Abstract—The government tends to collect the tax on every potential tax objects optimally, while the tax payers tends to look for alternatives in the tax regulation on how to legally minimizing the tax payment. This contradictory condition has motivated the researcher to check whether certain factors influencing tax avoidance. Tax payers will conduct tax planning in order to have tax avoidance. This paper aims to examine the influence of independent commissioner, institutional ownership, managerial ownership, return on assets, firm size, leverage, sales growth, capital intensity ratio and inventory intensity ratio on tax avoidance. The data is all manufacturing companies listed in the Indonesia Stock Exchange for 2014-2016. The sample are selected using purposive sampling method. Only 61 out of 134 listed manufacturing companies meet the sampling criteria, which resulting 183 data available for testing. The multiple regression analysis is used to test the influence of each independent variables on tax avoidance. The result indicates that institutional ownership and return on asset have significant influence on tax avoidance, however, independent commissioner, managerial ownership, firm size, leverage, sales growth, capital intensity ratio and inventory intensity ratio do not have significant influence on tax avoidance.

Keywords—tax avoidance; tax planning; institutional ownership; return on assets

I. INTRODUCTION

Tax is the society contribution to the country which can be forced without getting direct return from the country and it is used to finance a public expenditures. This tax collection can be forced by the country because of its power of law [1]. The tax has two functions. Those are regulatory function and budgeting function. Regulatory function means that tax is used to regulate or implement government policies in social and economic fields. For example, the high tax applied on luxurious goods in order to reduce consumptive lifestyle. The tax as a budgeting function is used to finance the government expenditures that will also be useful for the society [1]. The optimal collection of tax revenues will provide big contribution for Indonesia development i.e. the authority will be able to construct more infrastructure facilities if having more revenue from tax. The government tends to collect the tax on every potential tax objects optimally.

However, the tax revenues to the government has a contradicting condition to the company (tax payers). The tax expense paid does not have direct benefit to the company. The tax expense will reduce the company’s income or cash surplus. The management tends to reduce the tax expense as much as possible, and one of the alternatives is to do tax planning. Tax avoidance is one of tax planning strategies. Self-assessment tax system and choices in certain tax regulations in Indonesia provide possibility for the company to do this. The company’s management tends to look for alternatives in the tax regulation on how to legally minimizing the tax payment. The contradictory condition has motivated the researcher to conduct this paper to check whether certain factors influencing tax avoidance.

This paper is the development of previous one which was conducted by Putra and Merkusiwi [2]. In this paper, the tax avoidance is proxy by Current Effective Tax Rate (CETR). Current ETR is calculated based current tax expense over income before tax. The current tax expense is calculated by using effective tax rate to adjusted fiscal profit. The ETR is able to reflect the permanent differences between commercial profit calculation and adjusted fiscal profit [3].

The differences between this and previous paper are: (1) adding five independent variables which are institutional ownership [4], managerial ownership [5], return on assets [6], sales growth [7] and inventory intensity ratio [8]; (2) The research period of previous paper is 2012 to 2014, while this paper uses data of 2014 to 2016. The research objectives are to examine and obtain the empirical evidence about whether independent commissioner, institutional ownership, managerial ownership, return on asset, firm size, leverage, sales growth, capital intensity ratio and inventory intensity ratio influence tax avoidance.

A. Theoretical Framework

1) Tax planning: Tax planning is a part of comprehensive taxation management and the first step to analyze various alternatives of taxation applied systematically in order to achieve minimum tax liability. Generally, tax planning is always started by ensuring whether a transaction or phenomena will be taxable. If the phenomena are taxable, that phenomena will be attempted to be excluded or by deducting the tax amount, the next is whether the tax payment can be delayed, and so on [9]. Tax planning strategies which can be done by company are: (1) tax saving or tax avoidance; (2) tax payment delay; (3) optimizing allowed tax credit; (4) avoiding tax audit by avoiding tax overpayment; (5) avoiding tax violation to the tax regulation [10].

2) Agency theory: Agency theory emphasizes the importance of company owner (shareholders) to give the...
company management led by professionals (agents) who has better understanding on running regular business. However, agency theory concept is a relation or intersection between the interest of agent and that of principal in achieving good performance of company. Principal wants agent to make the best decision, to maximize the company performance, but agent tends to make decision to avoid risk to have good appreciation from principal and avoid himself/herself to be turned down by other person [11]. The different standpoints between principal and agent can influence the management to set policies in order to achieve company’s performance, one of them is the policy on tax. The shareholders wants the management to comply with tax regulation, while the management exploits loopholes in the tax regulation to minimize tax payments.

