i,t-1}}\right) + \omega_2\left(\frac{PPE_{i,t}}{A_{i,t-1}}\right) + \omega_3\left(\frac{INT_{i,t}}{A_{i,t-1}}\right)\omega_4\left(\frac{INC_{i,t}}{A_{i,t-1}}\right)\right]$$

Description:

LONG DAit = Discretionary accrual of long-term of company i at year end t

LTACCj, t = Total real long-term accrual of company i year t

IETC, t = Total fixed assets of company i in year t

INTJs, t = i intangible assets in year t

INCj.t = Net income for firm i in year t

Ait-1 = total assets of firm i in year t-1

The results of the analysis associated with the estimation model for each of the earnings management proxies are presented in Table 3. In Table 3, it is described that the regression coefficients were used to estimate the value of the transaction and the operational activities of the normal accrual accounts. Such a table shows that all the coefficients of the variables used to estimate the activity is significant. This means that the

Table 4
The Value of Each Earning management Proxy

Proxy	Mean	Median	Std.Deviation
Abnormal CFO	0.172	0.186	0.145
Abnormal PROD	0.671	0.798	0.380
Abnormal DISCR	0.273	0.277	0.251
SHORT Discretionary accruals	0.398	0.252	0.293
LONG Discretionary accruals	0.316	0.302	0.293

Table 5
Test Results of Authocorrelation on the Model of Each Earning Management Proxy

	DW_{Upper}	(DW_{Tabel})	$DW_{Statistic}$ 4 - DW_{Upper}
Abnormal CFO	1.799	1.911	2.201
Abnormal PROD	1.810	1.978	2.190
Abnormal DISCR	1.789	1.926	2.211
SHORT Discretionary accruals	1.799	1.946	2.201
LONG Discetionary accruals	1.810	1.901	2.190

regression model is accurate. The size of the highest explanatory power indicated by the model for production activity is equal to 72.5%. The lowest explanatory power for operating cash flow activity is equal to 4.1%. On the contrary, the explanatory power is 6.3% for the activity of discretionary expenses, totaled to 4.4% for short-term discretionary accruals, and by 6.6% for long-term discretionary accruals. The estimation of each proxy for earnings management if it is presented in the form of descriptive statistics is presented in Table 4.

All regression models which were used to estimate the proxy of earnings management have also been free of problems autocorrelation, multicollinearity, and heteroscedasticity. Gujarati (2003) states, that the regression model is free from autocorrelation problem if the Durbin-Watson statistic is between DWupper (Table) and 4 - DWupper (DWupper <DWStatistic <4 - DW upper). Autocorrelation test summary is presented in Table 5.

The next is that the multicollinearity test results are based on the correlation among the independent variables of each regression model. This shows that the correlation between among independent variables is below 0.50 (50%). Problem dealing with heteroscedasticity of each regression model was formerly tested with the Park test. The test results showed that all the coefficients of the independent variables of the Park test were not significant. This means that all of the regression models used to estimate earnings management proxy is free of problems dealing with heteroscedasticity.

Sensitivity Analysis on Estimation Model of Earning Management Proxy

An adjustment is applied in any regression model of the variables 1/log as the replacement of the variable 1/At-1. This was done in order to obtain the results of better regression parameters.. The results of the comparison of the model parameters are adjusted to the model without adjusting as in Table 6.

As illustrated in Table 6, most of the parameters of the regression model modifications are better than those without modification, i.e. for parameter R2, adjusted R2, and most of the regression coefficients. The applications may produce logarithmic function coefficients. In contrast, the model without modification does not result in regression coefficients of variables 1/At-1. Empirical evidence indicates that the application of earnings management model with modifications can obtain better results because it can increase the amount of explanatory power of

Table 6
Comparison of Model Estimation between Modification and non Modification

	With Modification	Without Modification
A. Abnormal CFO		
R Squared	0.043	0.032
Adjusted R Square	0.040	0.031
Coefficient 1/ Log.A_{t-1}	-0.139	-
Coefficient 1/ A_{t-1}	-	-
Coefficient S_t/ A_{t-1}	0.048	0.046
Coefficient ΔSt/ A_{t-1}	-0.001	-0.059
B. Abnormal PROD		
R Square	0.726	0.705
Adjusted R Square	0.724	0.684
Coefficient 1/ Log.A_{t-1}	0.523	-
Coefficient 1/ A_{t-1}	-	-
Coefficient S_t/ A_{t-1}	0.667	0.640
Coefficient ΔS_t/ A_{t-1}	0.067	-0.065
Coefficient ΔS_t/ A_{t-1}	-0.093	-0.095
C. Abnormal DISCR		
R Square	0.065	0.039
Adjusted R Square	0.063	0.031
Coefficient 1/ Log.A_{t-1}	0.407	-
Coefficient 1/ A_{t-1}	-	-
Coefficient S_{t-1}/ A_{t-1}	0.092	0.085
D. Short-term DA		
R Square	0.056	0.013
Adjusted R Square	0.044	0.010
Coefficient 1/ Log.A_{t-1}	0.069	-
Coefficient 1/ A_{t-1}	-	-
Coefficient (ΔREV_t – ΔREC_t)/ A_{t-1}	0.064	0.063
Coefficient INC_t/ A_{t-1}	0.092	0.086
E. Long-term DA		
R Square	0.089	0.046
Adjusted R Square	0.066	0.044
Coefficient 1/ Log.A_{t-1}	0.875	-
Coefficient 1/ A_{t-1}	-	-
Coefficient PPE_t/ A_{t-1}	0.161	0.145
Coefficient INT_t/ A_{t-1}	-0.190	0.135
Coefficient INC_t/ A_{t-1}	-0.264	-0.262

