TAX AGGRESSIVENESS IN MANUFACTURING COMPANIES IN INDONESIA

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Abstract
This study aims to analyze the factors that influence tax aggressiveness in manufacturing companies in Indonesia. This study uses a multiple linear regression approach using panel data. Data obtained from the financial statements of manufacturing companies listed on the Indonesia Stock Exchange during 2015-2018 period. Sampling in this study was conducted by purposive sampling. The results of the study with the fixed effect approach show that the profitability variable has a significant effect on tax aggressiveness, while earnings management, leverage, and cash before the tax ratio have no effect.

Keyword: tax aggressiveness, earnings, leverage, profitability, CBTR, panel data

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1. INTRODUCTION
Tax is one of the factors that motivates corporate decision making (Lanis & Richardson, 2013). The manager is responsible for financial and tax reporting in a company. Taxes in the company received significant attention. For companies, taxes are burdens that will reduce the amount of net profit that companies will receive so that the company tries to pay the lowest possible tax. Unlike the government which considers tax as a state revenue which is quite important so that the government will collect the highest tax (Kristanto, 2015). Therefore, to anticipate the tax burden, managers do tax aggressiveness practices (Neifar & Ajili, 2019). With a tax collection system in Indonesia that uses a self assessment system, companies can make efforts to reduce the tax burden, or what is often referred to as tax aggressiveness (Sukmawati & Rebecca, 2016).

Tax aggressiveness is an action designed to reduce taxable income in accordance with the tax plan, which can be done by legal or illegal (Lanis & Richardson, 2013). Tax aggressiveness is also defined as management actions taken by managers to achieve investor and community expectations and ensure that more revenue is maintained in the company (Wang et al., 2019). A common type of tax aggressiveness transaction is overuse of corporate debt to minimize taxable income by claiming excessive tax deductions for interest expense, excessive use of tax losses. In addition, transactions that are often carried out in tax aggressiveness are effectively adding to tax reductions (through interest and tax losses) that companies can use to offset income assessments, thereby reducing income tax and the amount of tax the company owes (Lanis & Richardson, 2013).

One tax object is a department or company. In running a business, companies must keep books for each of their business activities. The same is true for taxation, where bookkeeping must also be made by the
Corporate Taxpayer to facilitate tax calculation. One of the sub-sectors contained in the Indonesia Stock Exchange is a manufacturing company. The manufacturing sector contains large issuers that showed quite good and stable performance. Stocks in the manufacturing sector, especially in the consumer goods industry, are the sectors that are mostly targeted by investors (Pratama, 2019). Minister of Industry Airlangga Hartarto (2017) states that the contribution of the manufacturing sector including oil and gas in Indonesia contributes around 20% to GDP. Airlangga predicts that in the next two to three years it will contribute up to 22% - 23% to GDP (Rafael & Rosalina, 2017). The investment value in the manufacturing sector also increased to Rp706.9 trillion in the 2015-2017 period compared to 2014 which reached Rp195.6 trillion. The value of this investment is predicted to continue to increase until it reaches Rp1,759 trillion in the next two years (Rafael & Rosalina, 2017).

The phenomenon obtained in the financial statements of manufacturing companies listed on the Indonesia Stock Exchange, to see the level of tax aggressiveness from year to year, 2015 to 2018 can be seen in the following table:

