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The Examination of Trade Off Theory and Pecking Order Theory to Capital Structure on Plantation Companies Listed in Indonesia Stock Exchange

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Abstract

Plantation is a promising sector, but just like other firms, this sector will also face the financing problem. Capital structure determines the cost of capital and the risk assumed by the firm. Trade-off and Pecking order theory are the most common theory used to determine the capital structure. The objective of this research is to examine plantation companies tend to use trade-off theory or pecking order theory in determining the capital structure decision. This research used multiple linear regression analysis methods with capital structure as the dependent variable, and the asset structure, firm size, company growth, institutional ownership, effective tax rate, and non-debt tax shield as the independent variables.

This is a quantitative research that uses secondary data from financial statements of plantation companies listed in the Indonesia Stock Exchange for 2014 to 2019. The sample was determined by using the purposive sampling technique and 5 out of 21 companies fulfill the sampling requirements. This study conducted observations for 6 years with a total of 30 research samples. The results of this research are both trade-off and pecking order theory are used and still relevant in the capital structure determination. Trade-off theory exerts more influence on capital structure decisions than pecking order theory. This is confirmed by the partial T-test where firm size, institutional ownership, effective tax rate, and non-debt tax shields suggest the use of trade-off theory, only asset structure indicates the tendency of pecking order theory.

Keywords:Capital Structure, Asset, Structure, Firm Size, Company Growth. Institutional ownership, Effective tax rate, Non debt tax shield.

I. INTRODUCTION

The main goal of the company is to increase the value of the company. So, managers must be able to determine the right strategy in order to achieve all these goals and advance the company to compete in the global market [15]. The agriculture sector is one of the sectors listed in the Indonesia stock exchange that has good prospects. Among all sub-sectors in Agriculture, Plantation sub-sectors consist of most issuers, most of which produce palm oil as their main product. Indonesia has become the global leader of palm oil producers and exporters. In 2019,

Indonesia has produced 42.5 million tons of palm oil which is equal to 58% of the global supply [13]. Besides that, Indonesia is also one of the global biggest consumers of palm oil. In 2019, domestic palm oil consumption grew by 23.57% or increased from 13.49 million tons in 2018 to 16.67 million tons in 2019 [6]. But just like other firm, this sector will also face the financing problem. Because, plantation sub-sector needs a lot of funds on its non-current assets, such as biological assets, plantation, and fixed assets. Every company has flexibility in choosing its capital structure. Capital structure is an important issue for every company because it determines the cost of capital and the risk assumed by the firm [14]. A bad capital structure will be a heavy burden for the company. Capital structure funding is divided into two, namely internal and external funding sources. Internal funding comes from retained earnings while external funding comes from long-term debt and issuance of shares.

Capital Structure theories that are widely used are Trade-off theory and Pecking order theory. Trade-off theory emphasizes the balance between cost (bankruptcy cost) and benefit (tax benefit) from the capital cost of debt usage. Pecking order theory financing is based on the safest and the smallest capital costs, starting from retained earnings, debt and stocks. Capital structure policy decisions can be influenced by several factors, such as asset structure, firm size, company growth, institutional ownership, effective tax rate, and non-debt tax shield. A higher asset structure indicates the amount of fixed assets owned by a company that can be used as debt collateral, so that company may tend to use greater debt in the capital structure [1]. Large companies can get loans and raise funds easier compared to small companies [5]. Better company growth can obtain external funds easier because its ability to pay debts is often considered good [7]. According to Michaely and Vincent [3], as institutional ownership rises, less information asymmetry and tax advantage that can be obtained by institutions as the equity holders, will lead to more equity financing. However, higher institutional ownership may also gain more authority to accept higher-risk projects in order to maximize profits [2]. So, to fund the projects, debts are more likely to be used. In trade-off theory, companies tend to increase debt levels under rising effective tax rate conditions [11]. Firms with high non-debt tax shields tend to use lower debt compared to companies with lower non-debt tax shields because assets are self-owned and high non-debt tax shields will grow neither agency problem nor risk of financial distress [12].

