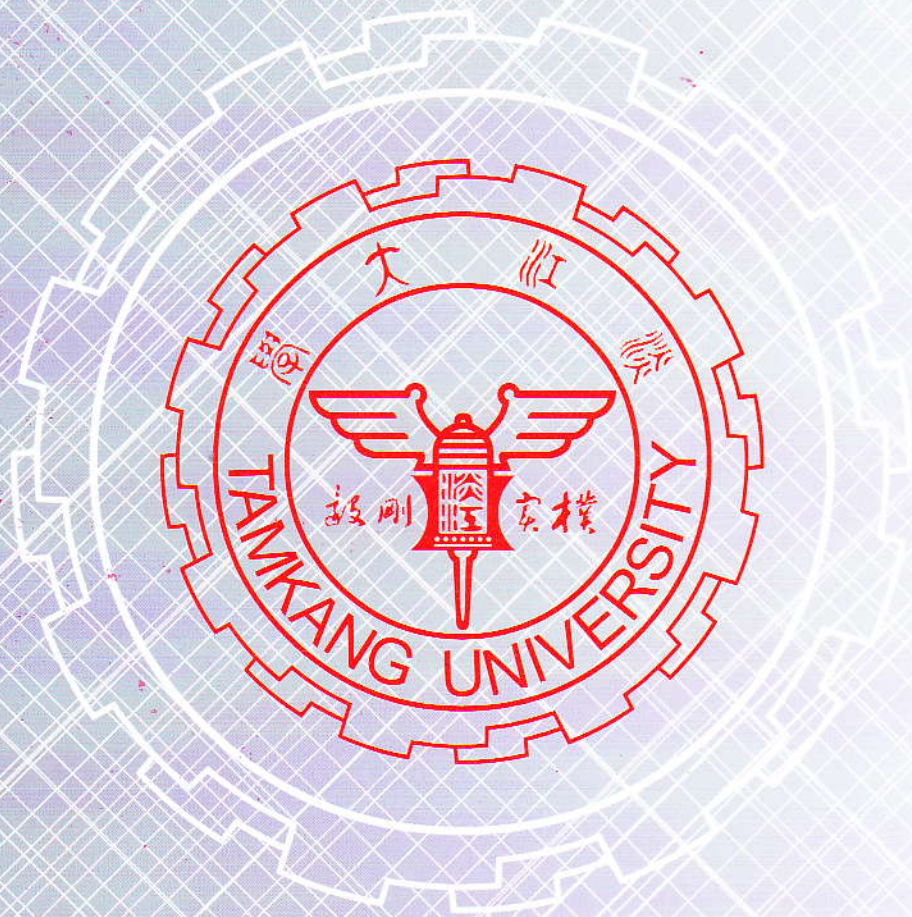


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Dynamics Capital Structure Of Firms In Indonesia Stock Exchange

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Abstract

This study attempted to examine the dynamic capital structure model based on a sample on manufacturing company in Indonesia. The data used is panel data of listed companies in Indonesia Stock Exchange in the period 2000-2008. Companies in Indonesia following the dynamic capital structure, the target company's capital structure adjust over time and it is a function of exogenous and endogenous factors change.

Based on the results of the analysis show that the optimal leverage changes, are significantly influenced by several factors: NDTs (Non Debt Tax Shield), TANG (Tangibility), GROWTH, SIZE, PROF (Profitability), TCS (Trade Credit to Sales), TDS (Trade Debt to Sales), TAX, LIQ (Liquidity), and the optimal leverage fluctuate reflects the company adjustment over time to exogenous and endogenous factors of firm.

The study also specify the speed of adjustment towards the optimal level of leverage. The amount of adjustment of the company in achieving optimal leverage on average per year of 0.80 or 80% within one year or the average time required to achieve the optimal leverage is 1.26 years. Speed of adjustment affected, by firm characteristics. Current liabilities, growth, and the size of the company showed a positive effect, while profitability shows a negative effect and that show significant effect on the speed of adjustment is profitability.

Keyword: *capital structure dynamic, leverage, speed of adjustment,*

1. INTRODUCTION

Background

So far, empirical research on capital structure, aiming to identify a model or theory of capital structure that can explain the corporate financing decisions. The proportion of internal and external sources of funding to meet the needs of the enterprise funds, which in turn referred to as capital structure becomes very important in corporate financial management.

Several empirical studies show that some important financing behavior can not be explained on the Static Trade Off, as there are wide variations in the level of debt, even in companies with similar financing characteristics. On the other side of the pecking order theory (Myers and Majluf, 1984; Donaldson, 1961) corporate financing decisions based on the hierarchy of internal financing is preferred than external funding. If you have to use external financing, the debt is more preferable than to use the equity. Pecking order theory does not indicate a target capital structure. Financing requirements are determined by investment decision. Pecking order theory could explain why companies that have high rates of return would have a smaller debt levels. Trade off and pecking order theory are not mutually exclusive. Both of theories can explain capital structure decision. Research in Netherlands shows that capital structure decisions based on trade off theory is

important for long-term leverage decisions, while pecking order behavior is dominated to a decision in the short term leverage. (De Haan et al, 1994; De Haan and Hinloopen, 2003 in Ralph de Haas and Peeters Marge, 2006).