<table>
<thead>
<tr>
<th>No.</th>
<th>Companies Code</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ASII</td>
<td>0.2046</td>
<td>0.1775</td>
<td>.2066</td>
<td>0.2178</td>
</tr>
<tr>
<td>2</td>
<td>AUTO</td>
<td>0.2558</td>
<td>0.2550</td>
<td>.2306</td>
<td>0.2098</td>
</tr>
<tr>
<td>3</td>
<td>CINT</td>
<td>0.2768</td>
<td>0.2681</td>
<td>.2263</td>
<td>0.3864</td>
</tr>
<tr>
<td>4</td>
<td>HMSP</td>
<td>0.2562</td>
<td>0.2498</td>
<td>.2500</td>
<td>0.2462</td>
</tr>
<tr>
<td>5</td>
<td>INAI</td>
<td>0.4990</td>
<td>0.3880</td>
<td>.2608</td>
<td>0.3752</td>
</tr>
<tr>
<td>6</td>
<td>INDF</td>
<td>0.3487</td>
<td>0.3429</td>
<td>.3282</td>
<td>0.3337</td>
</tr>
<tr>
<td>7</td>
<td>KLBF</td>
<td>0.2437</td>
<td>0.2395</td>
<td>.2431</td>
<td>0.2447</td>
</tr>
<tr>
<td>8</td>
<td>SIDO</td>
<td>0.2194</td>
<td>0.2361</td>
<td>.2172</td>
<td>0.2351</td>
</tr>
<tr>
<td>9</td>
<td>UNVR</td>
<td>0.2526</td>
<td>0.2545</td>
<td>.2526</td>
<td>0.2525</td>
</tr>
<tr>
<td>10</td>
<td>WIIM</td>
<td>0.2634</td>
<td>0.2222</td>
<td>.2551</td>
<td>0.2769</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>0.2820</td>
<td>0.2634</td>
<td>.2470</td>
<td>0.2778</td>
</tr>
</tbody>
</table>

Based on the table above it can be seen that the average value of ETR of the company during 2015-2017 tends to decrease or lower. The average value in 2015 was 0.2820. Then in 2016 it fell to 0.2634 and 0.2470 in 2017. This condition is an indication that companies are avoiding taxes to minimize the amount of tax payments that companies must pay. The greater the value of the company's ETR indicates the lower the level of tax avoidance carried out by the company, if the value of the company's ETR every year decreases it can be interpreted that the higher the level of tax aggressiveness by the company (Lanis & Richardson, 2013). Whereas in 2018 the value of ETR has increased to become 0.2778.

There are several factors that affect tax aggressiveness. Research conducted by Amidu et al. (2019) shows that earnings management has a significant positive effect on tax aggressiveness. Therefore, if discretionary accruals increase, the tax aggressiveness of the company increases. Such conditions reflect that companies can still do tax aggressiveness when managing earnings by increasing profits Amidu et al.
(2019). However, earnings management in Sarpingah & Purba (2019) has no effect on tax aggressiveness. This means that management has decreased revenue. The decrease in profits made by the company is considered insignificant in providing an effect on tax aggressiveness as measured by the effective tax rate (ETR). Although management reduces profits, the company continues to pay taxes according to the prevailing tariff (Sarpingah & Purba, 2019).

Jalan et al. (2014) found that leverage has a significant negative effect on tax aggressiveness. This means that the greater the company's debt, it will reduce tax aggressiveness. This is because the greater the company's debt, it will increase the company's interest payment obligations, thereby reducing profit before tax. If the profit before tax decreases, the tax payment obligation of the company will be reduced. Whereas the research by Nurhandono & Firmansyah (2017) shows that leverage has a significant positive effect on tax aggressiveness. This shows that there is a direct relationship between Financial Leverage with tax aggressiveness so that if there is an increase in Financial Leverage there will also be an increase in tax aggressiveness (Nurhandono & Firmansyah, 2017). Whereas different research results are found in research conducted by (Tiaras & Wijaya, 2017). The researcher concludes that corporate leverage has no significant effect on the level of corporate tax aggressiveness. Based on these results it can be seen that the company does not use debt to avoid tax.

Profitability with the return on assets (ROA) proxy has a negative and significant effect on tax aggressiveness. This means that if ROA has increased, the cash effective tax rate will decrease. A low cash effective tax rate indicates high tax avoidance activity. This happens because the tax with company profits is directly proportional, if the profitability of the company increases indicates the better performance of the company and the greater the profits generated by the company then it affects the higher tax burden (Putri & Putra, 2017). The results of the study are in line with Maharani's research which shows that profitability has a negative effect on tax avoidance (Maharani, 2019). Different research results are shown by Ichsani (2019) which states that there is a significant positive effect between profitability and tax avoidance. This means that the greater the company's profits, will encourage increased tax avoidance, and conversely the smaller the company's profits, will reduce tax avoidance. This is because with increasing company profits, the obligation of companies to pay taxes will be greater, so that it will encourage companies to avoid taxes.

