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The Moderating Effect of Corporate Governance on the Relationship between Earnings Management and Firm Value:

Indonesian Evidence

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***Abstract*—The purpose of this paper is to investigate the moderating effect of corporate governance on the relationship between earnings management and firm value. Using a sample of 177 Indonesian listed nonfinancial firms during the year 2015, this paper finds that corporate governance mechanism, as represented by the proportion of independent directors, has a negative and significant moderating effect on the relationship between earnings management and firm value. This finding might indicate that the presence of independent directors reveals more about the opportunistic side of earnings management conducted by firms, and therefore punished accordingly with lower valuation by the capital market.**

Keywords—corporate governance; earnings management; firm value

I. INTRODUCTION

Currently, there are two opposing views or perspectives on earnings management practices conducted by firms. One view regards earnings management as an opportunistic bahaviour on the part of firm managers to maximize their personal utility relating to compensation or debt contracts that require minimum achievement of firm financial performance as measured by certain reported accounting numbers. According to this view, earnings management is a purposeful opportunistic and fraudulent act to mislead some stakeholders about the actual performance of the firm with the intent to gain some private gain [1, 2], and therefore earnings management is detrimental to the financial community. A study by Marciukaityte and Varma provides indication that managers manipulate earnings to avoid presenting the true fundamental value of their firm, fearing that reporting earnings below market expectations would be harshly punished by the capital market [3]. In fact, Marciukaityte and Varma find that sample firms that made earnings-decreasing restatement over the period 1990 to 2001 experienced significant decline in their stock prices around restatement announcements [3].

Another view argues that earnings management may be beneficial because it can be used by firm managers to improve the information value of earnings in the presence of information asymmetry in the capital market. According to this view, firm managers exercise their discretion in choosing the accounting methods and classifications within the constraints of generally accepted accounting principles to improve the ability of earnings to reflect the firm fundamental value [4].

Consequently, based on the arguments provided by the two opposing views, earnings management activities could be either opportunistic or informative. Several studies have been conducted to distinguish between the two. For example, Jiraporn et al., proposes agency theory as a framework to distinguish between the opportunistic and beneficial usage of earnings management, by relating the severity of agency costs and the extent of earnings management [5]. They find that firms with larger extent of earnings management activities, but suffer less agency costs, have higher firm value.

Another example is a study conducted by Gao and Zhang which uses corporate social responsibility (CSR) variable as a distinguishing factor in separating opportunistic and informative earnings management [6]. Using a sample of 2,022 firms covering the period of 1993 to 2010, they find that income-smoothing firms with higher CSR have higher firm value. Their results indicate that CSR provides additional information to the earnings reported by income-smoothing firms.

The objective of this paper is to examine the relationship between earnings management and firm value, but take into account the moderating effect of a corporate governance variable on that relationship. To be more specific, the present study uses the proportion of independent directors within the board of directors to test whether corporate governance plays a moderating role on the relationship between earnings management and firm value.

By using a sample of 177 Indonesian listed nonfinancial firms during the year 2015, and including control variables that are value-relevant based on previous studies, this study finds that corporate governance mechanism, as represented by the proportion of independent directors, has a negative and significant moderating effect on the relationship between earnings management and firm value.

This paper shall be organized as follows: the second section provides literature review on the two opposing views of the earnings management phenomenon with a brief overview on the empirical evidence, proposes the role of corporate governance, and describes the hypothesized relationships to be tested. The third section will describe the data and methodology employed in the study. The fourth section presents the results of the study, and the fifth section concludes.

A. Literature Review

1) Earnings management

The present literature provides many definitions of earnings management. Each definition attempts to capture the spectrum of earnings management practices found in the field, which encompasses choices of accounting methods, management intent, and whether they are accrual-based or real earnings management [1, 7-9]. Perhaps the one proposed by Scott covers the whole spectrum mentioned above without prejudice on the real management intention, where he defines earnings management as "the choice by a manager of accounting policies, or real actions, affecting earnings so as to achieve some specific reported earnings objective" [10]. Therefore, following Scott definition, the reported earnings objective could be either opportunistic or informative [10].

