



The Influence of Leverage, Density of Fixed Assets and Independent Commissioners on Effective Companies Tax Rate in Indonesia

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Jel Classification

M41, M49.

Abstract

This research aimed to test the influence of leverage, density of fixed assets, and independent commissioners on Effective Tax Rate in manufacturing companies listed on Indonesia Stock Exchange year 2011-2015. Purposive sampling technique was utilized to select the study's sample and 42 companies were taken for a total 210 data observation. Multiple linear regression analysis is employed to test the hypotheses within this research. The results of this study indicated that leverage, density of fixed assets, and independent commissioners simultaneously influence ETR. Partially, the result showed that leverage and independent commissioners do not affect ETR. Meanwhile, density of fixed assets had a negative effect on ETR.

1. Introduction

PricewaterhouseCoopers (PwC) reported that external parties such as media, governments, civil society organizations and the public at large are showing their interest in the corporate tax affairs, which includes the strategy and the amount of tax paid. There also many researchers from academics and government agencies who are interested in the corporate tax and its determinants in the recent years.

The tax related problem that often arise in many studies are the argument about STR (Statutory Tax Rate) and ETR (Effective Tax Rate). United States Government Accountability Office (GAO) reported that ETR can differ significantly from STR. ETR used to measure the tax paid as the proportion of economic income, whereas STR is the amount of tax required to be paid by the government relative to taxable income (Ardyansah and Zulaikha, 2014).

ETR is often used as a reference by decision makers and stakeholders to make policy and conclusion of the tax system within the corporate (Harris and Feeny, 2003). Karayan and Swenson (2007) explained that ETR was also used to measure how well a corporate has managed its tax system.

There are several factors that influence ETR, such as leverage, density of fixed assets and independent commissioners. Leverage will influence ETR through the interest expense generates from debt held by the corporate. Later on, Interest expense can be used as a deduction of income before tax (Lazar, 2014). Those explanations are in line with the prior research that found a negative association between leverage and ETR (Di and Hua, 2013; Lazar, 2014; Kraft, 2014; Stamatopoulus, 2016). However, Wang et al. (2014), and Delgado et al., (2014) discovered that the more corporates rely on debt, the higher their ETR. On the other hand, the study conducted by Ardyansah and Zulaikha (2014) found that leverage does not influence ETR.

Density of fixed assets may also influence ETR. Rodriguez and Ariaz (2014) mentioned that fixed assets enable corporate to reduce tax expense as a result of depreciation expense which comes out each year. Therefore, the greater the proportion of fixed assets in total assets, the lower the ETR (Lazar, 2014; Stamatopaolus, 2016). Conversely, Darmadi and Zulaikha (2013), Ardyansah and Zulaikha (2014), and Delgado et al. (2014) discovered that the higher the amount of fixed assets, the higher the ETR. Study by Liu and

Cao (2007) and Di and Hua (2013) found that density of fixed assets does not influence ETR.

Independent commissioners as one of the corporate governance characteristic are expected to have a positive impact on ETR (Minnick and Noga, 2010; Ardyansah and Zulaikha, 2014). According to Simpson and Taylor (2013; 195), Independent commissioners have the responsibility to ensure the corporate controlled in the stakeholders' best interest, this means that independent commissioners are not only accountable to shareholders but stakeholder as a whole, which government was one of them. Therefore, they should monitor the corporate well and lead the corporate according to the rules that regulated. They also act as the mediator between management and shareholders in decisions making which also include the strategic decision of tax (Sabli and Noor, 2012). Hanum and Zulaikha (2013) and Pramana (2016) discovered that independent commissioners do not influence ETR.

Prior studies were provided inconsistent results. Therefore, the author is interested to conduct a research on the influence of leverage, density of fixed assets, and independent commissioners on ETR (Effective Tax Rate). The findings of this research is hoped to give a valuable information related to the influence of leverage, density of fixed assets, and independent commissioners on ETR to investors, tax policy makers, management, academics and other researchers.

The rest of the paper is organized as follows: Section 2 reviews relevant literature. Section 3 provides the methodological approach used in the study. Section 4 present findings discussion, and section 5, which is the last section, provides conclusions.

2. Theoretical Framework and Hypotheses Development

According to the agency theory, there is a separation of ownership and control in the corporate, the separation of ownership and control often create a conflict of interest between shareholders and managers (Jao and Pagalung, 2011). One of the issues is corporate tax policy. Managers have the authority to calculate the corporate tax payable as a result of self-assessment system implementation, and they want to reduce corporate tax payable in order to increase their own compensation (Ardyansah and Zulaikha, 2014). Despite the fact that the shareholders want the tax payable reduced, what they really want is the high return (Masri and Martani, 2012).