Given the differences in previous studies, it is hoped that these findings can become additional references related to similar studies. This study aims to provide empirical evidence that the practice of tax aggressiveness occurs in Indonesia for several reasons.

2. LITERATURE REVIEW

Agency Theory

Agency theory is a theory which includes a contract between the manager (agent) and the owner (principal). In order for this contractual relationship to run smoothly, the owner will delegate the decision making authority to the manager. Appropriate contract planning to align the interests of managers and owners in the event of a conflict of interest is at the core of agency theory. But to create the right contract is a difficult thing to realize. Therefore, investors are required to give residual control rights to the manager (residual control right), namely the right to make decisions under certain conditions that have not been seen in the contract (Jensen & Meckling, 1976).

Two problems that often arise due to contracts in agency theory are agency problems and risk sharing. Agency problems arise because of differences in objectives between the principal and the agent and the high cost for the principal to check what the agent is doing. Meanwhile, the problem of risk sharing arises because of differences in risk preferences between principal and agent.

In the context of tax aggressiveness, management has an interest in manipulating corporate profits which in turn will reduce the tax debt borne by the company. This manipulation can be done because there is asymmetric information between the
management that makes and runs the accounting system and the principal as the user of financial statements. This interest is different from the interests of investors who do not want tax aggressiveness because it has the potential to disrupt business continuity if the company encounters legal problems.

**Tax Aggressiveness**

Tax aggressiveness is an action designed to reduce taxable income in accordance with tax plans, which can be legal or illegal (Lanis & Richardson, 2013). A common type of tax aggressiveness transaction is overuse of corporate debt to minimize taxable income by claiming excessive tax deductions for interest expense, excessive use of tax losses. In addition, transactions that are often carried out in tax aggressiveness are effectively adding tax reductions (through interest and tax losses) that companies can use to offset income assessments, thereby reducing income tax and the amount of tax owed by the company (Lanis & Richardson, 2013).

Tax aggressiveness is calculated using the effective tax rate (ETR) to measure tax aggressiveness. The higher ETR, the lower the level of aggressiveness of tax (Neifar & Utz, 2019). Chen et al. (2010) calculated the total ETR as the ratio of total income tax expense to book income before tax with the following formulation:

\[
ETR = \frac{\text{tax expense}}{\text{pre tax book income}} \times 100\%
\]

**Earning Management**

Earnings management is one of the factors that can reduce the credibility of financial statements, and add bias in financial statements and interfere with users of financial statements that believe the engineered profit figures are non-engineered profit figures (Setiawati & Na’im, 2000).

According to (Setiawati & Na’im, 2000), earnings management is management’s intervention in the external financial reporting process with the aim to benefit itself. Earnings management is one factor that can reduce the credibility of financial statements. Earnings management adds bias in the financial statements and can interfere with users of financial statements that believe in the engineered profit figures as non-engineered profit figures.

Earnings management is also interpreted by Healy & Wahlen (1999) as the preparation of financial statement transactions by changing financial statements using judgment so that it can mislead stakeholders in viewing the company’s economic performance. It can be concluded that earnings management is a way used by managers to influence earnings numbers systematically and intentionally by choosing accounting policies and certain accounting procedures in order to benefit various parties.

Earnings management can be measured through discretionary accruals that are calculated by separating total accruals with non-discretionary accruals. This model uses total accrual (TA) which is classified into discretionary accrual (DA) and non-discretionary accrual (NDA). Discretionary accrual (DA) is an accrual component that allows management to intervene in the process of preparing financial statements, so that the resulting profit does not reflect the true value or financial condition, whereas non-discretionary accrual (NDA) is an accrual determined by economic conditions (Dayanandan & Sra, 2018).

