Effect of Profitability, Leverage and Capital Intensity on Tax Aggressiveness Moderated Market Performance

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I. Introduction

National development in Indonesia is carried out continuously. Based on the official website (djpbn.kemenkeu.go.id), in 2015, the realization of tax revenues was IDR 1,240.4 trillion or 83.3% of the tax revenue target set by the 2015 APBN of IDR 1,489.3 trillion. In 2016, the realization of tax revenue was IDR 1,285.0 Trillion or 83.5% of the target of tax revenue set by the 2016 State Budget of IDR 1,539.2 Trillion. In 2017, the realization of tax revenue was Rp. 1,343.5 Trillion or 91.2% of the target of tax revenue set by the 2017 State Budget of Rp. 1,472.7 Trillion. Meanwhile in 2018, the realization of tax revenue was Rp. 1,315.9 Trillion or 92.4%, of the tax revenue target set by the 2018 State Budget of Rp. 1,424.0 Trillion and in 2019, the realization of tax revenue was Rp. 1,332.1 Trillion or 84.4% of the tax revenue target that has been set by the 2019 State Budget of Rp. 1,557.6 Trillion. Based on these data, the realization of tax revenues has increased, but in achieving the targets set by the APBN it is not achieved every year because the effectiveness of tax collection has decreased. This is because tax payments made by taxpayers to the government will reduce the income or profits they earn so that in tax collection there are frauds committed by taxpayers in terms of reducing the tax burden paid. One of them is tax avoidance (tax aggressiveness).

The Effective Tax Rate (ETR) is used because tax avoidance does not only come from income taxes but other tax burdens that can be charged to the company. If the ratio results show below 25%, it will result in an indication that the tax object is tax evasion. The...
phenomenon of tax avoidance in Indonesia can be seen from the tax ratio (tax ratio) of the State of Indonesia. There are several factors that influence management to do tax avoidance (tax aggressiveness), one of which is profitability.

In research conducted by (Suardana, 2014) if the higher the profit or profit in the company, the tax burden to be paid by the company will also be higher. Previous research conducted by Kurnasih showed that Return on Assets (ROA) had a significant effect on tax avoidance (Kurniasih & Sari, 2013). When the company makes a profit, the tax borne by the company will be even greater, so that the company tends to do tax aggressiveness to minimize tax payments borne by the company.

Leverage is a ratio that shows the size of a company's debt composition that can function in managing its operating activities. Companies can use the level of leverage to reduce profits so that the tax burden will be small (Brigham and Houston, 2010, Adisamartha, et al, 2015). Research on leverage has been conducted by Annisa (2017) and Rifka Siregar and Dini Widyawati (2016) which show that leverage has an effect on tax aggressiveness. This is different from the research conducted by Ida Ayu Rosa Dewinta and Putu Ery Setiawan (2016) and Ngadiman and Christiany Puspitasing (2014) which showed that leverage had no significant effect on tax aggressiveness.

The next factor that can influence tax avoidance is Capital Intensity. Capital Intensity is often associated with the amount of company capital embedded in the form of fixed assets and inventories owned by the company. Rodrigue and Arias (2012) state that fixed assets owned by companies allow companies that aim to cut taxes due to depreciation of fixed assets every year. Several researchers also examined the relationship between capital intensity and tax aggressiveness, including Citra Lestari Putri and Maya Febrianty Lautania (2016) who stated that fixed asset ownership had an effect on tax aggressiveness. However, several empirical studies according to Rifka Siregar and Dini Widyawati (2016) show that capital intensity has no effect on tax aggressiveness.

Market performance is a measure of achievement obtained from the overall marketing process activities of a company, organization and sales management in a company that always tries to increase sales during the accounting period with the aim of increasing profits so that targets within a company are met. If the demand for shares increases, it shows better market performance, because the company's long-term return on investment or stock returns is a measure of the company's market performance. Research (Oktorina and Hutagaol, 2008) succeeded in proving that companies that allegedly tend to manipulate real activities through operating cash flows have higher market performance than companies that are suspected of not tending to manipulate real activities through operating cash flows.

