The Influence of Liquidity, Profitability, Intensity Inventory, Related Party Debt, and Company Size To Aggressive Tax Rate

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ABSTRACT
This study aims to determine how much influence liquidity, profitability, inventory intensity, related party debt, and firm size on the level of tax aggressiveness. The sample used in this study were 34 manufacturing companies listed on the Indonesia Stock Exchange in the period 2013-2017. Samples were taken by purposive random sampling using certain criteria. Tax aggressiveness is measured by comparing the tax expense and net profit before tax. Liquidity is measured by comparing current assets with current debt. Profitability is measured by comparing net profit after tax and total assets. Inventory intensity is measured by comparing total inventory and total assets. Debt related parties are measured by comparing the amount of related party debt and total assets. Size Company is measured by doing natural market value logarithms. The results of the regression analysis indicate that liquidity, profitability, and firm size have a negative and significant effect on the level of tax aggressiveness. While inventory intensity has a positive and significant effect, but related party debt has no significant effect on the level of tax aggressiveness. Manufacturing companies that are relatively large, liquid, and have high profits often carry out tax aggressiveness by planning to reduce tax costs that must be paid.

Keywords: Liquidity, Profitability, Intensity of Inventory, Related Party Debt, Company Size, Tax Aggressive

INTRODUCTION
Tax is a state obligation in the form of service and active role of citizens and other community members to finance state needs in the form of national development whose implementation is regulated in laws and regulations for the purpose of welfare of the nation and state (Sudirman & Antong, 2015). Each taxpayer is required to participate in paying taxes in accordance with applicable regulations. Differences in the interests of the state that want large and sustainable tax revenues are contrary to the interests of taxpayers who want the lowest possible tax payments (Maharani & Suardana, 2014).

Tax sources in Indonesia come from individual and corporate taxpayers. The company is one of the taxpayers who has the obligation to pay taxes the amount calculated from the net income obtained, the higher the income earned means the higher the tax burden that must be paid by the company (Jessica & Toly, 2014). Taxes are very important for the country and are very emphasized by the government the importance of paying taxes. Tax receipts and effective tax rates (ETR) are influenced by government policies and macroeconomic variables. Previous research has found that there is a greater impact of inflation, making tax revenues and effective tax rates (ETR) increase which is also followed by increases in tax rates, gross domestic
product, exchange rates, and Bank Indonesia interest rates (Harahap, Sinaga, Manurung, & Maulana, 2018).

Tax aggressiveness as an act of degrading income tax rates is collected through tax management activities both legally and illegally and both. Although the tax aggressiveness measures taken do not violate existing regulations, but the more companies take tax avoidance measures by utilizing the gaps of existing regulations, the measures are considered to be increasingly aggressive (Steijvers & Niskanen, 2014). The tax aggressiveness has formula as follow:

\[
\text{Effective Tax Rates (ETR)} = \frac{\text{Tax Expense}}{\text{Net Profit Before Tax}}
\]

Companies with high levels of liquidity will be preferred by investors because they consider that the company will be able to return a certain amount of money that has been invested along with the interest agreed upon at maturity (Dahana, 2015). The liquidity ratio can be viewed from two sides. On the one hand, the liquidity ratio shows the strength of the company’s financial condition. However, on the other hand liquidity can also be seen as a measure of management's performance in managing finances. A company's liquidity is predicted to affect the level of corporate tax aggressiveness. Where if a company has a high level of liquidity, it can be described that the company's cash flow is running well. With the existence of good cash turnover, the company is not reluctant to pay all its obligations including paying taxes in accordance with the rules or applicable law (Purwanto, Yusralaini, & Susilatri, 2016). The liquidity has formula as follow:

\[
\text{Current Ratio} = \frac{\text{Current Asset}}{\text{Current Debt}}
\]

