# CAN WE BOOST STOCK VALUE USING INCOME-INCREASING STRATEGY? THE CASE OF INDONESIA

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*Abstract: The main purpose of this study is to investigate the impact of accrual information to stock valuation. Managing earnings using income-increasing strategy cause stock to be overvalued.Using Indonesian data, this study selects companies that produce positive discretionary accrual. Those companies are assumed managing earnings trough income-increasing strategy based on Modified Jones Model (Dechow et al.,1995) and Kasznik Model (1999). Based on the findings, our conclusions are (1) income-increasing strategy negatively affects stock value, and (2) income-increasing strategy using receivable positively affects stock value. This study is expected to contribute to earnings management and overvaluation studies, especially in emerging market.*

*Keywords: Discretionary accrual, overvaluation, and income-increasing strategy.*

## 1. INTRODUCTION

Assessing the usefulness of accounting information has become an important goal of accounting research. The main purpose of this study is to investigate the impact of accrual information to stock valuation. We believe that earnings information is used by investors, in which investors usually evaluate companies using the bottom line of income statement. Based on this phenomena, companies also use earnings information to attract investors' attention.

Earnings announcements studies conclude that earnings information generate investors' reaction (Ball and Brown, 1968; Beaver 1968; Jegadeesh and Titman, 1993; Francis et al., 2002; Landsman et al., 2012). The finding of Mrying (2006) supports the existence of a relationship between earnings and returns in all accounting regimes around the world. Because of market's reaction is considered so important, companies avoid reporting disappointed earnings.Managers avoid earnings losses (decrease) (Burgstahler and Dichev 1997), and instead, they try to meet or beat earnings expectation (Bartov et al. 2002) to get positive reaction. This

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strategy is used by managers because investors provide rewards (punishments) for companies that deliver positive (negative) earnings surprise by producing positive (negative) stock return. Bad news generate bigger magnitude reaction than good news. It means that companies get more severe punishment in bad news because of asymmetry reaction on earnings announcements (Skinner and Sloan 2002; Conrad et al, 2002).

Based on companies' perspective, investors' attention on earnings stimulates them to conduct earnings managements. Managers understand that investors are fixated by earnings information (Sloan, 1996). To achieve their goals, managers manage earnings so that investors may react in accordance with the will of managers.

Managing earnings using income increasing strategy stimulate overvaluation on stock. Market participants generate stock price higher than its fair value. Managing earnings upwards is responded by investors trough more positive reaction. Naïve investors who suffer accounting fixation overreact, because people tend to weigh recent information (DeBondt and Thaler, 1985). Analysts who produce recommendation for investors also overreact (DeBondt and Thaler, 1990). Those phenomena describe why stock is overvalued because of income increasing activities. This study predicts that income-increasing activities stimulate stock value.

Our results provide evidence that earnings management through income-increasing strategy produce lower stock value. It indicates that income-increasing strategy decreases stock value. However, after using increasing receivable and revenue as moderating variable, the findings are different. Companies that increase accrual trough increasing receivable reverse the impact of discretionary accrual to price to book value. It means that earnings management through income increasing strategy boost stock value when companies use increasing receivable to increase earnings.

This research contributes to the accounting theory and investment strategy literatures. The first contribution, this study builds a bridge between earnings managements and overreaction studies. The behavior of managers to increase earnings affects irrational behavior of investors. Second, this study presents evidence from an emerging market perspective, especially in Indonesian stock market. In Indonesia, companies tend to produce low earnings quality compared to other countries (Fan and Wong, 2002), especially developed stock market (Bhattacharya et al., 2003). Bhattacharya et al. (2003) also present earnings opacity ranking that represents earnings aggressiveness, loss avoidance, and earnings smoothing. The use of Indonesian data to analyze the impact of income increasing activities to stock valuation is contextual.

This article is divided into several sections. The next section reviews the literature to build our hypothesis. Section 3 describes details about data and methodology. Section 4 discussesthe results and present supplementary analysis. In the final sections, we present conclusions.

