

Earning Management or Tax Avoidance? Company Decision on Accounting and Tax Reporting Cost

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Abstract-The significant differences between the company tax rate and the loan interest rate create incentives for companies in Indonesia to conduct trade-offs between accounting and tax reporting costs. Management always wants to give a good signal for investors regarding company financial performance. On the other hand, regarding tax reporting, management hopes that the increase in profits is not significant compared to last year, because this means paying higher taxes. This study aims to prove the effect of total debt and long-term debt on the company's management decisions regarding preference to focus on accounting or tax reporting. The research sample was manufacturing companies with observation years of 2012 - 2016 with 175 observations. The data of this study obtained from Bloomberg databases and audit reports published by the Indonesia Stock Exchange. The statistical tool used is logistic regression with the SPSS program. The results showed that there was a non-linear relationship between debt ratios and management decisions. The companies lean to focus on accounting reporting when debt ratios below a certain threshold and choose to focus on tax reporting above threshold. Regarding long term debt, we found long-term debts do not have a significant effect on preferences to focus on accounting or tax reporting cost. We also found the return on asset, and big four auditors influenced the company's decisions regarding earning management and tax avoidance.

Keywords - debt ratio; earnings management; tax avoidance; financial reporting costs; tax reporting costs

I. INTRODUCTION

Managers must consider accounting and tax reporting costs to make the right choice [26]. If managers assess that accounting reporting costs are higher than tax reporting costs, then they will focus more on increasing accounting income and choosing the consequences of paying higher taxes. One of the causes of the increase in accounting reporting costs is the existence of the debt, both in the form of loans and debt securities issued by companies. Managers tend to maintain the level of debt within a reasonable limit in the valuation of

investors to maintain the company's reputation. In addition to the reasons for trade-offs between corporate tax rates and loan interest rates, an increase in the debt ratio is closely related to a company's debt contract [26]. A company that has a debt ratio that exceeds the agreement in a debt contract means that the debtor violates the debt contract. The impact of violating the debt contract include: difficult to get a loan at a later date, an increase in interest, termination of the contract until a penalty or fine [12]. The company will try to avoid this situation with earnings management actions to keep the debt ratio at its limit [23]. Research [6] concludes that companies with high debt ratios will do earnings management to avoid violating debt contract agreements, and the relationship is linear. The reference [26] found that companies with high debt ratios (within certain limits) choose more aggressive in accounting reporting, however if it exceeds a certain threshold, the higher the debt ratio makes the company tends to be more aggressive in tax reporting, a non-linear relationship occurs.

Significant differences in rates between corporate tax rate and loan interest rates create incentives for companies to the trade-off between accounting and tax reporting costs. The downward trend in banking lending rates in Indonesia continued until mid-2018 (Figure 1). Indonesia's banking policy to reduce bank lending rates from double digits to single digits in early 2016, further widening the significant differences in corporate income tax rate and lending rates. Since 2012 there has also been an increase in the issuance of debt securities. The issuance of corporate debt securities in the form of bonds and Sukuk reached a record in 2016 of IDR 108.76 trillion from 49 issuers [4]. This was not followed by the immediate enactment of the reduction in the corporate tax rate, which was planned to be reduced from 25% to 20% [8]. The applicable corporate tax rate is more than double the bank loan interest rate. Since 2010, the corporate income tax rate has been a flat rate of 25%, while corporate bank lending rates was 10.04% -11.54% in 2018 [5]. Managers must choose whether to manage earnings upward on accounting financial statements that also have an impact on increasing taxable income or doing tax avoidance which results in decreasing taxable income and financial income [21] [22] [25].

Figure 1 The movement of Indonesia bank interest rates in the last ten years



Source: Trading Economics (2019)

The research in Indonesia regarding preferences management in earning management or tax avoidance scheme is likely to give different results from the studies of [26], [34], [6] because fluctuations in credit interest rates in Indonesia that have occurred over several years pose a higher risk to debt, especially long-term debt (Figure 1). The other reason is Indonesia has distinct tax regulation in interest expense of debt, an instrument to reduce tax reporting costs. In Indonesia, interest expense cannot be deducted fully from gross income. According to tax regulations of the Minister of Finance of the Republic of Indonesia No.169 year 2015 [33] set the magnitude of the ratio of debt and company capital to 4:1 which is permitted as a deductible expense. So that within a specific limit, the interest expense is fully deductible, but above the threshold, the interest expense becomes non-deductible in tax reporting.