The modified Jones model (Dayanandan & Sra, 2018), the estimated NDA is based on the following equation:

\[
NDA_{it} = \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 (\Delta REV_{it} - \Delta REC_{it}) + \alpha_3 PPE_{it} + \varepsilon_{it}
\]

\[
TA_{it} = \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 \Delta REV_{it} + \alpha_3 PPE_{it} + \varepsilon_{it}
\]

\[
DA_{it} = TA_{it} - NDA_{it}
\]

**Information**

TAit : Total accruals of company i in t period
Ait-1 : Total assets of company i in t-1 period
\(\Delta \text{REVit} \): Income different of company i in t period
\(\Delta \text{RECit} \): accounts receivable different of company i in t period
PPEit : Total tangible fixed assets of company i in t period
\(\varepsilon_{it} \): Error term
Tax aggressiveness can be done in conjunction with earnings management. Earnings management is one of the strategies used by managers to influence earnings numbers systematically and intentionally by choosing accounting policies and certain accounting procedures with the aim to benefit various parties (Fatmawati, 2018). Taxes related to profits, meaning that if the company's profits are high, the taxes paid by the company are high, and vice versa. Therefore, if a company can make good use of earnings management practices, the company can also manage the taxes they will pay.

Research conducted by Nurhandono & Firmansyah (2017) shows that earnings management has a significant positive effect on tax aggressiveness. Therefore, if discretionary accruals increase, the tax aggressiveness of the company increases. This condition reflects that the company can still do tax aggressiveness when managing earnings by increasing profits. The results of this study are in line with research conducted by Amidu et al. (2019), and Wang et al. (2019). Correlation results show that earnings management is positively correlated with tax avoidance. This shows that more income manipulation results in more avoidance activities.

\( H_1: \text{Earnings management has a significant effect on tax aggressiveness} \)

Leverage

Leverage is the amount of debt the company has for financing and can be used to measure the amount of assets financed by debt. Companies with high leverage indicate the company is dependent on external loans or debt, while companies with low leverage can finance their assets with their own capital (Yulfaida & Zulaikha, 2012).

According to Nurhandono & Firmansyah (2017) leverage is a ratio that measures the ability of both long-term and short-term debt to finance company assets. This leverage is a source of corporate funding from external debt. The debt in question is a long-term debt. Long-term interest costs will reduce the existing tax burden. The leverage variable is measured by dividing the total long-term liabilities by the total assets of the company.

This study uses total debt divided by total assets in the calculation of leverage. The use of these proxies is because debts incurred by companies for business and other purposes do not only consist of long-term debt, but also short-term debt. In addition, some previous studies use more total debt divided by total assets in calculating leverage. Leverage is measured using the same proxy as Nurhandono & Firmansyah (2017) research, using the following equation:

\[
\text{Leverage} = \frac{\text{Total liabilities}}{\text{Total asset}} \times 100\%
\]

Leverage is the level of debt that a company uses in financing. Companies that use debt in the composition of financing, there will be interest expense to be paid. The higher the leverage ratio, the higher the interest costs arising from debt. The higher interest costs will affect the decrease in corporate tax burden. So the leverage ratio can affect the tax aggressiveness.

Jalan et al. (2014) found that leverage has a significant negative effect on tax aggressiveness. This means that the greater the company's debt, it will reduce tax aggressiveness. This is because the greater the company's debt, it will increase the company's interest payment obligations, thereby reducing profit before tax. If profit before tax decreases, the obligation to pay corporate taxes will be reduced (Jalan et al. 2014).

\( H_2: \text{Leverage has a significant effect on tax aggressiveness} \)

Profitability

Profitability is the company's ability to earn profits in relation to sales, total assets and own capital (Hanafi & Halim, 2016). Profitability ratios are ratios to assess a company's ability to seek profits. This ratio also provides a measure of the effectiveness of a company's management. The existence of profitability growth shows that the company's
prospects are getting better because it means that there is a potential for increased profits earned by the company. This is captured by investors as a positive signal from the company so that it will increase investor confidence and will facilitate company management to attract capital in the form of shares (Hermuningsih, 2013). The benefits of profitability ratios are not limited to business owners or management, but also to external parties of the company, especially those who have a relationship or interest with the company (Hemastuti & Suwardi, 2014).