## 2. HYPOTHESIS DEVELOPMENT

### Accruals Accounting

Transactions are not only recorded based on cash flow but also based on economic events. That is the reason we need accrual accounting. Accrual is the difference between earnings and operating cash flow. Accrual basis is used in accounting practice because it has greater ability to predict companies' future performance (Kim and Kross, 2005). It is considered better than operating cash flow in evaluating companies performance because of timing and matching issues (Dechow et al.,1995).

Even though accrual is considered better than cash flow, it should be realized that accrual leaves rooms for managements' judgment and subjectivity. Jones (1991) and Dechow et al. (1995) divides accruals into two parts, namely nondiscretionary accruals and discretionary accruals. Discretionary accrual can be controlled by management, therefore it is important to understand that earnings are the results of extensive accounting choices, estimates and judgments that could affect the reported results. This discretion of manager, combined with managers' motivations, stimulate earnings management.

Managers set earnings based on their goal. Managersmay manipulate earnings upward or downward depend on their motivation. Stockholders expect that company's share is increase continuously. Debt covenant also affect managements behavior. In order to avoid debt covenant violations managers need to improve their performance. Stockholders and creditors always encourage managers to improve market value of the company for their best interest. In dealing with these pressures, managers tend to use income-increasing strategy to boost stock price.

Earnings reported by firms generate price reaction because of investor reaction to the news. Positive (negative) earnings surprises are good (bad) news that produces positive (negative) reaction. This is a pressure for managers to present increasing earnings to meet market expectation. Barth et al. (1995) give evidence that companies with consistent earnings improvement present higher P/E ratio. That ratio will be higher along with the increase in earnings and it will be eliminated when the increase of the earnings pattern is broken. Supporting Barth et al. (1995), DeAngelo et al. (1996) also document that the company will experience negative abnormal return if no longer report earnings growth.

**The Impact of Accrual to Overvaluation**

Accounting researches suggest that investors fixate on accounting information (Luft and Shields, 2001). Investors may unable to change their decision process in response to change in accounting process which supply them with decision data. Investors only focus on bottom line information, while different accounting methods produce different earnings. Most of investors, especially naïve investors do not process those differences. To boost companies' stock prices, managers exploit investors' bias for their own interest. Managers try to stimulate stock valuation by increasing income because they know that investors use net income as their main information.

Aggresiveness in earnings recognition mislead stock valuation (Chan et al., 2001). Investors (and analysts) overreact to earnings information (DeBondt and Thaler, 1985 and 1990) and stock prices become overvalued. Investors experience functional fixation and does its stock price. This study believes that upward bias of earnings generates upward bias on stock price. So, increasing earnings causes overvalued stocks. Based on that, we predict the hypothesis stated below:

H1: Earnings management through income-increasing strategy leads to overvaluation of stock.

## 3. DATA AND METHODOLOGY

**Sample and Data**

This research uses Indonesian data. Indonesia is an emerging country. Based on Fang and Wong (2002) and Landsman et al. (2012), companies in Indonesia produce lower earnings informativeness than those in other countries. These phenomenon improve contextual aspect of this study. Although earnings quality is low, we believe that investors still analyze how companies boost earnings. When investors use (do not use) earnings, they may (may not) react to earnings-management strategy. That is the reason why this study is important. The duration of the study is three years starting from 2010 to 2012. Because this study focuses on income-increasing strategy, we only use companies that produce positive discretionary accrual. In estimating discretionary accrual we use all available data from Indonesian Stock Exchange in each year.

**Discretionary Accruals**

We use discretionary accruals as a proxy of earnings management. We use two models of discretionary accruals, there are (1) Modified Jones Model (Dechow et al. 1995) and (2) Kasznik Model (1999).