The contribution of this research is to prove that the behavior of companies related to trade-offs of accounting and tax financial reporting in Indonesia is different from other countries because the significant gaps between credit interest rates and corporate income tax rates, and tax regulations related to interest expense as a deductible expense. Different conditions in Indonesia will result in different company behavior in terms of earnings management in accounting or tax avoidance in tax reports.

II. LITERATURE REVIEW

A. Literature Review

The view of efficient earning management [36] explains that earnings management has a positive relationship with future profitability, which means it can communicate future profitability to the public [37] which has an impact on corporate sustainability. The manager expects the company to look profitable to illustrate the performance of management and increase the value of the company in the eyes of investors, both in the context of obtaining loans, issuance of debt securities, and shares. On the other hand, this view also causes an increase in income and profits on tax financial statements because between accounting and tax reports have a very strong relationship.

There was a contradiction of the result on the effect of short-term and long-term debt on management decisions. Reference [10] stated that high uncertainty causes companies to shorten the life of the debt or the company is more careful in taking long-term debt. Increasing short-term debt makes the company more aggressive in accounting reporting [18]; [16] because short-term debt can cause liquidity risk and threaten the sustainability of the company's business if the

company fails to pay [18]. The use of short-term debt for long-term investment is a high-risk action because it makes companies not having enough cash to pay off debt and finally bring up financial risk [1]; [9]. If the company experiences liquidity problems, the creditor can reject the extension of the debt due or require payment in full before the debt is due. These reasons encourage management's opportunistic behavior to take aggressive accounting reporting actions by making it appear as if the company is in a financially good condition and to gain the trust of creditors. Long-term debt is more closely related to the aggressiveness of tax reports because the risk of long-term debt is not as big as short-term debt, then the companies do aggressive tax reporting to reduce the tax burden [26]. Reference [34] found long-term debt affected the Effective Tax Rate, which means higher long-term debt the company has, the higher it will do the tax avoidance. Reference [15] shows that some companies are willing to pay higher taxes than they are for higher accounting earnings. So that external parties do not know that the company has carried out earnings management.

Several studies on debt and long-term debt ratios in Indonesia had been conducted and showed different results. Research [29] found that debt ratios had no significant effect on earnings management. Research [3] found that debt ratios affect earnings management. The study concluded that companies that have more debt than assets tend to do earnings management. Research by [19] and [39] found that debt ratios had no significant effect on tax aggressiveness. Other research in Indonesia by [24] found that companies in Indonesia did not do book-tax trade-offs in making decisions regarding tax reporting and accounting reporting.

B. Hypothesis Development

Debt ratio in a company is one of the conditions that cause management to take aggressive tax and accounting reporting actions. Debt ratios are closely related to aggressive accounting reporting because debt ratios can affect a company's debt contracts [26]. Most of the debt contracts contain an agreement that the lender must fulfill several conditions contained in the contract. For example, companies that obtain loans must maintain levels of the debt ratio, liquidity, and working capital. If the agreement is violated, the creditor can provide penalties, such as restrictions on dividends, increase in interest, fines, acceleration due to repayment until termination of the debt contract.

Breach of contract of debt agreement also makes it more difficult for companies to get loans later on. Of course, the penalty is very detrimental to the company, to avoid, prevent

or at least delay the violation of the situation occurs, the company will take earnings management actions to maintain the debt ratio remains at its limit [23]. One of the earnings management actions is done by choosing an accounting method to increase current earnings by recognizing reported earnings from future periods to the present period. This is done so that reported profits are increasing so that the company avoids the risk of violating the debt contract. This phenomenon is consistent with the debt covenant hypothesis or the debt contract hypothesis. Debt covenant hypothesis is one of the motivations of management to conduct earnings management based on positive accounting theory. This hypothesis states that all other things are in a fixed state, the closer a company is to a violation of a debt agreement, the tendency is for management to choose an accounting method that can increase profits, by recognizing earnings from future periods to the present period.