2) Opportunistic earnings management

Under the opportunistic perspective, it is claimed that firm managers use their discretion and judgment in structuring, classifying, and reporting transactions to alter financial reports with the intention either to mislead some stakeholders about the true financial performance of the company or to influence contractual outcomes that depend on the reported earnings [8].

There are several managerial utility maximization objectives, relating to opportunistic behaviour, that motivate firm managers to do earnings management, for instance:

- Maximizing earnings-related management incentives and compensation as well as reducing volatilities of such compensation by managing reported earnings.
- Maintaining managerial reputation in the credit markets by avoiding debt covenants violations through earnings management techniques.

Additionally, there are other opportunistic-motivated objectives, though may not be directly related to the maximization of management private utility. For example, managers could use income smoothing strategies to manage investors' expectations, and thus avoiding capital market negative reaction that would harshly affect stock prices when earnings expectations are not met. Also, managers could manage earnings upward prior to initial or seasoned equity offerings to maximize share price.

Several studies have been conducted to test the above opportunistic-motivated objectives of earnings management. Healy, finds that management engage in earnings management activities to influence their bonuses that are related to the reported net income [7]. Sweeney finds that defaulting firms use greater income increasing accounting changes, and tend to be early adopters of new accounting standards if these new standards increases reported net income [11].

A study by Marciukaityte and Varma find that firms manage earnings to influence their stock prices, and when the capital market learns about these opportunistic behaviour, their stock prices fall immediately following the earnings-restatements announcements [3]. Finally, Cohen and Zarowin find evidence that firms use discretionary accruals to influence stock prices in the seasoned equity offerings year in order to maximize stock offering proceeds [12].

3) Informative earnings management

Two important assumptions under the informative perspective are the presence of information asymmetry and inefficiencies in the capital market, and therefore managers are compelled to use earnings management to communicate inside information about future prospect of their firms to the capital market. It is argued that income smoothness provides signal that current income is permanent. Also, the adoption of fair value accounting, instead of historical cost accounting, may reflect manager's intention to inform the capital market about the fundamental value of the firm.

Studies by Tucker & Zarowin and Koonce & Lipe reveal that investors value earnings smoothness and earnings consistency because they help investors predict future earnings, and therefore earnings management is good [13, 14].

Finally, based on existing theory and evidence, Scott claims that earnings management can be good, because it improves the information value of earnings, reduce earnings prediction or estimation risk, and favorably affect stock prices [10].

4) Moderating effect of corporate governance

According to the information perspective, earnings management adds information value. Subramanyam provides evidence that market prices discretionary accruals because it improves ability of earnings to reflect fundamental value [4]. However, it might also be possible that firms use earnings management opportunistically, and thus the positive relationship found could be due to inefficiencies in the capital market.

To investigate the effect of corporate governance on earnings management activities, Jiraporn et al. [5] use governance index developed by Gompers et al. [15], and find that corporate governance has a negative and significant relationship with earnings management, as proxied by the absolute value of discretionary accruals estimated using the modified Jones model [16].

The above result motivates the present study to examine not only the relationship between earnings management and firm value, but also the moderating effect of corporate governance on that relationship. Following Jiraporn et al. [5], the present study uses the absolute value of discretionary accruals (*Abs DA*) as a proxy for earnings management. The discretionary accruals are computed following Jones model, and the present study uses proportion of independent directors (*IndepDir*) to proxy for corporate governance [16]. Finally, similar to many previous studies, the present study uses Tobin's Q ratio as a proxy for firm value.

5) Control variables

The present study control a number of factors that may impact firm value, which consisted of profitability (*ROA*, net income/total assets), leverage (*DER*, debt-to-equity ratio), degree of assets utilization as proxied by total asset turnover (*ATO*, sales/total assets), firm size (*Log TA*, natural logarithm of total assets), and growth prospect (*PBV*, price-to-book value of equity).

