TREND AND TRADEOFF BETWEEN ACCRUAL EARNINGS MANAGEMENT AND REAL EARNINGS MANAGEMENT IN INDONESIA

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Abstract
This research was carried out to test trend of earnings management in Indonesia. By understanding the trend of earnings management, it can be found out what scheme of earnings management practice in Indonesia. The sample used were thirty one non-financial, hotel, travel, transportation and real estate companies that listed in Indonesia Stocks Exchange from 1991 to 2014. The time of observation was from 1993 to 2013. Research model was using multiple regression method. The result showed there was no trend increasing of accrual earnings management during research period. Practice of accrual earnings management in Indonesia that tends fluctuate shows there is a tradeoff or substitution of earnings management technique from accrual to real earnings management.

Keywords: accrual earnings management, real earnings management, trend of earnings management

JEL Classification: M41 M43

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INTRODUCTION

A nation’s stock market can be sturdy because of investor trusts. For most investor, earnings are considered critical information in making investment decision. Unfortunately, this information is often mislead by managers for their personal welfare by executing earnings management.

Managers search any gaps for conducting earnings management although regulators and accounting profession have issued rules to prevent such fraud. One of the proofs that shows the managers’ attempts to keep doing earnings management is by
doing earnings management movement techniques (Graham et al., 2005 and Cohen et al., 2008). Zang (2007) proves that managers use real earnings management and accrual earnings management interchangeably (substitution) and Cohen et al. (2008) find that managers replace accrual earnings management techniques with the real earnings management after the period of the Sarbanes-Oxley Act (SOX).

Graham et al. (2005) find evidence that managers in the United States prefer the real earnings management than accrual earnings management practices, with the aim to meet certain earnings targets. A tendency to choose the real earnings management practices is due to the accounting fraud conducted by the Enron company detected and the regulations of SOX.

The Sarbanes-Oxley Act regulation indeed gives a huge influence on earnings management practices in the United States, as described by Henry Paulson, the former finance minister of the United States. One of the main objectives of the SOX regulations is to inhibit the earnings management practices and accounting fraud which lead to improve the integrity of the financial statements (Cohen et. al., 2008).

Research by Cohen et al. (2008) reveal that SOX effectively minimizes the behavior of accrual earnings management. Because Indonesia has no comprehensive rule yet such as SOX, hopefully there is no incentive for managers to change their way in managing earning because accrual earning management is still wide open to perform.

Based on research by Cohen et al. (2008), it was interesting to test trend of earnings management in Indonesia. By understanding well the trend of earnings management, it can be found out what scheme of earnings management practice in Indonesia.

Therefore, this research proposed questions whether the trend of accrual earning management was increasing during period time of research. The aims of this research is give empirical evidence the increasing trend of accrual earnings management during period of time.

This research, hopefully, contributes for rule decision and accounting standards makers to understand the effectiveness of rules and standards exist that may hinder the practice of earnings management. Furthermore, for the users of financial reports as their consideration basics to analyze firm’s financial report.

LITERATURE REVIEW AND HYPOTHESIS

Institutional Background

A string of major accounting scandals began with the unraveling of Enron Corporation in late 2001. Enron’s activities over the preceding four years included the failure to make proper disclosures concerning various related-party transactions and to account for off-balance-sheet transactions. A number of criminal and civil investigations followed, along with the company’s bankruptcy filing. The various governance failures that followed Enron involved distinctly different types of misbehaviors, ranging from the widely publicized case of Global Crossing’s dubious financial reporting to that of Adelphia Communications Corp., and Tyco International Limited’s sweetheart loans to executives. Figure 1 below provides a timeline of the major accounting scandals that occurred in 2001-2002. The dates of these scandals were obtained from Forbes’ “Corporate Scandal Sheet” (Penelope, 2002) and verified by checking the Dow Jones News Retrieval Services. These multi-billion dollar
governance failures created losses for millions of ordinary investors and raised questions about the reliability of financial reporting.