For companies, the tax imposed on income received can be considered as a burden or expense in running a business. Tax costs will reduce profit after tax, rate of return and cash flow. Therefore, companies as taxpayers try to maximize profits through various types of load efficiency, including tax aggressiveness (Hanafi & Harto, 2014). Company profits are the basis for corporate taxation. Through Return on Asset (ROA), it can be seen the company's ability to utilize its assets efficiently in generating corporate profits. The profitability has formula as follow:

\[
\text{ROA} = \frac{\text{Net Profit After Tax}}{\text{Total Asset}}
\]

Inventory intensity is an investment activity carried out by a company that is associated with investment in the form of inventory. The tax burden can be simplified by utilizing PSAK No. 14 regarding the costs arising from the increase in total inventory and is recognized as a burden and reduce profits, so that the expected tax imposed on the company will be low (Lestari, 2015). This reserve for impairment losses on inventories is not included as a reserve fund which may be deducted as a fee as stipulated in the Minister of Finance Regulation No. 219 of 2012 concerning the establishment of a reserve fund that can be deducted as a fee. This resulted in the company paying more taxes. Because the greater the tax costs that must be incurred by the company, the higher the level of aggressiveness of the company tax (Minister of Finance of the Republic of Indonesia, 2012). The intensity of inventory has formula as follow:

\[
\text{Intensity Inventory} = \frac{\text{Inventory}}{\text{Total Asset}}
\]
Aggressive tax avoidance (tax aggressiveness) aims to streamline the payment of corporate taxes in order to increase corporate profits after taxes are generally carried out by multinational companies, one of which is through debt transactions with parties that have a special relationship. Special relations between taxpayers can occur due to dependence on one another due to ownership or equity participation and or the existence of control through management or use of technology. In addition, special relationships are also influenced by family relationships both blood and finances (Indonesia & Taxation Article 18 Paragraph 4, 2008). Family companies controlled by family, state, or financial institutions reducing agency problems will be better than companies controlled by public companies or companies without major controllers (Prakosa, 2014). The related party debt has formula as follow:

\[ RPD = \frac{Related \, Party \, Debt}{Total \, Asset} \]

Company size is a measurement that is based on the size of the company and describes activities and earnings of the company (Nugraha & Meiranto, 2015). The size of the company can affect taxes in two ways, namely, the theory of costs where large size of the company and high profits will require higher taxes so that the possibility of companies taking action tax aggressiveness. On the other hand, according to political theory where there are many resources to regulate the operations of the company, so that it can carry out tax aggressiveness by using professional resources to reduce taxes that must be paid to the state using existing gaps (Kim & Im, 2017). The size of company has formula as follow:

\[ Size \, Company = \ln (Market \, Value) \]

Based on background discussed, this research will answer some questions. Those are (1) Does the liquidity influence on tax aggressiveness? (2) Does the profitability influence on tax aggressiveness? (3) Does the intensity of inventory influence on tax aggressiveness? (4) Does the related party debt influence on tax aggressiveness? (5) Does the size company influence on tax aggressiveness?

Sukmawati & Rebecca (2016), Indrajati, Djumena, & Yuniarwati (2017), Purwanto et al. (2016) analyzed the influence of liquidity on tax aggressiveness. The result showed that liquidity significantly influenced tax aggressiveness negatively. The shows that the higher level of liquidity, the lower level of tax aggressiveness. Therefore, the first hypothesis is:

**H1 : Liquidity have effect on tax aggressiveness**

Annisa, Taufik, & Hanif (2017), Putri & Putra (2017), A. N. Putri & Gunawan (2017) analyzed the effect of profitability on tax aggressiveness. It resulted is profitability had negative influence on tax aggressiveness. If the company has a high profit, the level of tax aggressiveness is also high, because the company wants to pay a low tax costs so that state revenues decline. Then, the second hypothesis of this research is:

**H2 : Profitability have effect on tax aggressiveness**

Many people examine the effect of inventory intensity on tax aggressiveness, but the results are different. Adisamartha & Noviari (2015) analyzed the influence of inventory intensity on tax aggressiveness. The results have a positive influence on tax aggressiveness. Intensity of inventory shows how much company has inventory, but not all companies that have a lot of inventory will be a lot of profit too, it all depends on how manages inventory management and others assets generate profits, because profit is a determinant of the amount of tax paid by
company and company determines whether or not to do tax planning. Then, the third hypothesis of this research is:

**H3 : Intensity of inventory have effect on tax aggressiveness**

Azizah & Kusmuriyanto (2016), Saraswati & Sujana (2017), Tiwa, Saerang, & Tirayoh (2017) analyzed the influence of related party debt on tax aggressiveness. The results is related party debt not have influence on tax aggressiveness, because related party debt have negative impact on tax revenues. Related party transaction through related party debt, is the main factor in the emergence of transfer pricing practices, it is one of the tax planning strategies and the strategy is not necessarily all successful so it is not necessarily able to reduce the tax costs. Then, the fourth hypothesis of this research is:

**H4 : Related party debt have effect on tax aggressiveness**

A. N. Putri & Gunawan, (2017), D. A. Zulaikha (2014), Dharma & Ardiana (2016) analyzed the effect of size company on tax aggressiveness. The results is size company have effect negative on tax aggressiveness. Manufacturing companies listed on the Indonesia Stock Exchange are less effective in conducting management assets, causing inefficient cost of management asset and causing low profit and market value. Profit is the factors that influence the determination of the Effective Tax Rate (ETR). Then, the last hypothesis of this research is:

**H5 : Size company have effect on tax aggressiveness**

The researchers use five independent variables which are liquidity (X1), profitability (X2), intensity inventory (X3), related party debt (X4), and size company (X5). Meanwhile, the dependent variable is tax aggressiveness (Y). It is shown in Figure1.

![Conceptual Framework](source: Processed Research Data)

**METHODS**

This research uses quantitative method. The data is in the form of numbers or qualitative data that can be measured using statistical methods with the help of the Eviews program. The population in this research is all manufacturing companies listed in the Indonesia Stock Exchange period 2013 to 2017. The selection of period of five years aims to compare the state of the company for five years and the latest data that can explain the problem in this research. Manufacturing companies are selected because manufacturing companies listed on the Indonesia Stock Exchange consist of various industrial sub-sectors, the manufacturing sector has the largest number compared to other sectors and the problems in manufacturing companies are more complex so that it is expected to be better able to describe the condition of manufacturing companies.
companies in Indonesia. Manufacturing companies are also companies that have sustainable production so that capital management and good assets are needed so as to produce large profits to provide large investment returns so that they can attract investors to invest their capital.

The dependent variable used is tax aggressiveness. Meanwhile, the independent variables used are liquidity, profitability, intensity inventory, related party debt, and size company. Tax Aggressiveness is measured by Effective Tax Rates (ETR). ETR is measured with tax expense are divided by profit before tax. Liquidity is measured by current ratio with current asset are divided by current debt. Profitability is measured by Return on Asset (ROA) with net profit after taxes are divided by total assets. Intensity inventory is measured with inventory are divided by total assets. Related party debt is measured with related party debt are divided by total assets. Next, size company is measured by the natural logarithm of market value.

The sample is partially or representative of the studied population. The samples are companies listed in the Indonesia Stock Exchange period 2013 to 2017 that meet the criteria. Samples are selected by purposive sampling method. It selects a sample based on specific criteria in accordance with the purpose of research. There are several criteria used in this research. First, the companies listed on Indonesia Stock Exchange. Second, the company has never delisted from the Indonesia Stock Exchange during period 2013-2017. Third, the companies publish complete annual reports and audited financial statements as of December 31st, 2013 to December 31st, 2017. Fourth, the companies obtained positive net income for the period 2013-2017. Fifty, the companies report related party debt on audited financial statement. This research used analysis regression panel data. Analysis regression panel data is a regression analysis with data structures that are panel data. Generally the parameter estimation of the least squares method or Ordinary Least Square (OLS). The regression model developed to test the hypothesis formulated in this research is :

\[
Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + e
\]