Return on assets (ROA) is one approach that can reflect a company's profitability. ROA approach shows that the amount of profits earned by the company using the total assets it has. ROA also takes into account the company's ability to generate profit that is released (Putri & Putra, 2017).

\[
ROA = \frac{Laba setelah pajak}{Total aset} \times 100\%
\]

The high profitability value can be described as efficiency made by the company, the higher the profit, the higher the tax costs that must be paid by the company to the state. That is considered as an effort in carrying out tax aggressiveness. So that profitability can affect the tax aggressiveness.

Profitability with a return on assets (ROA) proxy has a negative and significant effect. This means that if ROA has increased the lower the effective cash rate, the lower effective cash rate indicates the high tax aggressiveness. This happens because the tax with company profits is directly proportional, if the profitability of the company increases indicates the better performance of the company and the greater the profits generated by the company then it affects the higher tax burden (Putri & Putra, 2017).

\[H_3: \text{Profitability has a significant effect on tax aggressiveness}\]

Cash Before Tax Ratio (CBTR)

Wang et al. (2019) say that tax cash flow dominates tax expenditure, which further supports that tax cash flow is more relevant in value than tax expenditure. Therefore, researchers argue that the net operating cash flow situation before tax will motivate managers to adopt tax aggressive behavior and increase corporate tax aggressiveness.

\[
\text{CBTR} = \frac{\text{Net cash flow from operating activities} + \text{tax}}{\text{Total asset}}
\]

Tax cash flow dominates tax expenditure, which further supports that tax cash flow is more relevant in value than tax expenditure. Therefore, researchers argue that the net operating cash flow situation before tax will motivate managers to adopt tax aggressive behavior and increase corporate tax aggressiveness.

Wang et al. (2019) found that the net operating cash flow ratio before tax had a significant positive effect on tax aggressiveness. By regression analysis with different sample groups, researchers find that under different operating cash flow conditions, the motivation for tax manipulation is also different. As a result, there are differences in the level of corporate tax aggressiveness in various operating cash flow situations. Specifically, when the net operating cash flow before taxes is less than zero, the higher the net operating cash flow, the lower the tax aggressiveness, while when the net operating cash flow before taxes is greater than zero, the higher the tax aggressiveness.

\[H_4: \text{Cash before tax ratio has a significant effect on tax aggressiveness}\]

3. METHODOLOGY

The sample in this study were 42 manufacturing companies listed on the Indonesia Stock Exchange from 2015 to 2018. The sampling technique used was purposive
sampling method, by taking samples from the population with certain criteria (Sugiyono, 2017).

Analysis of the data used using multiple linear regression approach with panel data. Panel data (pool) is a combination of time series data and cross section data. Therefore, panel data has a combination of characteristics, namely data consisting of several objects and covering several time (Ghozali & Ratmono, 2017). Generally estimation of parameters in regression analysis with panel data is carried out using the estimation of small squares method or called ordinary least square (OLS). The regression equation in this study is as follows:

\[
TAXA_{it} = \alpha + \beta_1 EARNM_{it} + \beta_2 LEV_{it} + \beta_3 ROA_{it} + \beta_4 CBTR_{it} + e
\]

Information

TAXA : Tax Aggressiveness
EARNM : Earning Management
LEV : Leverage
ROA : Return On Asset
CBTR : Cash Before Tax and Ratio
\(\alpha\) : Constant
\(\beta\) : Coefficient
e : error term

The method of estimating the regression model using panel data is done through several approaches (Adesete, 2017). The approach taken is as follows:

Common Effect Model

Common effect is the simplest panel data model because it only combines time series data and cross sections. In this model does not pay attention to the dimensions of time and individuals so it is assumed that the behavior of the company data is the same in various time periods. This method can be estimated using the ordinary least square (OLS) approach, common effect or called pooled least square (Ghozali & Ratmono, 2017).