<table>
<thead>
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<tbody>
<tr>
<td>Enron</td>
<td>Arthur Andersen</td>
<td>Kmart; Homestore.com</td>
<td>Global Crossing; Qwest</td>
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</table>

**Figure 1: Timeline Of The Major Scandals In 2001-2002**

One consequence of these events was the passage of SOX in 2002, the result of Congressional hearings conducted since the first admissions of fraudulent behavior made by Enron. President Bush signed SOX, also known as the Public Company Accounting Reform and Investor Protection Act of 2002, into law on July 30, 2002. SOX introduces new provisions for management, directors, auditors and analysts, and significantly raises criminal penalties for securities fraud, for destroying, altering or fabricating records in federal investigations or any scheme or attempt to defraud shareholders.

Accounting scandal has relationship with earnings management because most of the scandal case by manage their earnings report. Such as: Enron using special purpose entities activities, Xerox use their asset account to manage their financial statement to manipulate their real condition, etc.

**Earnings Management**

Roychowdhury (2006) explains that there are two ways of earnings management techniques, namely accrual manipulation and real activities manipulation. Accrual manipulation of earnings management (accrual earnings management) is manipulation done by managers to manipulate the discretionary accrual which has no effect or consequence to the cash flows directly.

Managers usually do accrual earnings management at the end of the accounting period when knowing how big the profit target which has not been achieved. Accrual earnings management practices are limited by the accounting standards and the accrual manipulation from previous years. Other accrual earnings management weaknesses are it is easily detected by auditors, investors and regulators (government) which may result in a decrease in the company's stock price and may even lead to bankruptcy of the company, as happened in the Enron corporation.

Real earnings management is a manipulation of the daily activities of the company during the current accounting period. Roychowdhury (2006) explains that managers tend to use real earnings management because it is difficult for auditors and regulators to detect whether it is the action of companies' strategy or indeed manipulation. Thus, profit targets which have to be achieved by the managers are more likely to be exceeded because it can be done throughout the operation period of the company.

**Trend of Earnings Management**

Cohen et. al. (2008) prove that there was an increase in the accrual earnings management practices in the period prior to The Sarbanes-Oxley Act (SOX) and
peaked around the financial scandal (2000 to 2001) and a decline in accrual earnings management practices after SOX. After the SOX, companies in America tend to choose the real earnings management because it is difficult to be detected by the auditors.

Indonesia is a country that still has weak legal enforcement that making it has low protection for investor (Leuz et al., 2003) and has no comprehensive rule yet such as SOX. In addition, PABU (Indonesian GAAP) gives managers a wide freedom of action to choose accounting methods that finally leads company has space to perform accrual earnings management.

We focus on one theory to explain earnings management behavior of firms, and its effect on the informativeness of earnings: the “opportunistic behavior hypothesis” (OBH). OBH predicts that managers’ choices of accounting practices are influenced by their impact on compensation.

OBH has four empirical predictions. First, changes in reported earnings are affected by changes in the compensation and incentives of managers. Second, even after controlling for managerial incentives, OBH predicts that earnings management would decline after the passage of SOX, either because of the sanctions imposed on managers by the Act or because of the adverse publicity and legal costs imposed on executives and firms who were accused of fraudulent reporting practices. Third, earnings management is informative when managers possess inside information and have incentives to manage earnings (e.g., because of compensation contracts).

Therefore we expect an association between our proxy for earnings management and stock return volatility. Finally, the association between stock returns and earnings surprises depends on investors’ perceptions on whether earnings management is motivated by managers’ attempts to communicate inside information or by managers opportunistic behavior. In the former (latter) case, higher earnings management will result in a given earnings surprise resulting in a larger (smaller) change in security prices.

In other words, the level of earnings management affects the precision that investors attribute to a given earnings signal. In turn, the higher the precision of the earnings signal, the higher the earnings response (e.g., measurement errors bias regression coefficient towards zero). Thus, there exists a link between earnings management and investors responses to earnings signals.