Description:
- \( Y \): Tax Aggressiveness
- \( \beta_0 \): Constants
- \( \beta \): Regression Coefficients
- \( X_1 \): Liquidity
- \( X_2 \): Profitability
- \( X_3 \): Intensity Inventory
- \( X_4 \): Related Party Debt
- \( X_5 \): Size Company
- \( e \): Error
RESULT AND DISCUSSIONS

Table 1. White Heteroscedasticity Test Result

<table>
<thead>
<tr>
<th></th>
<th>Statistic</th>
<th>d.f.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>1.226461</td>
<td></td>
<td>0.3046</td>
</tr>
<tr>
<td>Obs*R-squared</td>
<td>6.122774</td>
<td></td>
<td>0.2945</td>
</tr>
<tr>
<td>Scaled explained SS</td>
<td>7.761440</td>
<td></td>
<td>0.1699</td>
</tr>
</tbody>
</table>

Source: Results of Processing Eviews Version 9, 2018

Heteroscedasticity Test determines the presence or absence of deviation of the classical assumption in heteroscedasticity. It is the variant of inequality of the residual for all observations on the model regression. The prerequisite that must be fulfilled in the regression model is the absence of symptoms of heteroscedasticity. Heteroscedasticity test used in this research is White Heteroscedasticity. A good regression model is a regression model that does not contain heteroscedasticity. According to the results of statistical tests, Prob. Chi Square 0.2945 > Alpha 0.05, so it can be concluded that this regression model does not occur heteroscedasticity.

Restricted F-test / Chow Test is test in conducted to compare or choose which model is the best between common effect and fixed effect, where the probability level is 0.05.

Table 2. Restricted F-test / Chow Test Result

<table>
<thead>
<tr>
<th></th>
<th>Statistic</th>
<th>d.f.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section F</td>
<td>6.016405</td>
<td>(33,131)</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Source: Results of Processing Eviews Version 9, 2018

According to the results of statistical tests, the probability of the cross-section F is 0.000. The cross-section F probability value is < 0.05, then the results of the Restricted F-test / Chow Test show that the fixed effect model is more appropriate than the common effect model. Test is do to compare or choose which model is the best between fixed effect and random effect using the Hausman Test, where the probability level is 0.05.

Table 3. Hausman Test Result

<table>
<thead>
<tr>
<th></th>
<th>Chi-Sq. Statistic</th>
<th>Chi-Sq. d.f.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section random</td>
<td>5.883115</td>
<td>5</td>
<td>0.3178</td>
</tr>
</tbody>
</table>

Source: Results of Processing Eviews Version 9, 2018
According to the results of statistical tests, probability cross-section random is 0.3178 > significant value 0.05, the the results of Hausman Test show that the random effect model is more appropriate than the fixed effect model. Test is do to compare or choose which model is the best between common effect and random effect using the Breusch Pagan probability, where the probability level is 0.05.

### Table 4. Langrange Multiplier Test Result

<table>
<thead>
<tr>
<th>Test Hypothesis</th>
<th>Cross-section</th>
<th>Time</th>
<th>Both</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breusch-Pagan</td>
<td>13.55364</td>
<td>0.001215</td>
<td>13.55485</td>
</tr>
<tr>
<td></td>
<td>(0.0002)</td>
<td>(0.9722)</td>
<td>(0.0002)</td>
</tr>
</tbody>
</table>

**Source: Results of Processing Eviews Version 9, 2018**

The Langrange Multiplier Test results in Table 4 above show that probability Breusch Pagan is 0.0002 < alpha 0.05, the results of this test is random effect model is more appropriate to be used as a panel data regression model for the data contained in this research than common effect model.

