

# Effect of Solvency, Sales Growth, and Institutional Ownership on Tax Avoidance with Profitability as Moderating Variables in Indonesian Property and Real Estate Companies

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## ABSTRACT

This research aimed to examine the effect of solvency, sales growth, and institutional ownership towards tax avoidance with profitability as a moderating variable. The sample was real estate and property companies listed on the Indonesia Stock Exchange in 2011-2015. The sample was selected using purposive sampling method to get sample about 31 companies. The data used moderated regression analysis. The results indicate that the solvency has significant and positive effect on tax avoidance. Meanwhile, sales growth and institutional ownership do not affect tax avoidance. Then, profitability can moderate the relationship between institutional ownership and tax avoidance.

**Keywords:** tax avoidance, solvency, sales growth, institutional ownership, profitability

## INTRODUCTION

Indonesia as a developing country always tries to improve national development for the welfare of society. Taxes are one source of national development funds and the contribution of society against the state. Then, people must pay taxes for national development. There are the different concerns between the government and the taxpayer. The government collects taxes for the government spending to build, regulate, and implement social and economic policies for the welfare of society. Meanwhile, taxpayers consider taxes as cost that reduces income.

It makes companies tend to look for ways to reduce the number of tax payments legally and illegally. This can occur if there are opportunities that can be exploited because of the weakness of tax laws. It will lead to resistance to taxes. These things trigger

many taxpayers to be noncompliance. Most companies are involved in tax planning extensively to reduce their income taxes since the income tax cost will reduce their profits. Initially, tax planning is allowed within the tax laws as it is considered as a legal tax avoidance scheme (Noor *et al.*, 2010).

Non-compliance can lead the taxpayers to attempt tax avoidance. Pohan (2015) found that tax avoidance was a legal and safe strategy or technique for the taxpayers because it did not conflict with the provisions for taxation. The methods and techniques were used by exploiting the vulnerability (a gray area) contained in the legislation and tax laws.

The measurement of tax avoidance in this research uses Cash Effective Tax Rate (CETR). CETR is cash spending for the payment of taxes divided by income before taxes. This measurement is used because it can provide a draw on the practice of tax avoidance.

According to Dyreng *et al.* (2010), this measurement can describe the activities of tax avoidance because CETR does not affect the presence of estimation change as taxes protection. The higher percentage rate of CETR which is close to 25% of corporate tax rate indicates the lower the level of corporate tax avoidance is. Meanwhile, the lower CETR indicates the higher levels of corporate tax avoidance. CETR has formula as follows.

$$CETR = \frac{\text{Tax Paid}}{\text{Net Income Before Tax}} \quad (1)$$

The solvency ratio or known as the leverage ratio is a ratio used to measure the company's assets which are financed by debt. Badertscher *et al.* (2010) stated that they included a company's leverage ratio (LEV) because a company with a greater LEV had fewer needs to the tax planning. It could be due to the tax benefits of debt financing. Moreover, Debt to Equity Ratio (DER) is used to measure the solvency level of a company and the amount of the assets in the company which is financed by total debt. It is the reason researchers use DER in calculating solvency. Siregar and Widyawati (2016) stated that the higher LEV of a company was, the higher the tax avoidance measured would be. The formula of DER is as follows.

$$DER = \frac{\text{Total Debt}}{\text{Total Equity}} \quad (2)$$

This research also uses the measurement of sales growth because it will provide a picture of the merits of a sales growth rate in the company. Companies can estimate the profit to the sales growth. Kim and Im (2016) stated that sales growth had positive effect towards tax avoidance significantly. Similarly, Budiman (2012) in Dewinta and Setiawan (2016) stated that sales growth was significantly positive on the behavior of tax avoidance by using CETR measurement in companies listed on the stock exchange in 2006-2010. The formula to calculate the sales growth is as follows.

$$GS = \frac{\text{Salest} - \text{Salest-1}}{\text{Salest-1}} \times 100\% \quad (3)$$

Furthermore, institutional ownership is the shared ownership owned by the government, insurance companies, foreign investors or a bank that has a great importance to the investment made. It includes a stock investment. Then, institutions usually hand over the responsibility to a specific division to manage the invested company (Cahyono *et al.*, 2016). The existence of institutional ownership can encourage the activity effectively and oversight the management performance. It is because the ownership of shares in a company requires information on the developments related to the investment. The monitoring system will rise higher if the value of investments is done in a growing company. Ngadiman and Puspitasari (2014)

stated that institutional ownership had a positive and significant influence on tax avoidance. The formula to calculate the ratio of institutional ownership is as follows.