Companies that use debt financing as their primary source of capital can take advantage of the debt interest expense as a tax deduction. But according to Indonesian taxation regulations as stipulated in the Regulation of the Minister of Finance of the Republic of Indonesia Number 169 / PMK.010 / 2015 concerning Determination of the Comparison between Corporate Debt and Capital for the Income Tax Calculation [33], the regulation stipulates that the ratio of debt to capital is 4:1, that is, debt that can be calculated in the tax calculation is only 4:1 compared to capital. This regulation regulates that not all interest costs that companies have can be charged as a tax deduction. Financing using debt that is above the limits specified by tax regulations, makes the interest expense can

be deducted partially as a tax deduction. However, companies can take advantage of other things such as depreciation, amortization, and compensation for losses as tax deductions in addition to interest expenses [28]. Research [26] found that high debt ratios make companies more aggressive in accounting reporting, whereas if debt ratios are low, companies tend to focus on tax avoidance.

H1 = debt ratio affects the selection of aggressiveness in accounting or tax financial reporting.

Long-term debt is more closely related to tax aggressiveness because the risk of long-term debt is not as significant as short-term debt. This makes companies who want to minimize their tax burden choose long-term debt rather than short-term debt, by utilizing debt interest expense [26]. In addition, the issuance of long-term debt is cheaper than issuing several short-term debts. Companies that have long-term debt will do aggressive tax reporting to improve company cost efficiency. Research by [20] and [30] found that companies with a higher marginal tax rate will use more long-term debt.

H2 = Long-term debt affects the selection of aggressiveness in accounting or tax financial reporting.

C. RESEARCH METHOD

A. Model

This study uses the research model of [26] which uses a proxy total accrual model modified Jones [11] as an indicator of earnings management, and uses the Desai and Dharmapala model [14] modified with [38] to measure tax avoidance.

$$EMTM = \beta_0 + \beta_1 LEV1 + \beta_2 LEV1^2 + \beta_3 SIZE + \beta_4 ROA + \beta_5 REV + \beta_6 MTR + \beta_7 OWN + \beta_8 FOR + \beta_9 BIG + \beta_{10} \sum YR + \beta_{11} \sum IND \dots (1)$$

$$EMTM = \beta_0 + \beta_1 LEV2 + \beta_2 LEV2^2 + \beta_3 SIZE + \beta_4 ROA + \beta_5 REV + \beta_6 MTR + \beta_7 OWN + \beta_8 FOR + \beta_9 BIG + \beta_{10} \sum YR + \beta_{11} \sum IND \dots (2)$$

$$EMTM = \beta_0 + \beta_1 LTDEBT1 + \beta_2 LEV1 + \beta_3 SIZE + \beta_4 ROA + \beta_5 REV + \beta_6 MTR + \beta_7 OWN + \beta_8 FOR + \beta_9 BIG + \beta_{10} \sum YR + \beta_{11} \sum IND \dots (3)$$

$$EMTM = \beta_0 + \beta_1 LTDEBT2 + \beta_2 LEV1 + \beta_3 SIZE + \beta_4 ROA + \beta_5 REV + \beta_6 MTR + \beta_7 OWN + \beta_8 FOR + \beta_9 BIG + \beta_{10} \sum YR + \beta_{11} \sum IND \dots (4)$$

B. Aggressive Accounting or Tax Reporting (EMTM) Indicators

The dependent variable of this study is EMTM with a nominal measurement scale. The company is include in the category of aggressive accounting reporting and has the value of 1 (EMTM = 1) and if aggressive tax reporting category would get the value of 0 (EMTM = 0). Whether a company is included in the category of aggressive accounting or tax reporting is measured using earnings management and tax avoidance. Companies that are categorized as aggressive accounting reporting if they have earnings management values above the sample median and tax avoidance value below the sample median studied. Companies that are

categorized as aggressive tax reporting if they have earnings management values below the sample median and tax avoidance value above the sample median studied. This study does not take a sample of companies that have earnings management and tax avoidance value above the sample median or below the sample median simultaneously, because it cannot be known which strategy is more dominantly used. Others indicators of variables is in appendix 1.