The results of determining the panel data regression estimation model in this research is by using the random effect model.
Table 5. Analysis Regression Result with Random Effect Model

Dependent Variable: TAX AGRESIVITY  
Method: Panel EGLS (Cross-section random effects)  
Date: 09/19/18  Time: 18:03  
Sample: 2013 2017  
Periods included: 5  
Cross-sections included: 34  
Total panel (balanced) observations: 170  
Swamy and Arora estimator of component variances  
White cross-section standard errors & covariance (d.f. corrected)  
WARNING: Estimated coefficient covariance matrix is of reduced rank  

<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>LIQUIDITY</td>
<td>-0.008460</td>
<td>0.004122</td>
<td>-2.052593</td>
<td>0.0417</td>
</tr>
<tr>
<td>PROFITABILITY</td>
<td>-0.109422</td>
<td>0.042703</td>
<td>-2.562414</td>
<td>0.0113</td>
</tr>
<tr>
<td>INTENSITY INVENTORY</td>
<td>0.072000</td>
<td>0.027337</td>
<td>2.633830</td>
<td>0.0093</td>
</tr>
<tr>
<td>RELATED PARTY DEBT</td>
<td>0.003489</td>
<td>0.127368</td>
<td>0.027392</td>
<td>0.9782</td>
</tr>
<tr>
<td>SIZECOMPANY</td>
<td>-0.012391</td>
<td>0.005156</td>
<td>-2.403116</td>
<td>0.0174</td>
</tr>
<tr>
<td>C</td>
<td>0.645283</td>
<td>0.173342</td>
<td>3.722607</td>
<td>0.0003</td>
</tr>
</tbody>
</table>

Effects Specification

<table>
<thead>
<tr>
<th>S.D.</th>
<th>Rho</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.045530</td>
<td>0.2579</td>
</tr>
<tr>
<td>0.077235</td>
<td>0.7421</td>
</tr>
</tbody>
</table>

Weighted Statistics

| R-squared | Mean dependent var | 0.115381 |
| Adjusted R-squared | S.D. dependent var | 0.088411 |
| S.E. of regression | Sum squared resid | 0.077443 |
| F-statistic | Durbin-Watson stat | 4.278115 |
| Prob (F-statistic) |  | 0.001104 |

Unweighted Statistics

| R-squared | Mean dependent var | 0.156384 |
| Sum squared resid | Durbin-Watson stat | 1.280039 |

Source: Results of Processing Eviews Version 9, 2018

F-test can be seen from the value of F-statistic compare with F-table and Probability F-statistic. The value of F-table is 2.43. Based on Table 5, the value of F-statistic is 4.278115 > F-table is 2.43 and Probability F-statistic is 0.001104 < 0.05, then this research model can be used because there is a significant relationship between the independent variable and the dependent variable.

R-squared Test can be seen from the value of R-squared and Adjusted R-squared. Based on Table 5, the value of R-squared is 0.115381 or 11.5381% and Adjusted R-squared is 0.088411 or 8.8411%, then the liquidity, profitability, intensity inventory, related party debt, size company together have an influence on tax aggressiveness of 11.5381% or 8.8411% and the remainder is influenced by other variables.

T-test can be seen from the value of T-statistic compare with T-table and probability. The value of T-table is 1.6542 or -1.6542. Based on Table 5, the value T-statistic of liquidity is negative 2.052593 is greater than T-table of negative 1.6542 (-2.052593 > -1.6542) and the probability value of 0.0417 is smaller than the predetermined probability level of 0.05 (0.0417<0.05). This implies that H1 is accepted. Liquidity has a negative effect on the tax aggressiveness, meaning that if liquidity increases, the tax aggressiveness decreases.
In Table 5, the value T-statistic of profitability is negative 2.562414 is greater than T-table of negative 1.6542 (-2.562414 > -1.6542) and the probability value of 0.0113 is smaller than the predetermined probability level of 0.05 (0.0113<0.05). This implies that H2 is accepted. Profitability has a negative effect on the tax aggressiveness, meaning that if profitability increases, the tax aggressiveness decreases.