1. **Modified Jones Model (Dechow et al. 1995)**

   First of all, we use the following model in the estimation period:

   $$TA_t = a_1 (1/A_{t-1}) + a_2(\Delta REV_t) + a_3 (PPE_t) + \upsilon_t \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(1)$$

   $TA_t$ = Total Accruals in year t (calculated as Net income year t – Cash flow From Operation year t)

   a1, a2, and a3 indicate the OLS estimation of $\alpha_1$, $\alpha_2$ and $\alpha_3$ for Non-Discretionary Accruals using the following regression model:

   $$NDA_t = \alpha_1(1/A_{t-1}) + \alpha_2(\Delta REV_t - \Delta REC_t) + \alpha_3 (PPE_t) \dots\dots\dots\dots\dots\dots\dots\dots (2)$$

Whrere:

   $\Delta REV_t$      = revenue in year t less revenue in year t-1

   $\Delta REC_t$      = account receivable in year t less account receivable in year t-1

   $PPE_t$      = gross property, plant and equipment in year t

   $A_{t-1}$      = total asset at the beginning of the period

   $\alpha_1$, $\alpha_2$, $\alpha_3$      = firm-specific parameters

   Discretionary Accruals (DA) derived from the following equation:

   $$DA_t = TA_t - NDA_t \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (3)$$

   All variables are scaled by total asset at the beginning of period ($A_{t-1}$).

2. **Kasznik Model (1999)**

   The step for calculating discretionary accruals using Kasznik Model (1999) derived from Jones Model (1991), but in addition Kasznik adjusts the model by considering Cash Flow from Operation:

   $$TA_t = a_1 (1/A_{t-1}) + a_2(\Delta REV_t - \Delta REC_t) + a_3 (PPE_t) + a_4 (\Delta CFO_t) + \varepsilon_t \dots\dots\dots\dots..\dots(4)$$

   $$NDA_t = \alpha_1(1/A_{t-1}) + \alpha_2(\Delta REV_t - \Delta REC_t) + \alpha_3 (PPE_t) + \alpha_4(\Delta CFO_t) \dots\dots\dots\dots\dots (5)$$

   $$DA_t = TA_t - NDA_t \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots.....\dots (6)$$

Where:

   $\Delta CFO_t$      = change in Cash Flow from Operation in period t (calculated as CFO year t less CFO year t-1)

   All variables are scaled by total asset at the beginning of the year ($A_{t-1}$).

**Hypothesis Testing**

   In testing the hypothesis, we use this regression model:

$$PBV_{t,i} = \alpha_1 + \alpha_2\, DACC_{t,i} + \alpha_3\, SIZE_{t,i} + \alpha_4\, DYEAR + e_t \dots\dots\dots\dots\dots\dots\dots\dots.(7)$$

Where:

$PBV_{t,i}$     =  Price to book ratio of company i year t.

$DACC_{t,1}$ = Discretionary accruals company i year t. That is a proxy for earnings management. In this study we use model from Modified Jones (Dechow et al. 1995) and Kaznik (1999).

FSIZE =    Natural logarithm of total asset t-1.

DYEAR =   Dummy variable to control year effect.

To expand the analysis, this study also use additional important variables, those are dummy variables of increasing revenue and receivable. This model is needed to capture the impact of discretionary accrual to stock valuation based on PBV.

$$PBV_{t,i} \;=\; \beta_1 + \beta_2\, DACC_{t,i} + \beta_3\, SIZE_{t,i} + \beta_4\, DYEAR + \beta_5\, DREV_{t,i} + \beta_6\, DREC_{t,i} + \beta_7\, DREV^*\, DACC_{t,i} + \beta_8\, DREC^*\, DACC_{t,i} + e_t \dots\dots\dots\dots\dots\dots\dots..(8)$$

DREV (DREC) is an indicator variable that equal to one if company presents increasing revenue (receivable), and zero if it report decreasing revenue (receivable). DREV (DREC) becomes moderating variables that will affect the relation between $DACC_{t,I}$ and $PBV_{t,i}$.

## 4. RESULTS AND ANALYSIS

Data description is presented in Table 1 below.

**Table 1**
**Initial data based on the availability Descriptive Statistics**

|  | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| PBV | 404 | -58.66 | 135.18 | 2.463094059 | 8.01596534 |
| LNASS | 447 | 20.61906935 | 32.66485848 | 27.67026608 | 1.647318241 |
| DADECHOW | 447 | 9.24742E-05 | 7.122432252 | 0.132002306 | 0.415041837 |
| DAKAZNIK | 253 | 0.000411561 | 4.77120945 | 0.116843939 | 0.316370175 |

Only 5 companies report negative PBF because of negative equities.