Prior Studies

Research documenting the trend in earnings management over time indicates that the tendency to manage earnings has increased over time (Brown, 2001; Bartov et. al., 2002; Lopez and Rees, 2001). This literature also provides evidence that managerial propensity to avoid negative earnings surprises has increased significantly over time (Brown, 2001; Bartov et. al, 2002; Matsumoto, 2002), although no significant increase has been observed in the tendency to avoid losses or earnings decreases (Burgstahler and Eames, 2003).

Brown and Caylor (2003) conduct a temporal analyses of the propensities of managers to achieve three earnings management thresholds and their valuation consequences using quarterly data from 1985-2001. They find that early in their study period (1985-1993), managers tried to avoid losses and earnings decreases more than to avoid negative earnings surprises. However, in the subsequent time period (1994-2001) they find that managers exhibited a greater inclination to avoid negative earnings than
to avoid losses, and in the last six years of the study (1996-2001) managers preferred to avoid negative earnings surprises than earnings decreases. They conclude that managers took their cues from capital markets, making negative earnings surprise avoidance their most preferred threshold in recent years, proposing that increased media coverage may be responsible for this shift.

In this paper we provide further evidence on the trend in earnings management activities of firms, with specific focus on the level of earnings management surrounding the period of heightened corporate misconduct, beginning in late 2001.

Studies on the informativeness of earnings have typically focused on the relation between earnings informativeness and various institutional and governance features of companies. Yeo, Tan, Ho and Chen (2002) document a relation between informativeness and managerial ownership, as well as between informativeness and external block holdings. Gul and Wah (2002) focus on the market reaction to accounting earnings conditioned on two important corporate governance variables: insider entrenchment (high insider share ownership) and board leadership structure in terms of CEO duality (no separation between CEO and board chairman). They find that at a very high level of insider shareholding (entrenched insiders), is associated with a lower informativeness. Other studies provide evidence demonstrating an association between earnings informativeness and the levels of stock compensation (Behn, Nagy and Riley, 2005), the probability of termination of an entity, and the cost of equity and trading in the stock of a country (Bhattacharya, Daouk and Welker, 2002).

Jain and Rezae (2006) document positive abnormal returns around dates corresponding to the passage of SOX, suggesting that the market reacted positively to the passage of the Act and possible implementation effects of its provisions. They also report that firms with bigger balance sheet sizes, higher price-earnings ratios, and higher earnings The accrual earnings management on the hypothesis has absolute meaning, since the focus of this research was the magnitude of accrual earnings management, not its positive or negative direction. Accrual earnings management was chosen because easy ways to manage earnings by this practice was considered still wide open. Therefore, hopefully no firm incentive was given to shift accrual earnings management to real earnings management, because the latter needs high costs to implement. Thus the hypothesis was:

\[ H_1: \text{The year increment has positive effect on increasing trend of accrual earnings management.} \]

**RESEARCH METHOD**

**Research Population and Sample**

Companies which are the sample in this study are all companies listed on the Indonesia Stock Exchange (IDX) from 1991 to 2014 except for companies in financial services, hotel, travel, transportation, and real estate industries. The time of observation was from 1993 to 2013. The research used purposive sampling method. Criteria used in sampling are as follows:

1. The companies were listed on the Indonesia Stock Exchange from 1991 to 2014.
2. The companies were not grouped into financial services industry. It is defined as the type of the financial industry which is very susceptible to regulation and has different accrual characteristics than do other industries.
3. The companies were not grouped into the type of hotel, travel, transportation and 
real estate industries. It is defined as the type of the industry which has 
different financial characteristics of the type of trade and manufacture 
industries.
4. The financial data was available in a row from 1991 to 2014.
5. The company published audited financial statements ended in December, 31.
Financial statement data were obtained from websites of the Indonesia 
Stock Exchange, Center for Stock Market Data of Economics and Business Faculty of 
Gadjah Mada University Yogyakarta, Faculty of Economics University of Atma Jaya 
Yogyakarta and Economics Faculty of the Islamic University of Indonesia Yogyakarta