This research is important to be carried out because the property & real estate sub-sector in tax revenues contributed 7.36%, 6.26%, 6.80%, 6.90% and -35.7% respectively in 2016, 2017, 2018, 2019 and 2020 (MoF, 2020). From these data, it can be seen that the contribution of tax revenue from the property & real estate sub-sector has fluctuated every year. This is not in line with the total assets of the property & real estate sub-sector which tends to increase every year.

Based on the description of the background of the problem above, it can be seen that the purpose of this study is to find out and investigate more deeply the effect of profitability, leverage and capital intensity on tax aggressiveness and the role of market performance as moderating in property & real estate sector companies listed on the Indonesia Stock Exchange for the 2016 period –2020.

Tax avoidance is a preventive measure taken by companies that have the aim of minimizing or minimizing the company's tax burden. Income Tax is a type of subjective tax whose tax obligations are attached to the relevant Tax Subject (Hendayana, 2021). Tax is a
requirement that has been established by the state as a civic duty (Marpaung, 2020). Tax is a compulsory levy paid by the people to the state and will be used for the benefit of the government and the general public (Siregar, 2019). Effective Tax Rates Ratio (ETR) is the ratio used in tax avoidance. ETR in this study only uses the main model carried out by Hodriani and Dharma (2016), namely the total income tax burden divided by company income before tax or profit before tax. The ETR ratio can be calculated by the following formula:

\[
ETR = \frac{\text{Total income tax expense}}{\text{Profit before tax}}
\]

Profitability is the company's ability to obtain a level of profit from its business activities. Profitability is described as a management performance measurement tool used in managing company assets which can be seen through company profits. Profit is the main factor that underlies the shareholders to determine the value of the extent to which management's performance in managing a company. The level of a company's ability to earn profits that can be seen and measured by analyzing financial statements through profitability ratios, Yoehana (2013). Here's a formula for measuring profitability:

\[
\text{ROA} = \frac{\text{Profit after tax}}{\text{Total assets}}
\]

Leverage is the company's ability to meet its long-term obligations. Leverage is measured using the debt ratio (total debt ratio), which is the ratio of total debt, both current and long-term debt, to total assets. According to Kasmir (2014: 156) leverage is measured by the total debt ratio, which can be formulated as follows:

\[
\text{Leverage} = \frac{\text{Total liabilities}}{\text{Total assets}}
\]

The capital intensity in this study will be proxied using the fixed asset intensity ratio. The fixed asset intensity ratio is the ratio of fixed assets to the total assets of a company. The fixed asset intensity ratio describes the ratio or proportion of the company's fixed assets from the total assets owned by a company. The fixed asset intensity ratio according to Lanis and Richardson (2011) is measured using the following formula:

\[
\text{Capital Intensity} = \frac{\text{Total fixed assets}}{\text{Total assets}}
\]

In addition to independent variables, this study also uses a moderating variable of Market Performance and in this study, company performance is measured using Tobin's Q. The measurement scale used is a ratio scale which is an interval scale and has a basic value that cannot be changed (Ghozali; 2012) the formulation of Tobin's Q formula is as follows (Lindenberg & Ross: 1981, in Sudiyanto & Puspitasari: 2010):

\[
Q = \frac{\text{MVE} + \text{Debt}}{\text{TA}}
\]
Based on the picture above, the following research hypotheses can be drawn up:

H1 : Profitability has a significant negative effect on tax aggressiveness
H2 : Leverage has a significant positive effect on tax aggressiveness
H3 : Capital intensity has a significant positive effect on tax aggressiveness
H4 : Market performance strengthens the relationship between profitability and tax aggressiveness
H5 : Market performance strengthens the effect of leverage on tax aggressiveness
H6 : Market performance strengthens the positive influence of the relationship between capital density and tax aggressiveness

II. Research Methods

The population in this study are 62 real estate & property sector companies listed on the IDX for the 2016-2020 research year. Then in the selection of samples using purposive sampling technique with several criteria in this study, namely 1) Real estate & property companies listed on the IDX for the period 2016 to 2020 which have complete financial statements. 2) Companies that are not merged. So that the sample in the study obtained as many as 22 companies that meet the sample criteria in this study.