This study uses discretionary accruals with the Modified Jones model modified by [11] to determine the level of earnings management. The amount of discretionary accruals is indicated by the value of the error term equation (7).

$$TACC_{i,t} = NI_{i,t} - CFO_{i,t} \dots (5)$$

$$TACC/TA_{t-1} = NDACC_{i,t} + DACC \dots (6)$$

$$TACC/TA_{t-1} = \alpha_1 1/TA_{t-1} + \alpha_2 ((\Delta REV_{i,t,t-1} + \Delta AR_{i,t,t-1}) / TA_{t-1}) + \alpha_3 (PPE_{i,t} / TA_{t-1}) + \epsilon_{i,t} (7)$$

Tax avoidance is measured using the abnormal book-tax differences (ABTD) by Desai and Dharmapla model [14]

modified by [38]. ABTD, which is the residual of equation (8) explains BTD sourced from earnings management and tax

avoidance. The residual value of equation (9) which is indicated by the value of the error term is tax avoidance.

$$\begin{aligned}
 \text{BTD}_{i,t}/\text{TA}_{i,t-1} &= \alpha_1(\Delta\text{INV}_{i,t}/\text{TA}_{i,t-1,i}) + \alpha_2(\text{REV}_{i,t}/\text{TA}_{i,t-1,i}) + \epsilon_{i,t} \quad (8) \\
 \text{ABTD}_{i,t} &= \alpha_1\text{DACC} + \epsilon_{i,t} \dots \dots \dots (9) \\
 \text{BTD} &= \text{Book Income} - \text{Tax Income} \dots \dots \dots (10)
 \end{aligned}$$

C. Sample

The sample of manufacturing companies in this study were 47 companies with 175 observational data, and the observation period was 2012-2016. The sampling technique used purposive sampling. Sample criteria are (1) manufacturing companies listed on the Indonesia Stock Exchange and publishing their annual reports for the period 2012-2016, (2) the financial statements have been audited by an independent auditor, (3) the company has complete information for a minimum of three years, (4) reporting currency using Rupiah, (5) the reporting period is January to December, (6) does not have earnings management and tax avoidance above the sample median or below the sample median simultaneously because it cannot be known which strategy is more dominant chosen by the company.

Based on table 2, it is known that the value of the debt ratio measured by LEV1, namely the proportion of debt to total assets, has an average of 0.352, meaning that the average of manufacturing company studied has a debt ratio of 35.2% of total assets. The value of the debt ratio measured by LEV2, namely the proportion of debt to total loans and shareholder capital, has an average of 0.439, meaning that the average company has a total debt of 43.9% of total debt and capital. The value of long term debt as measured by LTDEBT1, which is the proportion of long-term debt to total debt, has an average of 0.394, meaning that the average company has a total long-term debt of 39.4% of total debt. The standard deviation of 0.304 is lower than the average of 39.1%, indicating that the value of long term debt in this study has a low diversity. The value of long-term debt as measured by LTDEBT2, which is the proportion of changes in long-term debt to total debt, has an average of 3,736.

III. RESULTS AND DISCUSSION

A. Descriptive Statistics and Measurement Model

Table 2. Descriptive Statistics Results

| Variable | Minimum | Maximum | Mean | Std. Deviation |
|----------|---------|---------|--------|----------------|
| LEV1 | 0.001 | 2.432 | 0.352 | 0.375 |
| LEV2 | 0.001 | 3.230 | 0.439 | 0.471 |
| LTDEBT1 | 0.000 | 1.000 | 0.394 | 0.304 |
| LTDEBT2 | -34.665 | 410.361 | 3.736 | 37.307 |
| SIZE | 11.121 | 14.418 | 12.477 | 0.712 |
| ROA | -0.543 | 0.379 | 0.041 | 0.096 |
| REV | 0.007 | 375.087 | 11.919 | 51.487 |
| MTR | 0.215 | 0.250 | 0.249 | 0.003 |
| OWN | 0.144 | 0.982 | 0.559 | 0.229 |
| FOR | 0.000 | 0.989 | 0.227 | 0.298 |

Table 3 can be seen that 76 data or 43.4% of total sample classified as aggressive tax reporting are those who have a tax avoidance value above the sample median and earnings management values below the sample median. Companies that classified as aggressive accounting reporting are those who have earnings management values above the sample

median and tax avoidance value below the sample median of 99 data or 56.5% of the total sample. Regarding the control variables of the big four auditors (BIG) it can be seen that the financial statement uses non-big four auditors is 106 data or 60.6% of the total sample, and who uses the big four auditors is 69 data or 39.4% of the total sample.