Table 1.1 Percentage Change of Asset Structure, Firm Size, Company Growth, Institutional Ownership, Effective Tax Rate, Non-Debt Tax Shield During 2018 to 2019

Variables	2018-2019 % change		
	AALI	LSIP	DSNG
Asset Structure	-4.11%	-0.63%	6.15%
Firm size	-0.53%	-0.55%	1.21%
Company growth	-93.69%	-0.02%	-102.59%
Institutional Ownership	0.00%	0.00%	0.11%
Effective tax rate	103.02%	35.08%	24.37%
Non-debt tax shield	3.33%	-0.57%	35.32%
Capital structure	11.14%	-0.71%	-4.26%

Source: IDX and IDN Financials (2021)
Prepared by Writer (2021)

From the data phenomena above, during 2018-2019, all three companies experience a rise in effective tax rate and a fall in company growth. AALI reacted by increasing its debt to equity ratio, but on contrary, DSNG responded by lowering its debt portion. LSIP took the middle route by decreasing its debt portion, but only slightly. The observation of the three firms during this brief unfavorable period indicates that both trade-off and pecking order theory are still relevant in the capital structure decision taken by the observed plantation companies listed in Indonesia Stock Exchange during 2014-2019.

II.LITERATURE REVIEW

1. Trade Off Theory

Trade off theory explains the relationship between capital structure and firm value. According to this theory, the company's value will increase along with the increase in debt value. However, this value will start to decline at a certain point when it reaches the optimal debt level. In trade-off theory, a company cannot use too much debt because the higher the debt, the greater the interest rate that must be paid and the greater the possibility of the company not being able to pay interest, which results in a high probability of bankruptcy[4].

The trade-off theory assumes that the company's capital structure is the result of a ” trade-off ” from tax benefits and the costs that will arise from using debt. If the benefits received are greater, then the debt will be added but if the sacrifice due to the use of debt is greater, then the debt cannot be increased anymore. Debt will incur an interest expense that can save tax, which is the benefit of using debt. Interest expense can be deducted from income so that reducing the profit before tax, thus the tax to be paid by the company will also become smaller. However, too much debt will lead to financial difficulties or bankruptcy [8]. So, it keeps companies from using debt at excessive levels. Trade-off theory is called a trade-off model because the optimal capital structure can be achieved when the benefit of using debt and the cost of financial distress are balanced.So, based on this theory, the greater the level of debt, the more tax paid is reduced. However, the amount of debt usage is limited by the risk of bankruptcy costs and the cost that arises before the company goes bankrupt.

2. Pecking Order Thoery

Pecking order theory states that the company prefers internal financing which is funding from the company's operating results in the form of retained earnings. If external financing is

required, the company will choose to use debt first, starting with the issuance of bonds, followed by the issuance of securities with option characteristics, and only if still inadequate, new shares will be issued. So the funding sources that refer to pecking order theory are internal funds, debt, and equity. Debt is preferred over stock issuance because the cost of debt issuance is cheaper than the cost of issuing new shares and can avoid share price decline due to asymmetric information between management and investors [15].

According to Pangeran [15], Pecking order theory explains that highly profitable companies generally have less debt and low debt ratio targets because the company does not need funds from external parties. This theory shows that companies prefer the use of retained earnings to pay dividends and finance new investments. The investment will be financed with internal funds first, followed by the issuance of debt, and the issuance of new equity as the last option. Asymmetric information will also cause companies to prefer internal funding rather than external.

3. Capital Structure

Capital structure refers to how funding for the company is chosen through a combination of company internal capital, debt, and shares. Capital Structure is an important issue for every company because it determines the cost of capital, the risk assumed by the firm as well as the flexibility, liquidity, and control of owners on the firm. Capital structure funding is divided into internal funding (retained earnings) and external funding (long-term debt and shares). The right composition between debt and equity will form an optimal capital structure so the firm value can be maximized with a minimum capital cost [7].