The data collection technique used is primary data obtained from the Indonesia Stock Exchange website which is then tabulated from the financial statements of each company, through a filtering process according to criteria and using predetermined formulas, so that the collected data is ready to be analyzed.

Furthermore, the data analysis technique in this study used descriptive analysis which included the average value, minimum value, maximum value and standard deviation, then continued with panel data regression testing which included analysis of the common effect model, fixed effect model and random effect model. Furthermore, the Chow test, Hausman test and Langrange multiplier test were carried out so that it could be seen which model was more appropriate than the three models. After that, the classical assumption was tested in the form of normality test, multicollinearity test, heteroscedasticity test and autocorrelation test. The data analysis technique is panel data regression using the Eviews 10 application.

Equation model for regression analysis:
\[ Y_{t} = \alpha_0 + \beta_1(X_{1t}) + \beta_2(X_{2t}) + \beta_3(X_{3t}) + \beta_4(ZX_{1t}) + \beta_5(ZX_{2t}) + \beta_6(ZX_{3t})e_{i,t} \]

Description:
\( Y \) = *Tax Avoidance* (CETR).
\( \alpha_0 \) = Constanta.
\( \beta \) = Coefisient Regression
\( X_1 \) = Profitability (ROA).
\( X_2 \) = *Leverage* (DAR).
\( X_3 \) = *Capital Intensity* (CI)
\( Z \) = Market Performance (Tobin’s Q).
\( X_4X_1 \) = Market Performance X Profitability
\( X_4X_2 \) = Market Performance X *Leverage*
\( X_4X_3 \) = Market Performance X *Capital Intensity*
\( E_{i,t} \) = Residual (*error term*).

In testing the hypothesis in this study using a standard significance of 5% or if the significance value is below 0.05, it can be concluded that the influence of the independent variable on the dependent variable has a significant effect.

### III. Discussion

<table>
<thead>
<tr>
<th>Table 1. Descriptive Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>ROA</td>
</tr>
<tr>
<td>LEVERAGE</td>
</tr>
<tr>
<td>IM</td>
</tr>
<tr>
<td>Q</td>
</tr>
<tr>
<td>ETR</td>
</tr>
</tbody>
</table>

Source: processed data, 2022

Furthermore, testing the classical assumption of normality can be presented in the figure below:

![Figure 2. Normality Test](source)

*Figure 2. Normality Test*

Source: processed data, 2022
Based on the picture above, it can be seen that the probability value is 0.899244, which means it is greater than 0.05. So it can be concluded that the data used in this study is normally distributed. Furthermore, multicollinearity testing is carried out provided that if the correlation value between variables is less than 0.8, it can be concluded that the model is free from multicollinearity, then the results of the multicollinearity test can be seen in the table below:

<table>
<thead>
<tr>
<th>ETR</th>
<th>ROA</th>
<th>LEVERAGE</th>
<th>IM</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0000</td>
<td>-0.098826</td>
<td>0.098874</td>
<td>0.129363</td>
<td>Non Multikolonierity</td>
</tr>
<tr>
<td>ROA</td>
<td>1.0000</td>
<td>-0.162714</td>
<td>-0.002454</td>
<td>Non Multikolonierity</td>
</tr>
<tr>
<td>LEVERAGE</td>
<td>0.098874</td>
<td>1.0000</td>
<td>0.309378</td>
<td>Non Multikolonierity</td>
</tr>
<tr>
<td>IM</td>
<td>0.129363</td>
<td>-0.002454</td>
<td>1.0000</td>
<td>Non Multikolonierity</td>
</tr>
</tbody>
</table>

