

Effect Firm Size, Profitability and Inventory Intensity Against Effective Tax Rate (ETR)

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Abstract: The effective tax rate is the real rate that apply to the taxpayer's income. This research to find out how much influence firm size, profitability, inventory intensity on the effective tax rate of manufacturing companies listed on the Indonesia Stock Exchange from 2015 to 2019. The types of data used are quantitative data and data sources are secondary data in the form of annual financial reports of manufacturing companies in the reporting period at 2015 to 2019. The sample selection used a purposive sampling method with 53 companies and a total of pool data are 202 data. The data analysis method used is multiple regression analysis. The results of this research indicate that profitability had a positive and significant effect on the effective tax rate, inventory intensity had a significant negative effect on the effective tax rate, while firm size had a negative effect on the effective tax rate.

Keywords: *Firm Size, Profitability, Inventory Intensity, Effective Tax Rate*

1. Introduction

Taxes are one of the largest and most dominant state revenues to date which will be used to finance state expenditures. Whereas for companies, tax is an expense that will reduce net income [1]. The difference between the target and the realization of tax revenue each year can indicate the existence of tax planning carried out by taxpayers. Tax planning carried out by the company aims to reduce the tax burden paid by the company.

To measure the effectiveness of a company in reducing its tax burden, it is seen through the company's effective tax rate. Basically, the effective tax rate is a comparison between the resulting tax liabilities and taxable income based on tax regulations on accounting profit based on accounting standards.

Previous research about the factors that influence the effective tax rate (ETR) has shown mixed results. Research on all companies listed on the Indonesia Stock Exchange from 2011 to 2016 with a sample of 163 companies shows that the leverage variable had no significant effect on ETR. The profitability and intensity of fixed assets had a negative effect on ETR. Meanwhile, the inventory turnover variable had a positive effect on ETR [2]. Research on manufacturing companies listed on the Indonesia Stock Exchange for the period 2010 to 2014 with a sample of 15 companies shows that the company size variable had no effect on the company's ETR. Meanwhile, independent commissioners and profitability had an effect on company's ETR [3]. Research on cigarette companies listed on the



Indonesia Stock Exchange from 2009 to 2015 with a total sample of 14 companies shows that company size and profitability affect the company's ETR. Meanwhile, the level of debt had no effect on the company's ETR [4].

With the development of the taxation system and the increasingly tighter government regulations regarding the taxation system in Indonesia, and based on previous research, the authors will analyze the effect of company size, profitability and inventory intensity partially and simultaneously on the effective tax rate of existing manufacturing companies on the Indonesia Stock Exchange.

1. Literature Review

1.1 Theoretical Basis

1.1.1 Agency Theory

Agency theory is a theory that explains the relationship between principal and agent in terms of company management. Agency theory presumes that individuals in agency relationships are utility maximisers and will always take action to enhance their self-interest. Various matters relating to company performance, one of which is company policies related to taxes, can be influenced by differences in interests between principals and agents. Managers as agents have an interest in obtaining maximum incentives through high returns on their performance, while shareholders want to reduce taxes paid through low profits. Therefore, tax management measures can be used to overcome these differences of interest.

1.1.2 Definition of Tax

Taxes are one of the main sources of income obtained from domestic sources of funds. Taxes are people's contributions to the state treasury based on law (which can be enforced) without receiving direct service that can be demonstrated and used to pay for general expenses [5].

1.1.3 Definition of Effective Tax Rate

Effective Tax Rate is a comparison between the tax burden paid by the company with the company's income before tax. ETR is very useful for measuring the actual tax burden of a company. ETR is used to reflect the difference between the calculation of book profit and taxable profit [6]. The types of ETR include Average Effective Corporate Tax Rate, Average Effective Total Tax Rate, Marginal Effective Corporate Tax Wedge, Marginal Effective Corporate Tax Rate, Marginal Effective Total Tax Wedge, and Marginal Effective Total Tax Rate.

1.1.4 Definition of Firm Size

Firm size is the size of the company which can be seen from the amount of equity value, sales value and asset value [7]. Firm size is a major factor in determining the profitability of a company with a concept commonly known as economies of scale [6]. Economies of scale show the low cost advantages of large companies because they can produce products at a low unit price. Companies with large sizes buy raw materials (input production) in large quantities so that the company will get a discount (quantity discount) more from suppliers.

1.1.5 Definition of Profitability

Profitability is the company's ability to earn profits related to sales, total assets and own capital [8]. Another definition also states that profitability shows the company's ability to earn profits and measures the level of operational efficiency and efficiency in using its assets.

1.1.6 Definition of Inventory Intensity

Inventory intensity indicates the amount of inventory turnover that occurs during the period or reflects the number of times the amount of inventory is replaced in a year. Inventory intensity can be obtained by comparing the cost of goods sold with the company's total inventory.