Table 3 Descriptive Statistics EMTM dan Big four

| Variables | | | No. of observation | Percentage |
|-----------|---|---------------------------------|--------------------|------------|
| EMTM | 0 | Aggressive Tax Reporting | 76 | 43.4% |
| | 1 | Aggressive Accounting Reporting | 99 | 56.5% |
| BIG | 0 | Non-Big four Auditors | 106 | 60.6% |
| | 1 | Auditor Big four | 69 | 39.4% |

Table 4 shows the Hosmer and Lemeshow's Goodness of Fit Test on four debt ratio measurements. The debt ratio

measurement model using LEV1, LEV2, LTDEBT1, and LTDEBT2 produces a significance value of 0.199, 0.414,

0.232, and 0.226 where the significance value is higher than 0.05, so it concluded that the logistic regression for four

models are feasible to be analyzed further because the model can predict its observational value.

Table 4 Hosmer and Lemeshow's Goodness of Fit Test

| | LEV1 | LEV2 | LTDEBT1 | LTDEBT2 |
|------------|--------|-------|---------|---------|
| Chi square | 11.047 | 8.195 | 10,493 | 10,577 |
| Sig. | 0.199 | 0.414 | 0,232 | 0,226 |

Table 5 shows that all four models have a value of -2 Log Likelihood that differs between the before and after the independent variable entered into the model. Log-likelihood value in the initial model shows a decrease compared to the final

model, so it concluded that the logistic regression model using LEV1, LEV2, LTDEBT1, and LTDEBT2 are a good regression model.

Table 5 -2Log Likelihood (-2LL) value

| | LEV 1 | LEV 2 | LTDEBT1 | LTDEBT2 |
|--------------|---------|---------|---------|---------|
| -2LL Initial | 239,57 | 239,57 | 239,57 | 239,57 |
| -2LL Final | 171,238 | 173,167 | 185,419 | 186,838 |

Based on table 6 it is known that Nagelkerke R Square model using the independent variable LEV1, LEV2,

LTDEBT1, and LTDEBT 2 can explain the dependent variable, which is EMTM, around 34% to 43%.

Table 6 Nagelkerke R Square value

| | LEV1 | LEV2 | LTDEBT1 | LTDEBT2 |
|---------------------|-------|-------|---------|---------|
| Nagelkerke R Square | 0,433 | 0,423 | 0,356 | 0,348 |

Based on table 7 logistic regression models using LEV1 and LEV2 as independent variables, there are 175 data. Overall, it is known that the classification accuracy of the logistic regression model using indicators LEV1 and LEV2 of this

study are 74.86% and 72.57%. While using LTDEBT1 and LTDEBT2 as independent variables, the result showed that the classification accuracy of the logistic regression model is 74.86% and 73.71%.

Table 7. Matrix Classification

| LEV1 | | | | LEV2 | | | |
|--------------------|-----------|--------|-----------|--------------------|-----------|--------|-----------|
| | Predicted | | % Correct | | Predicted | | % Correct |
| | EMTM=0 | EMTM=1 | | | EMTM=0 | EMTM=1 | |
| EMTM=0 | 51 | 25 | 67.11% | EMTM=0 | 48 | 28 | 63.16% |
| EMTM=1 | 19 | 80 | 80.81% | EMTM=1 | 20 | 79 | 79.80% |
| Overall Percentage | | | 74.86% | Overall Percentage | | | 72.57% |
| LTDEBT1 | | | | LTDEBT2 | | | |
| LTDEBT1 | Predicted | | % Correct | LTDEBT2 | Predicted | | % Correct |
| | EMTM=0 | EMTM=1 | | | EMTM=0 | EMTM=1 | |
| EMTM=0 | 47 | 29 | 61.84% | EMTM=0 | 46 | 30 | 60.53% |
| EMTM=1 | 15 | 84 | 84.85% | EMTM=1 | 16 | 83 | 83.84% |
| Overall Percentage | | | 74.86% | Overall Percentage | | | 73.71% |

B. Hypothesis Testing

In table 9 the four models with all four indicators show a significance value > 0.05 so that the four regression models

can be concluded for further analysis because there are one or more independent variables that can have a significant influence on the dependent variable.