**Definition and Variables Measurement**

1. **Real Earnings Management**
   
   Real earnings management was proxied by three variables. Cash flow from 
   operations (R_CFO), abnormal production cost (R_PROD) and abnormal discretionary 
cost (R_DISX) (Roychowdhury, 2006 and Cohen et al., 2008).

   a. **Regression model for normal cash flow from operation is follow**

   $\frac{CFO_{it}}{Assets_{i,t-1}} = k_1 + k_2 \frac{Sales_{it}}{Assets_{i,t-1}} + k_3 \frac{\Delta Sales_{it}}{Assets_{i,t-1}} + e_{it} \quad \text{...............(1)}$

   Abnormal CFO (R_CFO) = actual CFO – normal level CFO

   b. **Regression model to estimate normal level COGS is :**

   $\frac{COGS_{it}}{Assets_{i,t-1}} = k_1 + k_2 \frac{Sales_{it}}{Assets_{i,t-1}} + e_{it} \quad \text{.................................(2)}$

   Regression model to estimate normal level of inventory growth:

   $\frac{\Delta INV_{it}}{Assets_{i,t-1}} = k_1 + k_2 \frac{Sales_{it}}{Assets_{i,t-1}} + k_3 \frac{\Delta Sales_{it}}{Assets_{i,t-1}} + e_{it} \quad \text{........(3)}$

   From equation (1) and (2) it can be estimated normal level of production cost.
   Regression model to estimate normal production cost level is as follow:

   $\frac{Prod_{it}}{Assets_{i,t-1}} = k_1 + k_2 \frac{Sales_{it}}{Assets_{i,t-1}} + k_3 \frac{\Delta Sales_{it}}{Assets_{i,t-1}} + k_4 \frac{\Delta Sales_{it-1}}{Assets_{i,t-1}} + e_{it} \quad \text{........(4)}$

   Abnormal production costs (R_PROD) = actual PROD – normal level PROD

   c. **Model of normal level of discretionary expenses is as follow:**

   $\frac{DiscExp_{it}}{Assets_{i,t-1}} = k_1 + k_2 \frac{Sales_{it-1}}{Assets_{i,t-1}} + \Delta Sales_{it} + e_{it} \quad \text{...............(5)}$

   Abnormal Discretionary Expenses (R_DISX) = actual DISX – normal level DISX.
d. Real earnings management is calculated by totaling up standardized values from real earnings management variables. Firstly, value of R_CFO and R_DISX is multiplied by -1 (Cohen et al., 2008)

2. Accrual Earnings Management

Discretionary accruals is proxy of accrual earnings management. To calculate discretionary accruals, a model developed by Jones in 1991 as in Cohen et. al., (2008) was used. The discretionary accruals is calculated by regressing the following equation:

\[ TACC_{it} = \beta_0 + \beta_1 \frac{1}{TA_{it}} + \beta_2 (\Delta SALE_{it} - \Delta AR_{it}) + \beta_3 PPE_{it} + \epsilon_{it} \]  

(6)

Where:

- \( TACC_{it} \) is companies’ total accrual i in time t;
- \( TA_{it} \) is the companies’ average total asset i in time t;
- \( \Delta SALE_{it} \) is the changing of company sales i in time t;
- \( \Delta AR_{it} \) is the companies’ changing of credit i in time t;
- \( PPE_{it} \) is companies’ fixed asset before decreased by depression (gross property, plant, and equipment) i in time t;

all variables is divided by average total asset.

The estimated residual value above is discretionary accruals for each observation. Furthermore, the value of discretionary accruals in this study is absolute (ABS_DA). The absolute value is used because the concern in this study is the amount of accrual earnings management (discretionary accrual), not the positive or negative direction.