4. Asset Structure

Under trade-off theory, the more fixed assets owned by a firm, the greater the potential debt collateral to be offered to creditors, enable it to get loans easier and leading to the use of greater debt to take the tax shield benefit all at once. The research conducted by Mia Oktavina, Sahala Manalu & Sari Yuniarti (2018) and Dompak Pasaribu (2018) shows that asset structure has a significant positive effect on capital structure.Higher asset structure also means that the company is equipped with more fixed assets that enable it to produce higher operational results [10]. This would generate more profit, some of which will be transferred to the retained earnings, increasing the internal funding source. Under pecking order theory, the company will prioritize the use of retained earnings before debt. So, although a firm has an increased asset structure, it might not increase its debt if the funding needs can still be fulfilled by retained earnings. So, it can lead to a stable or decreasing debt-equity ratio.

5. Firm Size

Normally, large companies can get loans easier compared to small companies because large companies are considered to have diversified capital sources, so that be able to reduce the risk of bankruptcy and more able to fulfill the obligations. If larger firms make use of its easier-to-get-loan state to increase debts to get tax benefits, it implies the implementation of trade-off theory. In this way, larger firms will have a higher debt-to-equity ratio. The research conducted by AA Sg Mira Dewi Setiawati, and I Wayan Putra (2015) shows that the firm size of the company has a positive and significant impact on the capital structure. Larger firms have higher potential to generate more profit, part of which will be accumulated to the retained earnings and strengthen the firm's internal funding source. When these larger firms, despite their opportunity to get loans easier, decide to prioritize the use of retained earnings to debt, then the pecking order theory is followed. So, larger firms will have a lower debt-to-equity ratio.

6. Company Growth

Expanding companies required a lot of funds so that companies often need to gather external financing in the form of either debt or stock issuance. Using debt increases the risk of bankruptcy and considering that firms with high growth opportunities already have higher bankruptcy costs, such firms will prefer equity financing instead. This can be explained by trade-off theory that recommends the limitation of debt in high bankruptcy risk circumstances [11]. Under pecking order theory, when retained earnings are insufficient, high-growth firms should maintain their preference to fund the growth from debt first, and issue stocks as the last option. So, the debt-to-equity ratio increases. The research conducted by AA Sg Mira Dewi Setiawati and I Wayan Putra (2015) found that firm growth has a positive significant effect on the capital structure.

7. Institutional Ownership

According to Michaely and Vincent [3], when institutional ownership portion rise, there will be less information asymmetry and tax advantage that can be obtained by institutions as the equity holders, which will lead to more equity financing that is in line with the trade-off theory which suggests the issuance of stock rather than the use of debt to be conducted as long as a more optimal capital structure can be reached.More institutional ownership may also gain more authority for the institutions as the equity holder, to accept higher risk projects in order to maximize profits [2]. Effective institutional ownership prevents management from making harmful decisions, so that can reduce the cost of borrowing considering that the firm becomes less risky [3]. So, to fund the profitable risky projects, debts are more likely to be used which complies with the pecking order theory. The research conducted by Nilam Indah Cahyani & Nur Handayani (2017) found that Institutional Ownership has a positive influence on the capital structure.

8. Effective Tax Rate

Unlike the tax rate stipulated by the government, the effective tax rates among firms and even from year to year for a firm could be different. The effective tax rate can be used as an indicator of the effectiveness of tax planning [9]. The lower the effective tax rate below the government-stipulated tax rate, the more successful and effective the tax planning already implemented by the firm [16]. According to trade-off theory, a higher effective tax rate will encourage firms to increase debt financing in order to get more tax deductions and this is also a suitable move for a company that already failed to minimize its tax expense through tax planning. This will cause the debt-equity ratio to increase [11].