Source: processed data, 2022

Furthermore, the results of heteroscedasticity testing in this study use the residual transformation value as the dependent variable, if the independent variable has a significance value greater than 0.05, it can be concluded that the model does not have heteroscedasticity symptoms. The results of the heteroscedasticity test can be presented in the following table:

<table>
<thead>
<tr>
<th>Sig.</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA 0.9547 &gt; 0.05</td>
<td>Non Heteroskedastisity</td>
</tr>
<tr>
<td>LEVERAGE 0.7565 &gt; 0.05</td>
<td>Non Heteroskedastisity</td>
</tr>
<tr>
<td>IM 0.8646 &gt; 0.05</td>
<td>Non Heteroskedastisity</td>
</tr>
</tbody>
</table>

Source: processed data, 2022

Then proceed with the results of the autocorrelation test by comparing the Durbin Watson value from the data processor in eviews with the DW table value, if the DW value is between the dL and 4-du values, it can be concluded that the model is free from autocorrelation. The test results can be presented in the table below:

<table>
<thead>
<tr>
<th>dL</th>
<th>DW</th>
<th>4-du</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5955</td>
<td>1.715767</td>
<td>2.2149</td>
<td>Non Heteroskedastisity</td>
</tr>
</tbody>
</table>

Source: processed data, 2022

Furthermore, the Chow test was carried out, the Chow test was used to compare the CEM and FEM models. Based on the table above, it can be seen that the probability value in the Chow test shows 0.0241 which means it is smaller than 0.05 so it can be concluded that the best model is FEM.

<table>
<thead>
<tr>
<th>Effect Test</th>
<th>Model 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
</tr>
<tr>
<td>Cross-section F</td>
<td>1.493140</td>
</tr>
</tbody>
</table>
The Hausman test is used to compare the FEM and REM models. Based on the table above, it can be seen that the probability value in the Hausman test shows 0.0124 which means it is smaller than 0.05 so it can be concluded that the best model is FEM. So the model used for hypothesis testing in this study is the FEM model.

### Table 6. Hausman Test

<table>
<thead>
<tr>
<th>Effect Test</th>
<th>Model 1</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chi Sq. Statistic</td>
<td>Chi Sq. d.f</td>
<td>Prob.</td>
</tr>
<tr>
<td>Cross-section Random</td>
<td>16.257223</td>
<td>6</td>
<td>0.0124</td>
</tr>
</tbody>
</table>

Source: processed data, 2022

After performing the Chow test and Hausman test, it can be concluded that the best model obtained is the FEM model, so that in testing the hypothesis, the FEM model is used as a reference for acceptance or rejection of research hypothesis testing. Criteria for acceptance of the hypothesis if the value of prob. smaller than 0.05 so it is concluded that the hypothesis is accepted, and vice versa if the prob value. greater than 0.05 then the hypothesis is rejected. The results of hypothesis testing can be presented in the table below:

### Table 7. Hypotheses Test

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Sig.</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-0.013</td>
<td>0.8566</td>
</tr>
<tr>
<td>ROA</td>
<td>1.355</td>
<td>0.0907 &gt; 0.05</td>
</tr>
<tr>
<td>LEVERAGE</td>
<td>0.089</td>
<td>0.7344 &gt; 0.05</td>
</tr>
<tr>
<td>IM</td>
<td>2.916</td>
<td>0.0144 &lt; 0.05</td>
</tr>
<tr>
<td>TOBINSQ*ROA</td>
<td>-5.082</td>
<td>0.0071 &lt; 0.05</td>
</tr>
<tr>
<td>TOBINSQ*LEVERAGE</td>
<td>0.710</td>
<td>0.0290 &lt; 0.05</td>
</tr>
<tr>
<td>TOBINSQ*IM</td>
<td>-4.817</td>
<td>0.0444 &lt; 0.05</td>
</tr>
</tbody>
</table>