Several studies have been conducted to examine the influence of leverage, density of fixed assets, and independent commissioners on ETR. Prior studies conducted by Lazar (2014), Kraft (2014), and Di and Hua (2013) found a negative relationship between leverage and ETR. The negative association between leverage and ETR means the managers are utilizing debt as the financing decision to make the ETR lower.

Prior studies conducted by Noor and Mastuki (2008), Noor et al. (2010), Lazar (2014) and Parisi (2016) found a negative association between density of fixed assets and ETR. The negative association between density of fixed assets and ETR means the managers are decide to invest more capital in form of fixed assets to make the ETR lower.

Independent commissioners will improve the control over the managers to mitigate agency problem arise between managers and shareholders. Sabli and Noor (2012) explained that independent commissioners will direct the corporate to comply with applicable laws and regulations. Independent commissioners are in charge of carrying out supervision and determining policy strategies that given benefits to the corporate but not against the law including the determination of tax strategies. Prior studies conducted by Minnick and Noga (2010) and Ardyansah and Zulaikha (2014) found a positive association between independent commissioners and ETR.

Based on the literature review and previous studies, research hypotheses can be formulated as follows:

Ha1: Leverage, density of fixed assets, and independent commissioners simultaneously influence ETR.

Ha2: Leverage negatively influences ETR.

Ha3: Density of fixed assets negatively influences ETR.

Ha4: Independent Commissioners positively influences ETR.

3. Research Method

3.1 Data

This study used quantitative approach and the data that collected includes relevant journals, books, thesis, and published annual reports of manufacturing companies listed on Indonesia Stock Exchange for the period of 2011-2015.

3.2 Population and Sample

The Population in this research is obtained from Indonesian Stock Exchange (IDX) website, involves all listed manufacturing companies in the 2011-2015 period. The sample in this study is manufacturing companies listed on Indonesia Stock Exchange (IDX) during 2011-2015 that has met some criteria. Some criteria for choosing the sample from the population in this research determined as follows:

1. Manufacturing companies that have positive income before tax consecutively for the period 2011-2015, this criteria used because income tax levied on the profits earned by the companies, so when the companies suffered loss, those companies are not subject to income tax.
2. Manufacturing companies with positive operating cash flow. Richardson and Lanis (2007) explained that this criteria used because negative ETR may cause misinterpretation problems.

In this study, the dependent variable is Effective Tax Rate (ETR). Average ETR or micro backward looking approach is adequate to analyze the corporate tax burden (Gupta and Newberry, 1997 in Richardson and Lanis, 2007). Average ETR is typically calculated as the ratio which the numerator is total income tax expense and the denominator is accounting profit before taxes (Delgado et al., 2014). However, another alternative was suggested which using operating cash flow as the denominator. Operating cash flow is used because it would eliminate the impacts of different accounting methods (Lazar, 2014).

$$\text{ETR} = \frac{\text{Total income tax expense}}{\text{Operating cash flow}}$$

The independent variables in this studies consist of leverage, density of fixed assets and independent commissioners. Leverage is defined as the amount of debt financing in the corporate capital structure. This study used financial leverage that can be measured by using debt to equity ratio (Subramanyam, 2014: 570).

$$\text{Leverage} = \frac{\text{Total Debt}}{\text{Total Equity}}$$

Fixed assets are the long-lived tangible assets of the business which commonly known as property, plant, and equipment (Peterson, 2002:14). Density of fixed assets measured as total fixed assets divided by total assets (Lazar, 2014).

$$\text{Density of fixed assets} = \frac{\text{Total fixed assets}}{\text{total assets}}$$

Independent commissioners (IC) computed as the ratio of independent commissioners divided by total commissioners on the board (Ardyansah and Zulaikha, 2014).

$$\text{Independent commissioners} = \frac{\text{Independent commissioners}}{\text{Total commissioner on the board}}$$

3.3 Model Specification

The hypotheses testing in this study used multiple regression models. The linear regression model used to test the hypotheses is as follows:

$$\text{ETR} = a + b_1\text{Lev} + b_2\text{DFA} + b_3\text{IC} + \varepsilon$$

Where ETR is Effective Tax Rate, a is constant, b₁, b₂, and b₃ are coefficient regression, Lev is Leverage, DFA is Density of Fixed Assets, IC is Independent Commissioners and ε is error term.