the model used. This, of course, will have an impact on the results of the estimated value of better discretionary accruals.

Classification of Samples

Grouping samples into "samples identified practice of earnings management" and "samples identified no practice of earnings management" function for measurement dummy variables in the regression analysis on hypothesis testing. Grouping refers to the idea put forward by Hayn (1995), followed by Burgstahler and Dichev (1997) and Roychowdhury (2006). The procedure is based on the distribution of profits.

The researcher uses the distribution of income based on the value of ROA. However, in this study the distribution of income is referred to the distribution of earnings per share (EPS). As has been mentioned earlier,

Table 7
Distribution of Sample Indicated of Earning Management

Year	Based on Exchange Rate US $		Based on Exchange Rate EURO (€)	
	Identified	Unidentified	Identified	Unidentified
1995	26	71	-	-
1996	50	47	-	-
1997	32	65	-	-
1998	26	71	-	-
1999	55	42	-	-
2000	32	65	-	-
2001	57	40	-	-
2002	55	42	56	41
2003	52	45	54	43
2004	52	45	52	45
2005	58	39	59	38
2006	60	37	60	37
Total	555	609	281	204

the idea for the investigation of the practice of earnings management refers to the prospect theory, which uses a reference point in making a decision. Reference point in this study is the zero profit (zero earnings).

The condition of "negative earnings around zero earnings" (loss of small value) is an extremely adverse circumstances and risk managers. Therefore, managers are motivated acts perform earnings management to change the direction of the negative into a positive profit with relatively small as well. This means that companies with "positive earnings around zero profit" is a company that is suspected of earnings management practices.

This study applies the value of EPS which refers to the rate of the Rupiah against the U.S. Dollar ($). For 1995 and 1996, the average exchange rate of rupiah against the U.S. dollar is $ 2.500, while for 1997 to 2006 is $ 10,000. Based on the condition that the limit value of EPS for 1995 and 1996 is totaled up to Rp 125 (5% of 1 U.S. $ = U.S. $ 250) and Rp 500 (5% of 1US $ = Rp 10,000) for 1997 to 2006. This means that in 1995 and 1996 EPS samples having between zero and up to $ 125 is a sample of the identified conduct earnings management. Meanwhile, for 1997 through 2006 EPS samples have between zero and 500, this is identified to conduct earnings management. The number and distribution of samples in the group of the companies practice earnings management are presented in Table 7.

Furthermore, the data in Table 7 are used as the basis for subsequent analysis, which is a variable dummy in hypothesis testing. The samples are identified to conduct earnings management will be given a value of 1. Otherwise, samples were not identified conduct earnings management was given a value of 0.

Hypothesis Testing Results

By using regression analysis, the result of hypothesis testing is the following. This refers to the regression model Roychowdhury (2006) adapted to the conditions of this study. Roychodhury uses dummy variables ROA, whereas this study uses a dummy variable Dummy EPS and coupled with the financial crisis. Regression model is as follows.

$$Yt = \alpha 0 + \alpha 1\ (Dm\_Crisis) + \alpha 2\ (Dm\_Post) + \beta 1\ (Dm\_EPS)\ t + \beta 2\ (SIZE)\ t + \varepsilon t \quad (6)$$

Description:

Yt = Proxy earnings management is Abn.CFO (H1), Abn.PROD (H2), Abn.DISCR (H3) HORT DA (H4), and LONG DA (H5).

Dm_Crisis = Dummy to the economic crisis the value of 1 for the period of economic crisis, i.e. 1997 and 1998, 0 for others).