Source: processed data, 2022

Based on the results of testing the hypothesis above, the regression equation can be arranged as follows:

\[\text{Tax Aggression} = 0.013 + 1.355 \text{ROA} + 0.089 \text{LEVERAGE} + 2.916 \text{IM} - 5.082 \text{TOBINSQ*ROA} + 0.710 \text{TOBINSQ*LEVERAGE} - 4.817 \text{TOBINSQ*IM}\]

Based on the table above, it can also be concluded as hypothesis testing as follows:

### 3.1 The Effect of Profitability on Tax Aggressiveness (H1)

The results of hypothesis testing are obtained that the probability value is 0.0907, which means that it is greater than 0.05, the significance value indicates above the significance level of 5%. So it can be concluded that profitability has no significant effect on tax aggressiveness, which means that H1 is rejected. Profitability can show the ability of a company to generate profits during a certain period at the level of sales, assets and certain share capital owned by a company. As the company's profitability increases, its obligations to the tax sector will also increase. In positive accounting theory in a state of cateris paribus, profitability can be used as a tool to regulate company profits which will later affect tax
obligations and employee bonus receipts. However, the results of this study indicate that the effect of profitability is not significant on tax aggressiveness. The results of this study illustrate that the higher the profitability value of the company cannot increase tax aggressiveness, because tax payments have been determined before profitability is obtained. The results of this study do not support previous research from Rinaldi (2015) which found that profitability had a significant positive effect on tax aggressiveness.

3.2 Effect of Leverage on Tax Aggressiveness (H2)

The results of hypothesis testing are obtained that the probability value is 0.7344, which means that it is greater than 0.05, the significance value indicates above the significance level of 5%. So it can be concluded that leverage has no significant effect on tax aggressiveness, which means H2 is rejected. Leverage can generate interest expense that must be borne by the company. The higher the dependence of the company, the greater the interest expense from the leverage owned by the company. One of the causes of Leverage arising is when a company uses borrowed funds with an interest expense to finance assets. However, the results of this study indicate that leverage has no significant effect on tax aggressiveness. The results of this study illustrate that with an increase in interest expenses given by creditors, they are not able to increase tax aggressiveness. The results of this study are not in accordance with the results of research from Dharma and Putu (2016) who found that leverage can have a significant effect on tax aggressiveness.

3.3 Effect of Capital Intensity on Tax Aggressiveness (H3)

The results of hypothesis testing are obtained that the probability value is 0.0144, which means it is smaller than 0.05, the significance value indicates below the significance level of 5%. So it can be concluded that the capital intensity has a significant effect on tax aggressiveness, which means that H3 is accepted. The ratio of capital intensity is often associated with how much fixed assets and shares owned by the company. Tax avoidance is always defined as a legal activity. Based on agency theory which explains the relationship between agents and principals who have different interests, where capital intensity is the independent variable of tax avoidance. The agent is the manager and the principal is the government. The government wants to get more income from taxes but managers want to minimize tax payments from capital intensity. This shows that companies with high levels of fixed assets have a lower tax burden than companies with low fixed assets. Capital intensity has a significant effect on the variation of tax aggressiveness in a company located in Indonesia. The existence of a positive relationship between the capital intensity ratio and tax aggressiveness, should be addressed by the company carefully in deciding how to acquire fixed assets. The results of this study are in accordance with previous research from Sari, (2013) which found that capital intensity can have a significant effect on tax aggressiveness.