9. Non-Debt Tax Shield

Non-debt tax shields are other elements besides debt interest expense that can be used as a tax deduction. Companies with high non-debt tax shields tend to use lower debt compared to companies with lower non-debt tax shields because assets are self-owned and high non-debt tax shields will grow without agency problem or risk of financial distress [12]. In Income Tax Law No. 36 Year 2008 Paragraph 6 Article 1, the existence of depreciation and amortization are recognized as non-debt tax shields.In trade-off theory, more non-debt tax shields will lead to lower debt to equity ratio because the benefit offered by debt interest tax has been taken over by non-debt tax shields. On the other side, similar to the effective tax rate, the pecking order theory does not make any prediction for a non-debt tax shield as it is also a tax-related determinant [17]. The research conducted by Serrasqueiro and Caetano (2015) found that a non-debt tax shield has a partially significant negative effect on capital structure.

Research Model

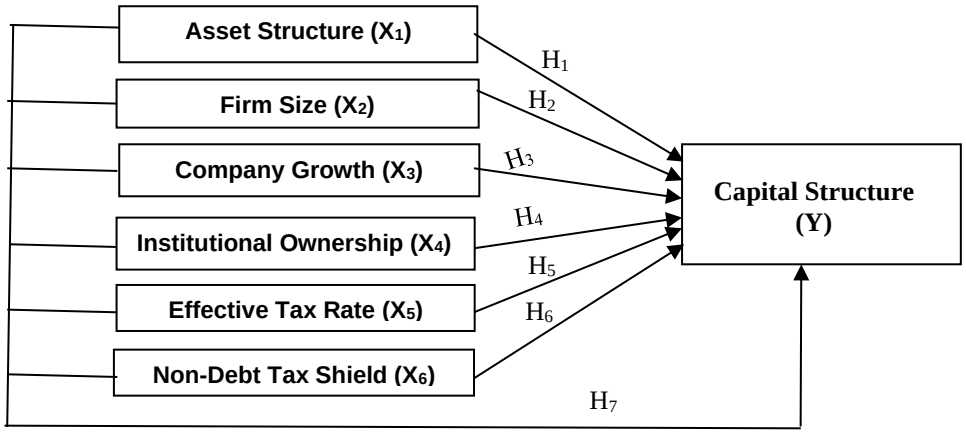

Figure 1.1 Research Model
Source: Prepared the writer (2021)

Hypothesis Suggested by Trade off theory and Pecking order theory

H_1: Asset Structure partially has a significant negative effect on Capital Structure.

H_2: Firm Size partially has a significant positive effect on Capital Structure.

H_3: Company growth partially has a significant positive effect on Capital Structure.

H_4: Institutional Ownership partially has a significant positive effect on Capital Structure.

H_5: Effective Tax Rate partially has a significant positive effect on Capital Structure.

H_6: Non-Debt Tax Shield partially has a negative significant effect on Capital Structure.

H_7: There is a simulteneous effect of asset structure, firm size, company growth, institutional ownership, effective tax rate and non debt tax shield towards capital structure in the plantation company listed in Indonesia Stock Exchange.

III. RESEARCH METHODS

Research Design and Data Collection Method

This is a quantitative method with a descriptive approach and the data is collected from the annual report of plantation companies from 2014 to 2019. Data is obtained through the website of www.idx.co.id and www.idnfinancial.com.

Population and Sample

The Population is plantation companies that registered at www.idx.co.id. Total population of plantation companies in 2014-2019 are 21 companies. This research applies the purposive sampling technique with the following criteria:

1. Companies that are listed and categorized consistently under Plantation sub-sector in Indonesia Stock Exchange during the year 2014 to 2019
2. Plantation sub-sector companies that have issued and published complete and audited annual financial statement for the year 2014 to 2019.
3. Plantation sub-sector firms that never suffer any losses during the year 2014 to 2019.