3) Independent commissioner and tax avoidance: The independent commissioners are the people who are free, not under the pressure of any party; neutral, objective, and are not in a position of conflict of interest [12]. They are responsible to shareholders. The independent commissioner will impose tax compliance and avoid tax avoidance efforts [13]. They are able to do this due to their supervisory function and they can influence management’s decision about tax policy [4]. Agency theory shows that the bigger number of independent commissioners can achieve better performance. The better performance is conducted by independent commissioners to fulfill their roles to supervise management action relating to opportunistic management behavior [11].

4) Institutional ownership and tax avoidance: The institutional ownership is the level of shares owned by the institutional investors. Institutional shareholders include insurance institutions, pension funds, investment banks, and others [12]. Institutional ownership plays an important role in monitoring and influencing the manager’s behavior. This party can monitor the company activity if it has a big percentage of ownership. The big percentage of ownership indicates the more ability to monitor the management. This will increase the supervision on the management. When the institution has more shares than other shareholders, the supervision power on the management can be done more effectively and it will make the management to be more carefully in making decision such as the company’s policy related to tax minimization. This policy could be avoided by having the effective supervision done by the institutional shareholders. Therefore, the institutional ownership will avoid the company to do tax avoidance by its effective supervision function [4].

5) Managerial ownership and tax avoidance: The managerial ownership is the level of shares owned by the management who actively takes part in decision making. It includes director and commissioner shareholders. The managerial ownership is able to improve a more optimal oversight and may influence the management in making tax avoidance policy [5]. The managerial ownership indicates that the manager will consider about company’s sustainability. The manager will not wish the company to be audited because of taxation problem. This will make the manager not to support tax avoidance action [14].

6) Return on asset and tax avoidance: Return on assets is the ratio between net income with total assets at the end of the period. ROA is an indicator that reflects the company’s financial performance showing a company’s success in generating profit [6]. It can be inferred that the practice of tax avoidance is also affected by the high ROA of the company. The higher the ROA is, the better the company will perform. The company is able to manage its assets to take advantage of depreciation and amortization expense. Therefore, the company which obtains high returns is assumed to do tax avoidance [15].

7) Leverage and tax avoidance: Leverage is the debt level in the company related to the company’s financing policy. Leverage is measured by comparing total debt to total equity owned by the company [6]. The company which has high leverage can be indicated as doing tax avoidance. The interest expense can be used as the deduction of taxable income i.e. the interest expense occurs from owing to third party or creditor which does not have special relation to the company. Therefore, the higher of leverage comes from the third party, the higher interest expense it will be. This high interest expense can be used to reduce the tax because it decreases the taxable income. The company will pay lower tax by having lower profit. Therefore, the high leverage will indicate that the company does tax avoidance [3].

8) Size and tax avoidance: The company’s size is a measurement of how big the company is and how to describe the operational activity and income of the company [16]. The bigger the company is, the more tendencies to have better management and better financing source needed in running the company. The big company has more resources to do good tax planning for tax avoidance. Therefore, the bigger the size of the company indicates the company does tax avoidance [2].

9) Sales growth and tax avoidance: Sales growth reflects the investment success in the last period and it can be a prediction for the next period growth. The increase of sales growth tends to make company get higher profit. This high profit can increase the company’s tax expense. On the other side, the company does not want to pay high tax related to high profit caused by the increase of sales. Therefore, the company will try to do tax avoidance [16].

10) Capital intensity ratio and tax avoidance: Capital intensity ratio is the investment activity done by the company which is related to the investment in form of fixed assets (Capital Intensity). The fixed assets will be compared with total assets owned by the company [17]. The company which has high capital intensity indicates to do tax avoidance. According to [18], the fixed assets can decrease the company’s tax by their depreciation. The depreciation of fixed assets can reduce the company’s profit directly while doing tax calculation. This depreciation is deductible expense in accordance with the tax regulation. Therefore, the high capital intensity can be an indication of tax avoidance.
I). Inventory intensity ratio and tax avoidance:
Inventory intensity ratio is measured by comparing total inventory with total assets owned by the company [17]. Inventory intensity ratio can indicate that the company is doing tax avoidance. When the company has high level of inventory, it can increase in additional cost such as storage cost. This will decrease the profit of the company and there is a possibility for the company to do tax avoidance [8].