3. Trend of Earnings Management

Formula to measure trend of earnings management is:

\[ TIME = Year_t - Year_{1993} \]  

(Cohen et.al.(2008))

(7)

4. Control Variables

Research by Cohen et al. (2008) included four control variables as he mentioned it as fundamental measures. Firm size (Ln_Assets) measured using natural log of company’s assets value at year end, leverage (Lev) by dividing total debt with total assets, growth of sales (GSales) that calculated by dividing the change of sales with total assets at early year, and market-to-book-ratios.
The latest control variable wasn’t included because lack of data.

Research Model

Research model was using multiple regression method:

\[ ABS_{DA} = \alpha + k_1 Time + k_2 Ln_Assets + k_3 Lev + k_4 G.Sales + \epsilon \]  

Where:

- \( ABS_{DA} \) = Absolute value of discretional accrual (accrual future earnings)
- \( Time \) = Trend
- Assets = Firm size
- Lev = Leverage
- GSales = Growth of sales
A = Constanta
K = Regression coefficient
E = Error
Ln = Natural logarithm

**Results and Discussion**

**Results**
This study used a sample of thirty-one companies. The process of sample selection during research was shown in Table 1.

**Table 1**

<table>
<thead>
<tr>
<th>No.</th>
<th>Criteria</th>
<th>Number of Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Number of public company listed in Indonesian Stock Exchange in 1991.</td>
<td>124</td>
</tr>
<tr>
<td>2.</td>
<td>Number of company that not included in financial, hotel, travel, transportation and real estate industries</td>
<td>79</td>
</tr>
<tr>
<td>3.</td>
<td>Number of company listed in Indonesian Stock Exchange from 1991 until 2014</td>
<td>56</td>
</tr>
<tr>
<td>4.</td>
<td>Incomplete data</td>
<td>(25)</td>
</tr>
<tr>
<td>5.</td>
<td>Companies used as final sample</td>
<td>31</td>
</tr>
<tr>
<td>6.</td>
<td>Total observation (21 years x 31 companies)</td>
<td>682</td>
</tr>
</tbody>
</table>

Table 2 provides result of regression analysis from hypothesis test that examined trend of accrual earnings management. The result of regression analysis provided table 2 shows that variable *time* has insignificant effect on the increasing trend of accrual earnings management, with p-value 0.351, meaning that it’s bigger than 0.05.

The amount of the adjusted R-square is 0.037, this means a 3.7% variation of accrual earnings management (ABS_DA) can be explained by the variation of the variable time, the size of the company (Ln_Assets), sales growth (GSales), and leverage (Lev). Meanwhile, the rest (100% -3.7% = 96.3%) is explained by other variables outside the model.

This result shows that trend of accrual earnings management didn’t increase during research period, by means that accrual earnings management executed by firm was always change years to years.

**Table 2**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Prediction</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>t-test</th>
<th>Significance</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td></td>
<td>0.307</td>
<td>0.084</td>
<td>3.668</td>
<td>0.000</td>
<td>-</td>
</tr>
<tr>
<td>Time</td>
<td>Positive</td>
<td>-0.001</td>
<td>0.001</td>
<td>-0.933</td>
<td>0.351</td>
<td>Insignificant</td>
</tr>
<tr>
<td>Ln_Assets</td>
<td>Negative</td>
<td>-0.008</td>
<td>0.003</td>
<td>-2.542</td>
<td>0.011</td>
<td>Significant*</td>
</tr>
<tr>
<td>GSales</td>
<td>Positive</td>
<td>0.021</td>
<td>0.009</td>
<td>2.462</td>
<td>0.014</td>
<td>Significant*</td>
</tr>
<tr>
<td>Lev</td>
<td>Positive</td>
<td>0.055</td>
<td>0.018</td>
<td>3.118</td>
<td>0.002</td>
<td>Significant*</td>
</tr>
</tbody>
</table>