Fixed Effect Model

The fixed effect model assumes that differences between individuals can be accommodated from their intercept differences. This model uses dummy variables to capture intercept differences between companies. This model can also be called the least square dummy variable (LSDV) technique (Ghozali & Ratmono, 2017).

Random Effect Model

The random effect model is a model that estimates panel data where interruption variables may be interconnected between time and between individuals. The random effect model assumes that differences between individuals and/ or time can be accommodated through errors. This model is also called the generalized least square (GLS) or error component model (ECM) technique (Ghozali & Ratmono, 2017).

4. RESULT AND DISCUSSION

Goodness of Fit Based on Classical Assumption

Normality

Normality test aims to test whether the independent variables, independent variables or both have normal distribution or not. Testing data in this study used the Jarque-Bera (JB) method. If the JB value is smaller than 2, then the data is normally distributed or if the probability is greater than 5%, then the data is normally distributed (Ghozali & Ratmono, 2017).
Based on the above output results obtained that the probability value is below 0.05 which is equal to 0.0000. So it can be concluded that from the 168 data observations in this study were not normally distributed. The researcher then assumes that the data is based on Central Limit Theory which states that for large samples, especially more than 30 (n> 30) sample distributions are considered normal (Ghozali & Ratmono, 2017). Moreover, this research is only an investigation not a projection (forecast).

**Multicollinearity**

Multicollinearity test aims to show the existence of a linear relationship between independent variables in a regression model, where a good regression model should not occur correlation between independent variables (Ghozali & Ratmono, 2017). Multicollinearity can be seen from the correlation matrix. If there is a correlation coefficient <0.8, there is no multicollinearity, but if the correlation coefficient> 0.8, there is multicollinearity (Ghozali & Ratmono, 2017). The table below shows the results of the multicollinearity test as follows:

<table>
<thead>
<tr>
<th></th>
<th>TAXA</th>
<th>EARNM</th>
<th>LEV</th>
<th>ROA</th>
<th>CBTR</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAXA</td>
<td>1.000000</td>
<td>-0.167961</td>
<td>0.405128</td>
<td>-0.214009</td>
<td>-0.100140</td>
</tr>
<tr>
<td>EARNM</td>
<td>-0.167961</td>
<td>1.000000</td>
<td>-0.083506</td>
<td>-0.086295</td>
<td>-0.514809</td>
</tr>
<tr>
<td>LEV</td>
<td>0.405128</td>
<td>-0.083506</td>
<td>1.000000</td>
<td>-0.039917</td>
<td>-0.015738</td>
</tr>
<tr>
<td>ROA</td>
<td>-0.214009</td>
<td>-0.086295</td>
<td>-0.039917</td>
<td>1.000000</td>
<td>0.774476</td>
</tr>
<tr>
<td>CBTR</td>
<td>-0.100140</td>
<td>-0.514809</td>
<td>-0.015738</td>
<td>0.774476</td>
<td>1.000000</td>
</tr>
</tbody>
</table>

The results of calculations in table 4.8 are known to be the highest correlation coefficient between the variables between TAXA and LEV (0.405128). The rule of the thumb of this test is if the correlation value is less than 0.8 the data does not multicollinearity problems. Therefore, based on the above results it can be concluded that in this study there is no multicollinearity problem.

**Heteroscedasticity**

Heteroscedasticity test aims to determine the absence of variance between observations. The test is carried out with the Glejser test which regresses the independent variables on the absolute residual variable with a significance of> 5% (0.05), if there are no statistically significant variables then the regression does not contain heteroscedasticity (Ghozali & Ratmono, 2017). The table below shows the results of the heteroscedasticity test as follows:
Table 3

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.022778</td>
<td>0.005329</td>
<td>4.274568</td>
<td>0.0000</td>
</tr>
<tr>
<td>ML</td>
<td>0.036683</td>
<td>0.046364</td>
<td>0.791203</td>
<td>0.4301</td>
</tr>
<tr>
<td>LEV</td>
<td>0.014510</td>
<td>0.011751</td>
<td>1.234800</td>
<td>0.2189</td>
</tr>
<tr>
<td>ROA</td>
<td>-0.017326</td>
<td>0.043153</td>
<td>-0.401497</td>
<td>0.6886</td>
</tr>
<tr>
<td>CBTR</td>
<td>-0.004101</td>
<td>0.044199</td>
<td>-0.092778</td>
<td>0.9262</td>
</tr>
</tbody>
</table>

The calculation results in the above results indicate the significance value of each independent variable is greater than 0.05, so it can be concluded that there are no symptoms of heteroscedasticity.