II. METHOD

A. Samples

The initial sample includes all Indonesian nonfinancial firms listed in the Indonesia Stock Exchange (IDX) during the year 2015, excluding real estate and property, transportation, trading and services sectors that have special business characteristics. However, to be included in the final sample, additionally a firm must:

- have a complete set of audited financial statements including the notes to financial statements,
- have positive book value of equity at year end.

Imposing the above criteria yields a total sample of 177 nonfinancial firms.

Finally, complete content and organizational editing before formatting. Please take note of the following items when proofreading spelling and grammar:

B. Estimating Discretionary Accruals

The present study employs the following Jones model to estimate total accruals [16]:

$$TA_{it} / A_{it-1} = \alpha_1[1/A_{it-1}] + \beta_1[\Delta REV_{it} / A_{it-1}] + \beta_2[PPE_{it} / A_{it-1}] + \varepsilon_{it} \qquad (1)$$

Where:

TA = total accruals;
ΔREV = revenues in year t less revenues in year t-1;
PPE = gross property, plant, and equipment;
A = total assets;
ε = error terms;
i,t = firm i and year t, respectively.

After estimating the total accruals from equation (1) using OLS method, then the prediction error computed using equation (2) below represents the level of discretionary accruals (DA).

$$DA_{it} = TA_{it} / A_{it} - \{\alpha_1[1/A_{it-1}] + \beta_1[\Delta REV_{it} / A_{it-1}] + \beta_2[PPE_{it} / A_{it-1}]\} \qquad (2)$$

C. Empirical Model

To examine the relationship between earnings management and firm value, as well as the moderating effect of corporate governance on the relationship using sample firms data for year 2015, the present study develops the following regression model:

$$Log\ Tobin's\ QR = \alpha_0 + \beta_1 Abs\ DA_i + \beta_2 ROA_i + \beta_3 DER_i + \beta_4 ATO_i + \beta_5\ Log\ TA_i + \beta_6\ PBV_i + \beta_7 IndepDir_i + \beta_8(Abs\ DA_i{*}IndepDir_i) + \varepsilon_i \qquad (3)$$

Where the definitions of the dependent variable and the independent variables are as described above.

III. RESULTS AND DISCUSSION

A. Descriptive Statistic

Table 1 presents the descriptive statistics of the dependent and independent variables from the 177 sample firms used by the present study. The sample has a mean value of Tobin's Q ratio of 1.357, and a median value of 0.777. This indicates that, on average, market values of sample firms exceed their book values. However, the median value of 0.777 suggests that at least 50% of sample firms have market values below their book values.

TABLE I. DESCRIPTIVE STATISTICS

Variable Name	No. Obs	Mean	Std. Dev	Med.
Tobin's QR	177	1.357	2.863	0.777
Abs DA	177	0.073	0.096	0.041
ROA (%)	177	2.193	6.487	2.177
DER	177	1.673	2.067	1.096
ATO	177	0.841	0.647	0.732
TA (Bill.)	177	12,701	27,533	3,260
PBV	177	2.383	6.279	0.970
IndepDir	177	0.139	0.136	0.143

B. Regression Results

To ensure that no multi-collinearity problem exists, a test using variance inflation factors is conducted. Table 2 reports the results, and since none of the independent variable has a VIF value that exceeds 10, it can be concluded that there is multi-collinearity problem.

TABLE II. VARIANCE INFLATION FACTORS

Variable Name	VIF
Abs DA	1.733
ROA (%)	2.147
DER	1.552
ATO	2.426
TA (Bill.)	2.633
PBV	1.178
IndepDir	1.504

Table 3 presents the results of OLS regression for the sample firms. Since heteroskedasticity is detected using the Breusch-Pagan-Godfrey method, the empirical regression model is estimated using the Huber-White heteroskedasticity consistent standard errors.

The standard Durbin-Watson test is also employed to detect the presence of autocorrelation, and with a Durbin-Watson d-statistic value of 1.9049, which is in the neighborhood of 2, it can be concluded that there is no autocorrelations that would potentially bias the results of this study.