Table 9. Omnibus Test of Model Coefficient

| | Chi-square Goodness of Fit Test Model | Sig. |
|----------|---------------------------------------|-------|
| LEV1 | 68,332 | 0,000 |
| LEV2 | 66,403 | 0,000 |
| LTDEBT1 | 54,151 | 0,000 |
| LTDEBT 2 | 52,732 | 0,000 |

Based on table 10, the results of testing the LEV1 and LEV2 models, the coefficient values of the debt ratio LEV1 and LEV2 are 6.54 and 5.47 with a significance value of both of 0,000. This shows the debt ratio with LEV1 and LEV2 indicators in both models gives consistent results that the debt ratio has a significant effect on decisions regarding preference for aggressive accounting reporting or aggressive tax reporting (EMTM). The variable ratio of quadratic debt (LEV1²) and (LEV2²) has coefficients of -2.91 and -2.0 with a significance of both of 0,000, meaning that there is a

nonlinear relationship between debt ratio and EMTM. These results are consistent with LEV1 and LEV2 models.

Based on the test results of LTDEBT1 and LTDEBT2 models, the coefficient values of LTDEBT1 and LTDEBT2 long term debt variables are 0.95 and 0.00, with the significance of 0.23 and 0.89. This shows that LTDEBT1 and LTDEBT2 long term debt have no significant effect on decisions regarding aggressive accounting reporting or aggressive tax reporting (EMTM).

Table 10. The Result of Logistic Regression

| Model 1 - LEV1 | | | Model 2 - LEV2 | | | Model 3 - LTDEBT1 | | | Model 4 - LTDEBT2 | | |
|---------------------------|--------|-------|---------------------------|---------|-------|-----------------------------|-------|-------|-----------------------------|-------|-------|
| Variable | Coef | Sig | Variable | Coef | Sig | Variable | Coef | Sig | Variable | Coef | Sig |
| LEV1 | 6.54 | 0.000 | | | | LTDEBT1 | 0.95 | 0.23 | | | |
| LEV1 ² | -2.91 | 0.000 | | | | | | | | | |
| | | | LEV2 | 5.47 | 0.000 | | | | LTDEBT2 | 0.00 | 0.89 |
| | | | LEV2 ² | -2.02 | 0.000 | LEV1 | -0.23 | 0.71 | LEV1 | 0.14 | 0.79 |
| SIZE | -0.61 | 0.008 | SIZE | -0.55 | 0.100 | SIZE | -0.34 | 0.31 | SIZE | -0.16 | 0.59 |
| ROA | 12.05 | 0.000 | ROA | 12.35 | 0.000 | ROA | 4.81 | 0.007 | ROA | 4.69 | 0.09 |
| REV | -0.00 | 0.86 | REV | 0.00 | 0.92 | REV | -0.00 | 0.20 | REV | -0.00 | 0.39 |
| MTR | 47.01 | 0.49 | MTR | 57.00 | 0.40 | MTR | -18.8 | 0.73 | MTR | 0.33 | 0.99 |
| OWN | -0.59 | 0.48 | OWN | -0.70 | 0.41 | OWN | -0.40 | 0.62 | OWN | -0.44 | 0.589 |
| FOR | -0.77 | 0.26 | FOR | -0.62 | 0.35 | FOR | -0.49 | 0.45 | FOR | -0.48 | 0.45 |
| BIG | -1.82 | 0.00 | BIG | -1.78 | 0.00 | BIG | -1.56 | 0.00 | BIG | -1.56 | .001 |
| Kons. | -7,635 | 0.65 | Kons. | -10,812 | 0.52 | Kons | 6,645 | 0.65 | Kons | -0.18 | 0.99 |
| YR & IND Included | | | YR & IND Included | | | YR & IND Included | | | YR & IND Included | | |
| Nagelkerke R Square=43,3% | | | Nagelkerke R Square=42,3% | | | Nagelkerke R Square = 35,6% | | | Nagelkerke R Square = 34,8% | | |