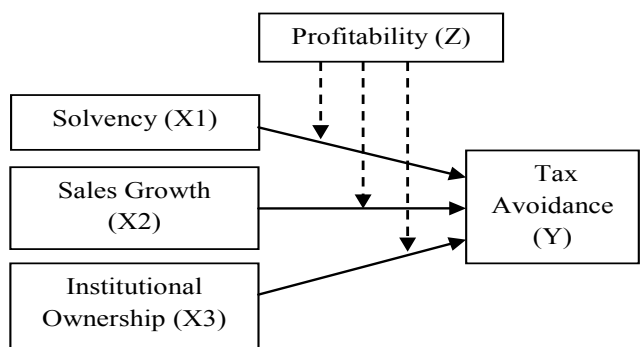
$$KL = \frac{\text{Total shares owned by the institution}}{\text{Total outstanding share}} \quad (4)$$

Next, the ratio of profitability of a company can provide a snapshot of a company's ability to generate profits for a certain period in the sales, assets, and certain share capital (Maharani & Suardana, 2014). Profitability is composed by gross profit margin, operating margin, net profit margin, Return on Equity (ROE), and Return on Assets (ROA). One of the ratios that will be discussed is the ROA. ROA is used in this research because it can provide an adequate measurement of the entire effectiveness of the company and can consider the level of profitability.

According to Kurniasih and Sari, (2013), ROA is an indicator that reflects the company's financial performance related to the company's net income and taxable income for the taxpayers. The higher the ROA is, the higher the profits obtained by the company and the better management of the assets of a company will be. When a company has profit growth, the amount of income tax will also increase. Then, the company tends to do tax avoidance. Dewinta and Setiawan (2016) agreed that profitability was proxied by the positive effect of ROA on tax avoidance. The ROA formula is as follows.

$$ROA = \frac{\text{Net Income}}{\text{Total Asset}} \quad (5)$$

The researchers use three independent variables which are solvency ( $X_1$ ), sales growth ( $X_2$ ), and institutional ownership ( $X_3$ ). Then, the moderating variable is profitability. Meanwhile, the dependent variable is tax avoidance ( $Y$ ). Moderating variables used can weaken or strengthen the relationship between the dependent and independent variables. It is shown in Figure 1.



*Information:*  
 —▶ = The influence of X variable to Y  
 - - - ▶ = Z variables influence on the relationship between X and Y

Figure 1 Conceptual Framework

The company makes use of debt to minimize the tax burden of the company. This is because the companies that have high debt will get tax incentives in the form of deduction of interest on loans. Thus, the company that has a high tax burden can make tax savings by increasing the company's debts. It can be classified as tax avoidance by the company. The higher of solvency ratio of company is, the higher tax avoidance measured will be.

Based on the explanation, the hypothesis is as follows.

Hypothesis 1: Solvency has positive effect on tax avoidance.

Kim and Im (2016) stated that companies with higher sales growth would be motivated to reduce cash outflows. Therefore, it was very proactive in avoiding taxes. Similarly, Dewinta and Setiawan (2016) explained that the sales growth significantly showed the positive effect on tax avoidance. Increased sales growth tended to make profit companies larger. Therefore, the company would tend to do tax avoidance.

Hypothesis 2: Sales growth has positive effect on tax avoidance.

Obtaining maximum profit is the main objective of the company. Therefore, many companies do tax avoidance to set the income earned and tax. Dewinta and Setiawan (2016) said that profitability was proxied by ROA as it had positive effect on tax avoidance. It means that the higher the profitability is, the higher the tax avoidance practices will be carried out by the company. It is because companies that have great profit will be more independent to take advantage of gaps (loopholes) for the management of the tax burden. Companies which can manage its assets properly will have a benefit from the tax incentives and other tax breaks. The company can be classified as committing tax avoidance.

Hypothesis 3: Institutional ownership positive effect on tax avoidance.

The greater the institutional ownership is, the stronger the controls performed by external parties against the company will be. It can allow the practice of tax avoidance. A large institutional owner who is based on voting rights can force managers to focus on economic performance and avoid opportunities for self-interested behavior. The company is responsible for the investors and institutional owners to have an incentive to ensure that the company manages to make decisions that will maximize shareholder wealth.