Autocorrelation

Autocorrelation test is a test that aims to determine whether or not there is a correlation between the error of the intruder in period t and the error of the intruder in period t-1. Breusch-Godfrey test is one of the methods used to detect the presence or absence of autocorrelation problems (Ghozali & Ratmono, 2017). The table below shows the results of the autocorrelation test as follows:

Table 4

<table>
<thead>
<tr>
<th>F-statistic</th>
<th>Prob. F(2,146)</th>
<th>0.0754</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obs*R-squared</td>
<td>5.321780</td>
<td>0.0699</td>
</tr>
</tbody>
</table>

The rule of the thumb of this test is if the Prob. Chi-Square(2) value is less than 0.5, the data does not autocorrelation problems. Therefore, based on the above results it can be concluded that in this study there is no autocorrelation problem (0.0699<0.05).

Regression Calculation Result

Panel data regression is a combination of cross section data and time series data, where the same cross section units are measured at different times. So in other words, panel data is data from some of the same individuals that were observed in a certain period of time. The results of panel data regression with CEM, FEM and REM are presented in the following table:

Table 5

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.220591</td>
<td>0.0000</td>
<td>0.288249</td>
<td>0.0000</td>
<td>0.229253</td>
<td>0.0000</td>
</tr>
<tr>
<td>EARNM</td>
<td>-0.170833</td>
<td>0.0923</td>
<td>0.015571</td>
<td>0.8582</td>
<td>-0.051887</td>
<td>0.5270</td>
</tr>
<tr>
<td>LEV</td>
<td>0.134508</td>
<td>0.0000</td>
<td>0.058481</td>
<td>0.8961</td>
<td>0.127635</td>
<td>0.0002*</td>
</tr>
<tr>
<td>ROA</td>
<td>-0.119118</td>
<td>0.2064</td>
<td>-0.515268</td>
<td>0.0004*</td>
<td>-0.203724</td>
<td>0.0192*</td>
</tr>
<tr>
<td>CBTR</td>
<td>-0.027845</td>
<td>0.7725</td>
<td>0.010335</td>
<td>0.8961</td>
<td>0.017550</td>
<td>0.8147</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.227192</td>
<td>0.682844</td>
<td>0.145777</td>
<td>0.122690</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj R-squared</td>
<td>0.206305</td>
<td>0.549461</td>
<td>6.314221</td>
<td>0.0000*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>10.87735</td>
<td>5.119408</td>
<td>6.314221</td>
<td>0.0000*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prob(F-statistic)</td>
<td>0.0000*</td>
<td>0.0000*</td>
<td>0.0000*</td>
<td>0.0000*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Before interpreting the regression results, the model selection test is first performed. Model selection test is a test used to determine which model is best used in panel data regression. Chow test is needed to choose the most appropriate model between the common effect and fixed effect models. While the thirst test is used to determine the
most appropriate model between fixed effects and random effects. Here are the results of the test:

<table>
<thead>
<tr>
<th>Table 6</th>
<th>Chow and Hausman Model Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chow Test</td>
<td>Effects Test</td>
</tr>
<tr>
<td>Cross-section F</td>
<td>3.749386</td>
</tr>
<tr>
<td>Cross-section Chi-square</td>
<td>136.267427</td>
</tr>
<tr>
<td>Hausman Test</td>
<td>Test Summary</td>
</tr>
<tr>
<td>Cross-section random</td>
<td>18.575913</td>
</tr>
</tbody>
</table>