In regression prosess several data is eliminated because of unstandardized error is more than two times above (below) its mean.

Table 2 provides the regression result of equation 7 to test the hypothesis. Table 2 shows the result for hypothesis testing using two discretionary accruals methods

– Modified Jones Model (Dechow et al., 1995) and Kasznik Model (1999) as a proxy of earnings management. By using Modified Jones Model, DACC has negative significant impact to PBV. This result indicates that the higher discretionary accruals lead to negative reaction from the market, in which market participants value the stock lower than it should be. By using Kasznik Model (1999), the impact of discretionary accruals is insignificant to PBV. These results indicate that the impact of discretionary accruals to PBV is inconsistent across the model used. In conclusion, income increasing through discretionary accruals cannot boost positive reaction from the market. $H_1$ is not supported.

**Table 2**
**Regression Result of the impact of earnings management to stock valuation**
$$PBV_{t,i} = \alpha_1 + \alpha_2\,DACC_{t,i} + \alpha_3\,SIZE_{t,i} + \alpha_4\,DYEAR + e_t$$

| | *Modified Jones Model (n=374)* | | | *Kasznik Model (n=212)* | | |
|---|---|---|---|---|---|---|
| | *Coefficients* | *t value* | *sig.* | *Coefficients* | *t value* | *sig.* |
| (Constant) | -5.996 | -2.741 | *** | -15.300 | -4.565 | *** |
| DACC | -0.838 | -2.986 | *** | 0.530 | 0.885 | n.s |
| DYEAR10 | 0.246 | 0.744 | n.s | -0.003 | -0.006 | n.s |
| DYEAR11 | -0.164 | -0.576 | n.s | 0.491 | 0.658 | n.s |
| LNASS | 0.296 | 3.788 | *** | 0.631 | 5.268 | *** |
| Adjusted R Square | 0.076 | | | 0.101 | | |
| F-test | 8.657 | | <0.001 | 6.960 | | <0.001 |

Dependent variable is $PBV_{t,i}$. $PBV_{t,I}$ is Price to book ratio of company i year t; $DACC_{t,1}$ is Discretionary accruals company i year t, using Modified Jones Model (Dechow et al. 1995) and Kaznik Model (1999); FSIZE is natural logarithm of total asset DYEAR is dummy variable to control year effect.

The study also examine the impact of discretionary accruals to stock price, using increasing revenue (DREVACC) and increasing account receivable (DRECACC) as moderating variables. We use dummy variable 1 to label increasing in revenue or receivable, and zero otherwise. The result of this test is shown in Table 3.

In table 3, it is shown that discretionary accruals by using Modified Jones Model still affect PBV negatively. In Kasznik Model, discretionary accruals do not affect PBV significantly. The rest of the variables in table 3, by using Modified Jones Model and Kasznik Model have the same result. Increasing revenue (DREV), increasing receivable (DREC) and the interaction between increasing revenue and

discretionary accruals (DREVACC) do not give significant impact to price to book ratio (except for DREV using Modified Jones Model that is significant at 5%).

**Table 3**
**Regression Result Using Increasing Revenue and Increasing Receivable as Moderating Variable**

$$PBV_{t,i} = \beta_1 + \beta_2\,DACC_{t,i} + \beta_3\,SIZE_{t,i} + \beta_4\,DYEAR + \beta_5\,DREV_{t,i} + \beta_6\,DREC_{t,i} + \beta_7\,DREV^*\,DACC_{t,i} + \beta_8\,DREC^*\,DACC_{t,i} + e_t$$