II. Method
A. Research Object
The research object are the companies listed in Indonesia Stock Exchange (IDX). Since the number of companies listed in IDX as research population is pretty much, therefore samples are selected to be used in this paper. The samples used are manufacturing companies listed in IDX from 2014 - 2016. The sampling method used is purposive sampling. The sample selection is presented in table 1:

<table>
<thead>
<tr>
<th>No</th>
<th>Criteria Description</th>
<th>Total Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Manufacturing companies listed in Indonesia Stock Exchange from 2014 to 2016</td>
<td>134 (402)</td>
</tr>
<tr>
<td>2</td>
<td>Manufacturing companies which do not consistently publish audited financial statements as of 31 December from 2014 - 2016</td>
<td>5 (15)</td>
</tr>
<tr>
<td>3</td>
<td>Manufacturing companies which do not publish financial statement in Rupiah currency</td>
<td>26 (78)</td>
</tr>
<tr>
<td>4</td>
<td>Manufacturing companies which reporting losses</td>
<td>39 (117)</td>
</tr>
<tr>
<td>5</td>
<td>Manufacturing companies with current effective tax rate bigger than 1</td>
<td>3 (9)</td>
</tr>
<tr>
<td></td>
<td>Number of sample selected</td>
<td>61 (183)</td>
</tr>
</tbody>
</table>

B. Operational Definition of Variables and Measurement
1) Tax avoidance: In this paper, the dependent variable is tax avoidance. Tax avoidance is any activity that gives effect to tax liability, the activity can be allowed by tax as alternatives selection to reduce taxes. Tax avoidance is usually done by exploiting the loopholes of tax law yet does not violate the tax law. Tax avoidance in these studies is proxy by current effective tax rates (Current ETR). Current ETR is the ratio of current tax expense on corporate earnings before income tax. This current tax expense can be seen on financial statement or notes to financial statement. Likewise, it is assumed that the companies doing tax avoidance will have low value of ETR [19]. Current ETR is formulated as follows:

\[
\text{Current ETR} = \frac{\text{Current tax expense}}{\text{Income before tax}}
\]

2) Independent commissioner: The Independent Commissioner is an independent board member who is not affiliated with the directors, commissioners and other controlling shareholders, as well as free of a business or other relationship. The scale of this variable is ratio scale. This variable is measured by dividing the number of independent commissioners with the total number of commissioners [15].

\[
\text{Independent Commissioner} = \frac{\text{Number of Commissioners}}{\text{Independent Commissioners}}
\]

3) Institutional ownership: Institutional Ownership is the number of shareholding by the institution. The indicator used to measure institutional ownership is the percentage of shares held by the institution on the entire number of shares outstanding. The scale of this variable is ratio scale [4, 12]. The formula is as follows:

\[
\text{Institutional Ownership} = \frac{\sum \text{Shares Owned by Institution}}{\sum \text{Shares Outstanding}}
\]

4) Managerial ownership: The level of ownership of shares owned by the management and actively participates in the decision making of the company (director and commissioner). The indicator used to measure the managerial ownership is the number of shares held by the managerial people on the total shares outstanding. The scale of this variable is ratio scale [5, 14]. The formula is as follows:

\[
\text{Managerial Ownership} = \frac{\sum \text{Shares Owned by Management}}{\sum \text{Shares Outstanding}}
\]

5) Return on asset: Return on Asset is the ratio between the net income and the total assets at the end of the period, which is used as an indicator of a company's ability to generate profits. The higher the ROA the higher the ETR [17]. The scale for this variable is ratio scale [6, 15, 17]. The formula is as follows:

\[
\text{Return on Assets} = \frac{\text{Net Income}}{\text{Total Assets}}
\]

6) Firm size: Firm Size means the size level of the company. It calculates from the total assets, because the firm size can be proxied with Ln total assets. The use of natural log is to reduce fluctuations in the data without changing the value proposition of origin [16]. The scale of this variable is ratio scale [2, 6, 16]. The formula is as follows:

\[
\text{Size} = \ln (\text{Total Asset})
\]

7) Leverage: Leverage is the ratio which measures debt ability for the short term or in the long term to finance the company assets [6]. The scale of this variable is ratio scale [6]. Leverage is measured by Debt to Equity Ratio formula:
The formula is as follows:

\[
\text{Sales Growth} = \frac{\text{Sales}_2}{\text{Sales}_{t-1}} - 1
\]