C. Discussion

Debt ratio has a significant effect on EMTM in a non-linear form. The higher the debt ratio, the company tends to choose aggressively on accounting reports, but when it has passed a certain threshold the higher the debt ratio will cause the company to choose aggressively on the tax report. This is consistent with the study of [32], who found that investors prefer their companies to have low debt and short-term in nature rather than get tax savings. However, corporate

behavior tends to change when the debt ratio has exceeded a certain threshold so that partial of the interest expense can not be recognized as a deductible expense and consequently causes tax costs to be higher. Tax regulations in Indonesia that limit the amount interest expense as deductible expense, set the amount of debt to equity ratio for the tax calculations is 4: 1 [33]. When the debt ratio is very high above certain limit, aggressive tax reporting is done because this strategy is more efficient to increase the value of the company than to

reduce the cost of accounting reporting that is inevitable [26]. The company obtains tax cost efficiency that is more certain and has a direct effect on company value compared trying to reduce high accounting reporting cost or the possibility of avoiding sanctions due to violating debt contracts. Reference [26] who researched in Korea also confirmed the results of this study. Research [6] also found a positive relationship between debt ratio and management preferences for choosing aggressive accounting reports or aggressive tax reports.

Long term debt does not have a significant effect on EMTM. There are several explanations for why long-term debt does not affect EMTM. First, using long-term debt for tax avoidance or earnings management is very risky, especially in Indonesia. Interest rate fluctuations are the most feared by debtors who have long-term debt, especially if the economic conditions are uncertain and make interest rates rise at any time. This is where companies must be able to consider and prepare if there are changes in interest rates and economic policy [13]. The movement of bank interest rates in Indonesia from 2008 to 2018 tends to decrease in the long term (Figure 1). However, at the end of 2013 it increased and remained stable for two years until 2016. In early 2017 the government changed its policy by lowering bank interest rates so that it declined to its lowest level in 2018. Moreover, the interest rate has increased until early 2019 and declined again until mid-2019 [40]. Second, an increase in long-term debt without a clear reason can have an impact on the correction in the value of the company's shares if the market response to long-term debt policy is not good [7]. Shareholders will assume that the company is experiencing a deficit. An adverse response from shareholders will make the company's stock prices go down [7]. Reference [32] found that in countries with lower investor protection levels, such as Indonesia, debt maturities are relatively shorter and are not related to taxes. This is in contrast to the study of [26], which considers long-term debt to be less risky and proven to be related to EMTM. Long-term debt in Indonesian manufacturing companies in the period of 2012-2016 primarily used for investment activities such as financing fixed assets through leasing, purchasing production machinery, building, and factory expansion. Based on these data, it can be concluded that long-term debt is used for strategic business expansion and to increase company production.

This study also found that the big four auditors variable affected EMTM, meaning that companies with big four as external auditors chose aggressively on tax reports rather than aggressively on accounting reports because they avoided the risk of auditor opinion that was not as expected when the company made earnings management. Reference [17] state that corporate equity financing is cheaper when Big Four auditors monitor the financial reporting process. Research [35] stated that external audit quality in Middle Eastern and North African countries is affected by firm and country-level governance quality. Reference [2] states that high audit quality causes the company's earnings management to be lower.

We also find that the ROA variable has a positive effect on EMTM, which means that the higher the ROA the company chooses to aggressively accounting reports or make earnings management. This relates to the company's efforts to conduct

income smoothing so that ROA will not rise too high because it is easier for investors to predict future earnings from smoother earnings [27]. Another reason to do income smoothing to enhance managerial careers or compensation [27], where this cannot be done if ROA is volatile. Research [31] found that banks made high income smoothing when the banks were more profitable or exceed the minimum regulatory capital ratio because abnormal economic fluctuations create incentives for systemic banks to use accounting numbers to smooth income.