Dm_Post = Dummy for after the economic crisis, the value of 1 for the period after the economic crisis, the year 1999 to 2006, 0 for others)

Table 8
Results of Regression Analyzes to Test the Hypothesis

	Abn.CFO	Abn.PROD	Abn.DISCR	Short DA	Long DA
Konstanta	-0.024	-0.006	0.018	0.024	-0.036
	(-0.637)	(-0.061)	(0.266)	(0.423)	(-0.467)
Dm_Krisis	0.056**	-0.019	-0.027**	-0.007	-0.106**
	(3.792)	(-0.478)	(-3.035)	(-0.295)	(-5.539)
Dm_Post	0.010	-0.005	0.011	-0.017	-0.042
	(0.824)	(-0.147)	(0.530)	(-0.918)	(-1.717)
Dm EPS	0.082**	0.042**	-0.032*	-0.017	-0.011**
	(5.096)	(3.861)	(-2.115)	(-1.266)	(-4.072)
Size	0.002	-0.001	-0.002	-0.001	0.012
	(0.228)	(-0.077)	(-0.213)	(-0.074)	(0.862)
F-statistic	4.881**	4.030**	4.522**	0.806	5.932**
R-squared	0.156	0.134	0.151	0.003	0.003
Adjusted R^2	0.126	0.120	0.136	0.001	0.001

*Significant at the level 0.05, **Significant at the 0.01.

Dm_EPS = Dummy for grouping samples (a value of 1 for the sample identified conduct earnings management, 0 for others).
SIZE = firm size is calculated from the value of Log. Total assets are the control variables. α = constant regression coefficient β = ε = residual term

The results of the analysis for hypothesis testing are presented in Table 8. Table 8 describes that Dummy EPS coefficient is significant at 1% level for regression Abnormal Operating cash flow with a coefficient of 0.082; Abnormal Production Expenses coefficient is 0.042. These results indicate that hypothesis 1 which states that positive earnings around zero is identified to manage earnings by increasing operating cash flow and hypothesis 2, which states that positive earnings around zero is identified not to manage earnings by increasing the production of goods as ending inventory. With a great ending inventory is expected to reduce the cost of goods sold.

The result of hypothesis testing 3 is indicated by the coefficient for the proxy Dummy EPS Abnormal Discretionary Expenses that is of-0032 which is significant at 5% level. This means that the positive earnings around zero are managed by minimizing the costs of discretionary cash. In contrast, the result of hypothesis testing 4 shows the rejection of the hypothesis since the coefficient for EPS Dummy proxy for Short-Term Discretionary Accruals is -0017 insignificant. This means that the company does not undertake accrual earnings management on short-term transactions. Furthermore, the coefficient for the proxy Dummy EPS Long-Term Discretionary Accrual is -0011 which is significant at the 1% level. These results indicate support for hypothesis 5, which states that a positive profit earning around zero is managed by minimizing the long-term discretionary accruals.

Earnings management behavior, as measured by the proxy 5 is apparently not affected the size of the company. For example, the large companies and small ones have the same behavior in the practice of earnings management. This indication is shown by the absence of a significant coefficient of company size in the regression analysis.

The result related to economic conditions in Indonesia shows that earnings management behavior is done by operating cash flow activity, discretionary expenses, and account long-term discretionary accruals which is the difference between the economic crisis and beyond the economic crisis. During the economic crisis, the tendency is to increase operating cash flow, reduce discretionary expenses in cash and long-term accrued expenses. In contrast, the behavior of earnings management that is based on the activity of production expenses and accounts short-term discretionary accruals shows no significant difference.

CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

It can be generalized that the Indonesian public companies tend to perform earnings management practices based on real operational activities. In turn, the earnings management practices can be triggered by any chance related to the concentrated nature of corporate title deeds. Most of the public companies in Indonesia are a combination of business and not a single business unit. This condition provides an opportunity for managers to practice earnings management through operational activities by conducting transactions with affiliated companies or subsidiaries that are not normal. This is done in order to cover losses or profit targets set.

Furthermore, earnings management practices as practiced above should be relatively difficult to detect, even by the auditors because everything is planned and supported by a valid proof of the transaction. Another generalization is related to the evidence that earnings management practices are still done by using the accrual account. This practice is still done by the company because of the flexibility of accounting standards.

The research concerns the management practices is still very attractive for further investigation especially if associated with operational activities of the company. In fact, the company's activities are always associated with good cash flow from operations and other activities such as financing and investment. Therefore, the development of a proxy of earnings management models still need to be developed continuously in relation to the manifold types of transactions.

The transactions above are related to the firm's cash flows for operating activities, investing or financing activities. Thus, the application prospect theory in earnings management behavior should be done by using a reference point indicating zero profit on the behavior of managers in anticipating risk managers. This can be caused by the loss suffered by the company. For further research, it is important for the application of prospect theory which is the context of management behavior. The researchers can also use other reference points such as the anticipation of a decline in profits or earnings targets.

This study focuses on the industrial sector of manufacturing companies. Besides that, it is related to the measurement model of earnings management that might not be applicable in other sectors such as the cost of production. Therefore, the next study is necessarily to develop a measurement model that can be applied to all industry sectors. Measurement model can be associated with the activities of the company's more general nature. This can be applied to all sectors of industry such as associated with the companies related to investment or financing activities. This is because the financing and investing activities of a public company is really important to study. There are already a variety of financial instruments to do such instruments and derivatives hedgers. This condition is very attractive when these kinds of companies are investigated in relation to the development of the proxy for earnings management measurement model.

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