4. Findings and Discussions

4.1 Descriptive Statistics

Descriptive statistics were performed to know the description or sample data distribution of each research variable which can be seen through the minimum, maximum, mean, and standard deviation value. The result of descriptive statistics can be seen in the following table.

Table 1
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ETR	210	0.001	4.490	0.38456	0.585753
Lev	210	0.027	3.029	0.77103	0.541866
DFA	210	0.089	0.980	0.46570	0.186709
IC	210	0.250	0.800	0.38868	0.098735
Valid N (listwise)	210				

Table 1 presents the descriptive statistic results for the variables of ETR, Lev, DFA, and IC of the total 210 samples studied. The ETR minimum value is 0.001, the maximum value is 4.490, the mean value of ETR is 0.38456 and standard deviation is 0.585753.

Leverage (Lev) minimum value is 0.027, the value means that the composition of debt in this company only 2.7% compared to the equity. Meanwhile, the maximum value of leverage is 3.029, The mean of leverage is 0.77103 with the standard deviation 0.541866. The mean of DFA is 0.46570 with the standard deviation 0.186709, the minimum value is 0.089, while the maximum value is 0.980. The mean of IC is 0.38868 with the standard deviation 0.098735. The minimum value is 0.25, while the maximum value of IC is 0.80.

4.2 Hypotheses Testing

4.2.1 F-Statistical Test

F-statistical test is basically used to examine the influence of all independent variables simultaneously on the dependent variable. The results of F-Test can be seen in the following table.

Table 2
F-Test Results ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	28.438	3	9.479	10.80	.000
Residual	180.656	206	0.877	9	b
Total	209.094	209			

a. Dependent Variable: ETR

b. Predictors: (Constant), IC, DFA, Lev

As shown in Table 2, it can be seen that the significant value is 0.000 and this value lower than the significance level of 0.05 (5%). As the results, the first hypotheses (H_{a1}) that stated leverage, density of fixed assets, and independent commissioners simultaneously affect ETR is accepted.

4.2.2 T-Statistical Test

T-statistical test is the test perform to examines how far the effect of one independent variable on the dependent variable. The results of t-statistical test can be seen in Table 3 below.

Table 3
T-Statistical Test Coefficient

Model	t	Sig.
1 (Constant)	2.654	0.009
Lev	-1.452	0.148
DFA	-4.589	0.000
IC	0.665	0.507

a. Dependent Variable: ETR

Based on Table 3, Leverage (X_1) has a value of t -1.452 with the significance level 0.148. The significance value is greater than the significance level of 0.05 (5%). Therefore, it shows that leverage does not have an effect on ETR. Thus, the second hypothesis (H_{a2}) is rejected.

Density of fixed assets (X_2) has a value of t -4.589 with the significance level of 0.000. The significance value is lower than the significance level of 0.05 (5%). Therefore, it shows that density of fixed assets has an effect on ETR. Thus, the third hypothesis (H_{a3}) is accepted.

Independent commissioners (X_3) have a value of t 0.665 with the significance level of 0.507. The significance value is greater than the significance level of 0.05 (5%). Therefore, it shows that independent commissioners do not have an effect on ETR. Thus, the fourth hypothesis (H_{a4}) is rejected.

4.2.3 Coefficient Determination Test

Coefficient determination test performed to know how much independent variables can explain the dependent variable. The coefficient determination can be seen from the R Square value from the Table 4 as follows:

Table 4
Coefficient Determination Result
Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.369 ^a	0.136	0.123	0.93647

a. Predictors: (Constant), IC, DFA, Lev

b. Dependent Variable: ETR

The table above shows that the R square value is 0.136. It means that 13.6% of the change in dependent variable can be explained by leverage (X_1), density of fixed assets (X_2), and independent commissioners (X_3). Meanwhile, the others 86.4% can be influenced by other variables which are not used in this research.

4.3 Discussions

Based on the results of the F-Test in Table 2, the significance value of F-Test is 0.000 and this value smaller than the significance level of 0.05 (5%). As the result, all the independent variables simultaneously affect the dependent variable. Thus, the independent variables of leverage, density of fixed assets and independent commissioners have simultaneously affect ETR. Therefore, H_{a1} is accepted.

Leverage (X_1) has a t value of -1.452 with the significance value of 0.148. The significance value is higher than the significance level of 0.05 (5%). It means leverage does not affect ETR.