There are 5 plantation sub sector companies chosen as sample from the population of 21 companies that fulfill the above criteria on the table below:

Table 1.3 Lists of Sample Companies

Rank	Company Code	Company Name
1	AALI	Astra Agro Lestari Tbk
2	LSIP	PP London Sumatra Indonesia Tbk
3	DSNG	Dharma Satya Nusantara Tbk
4	SSMS	Sawit Sumbermas Sarana Tbk
5	SGRO	Sampoerna Agro Tbk

Source: Prepared by the writer (2021)

Operational Variable and Measurement

Variable	Indicator	Scale
Capital Structure (Y)	DER = Total Liabilities /Total Equity	Ratio
Asset Structure (X_1)	AS = Fixed Asset / Total Asset	Ratio
Firm Size (X_2)	FS = Ln Total Revenues	Ratio
Company Growth (X_3)	CG = (Asset $_{Y1}$-Asset $_{Y-1)}$ / Asset $_{Y-1}$	Ratio
Institutional Ownership (X_4)	IO= Shares owned by institutions / Shares Outstanding	Ratio
Effective tax rate (X_5)	ETR = Income Tax Expense / Income Before Tax	Ratio
Non-debt tax shield (X_6)	NDTS= Amor + Depre / Income Before Tax	Ratio

V. FINDINGS AND RESULTS

Table 1.5 Descriptive Statistic result

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
AS	30	.1478	.6393	.346091	.1246462
FS	30	14.5951	16.7644	15.413903	.6411783
CG	30	-.0101	.7307	.129557	.1566723
IO	30	.5501	.7968	.670057	.0917512
ETR	30	.0428	.9218	.376797	.2010052
NDTS	30	.0203	.0474	.031321	.0083733
CS	30	.1971	2.2083	.983802	.7134454
Valid N (listwise)	30				

Source: Data Processing with SPSS 26 (2021)

Based on the results, we can see the minimum, maximum, mean and standard deviation of each variable. Example, Capital Structure (Y) has minimum value 0.1971 that represent PT PP London Sumatra Indonesia Tbk in 2017. The maximum value is 2.2083 that represent PT Dharma Satya Nusantara Tbk in 2018. Mean value for the dependent variable is 0.983802 and for the standard deviation is 0.7134454.

Normality Test

Table 1.6 Normality Test Result

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		30
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	.33998870
Most Extreme Differences	Absolute	.104
	Positive	.056
	Negative	-.104
Test Statistic		.104
Asymp. Sig. (2-tailed)		.200[c,d]
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		
d. This is a lower bound of the true significance.		

Source: Data Processing with SPSS 26 (2021)

This research uses Kolmogorov-Smirnov (K-S) test. The significance value obtained from this test is 0.200 (0.200> 0.05), So that it passes the normality test.

Multicolinearity Test

Table 1.7 Multicollinearity Test

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-4.481	2.074		-2.160	.041		
	AS	-2.272	.629	-.397	-3.610	.001	.817	1.224
	FS	.641	.157	.576	4.072	.000	.493	2.028
	CG	.689	.523	.151	1.316	.201	.747	1.338
	IO	-4.443	1.024	-.571	-4.337	.000	.569	1.758
	ETR	1.458	.439	.411	3.319	.003	.644	1.552
	NDTS	-41.328	12.420	-.485	-3.327	.003	.465	2.152
a. Dependent Variable: CS								

Source: Data Processing with SPSS 26 (2021)

From the results, all the independent variables have tolerance values greater than 0.1 and VIF less than 10, which indicate that the regression model is free from multicollinearity problem.

Heteroscedasity Test

Table 1.8 Heteroscedasity Test using Glejser Test

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.015	1.158		.877	.390
	AS	.178	.351	.106	.507	.617
	FS	-.029	.088	-.090	-.335	.741
	CG	.190	.292	.143	.652	.521
	IO	-.681	.572	-.299	-1.191	.246
	ETR	-.139	.245	-.134	-.568	.576
	NDTS	3.980	6.934	.160	.574	.572
a. Dependent Variable: Abs_Res						

Source: Data Processing with SPSS 26 (2021)

All independent variables have the significant value above 0.05, which meets the Glejser test criteria. It means all variables do not have any heteroscedasticity problem.