TABLE III. OLS REGRESSION RESULTS

Variable Name	Coeff.	t-Stat	Prob.
Constant	0.3739	1.2308	0.2201
Abs DA	2.5559	2.2939	0.0230**
ROA	0.0053	1.0038	0.3169
DER	0.0908	2.0437	0.0425**
ATO	0.2411	3.3433	0.0010***
Log (TA)	-0.1374	-4.1749	0.0000***
PBV	0.0378	3.0640	0.0025***
IndepDir	0.6127	1.4689	0.1437
Abs DA*IndepDir	-9.8221	-2.1443	0.0334**
R-squared	0.4719		
Durbin-Watson *d*-Stat	1.9049		
p-value of Ramsey RESET test	0.5644		
F-statistic	18.7705		
p-value of F-test	0.0000		
No. of Obs.	177		

***, ** denote significance at 1% and 5% levels, respectively

As shown in Table 3, the R-squared is 0.4719, meaning that approximately 47% of the variations in firm value are explained by the independent variables employed by the model. Additionally, the present study utilizes the Ramsey's RESET test to examine whether the model is mis-specified, and the result shows that the p-value of the Ramsey's RESET statistic is 0.5644, which indicates that the model used by the present study is not mis-specified.

As indicated from the results of F-test which have the statistic and probability values of 18.7705 and 0.0000 respectively, the present study finds that all the independent variables in the regression model jointly have significant impact on firm value at 1% level. Below will discuss the individual relationships of firm value with the two independent variables of interest in this study, i.e.: (i) management earnings variable, which is represented by the absolute value of discretionary accruals (*Abs DA*), and (ii) the interaction variables *Abs DA*IndepDir* which accounts for the moderating effect of corporate governance on the relationship between earnings management and firm value. The results to be discussed are after taking into account all control variables mentioned above.

Similar to Gao and Zhang, the present study finds a positive and significant relationship between earnings management (as proxied by the absolute value of discretionary accruals – Abs DA) and firm value (as proxied by the natural logarithm of Tobin's Q ratio), where the coefficient estimate for *Abs DA* is 2.5559 and significant at 5% level [6]. It must be noted, however, that this result does not provide any indication on whether the additional firm value results from the informativeness of earnings management, or as a result from some form of capital market inefficiencies that cloud the opportunistic behaviour of firm managers.

Using the interaction variables *Abs DA*IndepDir* to account for the moderating effect of corporate governance on the relationship between earnings management and firm value, the present study finds that corporate governance (as proxied by the proportion of independent directors – *IndepDir*) has a negative and significant effect on the relationship between earnings management and firm value. The coefficient estimate of the interaction variable *Abs DA*IndepDir* is -9.8221 and significant at 5% level. This means that the coefficient estimate of the interaction variable *Abs DA*IndepDir* is much larger compared to that of the independent variable *Abs DA*, which is only 2.5559. In fact, the numbers show that the negative moderating effect of corporate governance on the relationship between earnings management and firm value far exceeds the value created from the earnings management.

Based on this finding, the present study suggests that the presence of independent directors within the board of directors reveals more about the opportunistic side of earnings management conducted by firms, and therefore punished accordingly with lower valuation by the capital market.

Finally, all other independent variables, except for profitability (*ROA*) and corporate governance (*IndepDir*), are statistically significant and have the usual relationships based on existing theories and empirical evidence. It might be that the insignificance effect of profitability (*ROA*) on firm value found in this study is due to the presence of discretionary accruals that makes information on ROA less value-relevant. Further study is required to test this assertion.

IV. CONCLUSION

Using Tobin's Q ratio as a proxy for firm value, the present study finds evidence that corporate governance has a negative and significant moderating effect on the relationship between earnings management and firm value. Based on this finding, it is suggested that that the presence of independent directors within the board of directors reveals more about the opportunistic side of earnings management conducted by firms. However, it is still unclear how the presence of independent director's helps capital market assesses and identifies the opportunistic behaviour of firm managers, and therefore punishes firms with earnings management activities accordingly. Obviously, further theory developments coupled with empirical studies are yet required to address this challenging question relating to earnings management phenomena.

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