Based on the chow test table, the probability value obtained in the cross-section of the Chi-square is 0.0000 < 0.05, then H_1 is accepted, so it is concluded that the fixed effect model chosen. Based on the Hausman test table also obtained a Cross-section random value of 0.0010 < 0.05 then H_1 was accepted, so it was concluded that the fixed effect model was the best model. Based on the results of the model selection test, the equation with fixed model approach is obtained as follows:

\[ TAXA_{it} = 0.288 + 0.015\text{EARNM} + 0.058\text{LEV} - 0.515\text{ROA} + 0.010\text{CBTR} + e \]

Discussion

The analysis result shows that earnings management has no significant effect on tax aggressiveness, indicated by the value of 0.8582 > 0.05, so it is unable to prove the research hypothesis that is built where there is an influence between earnings management and tax aggressiveness. There is no influence between earnings management on tax aggressiveness because management decreases revenue, but the decrease in profits made by the company is considered insignificant in providing an effect on tax aggressiveness as measured by effective tax rate (ETR). This study is in line with the findings of Sarpingah & Purba (2019) which show that earnings management has no effect on tax aggressiveness. Although management reduces profits, the company continues to pay taxes according to the prevailing tariff (Sarpingah & Purba, 2019). According to him this is because during the observation period, manufacturing companies tend to be inconsistent in increasing profits.

The analysis result shows that leverage does not have a significant effect on tax aggressiveness, indicated by the value of 0.5279 > 0.05, so it is unable to prove the research hypothesis that is built where there is an influence between leverage and tax aggressiveness. The absence of a significant influence between leverage on tax aggressiveness shows that companies do not use debt to carry out tax aggressiveness. This can be seen from the average leverage of 0.360790 which means that only 36% of the obligation must be from all resources controlled by the company. The results of this study are in line with research conducted by Tiaras & Wijaya (2017), where corporate leverage does not significantly influence the level of corporate tax aggressiveness because the company does not utilize debt to avoid tax Tiaras & Wijaya (2017).

The analysis result shows that profitability has a significant effect on tax aggressiveness, indicated by the value of 0.0004 < 0.05. The negative coefficient of -0.515268 indicates a negative influence. So that it can prove the research hypothesis that was built where there is a negative influence between profitability and tax aggressiveness. The results of this study are in line with research by Putri & Putra (2017). Profitability with a return on assets (ROA) proxy has a negative and significant effect. This means that if ROA has increased the lower the effective cash rate, the lower effective cash rate indicates the high tax aggressiveness. This happens because the tax with company
profits is directly proportional, if the profitability of the company increases indicates the better performance of the company and the greater the profits generated by the company then it affects the higher tax burden Putri & Putra (2017).

The analysis result showed that stating cash before tax ratio did not significantly influence tax aggressiveness. Shown with the significance value for cash before tax ratio to tax aggressiveness is 0.8961> 0.05. So it is unable to prove the research hypothesis that was built where there is an influence between cash before tax ratio and tax aggressiveness. This study is not in line with research conducted by Wang et al. (2019) who found that the net operating cash flow ratio before tax had a significant positive effect on tax aggressiveness. The study found that operating cash flows that occur in manufacturing companies do not directly make management to carry out tax aggressiveness. This is because when operating cash flows are high it does not necessarily produce high profits. Manufacturing companies tend to have high operating expenses. So the high cash flow value is not used by management to take tax aggressiveness.

Conclusion

Based on the analysis results, it was found that research on tax aggressiveness is still not consistent in accordance with the hypothesis. In this study shows that only the profitability variable is proxied by ROA, which has a significant effect on tax aggressiveness. High profit becomes a significant factor in tax payments, so management sometimes avoids high taxes by manipulating profits so that the tax paid is decreased. This is slightly contrary to earnings management variables, where both variables should be able to influence tax aggressiveness. However, earnings management actually has no effect, because even though management has lowered profits, they still pay taxes according to the applicable tariffs. Likewise with leverage, where companies do not use debt as a point to reduce profits. The variable cash before tax ratio also does not have a significant effect, because operating cash flow in large manufacturing companies is likely to have a large operational burden so that the benefits are not optimal (limited), so the company does not need to avoid tax.

Bibliography