Autocorrelation Test

Table 1.9 Autocorrelation Test using Durbin Watson Test

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.879[a]	.773	.714	.3817680	1.094
a. Predictors: (Constant), NDTS, CG, AS, IO, ETR, FS					
b. Dependent Variable: CS					

Source: Data Processing with SPSS 26 (2021)

The Durbin-Watson test value is 1.094. The α=0.05, k=6 and n=30, the dL value is 0.9982 and dU values is 1.931.The result is 1.094 and it is in the position of"no decision". So, Run Test is implemented.

Table 1.10 Autocorrelation Test using Run Test

Runs Test	
	Unstandardized Residual
Test Value[a]	.04972
Cases < Test Value	15
Cases >= Test Value	15
Total Cases	30
Number of Runs	13
Z	-.929
Asymp. Sig. (2-tailed)	.353
a. Median	

From the result, Asymp. Sig. (2-tailed) value is 0.353, which is more than 0.05. So, the autocorrelation test is passed.

Multiple Linear Regression Analysis

Table 1.11 Multiple Linear Regression Analysis

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4.481	2.074		-2.160	.041
	AS	-2.272	.629	-.397	-3.610	.001
	FS	.641	.157	.576	4.072	.000
	CG	.689	.523	.151	1.316	.201
	IO	-4.443	1.024	-.571	-4.337	.000
	ETR	1.458	.439	.411	3.319	.003
	NDTS	-41.328	12.420	-.485	-3.327	.003
a. Dependent Variable: CS						

Source: Data Processing by SPSS 26 (2021)

Based on the results above, the Capital Structure as Y, Asset Structure as X_1, Firm Size as X_2, Company Growth as X_3, Institutional Ownership as X_4, Effective Tax Rate as X_5 and Non-Debt Tax Shield as X_6, the multiple linear regression analysis can be formulated as follow:

$$Y = -4.481 - 2.272 X_1 + 0.641X_2 + 0.689X_3 - 4.443X_4 + 1.458X_5 - 41.328X_6 + e$$

Result of Hypothesis Testing

Partial T-Test

Table 1.12 Partial T-Test Results

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4.481	2.074		-2.160	.041
	AS	-2.272	.629	-.397	-3.610	.001
	FS	.641	.157	.576	4.072	.000
	CG	.689	.523	.151	1.316	.201
	IO	-4.443	1.024	-.571	-4.337	.000
	ETR	1.458	.439	.411	3.319	.003
	NDTS	-41.328	12.420	-.485	-3.327	.003
a. Dependent Variable: CS						

The degree of freedom is 23 (30 – 7) with the 5% significance level used, the t-table is 1.714. From the result, AS, IO, and NDTS have negative effect on DER, while FS,CG and ETR have positive effects on DER. The positive and negative effect is confirmed by the value of t-count and the significant effect is proved by the significant value from the table which results 5 out of 6 independent is significant and only 1 independent variable is insignificant.

Simultaneous F-Test

Table 1.13 Simultaneous F-Test Results

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.409	6	1.901	13.047	.000[b]
	Residual	3.352	23	.146		
	Total	14.761	29			
a. Dependent Variable: CS						
b. Predictors: (Constant), NDTS, CG, AS, IO, ETR, FS						

Source: Data Processing With SPSS 26 (2021)

The significance value is 0.000 (0.000<0.05) means that all independent variables observed have significant simultaneous effect on the capital structure. Hence, H_7 is accepted.