Hypothesis 4: Profitability can strengthen the relationship between the solvency and tax avoidance.

Hypothesis 5: Profitability can strengthen the relationship between the sales growth and tax avoidance.

Hypothesis 6: Profitability can strengthen the relationship between institutional ownership and tax avoidance.

The purpose of this research is to examine the effect of solvency, sales growth, and institutional ownership on tax avoidance, and to analyze the effect of profitability on the relationship between solvency, sales growth, and institutional ownership on tax avoidance. Then, there are several benefits of this research. First, it is for theory in tax science. This can be useful to increase theoretical knowledge and insights about tax avoidance and the factors that affect it in property and real estate firms listed on the Indonesia Stock Exchange. Second, this research is expected to give a positive and useful feedback as the decision-making and in tax management.

## METHODS

Based on the purpose, this research uses applied research method. Applied research is done by applying, testing, and evaluating the capabilities of an applied theory to solve practical problems (Sugiyono, 2010). Moreover, data collection technique in this research is documentary. The document is recorded in the form of posts, images, and others. This research uses a quantitative method and secondary data from company's financial statements of the real estate property sector listed in Indonesia Stock Exchange in 2011-2015 through the official website in [www.idx.co.id](http://www.idx.co.id). Meanwhile, the samples are taken by using purposive sampling method to get the total sample of 31 companies.

This research uses the classical assumption test to determine the presence of residual normality and be free from multicollinearity problems, autocorrelation problems, and heteroscedasticity problems in the regression model. Hypothesis test uses T-test and regression analysis moderation. Based on the variables used, regression equation is as follows.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 (X_1 Z) + \beta_5 (X_2 Z) + \beta_6 (X_3 Z) + e \quad (6)$$

The description is:

Y	= Tax Avoidance
X1	= Solvency
X2	= Sales Growth
X3	= Institutional Ownership
Z	= Profitability
$\alpha$	= constant
$\beta_1 - \beta_7$	= Regression Coefficients
e	= Standard error

This research uses the property and real estate companies as subject of research in period 2011-2015 listed in Indonesia Stock Exchange. The practice of tax avoidance in property transactions has been a familiar phenomenon in the business property. According to

the data checked, the data of Real Estate Indonesia (REI) conducted by the Directorate General of Taxes in 2011-2012 indicated that the existence of potential revenue from property tax was about Rp30 trillion by not including Value Added Tax (VAT). In fact, tax received in 2013 was only about Rp9 trillion (Detik Finance, 2013). It means that the development of property and real estate sector is very rapid, but it does not suit the increase in revenues from property taxes.

## RESULTS AND DISCUSSIONS

The subject of this research is a company's financial statements from the real estate and property sector listed in Indonesia Stock Exchange during the period of 2011-2015. The samples used in this research are 31 companies of 50 companies.

Normality test is to test whether the regression model has the normal distribution or abnormal distribution. This test is performed by using One-Sample Kolmogorov-Smirnov methods. The residual data can be classified into normal distribution if the significance value is more than 0,05. Table 1 shows that the value of significance (Asymp. Sig. 2-tailed) of 0,063 which means the significance is  $> 0,05$ . It can be said that the research data is normally distributed.

Table 1 One-Sample Kolmogorov-Smirnov Test

		Residual unstandardized
N		115
Normal	mean	0,0000000
Parameters a, b	Std. deviation	0,13895097
Most Extreme Differences	Absolute positive	0,081
	negative	-0,067
Test Statistic		0,081
Asymp. Sig. (2-tailed)		0,063c

After conducting the normality test, there are some changes in the number of sample data due to the variable data transform. Sales growth is transformed by LG10 and tax avoidance is by SQRT. Table 1 shows that the number of valid data in this research is 115 sample data.

Multicollinearity test is conducted to test whether the regression model finds a correlation between the independent variables. To detect the presence or absence of multicollinearity in the regression model, the researchers look at the value of Variance Inflation Factor (VIF) and Tolerance. If the value of VIF is  $\leq 10$  and Tolerance is  $\geq 0.10$ , it can be said that it is free from multicollinearity problem. Table 2 shows that all independent variables have the tolerance value of  $\geq 0,10$  and VIF  $\leq 10$ . It can be concluded that in regression model has no multicollinearity problem

between independent variables and the regression model has been feasible for this research.