*Adjusted R-square*  
F-Statistic 6.104  
*p-value (F-statistic)* 0.000

*(significant level at 5%)*
Discussion

The extensive literature on earnings management largely focuses on accrual-based earnings management (reviewed by Schipper 1989; Healy and Wahlen 1999; Fields et al. 2001). A smaller stream of literature investigates the possibility that managers manipulate real transactions to distort earnings. Many such studies examine managerial discretion over R&D expenditures (Dechow and Sloan 1991; Bushee 1998; Cheng 2004). Other types of real activities manipulation that have been explored include cutting advertising expenditures (Cohen et al. 2010), stock repurchases (Hribar et al. 2006), sales of profitable assets (Herrmann et al. 2003; Bartov 1993), sales price reductions (Jackson and Wilcox 2000), derivative hedging (Barton 2001; Pincus and Rajgopal 2002), debt-equity swaps (Hand 1989), and securitization (Dechow and Shakespeare 2009).

The prevalence of real activities manipulation as an earnings management tool was not well understood until recent years. Graham et al. (2005) survey more than 400 executives and document the widespread use of real activities manipulation. Eighty percent of the CFOs in their survey stated that, in order to meet an earnings target, they would decrease expenditure on R&D, advertising, and maintenance, while 55 percent said they would postpone a new project, even if such delay caused a small loss in firm value. Consistent with this survey, Roychowdhury (2006) documents large-sample evidence suggesting that managers avoid reporting annual losses or missing analyst forecasts by manipulating sales, reducing discretionary expenditures, and overproducing inventory to decrease the cost of goods sold, all of which are deviations from otherwise optimal operational decisions, with the intention of biasing earnings upward.

Recent research has started to examine the consequence of real activities manipulation. Gunny (2010) finds that firms that just meet earnings benchmarks by engaging in real activities manipulation have better operating performance in the subsequent three years than do firms that do not engage in real activities manipulation and miss or just meet earnings benchmarks. Bhojraj et al. (2009), on the other hand, show that firms that beat analyst forecasts by using real and accrual earnings management have worse operating performance and stock market performance in the subsequent three years than firms that miss analyst forecasts without earnings management.

Most previous research on earnings management examines only one earnings management tool in settings where earnings management is likely to occur (e.g., Healy 1985; Dechow and Sloan 1991; Roychowdhury 2006). However, given the portfolio of earnings management strategies, managers probably use multiple techniques at the same time. A few prior studies (Beatty et al. 1995; Hunt et al. 1996; Gaver and Paterson 1999; Barton 2001; Pincus and Rajgopal 2002; Cohen).

Therefore, empirical evidence did not support the hypothesis. It can be seen from graphic of accrual earnings management trend (on average) from 1993 until 2013 as provided by graphic 2.
This research also revealed that there is tradeoff (substitution) between real earnings management and accrual earnings management as shown in graphic 2.

Evidence of changing in earnings management techniques in Indonesia showed existed regulations or accounting standards were not able to prevent earnings management. Therefore, it is expected that there is the regulatory reformation which can restrict even prevent earnings management practices.

The results of this study can be used as an input for both investors and auditors to be aware of earnings management practices. Earnings management practices need to be considered by investors in making investment decisions.

This study used a sample of 31 (thirty-one) companies. The limited number of
samples is because very few companies listed on the Indonesian Stock Exchange from 1991 and remained registered until 2014, along with the insufficiencies of existing data. This study did not conduct tests on calculation models of discretionary accrual that it is not known exactly which model is able to produce the highest adjusted R-square.

Conclusion, Limitation and Suggestion

This research conducted was based on the author’s interest in the studies done by Cohen et al. (2008). Several conclusions that can be drawn from this research were it failed to prove the hypothesis in which trend of accrual earnings management increased during period time of research. The variable time didn’t show significant impact on increasing trend of accrual earnings management.

Practice of accrual earnings management in Indonesia that tends fluctuate shows there is a substitution or change of earnings management technique from accrual to real one. Zang (2007) also proves that managers use real earnings management and accrual earnings management interchangeably (substitution). The risk managers may face when doing accrual earnings management is it is easily detected by the auditors. Thus, to avoid such risk, managers chose real earnings management.

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