Coefficient of Determination

Table 1.14 Coefficient of Determination Result

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.879[a]	.773	.714	.3817680	1.094
a. Predictors: (Constant), NDTS, CG, AS, IO, ETR, FS					
b. Dependent Variable: CS					

Source: Data Processing with SPSS 26 (2021)

The adjusted R^2 is 0.714. This means that 71.4% of the capital structure is influenced by the independent variables. Meanwhile, the remaining 28.6% of the capital structure is influenced by independent variables that are not observed in research.

V. DISCUSSION

1. The Effect of Asset Structure towards Capital Stucture

Asset structure has significant negative effect on capital structure. It is determined by the significance value of 0.001(0.001 < 0.05), as well as the t-count value -3.610 which is negative (t-count of -3.610 < -t-table of -1.714). So, the H_1 is accepted and this is in line with the pecking order theory. A higher asset structure means that more fixed assets are to be used to generate higher profit, part of which will increase retained earnings as the internal funding source. Under

the pecking order theory, the company will prioritize the use of retained earnings because it is safer and least costly. If it is still not sufficient, debt will be used, followed by stock issuance as the last option. So, although a firm has an increasing asset structure, it may not increase its debt as long as its funding needs can still be financed from retained earnings, leading to stable or even decreasing debt to equity ratio This research outcome is supported by results obtained by Simatupang et al. (2019).

2. The Effect of Firm Size towards Capital Stucture

Firm size has a significant and positive effect on capital structure. The significant effect is confirmed by the significance value of the test 0.000 (0.000 < 0.05), as well as the t-count value 4.072 which is positive (t-count of 4.072 > t-table of 1.714). So, the H_2 is accepted and this is comply with the trade-off theory. Larger company has greater access to gain funding from various sources, hence having more diversified capital sources to reduce the risk of bankruptcy and better ability to fulfill obligations. Large companies can raise funds and get loans easier. Encouraged by that, larger firms that follow trade-off theory will prioritize debt for funding, for the sake of higher company value and more tax benefit, leading to an increase in debt to equity. This accordance with the result obtained by Serrasqueiro and Caetano (2015).

3. The Effect of Company Growth towards Capital Stucture

Company growth is the only independent variable in this research that does not have a significant effect on capital structure. It is also indicated that company growth exerts a positive effect on capital structure, although it is insignificant. The insignificant effect is determined by the significance value of 0.201 (0.201 > 0.05), as well as the t-count value 1.316 which is positive (t-count of 1.316 < t-table of 1.714). Therefore, the H_3 in this research is rejected but the positive effect of company growth towards capital structure is in line with pecking order theory. This finding is also supported by the result of Oktavina et al. (2018), Simatupang et al. (2019) also Serrasqueiro and Caetano (2015).

4. The Effect of Institutional Ownership towards Capital Stucture

Institutional ownership has a significant and negative effect on the capital structure that is proved by the significance value of 0.000 (0.000 < 0.05), as well as the t-count value -4.337 which is negative (t-count of -4.337 < -t-table of -1.714). Therefore, the H_4 is accepted and infers the tendency towards trade-off theory. Institutions gather information and carry out trades based on them. Their decision in stock trading is usually more trusted and becomes a reference by many non-institutional investors. In this process, equity-related problems of information asymmetry are reduced, hence eliminating some of the adverse selection costs of equity and lowering the cost of equity relative to debt. This will encourage firms to use more equity financing in their capital structure, causing the debt-to-equity ratio to decline. Besides, most institutions are given some kind of tax facility. In Income Tax Law No.36 Year 2008 Paragraph 4 Article 3 point (f), the institutional owners owning at least 25% of the total paid-in capital is free of tax on the dividends

received as it is considered as a non-taxable object. Hence, firms with higher institutional ownership tend to issue more stocks than firms owned by individuals, as managers can appeal for more institutional investments by reminding about the tax advantage on equity income that may be enjoyed by institutions. As the institutional ownership portion rise, less information asymmetry and the tax advantage that can be obtained by institutions as the equity holders will lead to more equity financing so that lower the debt to equity ratio. This is in line with the trade-off theory which justifies the issuance of stock rather than the use of debt, to maintain or get near to the optimal capital structure.