Table 2 Multicollinearity Test

Model	collinearity Statistics	
	tolerance	VIF
1 (Constant)		
Lg10GS	0,958	1,043
INST	0,953	1,049
LEV	0,953	1,049
ROA	0,935	1,069

Table 3 Autocorrelation Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin Watson
1	0,479a	0,229	0,201	0,14145	2,167

a. Predictors: (Constant), ROA, INST, Lg10GS, LEV

b. Dependent Variable: SqrtCETR

Furthermore, autocorrelation test aims to test whether there is a correlation between each observation organized by time or place in a linear regression model. Good correlation model is a regression model that is independent of autocorrelation. This test can be calculated by using the test of Durbin Watson (DW) test. Table 3 shows the value of DW is 2,167. From the table of Durbin Watson with 115 data samples, 4 independent variables ( $k = 4$ ) and also based on the significant value 5%, it shows that DL value is 1,6246 and DU value is 1,7683. The value of  $4-DU = (4-1,7683) = 2,2317$ . DW value is located between DU and  $4-DU$  ( $1,7683 < 2,167 < 2,2317$ ), it can be concluded that there is no autocorrelation in the regression model used in this research. It can also be stated that this regression model is feasible to be used in this research.

Moreover, heteroscedasticity test is to determine whether the regression model has inequality residual variance from one observation to another observation. A good regression model is independent of heteroscedasticity. This uses scatterplot graph. Figure 2 is shown by the dots that are randomly distributed. Both above and below the number 0 are on the Y-axis. It can be said that there is no heteroscedasticity in the regression model.

T statistical test used to show the influence of independent variables individually in explaining the variation of dependent variable. This test is performed by comparing the value of the t statistic with the critical point.

For Hypothesis 1, based on the results of Table 4, it shows the t value is greater than t table ( $3,324 > 1,984$ ) and the significance value of 0,001 is smaller than a predetermined significance level of 0,05 ( $0,001 < 0,05$ ). Thus, Hypothesis 1 is accepted.

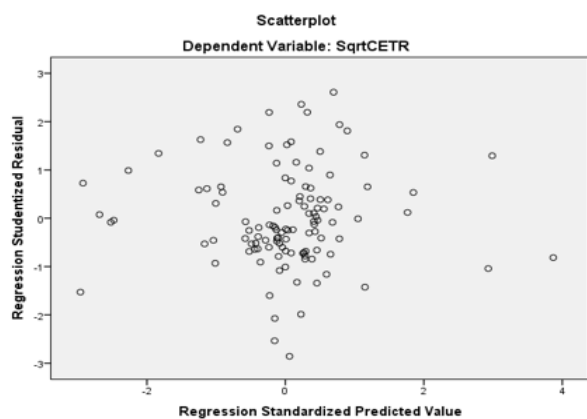


Figure 2 Scatterplot Graph

Table 4 T Statistical Test

Model	t	Sig.
1 (Constant)	6,809	0,000
LEV	3,324	0,001
Lg10	-1,375	0,172
INST	0,645	0,521

The higher number of third-party debt financing used by the firm is, the greater the company gets tax incentive in the form deduction of interest on loans. It means the company which has a high tax burden can get tax incentive by increasing the company's debts. It can be agreed that the company does tax avoidance to reduce tax payment. The high solvency ratio means tax avoidance is conducted by the company.

Next, for Hypothesis 2, Table 4 shows that the t value is smaller than t table (-1,375 < 1,984). Then, the significance value of 0,172 indicates it is greater than the predetermined significance level of 0,05 (0,172 > 0,05). Hypothesis 2 is rejected.

The higher sales growth of a company, the more the profit earned will increase. The company that earns large profits is assumed to do inaction of tax avoidance. It can manage the income and tax income expense. However, the company with high sales growth, still have to pay tax. Based on the test, the sales growth of a company does also not significantly influence the tax avoidance.

Based on the results of Table 4 for Hypothesis 3, it shows that t value is smaller than t table (0,645 < 1,984). In addition, the significance value of 0,521 indicates that it is greater than the predetermined significance level of 0,05 (0,521 > 0,05). Thus, Hypothesis 3 is rejected.