9) Capital intensity ratio: Capital intensity describes how big the company’s assets are invested in fixed assets. The fixed assets can be used by companies for tax avoidance in order to lower ETR of the company. The company can take advantage of the depreciation expense of fixed assets that directly reduce the profit when calculating the company’s tax [17]. The scale of this variable is ratio scale [16]. The formula is as follows:

\[
\text{Capital Intensity Ratio} = \frac{\text{Total Net Fixed Asset}}{\text{Total Asset}}
\]

10) Inventory intensity ratio: Inventory intensity describes the proportion of inventory owned to total assets of the company. The scale of this variable is ratio scale [17]. The formula is as follows:

\[
\text{Inventory Intensity Ratio} = \frac{\text{Total Inventory}}{\text{Total Asset}}
\]

### III. RESULTS AND DISCUSSIONS

#### A. Descriptive Statistics

The descriptive statistics analysis are summarized in table 2:

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax avoidance</td>
<td>183</td>
<td>.000000</td>
<td>961.130</td>
<td>-2.78179719</td>
<td>.118283518</td>
</tr>
<tr>
<td>Independent commissioner</td>
<td>183</td>
<td>.106667</td>
<td>1.00000</td>
<td>.40440847</td>
<td>.121700255</td>
</tr>
<tr>
<td>Institutional ownership</td>
<td>183</td>
<td>.000000</td>
<td>.992420</td>
<td>.70670705</td>
<td>.23649987</td>
</tr>
<tr>
<td>Managerial ownership</td>
<td>183</td>
<td>.000000</td>
<td>.373220</td>
<td>.04082847</td>
<td>.08467468</td>
</tr>
<tr>
<td>Return on assets</td>
<td>183</td>
<td>.008480</td>
<td>.514990</td>
<td>1.0001421</td>
<td>.09335969</td>
</tr>
<tr>
<td>Firm size</td>
<td>183</td>
<td>25.619480</td>
<td>33.198810</td>
<td>28.45098787</td>
<td>1.6520540845</td>
</tr>
<tr>
<td>Leverage</td>
<td>183</td>
<td>.020800</td>
<td>5.2900440</td>
<td>.893732841</td>
<td>.820984426</td>
</tr>
<tr>
<td>Sales growth</td>
<td>183</td>
<td>.290000</td>
<td>3.617540</td>
<td>.90225383</td>
<td>.288937875</td>
</tr>
<tr>
<td>Capital intensity ratio</td>
<td>183</td>
<td>.900280</td>
<td>.796560</td>
<td>1.3418219</td>
<td>.163237951</td>
</tr>
<tr>
<td>Inventory intensity ratio</td>
<td>183</td>
<td>.000250</td>
<td>.614210</td>
<td>2.1192624</td>
<td>.12538421</td>
</tr>
</tbody>
</table>

Source: SPSS 23.0 data processing

#### B. Hypotheses Test

The t-test result is shown in the table 3 below:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>.354</td>
<td>.037</td>
</tr>
<tr>
<td>Independent commissioner</td>
<td>.144</td>
<td>.060</td>
</tr>
<tr>
<td>Institutional ownership</td>
<td>.101</td>
<td>.040</td>
</tr>
<tr>
<td>Managerial ownership</td>
<td>.230</td>
<td>.101</td>
</tr>
<tr>
<td>Return on assets</td>
<td>-.350</td>
<td>.001</td>
</tr>
<tr>
<td>Firm size</td>
<td>-.009</td>
<td>.112</td>
</tr>
<tr>
<td>Leverage</td>
<td>.017</td>
<td>.122</td>
</tr>
<tr>
<td>Sales growth</td>
<td>-.009</td>
<td>.758</td>
</tr>
<tr>
<td>Capital intensity ratio</td>
<td>.090</td>
<td>.120</td>
</tr>
<tr>
<td>Inventory intensity ratio</td>
<td>.089</td>
<td>.224</td>
</tr>
</tbody>
</table>

Source: Data output SPSS 23

1) Test of the independent commissioner: The maximum value of independent commissioner is 1.00, while the minimum is .17. These figures indicate the minimum composition of independent commissioner 1 out of 6 and maximum is all are independent commissioners. The t-test shows that independent commissioner has significance level of .060 which is above .05. It means that H1 is not accepted. The independent commissioner does not have significant influence on tax avoidance. This may because of the inability of them to influence the pressure to the management to do tax avoidance. The result is consistent with Rizal [15] Murni and Sugihyanti [12] but inconsistent with Diantari and Ulupui [4].