| | Dechow Model (n=374) | | | Kaznik Model (n=210) | | |
|---|---|---|---|---|---|---|
| | Coefficients | t value | sig. | Coefficients | t value | sig. |
| (Constant) | -5.380 | -2.489 | *** | -10.259 | -3.529 | *** |
| DACC | -1.344 | -4.062 | *** | -3.232 | -1.263 | n.s |
| DYEAR10 | 0.435 | 1.332 | n.s | 0.101 | 0.286 | n.s |
| DYEAR11 | -0.214 | -0.752 | n.s | 0.824 | 1.317 | n.s |
| LNASS | 0.244 | 3.131 | *** | 0.430 | 4.137 | *** |
| DREV | 0.763 | 2.035 | ** | 0.317 | 0.628 | n.s |
| DREC | 0.215 | 0.606 | n.s | 0.357 | 0.786 | n.s |
| DREVACC | -2.310 | -1.272 | n.s | -0.831 | -0.277 | n.s |
| DRECACC | 3.864 | 2.112 | ** | 4.490 | 1.865 | ** |
| Adjusted R Square | 0.123 | | | 0.119 | | |
| F-test | 7.575 | | <0.001 | 4.533 | | <0.001 |

Dependent variable is $PBV_{t,i}$. $PBV_{t,I}$ is Price to book ratio of company i year t; $DACC_{t,1}$ is Discretionary accruals company i year t, using Modified Jones Model (Dechow et al. 1995) and Kaznik Model (1999); FSIZE isnatural logarithm of total asset DYEAR is dummy variable to control year effect. DREV (DREC) is an indicator variable that equal to one if company presents increasing revenue (receivable), and zero if it report decreasing revenue (receivable).

Interesting result comes from the interaction between increasing receivable and accruals (DRECACC), in which the result indicates that DRECACC has positive and significant impact to PBV. This result is consistent across both models. So, it can be concluded that earnings management through receivable component can reverse the coefficient of discretionary accruals that used to be negative, turns to be positive after the interaction.

From this result it can be concluded that receivable has strong predictive power to income increasing strategy. This result confirms Chan et al. (2001) in which firms with higher accruals tend to display increases in receivable and also receivable are relatively easy to manipulate. This result implies that the effort to increase earnings stimulate higher stock price if the firm uses receivable component in their earnings management strategy.

From those two equations to test the hypothesis, SIZE as a controlling variable,consistently shows positive and significant impact to PBV. This result suggests that there is a tendency that the higher the size of the company, the manager will increase reported earnings. The reason is the higher the scale of the firm, the more pressure that the manager has to meet or even beat market expectation. This result is consistent with Barton and Simko (2002)and Kim et al. (2003).

## CONCLUSIONS

Based on the literature, we build empirical tests of the relation between earnings management through income-increasing strategy to stock valuation. Our results provide evidence that earnings management through income-increasing strategy negatively affects stock value. It indicates that income-increasing strategy is not able to boost stock value. Conversely, that strategy decreases it.

Earnings management through income-increasing strategy can be done by managing receivable or revenue. Using that idea, this study uses increasing revenue and receivable as moderating variable. The findings show that income-increasing strategy using increasing receivable reverse the sign of regression coefficient. Earnings management through income-increasing strategy positively affects stock value when companies use receivable to increase income.

Based on the findings, our conclusions are (1) income-increasing strategy negatively affects stock value, and (2) income-increasing strategy using receivable positively affects stock value. Those findings answer the question of the title of this article in different ways. First, in average, we cannot boost stock value using income-increasing strategy. Second, in average, we can boost stock value using income-increasing strategy when companies use receivable to increase earnings.

This study is expected to contribute to earnings management studies and overreaction studies. Overreaction studies present that investors overreact to earnings information. This study explains an important factor of overvaluation; that is earnings management trough income increasing strategy using receivable.

There are several limitations of this study. The duration of the study should be expanded. Nevertheless, this study already controls years in the regression and the

findings show that years are not crucial factor in examining the relation between income-increasing strategy and stock valuation. This study also may be developed by using future return. When presenting higher accrual to boost current stock value, stock price of companies are overvalued. Based on overreaction hypothesis, that condition will produce reverse action of market participants in the subsequent periods. DeBondt and Thaler (1985 and 1990) present overreaction phenomenon. The use of accrual will be a substantial development to explain overreaction phenomenon.

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