IV. CONCLUSION AND IMPLICATIONS

Debt ratios have a significant effect on management decisions regarding aggressive accounting reporting or aggressive tax reporting. There is a non-linear relationship that is at level of debt ratio below certain threshold, the companies lean to focus more on the aggressiveness accounting reporting to minimize accounting reporting costs that tend to be high due to debt contract, while when the debt ratio exceeds a certain threshold, the company will tend to do tax avoidance to minimize high tax costs because debt interest can not be recognized entirely as deductible expense in tax report.

Long term debt has no effect on management decisions regarding aggressive accounting or tax financial reporting. Loan interest rate fluctuations, stock price correction risk due to investors' negative perceptions of long-term debt acquisition, liquidity risk, and contract requirements that are quite diverse and binding for an extended period of time, are the reasons long-term debt in Indonesia is not an appropriate alternative to consider in carrying out earnings management or tax avoidance in Indonesia.

The advice for subsequent studies is to broaden the research sample and compare company behavior in several countries and analyze the tax rules that apply in each country and their influence on corporate earnings management behavior.

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APPENDIX 1 Definitions of Variables

| Variables | Descriptions |
|-----------|--|
| EMTM | Management decisions related to financial reporting and tax reporting, rated 1 if aggressive financial reporting is valued 0 if an aggressive tax reporting firm |
| LEV1 | Debt/Total Assets; Debt that an interest-bearing which is Debt = Short Term Debt + Long Term Debt + Bonds |
| LEV2 | Debt/(Debt+Equity); Debt that an interest-bearing which is Debt = Short Term Debt + Long Term Debt + Bonds |
| LTDEBT1 | (Long term debt + Bonds)/Debt |
| LTDEBT2 | (ΔLong term debt+ΔBonds-ΔShort Term Debt)/Debt |
| SIZE | Log Total Assets |
| ROA | Net Income/Total Assets |
| REV | Rev is growth = (Revenue _t - Revenue _{t-1}) / Total Asset |

| | |
|------------------------|--|
| MTR | <p>The present value of the additional tax next year due to additional revenue per Rupiah this year.</p> $MTR = (1/(1+r)^n) * \text{Statutory Rate}$ <p>Companies that have no NOL_{t-1} (tax loss) then =</p> $MTR = 1 * \text{Statutory Rate}$ <p> $n = NOL_{t-1} / EFAI_{i,t}$ $EFAI_{i,t} = P_{t-1} * NS_{t-1} * r_{t-1}$ $EFAI_{i,t} = \text{Expected Future Average Income}$ $P_{t-1} = \text{The company's share price at the end of year t-1}$ $NS_{t-1} = \text{Number of shares in year t-1}$ $r_{t-1} = \text{Bank Indonesia discount rate year t-1}$ </p> |
| OWN | The proportion of shares owned by major shareholders/shares owned by the company, where OWN is the percentage of shares held by majority shareholders. |
| FOR | The proportion of shares owned by foreign parties/shares owned by the company; where FOR is the percentage of shares held by foreigners |
| BIG | Four public accounting firms affiliated with KPMG, Ernst & Young (EY), PricewaterhouseCoopers (PwC) and Delloite; Rated 1 if affiliated with the big four and rated 0 if not affiliated with the big four. |
| YR | Year dummy |
| IND | Industry dummy |
| TACC _{i,t} | Total accrual |
| NI _{i,t} | Net Income company i in year t |
| CFO _{i,t} | Cash flow from operations of company i in year t |
| $\Delta REV_{i,t,t-1}$ | Changes in income between years t and t-1 |
| $\Delta AR_{i,t,t-1}$ | Change in account receivables between years t and t-1 |
| PPE _{i,t} | The gross value of property, plant, and equipment in year t |
| TA _{t-1} | Total assets in year t-1 |
| $\epsilon_{i,t}$ | Error term |
| Book Income | accounting profit before tax |
| Tax Income | Tax profit after loss compensation |
| TA _{t,t-1,l} | Average total assets of years t and t-1 |
| $\Delta INV_{i,t}$ | Changes in gross property, plant, equipment, and intangible assets |
| REV _{i,t} | Changes in income |
| NOL _{i,t} | Net operating loss or value of tax loss |
| TLU _{i,t} | The amount of tax compensation |
| DACC | Discretionary accruals |