3.4 The Role of Market Performance in Moderating the Effect of Profitability on Tax Aggressiveness (H4)

The results of hypothesis testing are obtained that the probability value on the interaction result variable between profitability and tax aggressiveness is 0.0071, which means it is smaller than 0.05, the significance value is below the significance level of 5%. So it can be concluded that market performance is able to moderate the effect of profitability on tax aggressiveness, which means H4 is accepted. The results of this study indicate that the presence of market performance is able to moderate the effect of profitability on tax aggressiveness, because it is known that direct testing of profitability does not have a significant effect, with the moderating variable of market performance having a significant effect.
3.5 The Role of Market Performance in Moderating the Effect of Leverage on Tax Aggressiveness (H5)

The results of hypothesis testing are obtained that the probability value of the interaction variable between leverage and tax aggressiveness is 0.0290, which means it is smaller than 0.05, the significance value indicates below the significance level of 5%. So it can be concluded that market performance is able to moderate the effect of leverage on tax aggressiveness, which means that H5 is accepted. The results of this study indicate that the presence of market performance makes the effect of leverage on tax aggressiveness increase, because it is known that in direct testing leverage does not have a significant effect, with the moderating variable of market performance having a significant effect.

3.6 The Role of Market Performance in Moderating the Effect of Capital Intensity on Tax Aggressiveness (H6)

The results of hypothesis testing are obtained that the probability value on the interaction variable between capital intensity and tax aggressiveness is 0.0444 which means it is smaller than 0.05, the significance value indicates below the significance level of 5%. So it can be concluded that market performance is able to moderate the effect of capital intensity on tax aggressiveness, which means H6 is accepted. The results of this study indicate that the presence of market performance makes the effect of capital intensity on tax aggressiveness increase. Although the direct test shows that capital intensity has a significant effect on tax aggressiveness, the existence of a moderating variable of market performance strengthens the two relationships. The company uses its resources efficiently and effectively so as to generate competitive advantage. This competitive advantage is able to make the company superior compared to other companies. In addition, it also has an impact on increasing market perception of the company and competitive advantage because it has a direct influence on market performance in which the value of the company will be better. With the increasing market perception of a company that will provide value to the company, the market recapitulation ratio will also increase. The market value of the company can increase if the intellectual property owned by the company is managed properly.

Furthermore, it can be seen that the tax aggressiveness variable can be explained by the variables of profitability, leverage and capital intensity of 23.4% while the rest is explained by other variables outside the research model.

IV. Conclusion

Based on the results of testing and research as well as the discussion described above, it can be concluded that: 1) Profitability has no significant effect on tax aggressiveness, this indicates that the greater profitability cannot affect tax aggressiveness. 2) Leverage has no significant effect on tax aggressiveness, this shows that the greater leverage cannot affect tax aggressiveness. 3) Capital intensity has a significant effect on tax aggressiveness, this shows that the presence of high capital intensity makes tax aggressiveness increase. 4) Market performance moderates the effect of profitability on tax aggressiveness, this indicates that the presence of market performance moderating variables strengthens the relationship between profitability and tax aggressiveness. 5) Market performance in moderating the effect of leverage on tax aggressiveness, this shows that with the moderating variable market performance strengthens the relationship between leverage and tax aggressiveness. 6) Market performance in moderating the effect of capital intensity on tax aggressiveness, this shows that with the moderating variable market performance strengthens the relationship between capital intensity and tax aggressiveness.
Based on the research results that have been obtained, several suggestions can be presented which are expected to be input for interested parties, namely: 1) For companies, real estate & property companies to remain vigilant in implementing policies regarding tax aggressiveness, especially regarding tax avoidance so that companies not subject to administrative sanctions. 2) For prospective investors, it is recommended to be more careful in making decisions to put funds in the company, because there is a need for a more in-depth study of the condition of a company, not only relying on the prospectus written in the financial statements, but looking at the general condition on the company. 3) For further researchers, it is expected to be able to add independent variables that can affect tax aggressiveness, especially in research that has brought up a novelty with the moderating variable of market performance, further researchers are expected to be able to add other moderating variables, and can research in other sectors such as manufacturing or banking.

References