Then, the value T-statistic of intensity inventory is positive 2.633830 is greater than T-table of positive 1.6542 (2.633830 > 1.6542) and the probability value of 0.0093 is smaller than the predetermined probability level of 0.05 (0.0093<0.05). This implies that H3 is accepted. Intensity inventory has a positive effect on the tax aggressiveness, meaning that if intensity inventory increases, the tax aggressiveness increases too.

Then, the value T-statistic of intensity related party debt is positive 0.027392 is smaller than T-table of positive 1.6542 (0.027392 < 1.6542) and the probability value of 0.9782 is greater than probability level of 0.05 (0.9782>0.05). This implies that H4 is rejected. Related party debt has a no effect on the tax aggressiveness. The last variable, the value T-statistic of size company is negative 2.403116 is greater than T-table of negative 1.6542 (-2.403116 > -1.6542) and the probability value of 0.0174 is smaller than the predetermined probability level of 0.05 (0.0174<0.05). This implies that H5 is accepted. Size company has a negative effect on the tax aggressiveness, meaning that if size company increases, the tax aggressiveness decreases.

**CONCLUSION**

There are several conclusions drawn from the results. First, liquidity has a negative impact on the tax aggressiveness. That the more liquid the company fulfills its short term obligations, the lower the level of corporate tax aggressiveness. This can provide evidence of a strong influence between the company liquidity and tax aggressiveness. Second, profitability has a negative impact on the tax aggressiveness. That the company is more efficient and has high profits, the company will pay a low tax expense. A possible reason is that profitable companies are managed to benefit from tax incentives and other tax allowances. Third, size of the company has a negative impact on the tax aggressiveness. That manufacturing companies listed on the Indonesia Stock Exchange are less effective in carrying out asset management so that the cost of managing assets is inefficient and leads to low profit and market value. Profit is one of the factors that influence the determination of the Effective Tax Rates (ETR). Fourth, intensity inventory has a positive impact on the tax aggressiveness. That inventory intensity which is one of the investments / assets owned by the company is not necessarily the right way to carry out tax management / planning. Intensity inventory shows how much inventory the company has, but not all companies that have a lot of inventory will get a lot of profit too, it all depends on how management manages inventory and other assets to generate profits, because profit is a determinant of the amount of tax paid by the company and the company determines whether or not to do tax planning. Fifth, related party debt have no impact on the tax aggressiveness, because related party debt has a negative impact on tax revenue. Transactions of related parties through related party debt are not necessarily one of the successful ways to minimize tax even though through planning. Related party transactions are the main factor in the emergence of transfer pricing practices, which is one of the tax planning strategies and the strategy is not necessarily all successful so it is not necessarily able to reduce the tax expense.

This research still has some limitations. First, this research conducted is limited to manufacturing companies listed on the Indonesia Stock Exchange, so the results of this research cannot be generalized to non-manufacturing companies listed on the Indonesia Stock Exchange. Second, this research only certain independent variables, liquidity, profitability, intensity inventory, related party debt, and size company. Third, measurement of related party
transactions is only seen from the value of related party debt so that not all companies attach to their financial statements to reduce the research sample. Fourth, this research only uses data period 2013 to 2017. Fifth, this research does not use control variables as controlling relationships between variables.

Future studies are expected to be able to add more specific variables and add to the observed period so that the results obtained can be more accurate and better illustrate the actual situation. This study also provides advice for companies to be able to improve company performance every year, so that companies can fulfill their short-term obligations and have no difficulty in fulfilling company expenses, so companies do not need to carry out tax aggressiveness to maintain company profits. For the government, to increase tax revenues from companies, the government should make better tax regulations, so that the weaknesses in tax laws can be minimized. For investors and users of financial statement information can consider the tax efficiency factor in companies in making financial or investment decisions so that the decisions taken are not wrong.

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