Brealey et al (2001) stated that a corporate that financed its operation with debt has the obligation to make a series payment of interest which recognized as interest expense. Kraft (2014) mentioned that the higher level of leverage will produce a lower income because of the interest expense will reduce income before tax. As a result, the lower income makes the ETR smaller. The result found in this study is contradictory with the hypothesis that has been

developed, because the result expected that X_1 influence the dependent variable. However, the result of this study is supported by the result of Darmadi and

Zulaikha (2013) who do the research on the relationship between leverage and ETR. The study suggested that leverage does not influence ETR. This might be possible as corporates do not utilize leverage to minimize ETR, it means that corporates do not make the decision to finance its operation by debt with the intention to reduce tax. Corporate purpose to finance its operation by debt is to expand corporate instead. Business expansion makes corporate gained the higher profit. As a result, although interest expense reduced the income before tax and tax expense also, the result is insignificant because the profit also increased. Therefore, H_{a2} is rejected.

Density of fixed assets (X_2) has a t value of -4.589 with the significance value of 0.000. As the significance value is lower than the significance level of 0.05 (5%), it shows that density of fixed assets negatively affects ETR in this study.

Lazar (2014) stated that fixed assets ability owned by corporates will reduce over time. Therefore, fixed assets must be depreciated which recorded as depreciation expense. Depreciation expense can be utilized by corporates to reduce the tax burden that must be paid because depreciation expense reduces income before tax . Therefore, fixed assets owned by corporates make corporates ETR lower (Noor et al, 2010; Parisi, 2016).The result found in this study is in line with the hypothesis that has been developed, because the result expected that X_2 influence dependent variable. Therefore, H_{a3} is accepted.

Independent commissioners (X_3) have a t value of 0.665 with the significance value of 0.507. The significance value is higher than the significance level of 0.05 (5%), it means that independent commissioners do not have an effect on ETR.

Sabli and Noor (2012) stated that independent commissioners will direct the corporate with applicable laws and regulations. As the independent commissioners are in charge of carrying out supervision and determining tax policy strategies, the tax policies determined will not against the law. The result found in this study is contradictory with the hypothesis that has

been developed, because the result expected that X_3 influence dependent variable. However, the result of this study is supported by the research of Hanum and Zulaikha (2013) who do the research on the relationship between independent commissioners and ETR. The study suggested that independent commissioners do not influence ETR. There are several possibilities for the insignificant influences of independent commissioners on ETR such as the indicator used to measure independent commissioners. Independent commissioners in this study measured by a ratio which is the number of independent commissioners divided by total commissioners on the board. Although a corporate has a ratio of independent commissioners with a great value, this does not guarantee the corporate has many independent commissioners also if it measured with a nominal scale. Therefore, the using of ratio might be less precise because the value of the ratio cannot show the actual number of independent commissioners in those corporates and this caused the determination of which corporate supervised effectively becomes difficult. Another possibility is because independent commissioners do not have enough knowledge related to the business background, which cause ineffective tax strategies policy. This condition makes the independent commissioners existence is only for fulfilling the regulation that have been set in Financial Service Authority Regulation (POJK). Therefore, H_{a4} is rejected.

5. Conclusion

Based on the results and discussion of the research that has been stated, it can be concluded that leverage, density of fixed assets, and independent commissioners simultaneously affect ETR in manufacturing companies listed on Indonesia Stock Exchange year 2011-2015.

Leverage do not affect ETR in manufacturing companies listed on Indonesia Stock Exchange year 2011-2015, this result is in line with the study conducted by Ardyansah and Zulaikha (2014). However, prior studies conducted by Richardson and Lanis (2007), Di and Hua (2013), Lazar (2014), Kraft (2014) Stamatopoulus (2016) found that leverage influence ETR negatively. On the other hand, Harris and Feeny (2003), Wang et al. (2014), and Delgado et al., (2014) discovered that leverage influence ETR positively.

Independent commissioners do not affect ETR in manufacturing companies listed on Indonesia Stock Exchange year 2011-2015. This result same as the studies conducted by Hanum and Zulaikha (2013) and Pramana (2016). However, Prior studies conducted by Minnick and Noga, (2010) and Ardyansah and Zulaikha (2014) found that independent commissioners have a positive impact on ETR.

Density of fixed assets affect ETR in manufacturing companies listed on Indonesia Stock Exchange year 2011-2015 negatively. This result is in line with the studies conducted by Noor and Mastuki (2008), Lazar (2014) and Stamatopaolus (2016). However, Darmadi and Zulaikha (2013), Ardyansah and Zulaikha (2014), and Delgado et al. (2014) found the positive relation between density of fixed assets and ETR. Study by Liu and Cao (2007) and Di and Hua (2013) found that density of fixed assets does not influence ETR.

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