Institutional ownership is the ownership of shares owned by the government, insurance companies, foreign investors or a bank that has a great importance to the investment made. This includes a stock investment. The existence of institutional ownership can encourage the effective oversight of management performance. However, the owners still rely on the institutional managers for the supervision

and management of the company. With the presence or absence of institutional ownership in a company, tax avoidance is still allowed.

Furthermore, this research uses Moderated Regression Analysis (MRA) to test the effect of moderating variable on relationship between independent variables and dependent variable. A moderating variable is profitability. It is expected to give an impact on relationship between all independent variables and dependent variable in the equation of the regression coefficients where each variable has a significant interaction.

Table 5 Moderated Regression Analysis

Model	coefficients unstandardized	
	B	Sig.
1 (Constant)	0,376	0,000
LEV	0,063	0,028
Lg10	-0,055	0,370
INST	0,157	0,054
LEV * ROA	-0,190	0,688
Lg10* ROA	0,460	0,509
INST * ROA	-1,317	0,026

Based on regression testing moderation in Table 6 obtained an equation. The equation is as follows.

$$Tax\ avoidance = 0,376 + 0,063X1 - 0,055X2 + 0,157X3 - 0,190(X1Z) + 0,460(X2Z) - 1,317(X3Z) + e \quad (7)$$

Based on Table 5 for Hypothesis 4, it can be seen that the interaction between solvency and profitability shows the coefficient value of -0,190 and significance value of 0,688. This suggests that significant value is above 0,05. It can be concluded that profitability is not a variable that can moderate relationship between solvency and tax avoidance. Based on the test results, Hypothesis 4 is rejected.

The greater debt can make taxable income lower because tax incentive on debt interest is increasing. Moreover, the greater interest expense reduction will impact the company's tax burden. With increasing debt which serves as the capital of external parties, the company uses the capital for the operations of the company. It makes the company gain greater profit. The higher the value of its net profit is, the higher the profitability is. Companies that have high profitability get the opportunity to position themselves in tax planning to reduce the amount of tax liability burden. Therefore, the high solvency ratio is in line with the high ratio of profitability. Thus, the tax avoidance by the company will be lower.

For Hypothesis 5, Table 5 describes that the interaction variable gives the coefficient value of 0,460 and a significance value of 0,509. This implies that significant value is above 0,05. It can be concluded that profitability is not a variable that moderates the relationship between the sales growth and tax

avoidance. Thus, Hypothesis 5 is rejected.

Logically, if the sales volume increases, revenue will increase. It makes high profitability ratio values that can make high income and tax liability burden. The companies with high profitability ratio have an opportunity to position themselves in tax planning to reduce the amount of tax liability burden. The company still has to pay its tax debt. The results indicate the presence or absence of profitability in sales growth does not affect the tax avoidance.

In Hypothesis 6, Table 5 shows the interaction of variable gives the coefficient value of -1,317 and significance value of 0,026. This indicates the value of the coefficient gives negative and significant direction. It can be concluded that the profitability is the moderating variable on relationship between institutional ownership and tax avoidance. Therefore, Hypothesis 6 is accepted.

High institutional ownership will reduce the possibility of tax avoidance in the company. This is because the owner of the institution supervises the performance in managing revenue and decision-making so the managers cannot harm the interests of the shareholders. Good operating performance is reflected in the profitability ratios. The high profitability of the company can be concluded that it enables the profit managing efficiently. It gives an opportunity to company to take tax planning to reduce the amount of tax liability burden.

## CONCLUSIONS

Based on the hypothesis testing results, several things can be concluded. First, solvency ( $X_1$ ) has a significant and positive effect on tax avoidance. Meanwhile, sales growth ( $X_2$ ) and institutional ownership ( $X_3$ ) do not affect tax avoidance. Then, profitability cannot moderate the effect of solvency and sales growth on tax avoidance. The profitability can moderate the influence of institutional ownership on tax avoidance.

Based on the results, the researchers can give several suggestions to property companies. First, the company's management can pay more attention to every action that will be nailed. It can assume the risk of the decisions that have been made to make tax payments which lead to tax evasion. Second, tax planning must be carefully considered to avoid all tax administration sanctions and the bad view of investors against the company. Furthermore, for the further research, it can increase the number of research samples and use the other types of companies and sectors listed in Indonesia Stock Exchange (BEI). It can use or add other variables that influence the actions of tax avoidance.

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