1.2 Definition of Operational Variables

1.2.1 Effective Tax Rate (Y)

Effective Tax Rate in this research is the dependent variable. ETR is calculated by dividing the company's total tax expense by profit before income tax with the following formula:

$$ETR = \frac{\text{Total Income Tax Expense}}{\text{Income Before Tax}}$$

1.2.2 Firm Size (X₁)

Firm size in this research is an independent variable that affects the dependent variable, either positively or negatively. To measure the level of firm size, it can be calculated from total assets because company size is formulated by Ln of total assets. The use of natural logs in this research aims to reduce data fluctuations without changing the proportion of the original value.

$$\text{Firm Size} = \text{Ln}(\text{Total Assets})$$

1.2.3 Profitability (X₂)

Profitability in this research is an independent variable that affects the dependent variable, either positively or negatively. In this study, to calculate profitability using a formula of return on assets (ROA).

$$ROA = \frac{\text{Laba bersih setelah pajak}}{\text{Total aset}} \times 100\%$$

1.2.4 Inventory Intensity (X₃)

Inventory intensity indicates the amount of inventory turnover that occurs during the period or reflects the number of times the amount of inventory is replaced in a year. Inventory intensity can be obtained by comparing the cost of goods sold with the company's total inventory.

$$\text{Intensitas Persediaan} = \frac{\text{Harga Pokok Penjualan}}{\text{Total Persediaan}} \times 100\%$$

1.3 Conceptual Framework

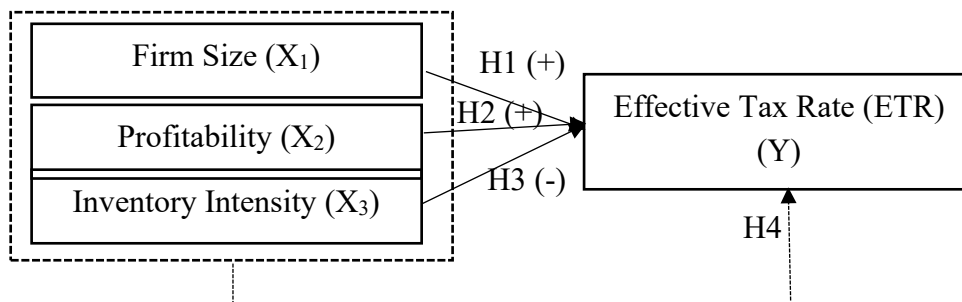

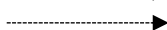


Figure 1. Conceptual Framework

Information:

Partial = 
 Simultaneous = 

The hypothesis is a temporary answer to the formulation of the research problem.

- H1 : Firm size has a significant positive effect on company's ETR
- H2 : Profitability has a significant positive effect on a company's ETR
- H3 : Inventory intensity has a significant negative effect on the company's ETR
- H4 : Firm size, profitability and inventory intensity simultaneously affect the company's ETR

2. Methodology

The type of data used in this research is quantitative data from the financial statements of manufacturing companies listed on the Indonesia Stock Exchange. The data source in this study is secondary data obtained from idx.co.id. The sampling method used in this research is purposive sampling method. The

number of samples used in this study were 53 companies with 202 data pools. The method used to collect data is the documentation method. The analysis technique used in this research is multiple regression analysis techniques.

3. Results and Discussion

3.1 Multiple Regression Analysis

The requirements for multiple regression analysis have been fulfilled, namely the classical assumption test consisting of multicollinearity test, autocorrelation test, heteroscedasticity test and normality test so that a regression analysis can be performed. Following are the results of multiple regression analysis:

3.1.1 t Test Result

**Table 1. t Test
Coefficients^a**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.301	.041		7.356	.000
	Firm Size	-.002	.001	-.092	-1.192	.235
	Profitability	.067	.024	.203	2.797	.006
	Inventory Intensity	-.003	.001	-.172	-2.182	.030

a. Dependent Variable: ETR

Table 1 provides information about the regression equation and the effect of the independent variables, namely firm size, profitability and inventory intensity partially on ETR. The regression equation formula in this study is as follows:

$$ETR = 0,301 - 0,002 \text{ SIZE} + 0,067 \text{ ROA} - 0,003 \text{ PERS} + \epsilon$$

The constant variable of the regression has a coefficient of 0.301, meaning that if the independent variable consisting of firm size, profitability, and inventory intensity is not considered, then the ETR is 0.301. The coefficient of X1 is -0.002 which indicates that firm size has a negative effect on ETR with a regression coefficient of -0.002 which means that the firm size increases by 1 unit, then the ETR will decrease by 0.002, assuming the other independent variables are constant. The coefficient of X2 is 0.067, which indicates that profitability has a positive effect on ETR, with a regression coefficient of 0.067, which means that profitability increases by 1 unit, so ETR will increase by 0.067, assuming the other independent variables are constant. The coefficient of X3 is -0.003 which indicates that the intensity of inventory has a negative effect on ETR with a regression coefficient of -0.003 which means that the intensity of the inventory increases by 1 unit, then the ETR will decrease by -0.003, assuming the other independent variables are constant. Meanwhile, to determine whether there is an effect of variable size of the company, profitability and intensity of inventory on ETR can be seen as follows:

3.1.1.1 Based on the Significance Value (Sig.)

Based on table 1, the results of the SPSS test above show that only the independent variable namely profitability (X2) and inventory intensity (X3) have a significant effect on the dependent variable, namely ETR, with a significance of 0.006 and 0.030 which is smaller than the significance level of 0,05. The independent variable firm size (X1) does not have a significant effect on ETR, which is indicated by a significant value of 0.235 which has a significant value greater than the significant level of 0.05. Based on the basis of decision making in the t test, it can be concluded that the first hypothesis (H1) is rejected because company size has no significant positive effect on ETR, the second hypothesis (H2) is

accepted because profitability has a significant positive effect on ETR and the third hypothesis (H3) is accepted significant to ETR.