2) Test of the institutional ownership: The sample shows that there is a company whom none of its share owned by institutional investor, on the contrary there is 99.24% of a company’s shares are owned by institutional investor. The t-test indicates that institutional ownership has significance level of .040 which is below .05. It means that H2 is accepted. The institutional ownership has positive significant influence on tax avoidance. When the number of institutional ownership increases, it could increase the compliance in paying tax. This institutional ownership is able to apply supervisory function to influence the management decision such as the policy in relation to taxation compliance. The tax avoidance behavior is able to monitor by them. The highest the ownership percentage (maximum is 99.24%) indicate the strongest pressure to the management to do tax avoidance. The result is consistent with Murni and Sugihyanti [12] but inconsistent with Diantari and Ulupui [4].

3) Test of the managerial ownership: Many companies maybe not allow the management to own its shares. Therefore, many samples show no managerial ownership at all. The maximum shares owned by management is 37.32%. The t-test shows that managerial ownership has significance level .101 which is above .05. It means that H3 is not accepted. The managerial ownership does not have significant influence on tax avoidance. The low percentage of ownership may not have sufficient interest in applying tax avoidance policy. The result

4) Test of the return on assets: The statistics show the minimum value is 0.08% while the maximum is 51.50%. The t-test shows that return on assets has significance level of .001, which is below .05. It means that H2 is accepted. The return on assets has negative significant influence on tax avoidance. When return on assets increase, the current effective tax rate becomes lower. It indicates a tax avoidance action of company. ROA is an indicator that reflects a company’s success in generating profit. The company having high ROA will more rooms to do tax planning to decrease the current tax expense. This tax planning is an indication of tax avoidance action of the company. The result is consistent with Rizal [15] Maharani and Guardana [21].

5) Test of the firm size: The size of the companies spread over minimum ln value of 25.62 to maximum 33.20. The t-test shows that the firm size has significance level of .112 which is above .05. It means that H3 is not accepted. The firm size does not have significant influence on tax avoidance. This outcome indicates that tax avoidance activities do not relate to the firm size. The tax avoidance can be done by any size of firms. It is consistent with Nurfadilah, et.al [3] but inconsistent with Swingly and Sukartha [7] Putra and Merkusiwati [2].

6) Test of the leverage: The range of leverage level show that the highest debt level over equity is 5.2 times and the lowest is only .07 times. The t-test shows that leverage has significance level of .122 which is above .05. It means that H4 is not accepted. The leverage does not have significant influence on tax avoidance. This leverage will bear interest expense which can be deductible expense to taxable income, therefore it is not necessary to do tax avoidance. It is consistent with Novitasari, et.al [22] Nurfadilah, et.al [3] but inconsistent with Siregar and Widyawati [17] Swingly and Sukartha [7].

7) Test of the sales growth: The data shows that companies suffer downward growth (negative 29.90 times growth) to substantial level of growth (positive 3.62 times) during the period of test. The t-test shows that sales growth has significance level of .758 which is above .05. It means that H5 is not accepted. The sales growth does not have significant influence on tax avoidance. It is consistent with Swingly and Sukartha [7] but inconsistent with Dewinta and Ery [17].

8) Test of the capital intensity ratio: The data describes the intensity of using fixed assets in the company’s total assets. The value presents the usage of fixed assets is as low as .04 times to total assets up to as high as .80 times. The t-test shows that capital intensity ratio has significance level .120 which is above .05. It means that H6 is not accepted. This concludes that capital intensity ratio does not have significant influence on tax avoidance. The tax avoidance behavior is not effected by the composition of fixed assets to total assets. It is consistent with Ardyansah [18], Putra and Merkusiwati [2] Siregar and Widyawati [17].

9) Test of the inventory intensity ratio: The minimum value for inventory intensity ratio is .00025 times of inventory over total assets, while the maximum is .6142 times. The t-test describes that inventory intensity ratio has significance level of .224 which is above .05. It indicates that H6 is not accepted. The composition of inventory to total assets in the companies does not have significant influence on tax avoidance. It is consistent with Siregar and Widyawati [17].

IV. CONCLUSION

Institutional ownership has positive significant influence on tax avoidance. Return on assets has negative significant influence on tax avoidance. Independent commissioner, managerial ownership, firm size, leverages, sales growth, capital intensity ratio and inventory intensity ratio do not have significant influences on tax avoidance.

REFERENCES