5. The Effect of Effective Tax Rate towards Capital Stucture

The effective tax rate has a significant positive effect on capital structure, which is proven by the significance value of 0.003 (0.003 < 0.05), as well as the t-count value of 3.319 which is positive (t-count of 3.319 > t-table of 1.714). Therefore, the H_5 is also accepted and implies a tendency to follow the trade-off theory. Effective tax rate represents the percentage of income that a company pays out as taxes. A high effective tax rate may indicate that company has not yet implemented the tax planning effectively. A higher effective tax rate means that more tax shield benefits can be taken by the firms if debt utilization is raised. Following the proposition of trade-off theory, firms would likely take advantage of the increase in effective tax rate by also increasing debts, which interest costs are expected to allow more tax-saving benefits, leading to the rising capital structure. Raising debts in order to obtain more tax deductions is also a reasonable action for firms that have already failed to minimize its tax expense through effective tax planning.

6. The Effect of Non-Debt Tax Shield towards Capital Stucture

Non-debt tax shield has a significant negative effect on capital structure. The significant partial effect is proved by the significance value of 0.003 (0.003 < 0.05), as well as the t-count value -3.327 which is negative (t-count of -3.327 < -t-table of -1.714). Therefore, the H_6 is accepted and indicates the tendency to the trade-off theory. Non-debt tax shield comprises elements other than debt interest which can also offer tax benefits, such as depreciation and amortization. Firms with higher non-debt tax shields will be able to use fewer debts while obtaining sufficient expected tax deductions. Therefore, debt to equity ratio of such companies will tend to be lower. The results obtained by Pasaribu (2018) and also by Serrasqueiro and Caetano (2015) support the finding of this research.

7. The Effect of Asset Structure, Firm Size, Company Growth, Institutional Ownership, Effective Tax Rate, and Non-Debt Tax Shield towards Capital Stucture

Based on the results of the F-test, AS, FS, CG, IO, ETR, and NDTS are proved to have significant simultaneous effects towards the capital structure. It is confirmed by the significance value resulting from the test is 0.000 which is less than 0.05. Therefore, the H_7 is accepted.

Table 1.14 Summaries of Results and Theoretical Expected Relationship

Independent Variables	Resulted Relationship	Theoretical Expected Relationship		Suggested Theory
		Trade-off	Pecking Order	
Asset Structure	Negative	Positive	Negative	Pecking Order
Firm Size	Positive	Positive	Negative	Trade-off
Company Growth	Positive	Negative	Positive	Pecking Order
Institutional Ownership	Negative	Negative	Positive	Trade-off
Effective tax rate	Positive	Positive	-	Trade-off
Non-debt tax shield	Negative	Negative	-	Trade-off

Source: Yildirim (2021)
Prepared by writer (2021)

VI. CONCLUSION

The conclusions of the analysis results are:

1. Asset structure, firm size, company growth, institutional ownership, effective tax rate and non-debt tax shield has a significant simultaneous effect on the capital structure. This result is in accordance with the eleventh hypothesis of this research.
2. The adjusted R^2 shows that 71.4% of the capital structure of plantation companies listed in Indonesia Stock Exchange from 2014 to 2019 is influenced by the independent variables used in this research, while the remaining 28.6% of capital structure is influenced by other variables not observed in this research
3. Both the trade-off and pecking order theory are still relevant in the capital structure determination of plantation companies listed in the Indonesia Stock Exchange during 2014-2019. However, there is a strong indication that the trade-off theory exerts more influence on the capital structure decision than the pecking order theory does. This is confirmed by the partial T-test results where 4 out of 5 independent variables with significant effects suggest the use of trade-off theory, leaving only one independent variable which indicates a tendency to pecking order theory.
4. According to the regression equation, the change in non-debt tax shield regression coefficient is -41.328 are predicted to the most change in the capital structure than the changes of the other five variables do.

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