3.1.2 Simultaneous Significance Test

**Table 2. f Test
ANOVA^b**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.013	3	.004	4.511	.004 ^a
	Residual	.195	198	.001		
	Total	.208	201			

a. Predictors: (Constant), Firm Size, Profitability, Inventory Intensity

b. Dependent Variable: ETR

Table 2 provides information about the presence or absence of the effect of firm size, profitability and inventory intensity simultaneous on the variable of ETR.

3.1.2.1 Based on the Significant Value.

The results of the f test based on the significance value of (Sig.) in the table above show that the (Sig.) is 0.004 which is smaller than the significant level of 0.05, meaning that the variables of firm size, profitability and inventory intensity simultaneously have a significant effect on ETR.

3.1.3 Test of the Coefficient of Determination (R^2)

Coefficient of Determination (R^2) measure how far the ability of the regression model in explaining the variation in the dependent variable. Value of (R^2) which is close to one means that it provides almost all the information needed to predict the variation in the dependent variable [9]. The results of the coefficient of determination can be seen in table 3 below:

**Table 3. Test of the Coefficient of Determination (R^2)
Model Summary^b**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.253 ^a	.064	.050	.03136

a. Predictors: (Constant), Firm Size, Profitability, Inventory Intensity

b. Dependent Variable: ETR

Table 3 shows the magnitude of the influence of the independent variables on the dependent variable which can be explained by the regression equation model in this research amounting to 0.050. This shows that the influence of firm size, profitability, and inventory intensity variables on ETR which can be explained by the regression equation model is 5%, the remaining 95% is influenced by other factors that are not included in the regression model.

3.2 Discussion

3.2.1 Firm size affects the effective tax rate

The results of testing for the first hypothesis (H1) show that firm size has a negative and insignificant effect on ETR. A large company with large asset ownership indicates that the company is relatively more capable of generating greater profits with its total assets compared to the size of a small company. The high profit earned by the company will result in higher taxes that must be paid. This condition



encourages managers to try to minimize profits by doing good tax planning and implementing effective accounting practices to reduce the effective tax rate. This is in line with research conducted by Susilowati, Widyawati and Nuraini (2018) which states that firm size has no effect on ETR [10] and contradicts research conducted by Darmadi (2013) which found that firm size has a positive effect on ETR [11].

3.2.2 Profitability affect the effective tax rate

The results of testing for the second hypothesis (H2) show that profitability has a positive and significant effect on ETR. Profitability is a performance achievement made by management in managing the company's assets, which can be seen from the profits generated by the company. The level of income is directly proportional to the tax to be paid, so that companies that have a large profit will also pay large taxes. This is in line with research conducted by Putri and Putra (2017) which states that profitability has a positive influence on ETR [12] and is in contrast to research conducted by Suardana and Maharani (2014) which in their research states that profitability is measured by ROA. negatively affects the effective tax rate [13].

3.2.3 Inventory intensity affect the effective tax rate

The results of testing for the third hypothesis (H3) show that inventory intensity has a negative effect on ETR. The amount of inventory intensity owned by a company is due to the cost of goods sold by large companies, so that the company's profits are small. The smaller the profit the company gets, the smaller the company tax and the smaller the ETR. This is in line with research conducted by Norfadzilah (2015) in Putri and Lautania (2016) which states that supply intensity has a negative effect on ETR. This is because inventory intensity is not included in the tax deductible in the tax system. However, managers need more effort to adjust the intensity of the company's inventory to reduce the level of the company's tax burden. In other words, an inefficient inventory evaluation method will result in high operating costs and will affect the company's revenue level [14]. This study is in contrast to research conducted by Syamsuddin and Suryarini (2019) which states that inventory intensity has a positive effect on ETR [15].

3.2.4 Firm size, profitability, and inventory intensity simultaneously affect the effective tax rate

The results of testing for the fourth hypothesis (H4) suggest that the independent variables of firm size, profitability and inventory intensity have an effect on ETR. The results of statistical testing show that the fourth hypothesis (H4) is accepted. Based on the results of this study, these three independent variables simultaneously influence ETR with a significance value that is smaller than the 0.05 significance level so that it can be concluded that firm size, profitability, and inventory intensity simultaneously affect ETR.

4. Conclusion

Based on the results of the analysis and discussion in the previous chapter, the research can be concluded as follows: 1) Firm size has no significant negative effect on the effective tax rate 2) Profitability has a significant positive effect on the effective tax rate. 3) Inventory intensity has a significant negative effect on the effective tax rate. 4) Firm size, profitability and inventory intensity simultaneously have a significant effect on the effective tax rate.

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