In the Last decades there is development of modern financial theory, the previous studies did not explain the differences of observed debt ratio and optimal debt ratio, but only explain the difference between the optimal debt ratio of firms. Most empirical research using the observed leverage ratio as a proxy for the optimal leverage as Titman & Wessels, 1988; Rajan & Zingales, 1995 did.

The concept of a target debt ratio reflects trade off between benefits and costs of debt financing. These studies also ignore the possibility of economic shock that made the company move away from its targeted debt ratio, it could have been a target debt ratio changes over time. This concept plays an important role in various theories of optimal capital structure. Fama & French (2002) suggested the company should move slowly to achieve the target debt ratio. If the optimal leverage or target leverage vary over time, the condition is called "dynamic trade-off theory". Actual capital structure at a time may not equal to the targeted capital structure. This targeted capital structure estimated and specified. Dynamic tradeoff capital structure theory is characterized as activity to balance at the optimal level of leverage. The company will allow leverage ratio varies in

a range, and they will choose to rebalance when the benefits exceed the costs of adjustment. Adjustments should be at the debt leverage ratio which the marginal benefit equal to marginal cost. Leary and Robert (2005) explains that the characteristics of the transaction costs affecting management efforts to achieve the target. The existence of transaction costs that could hinder the full adjustment to the target.

Flannery and Rangan (2006) estimate the dynamic partial adjustment model to analyze decisions to balance of leverage. Leverage in future periods depending on the leverage of the current period and the target leverage. Fischer, Heinkel and Zechner (1989) suggests a theoretical model that is relevant to the selection of capital structure with a recapitulation of the cost of capital in a dynamic setting. Julivand and Harris (1984) examined how to get long-term debt and short-term as well as new equity in U.S. companies. Because of transaction cost and the market is not perfect, they characterize the behavior of corporate finance as part of a long-term adjustment to target leverage. Speed of adjustment is influenced by firm characteristics. Speed of adjustment will vary between companies and across time. Rajbhandary (1997) uses a dynamic adjustment model of the company in India. The results showed that the company adjust its long-term debt fast relative to the optimal leverage.

Hans Loof (2003) using dynamic adjustment of approaches to examine differences in the determination of the optimal capital structure between countries. Hans Loof also test the speed of adjustment is a function of observable factors. This study examines the company's capital structure in Indonesia is dynamic. Furthermore this study also tested the speed of adjustment and the time required to achieve the optimal leverage, and this study examines specific factors that determine the speed of adjustment company in achieving optimal leverage.

2. THEORETICAL REVIEW AND HYPOTHESIS

Capital structure decision is how to combine the equity and debt on the firm financing to maximize firm value. Usually the manager will seek funding with cheapest cost and certain risks.

2.1. Theory of capital structure

The study of capital structure attempts to explain the combination of funding sources used to finance corporate investment. Research on capital structure is often done to focus on the proportion of debt and equity. Several theories explaining the capital structure is as follows:

Static Trade Off Theory

Modigliani and Miller (MM) in 1958 initiated study on capital structure. They propose two propositions, with assumptions: Proposition I, the company's value is not influenced by capital structure decision. This proposition is irrelevant, because the risk of the business (investment decisions) that will affect the value of the company, instead of funding decisions. Proposition II, the use of more debt, the company will be able to use a cheaper fund. The use of low-cost of capital will lower the Weighted average cost of capital (WACC), if the required rate of return for stocks (k_s) constant. With the increasing debt, required rate of return for stocks (k_s) will also increase. Two mutually opposite effects resulted in weighted average cost of capital is constant. The result, the company will be a constant value. Proposition III, Modigliani and Miller returned to enrich the debate on capital structure after they relax the assumption of no taxes. Debt can be used to save on taxes, because the interest can be used as a tax deduction.

The debate then continues on the cost of debt, which would offset the tax benefits because of the interest of debt. Not all companies use 100% debt in their capital structure because there is financial distress cost. If the company fails to meet its debt obligations, not necessarily the company property fall into the creditors. There is a bankruptcy process that sometimes makes the value of corporate assets is reduced from 1% (Warner, 1977) to 20% (Andrade & Kaplan, 1998) even more. Loss depends on the type of asset owned firms (Balakrishnan & Fox 1993) and the legal system governing the bankruptcy process (Rajan & Zingales, 1995; La-Porta et al, 2000). Increase debt on the other hand will increase the costs of bankruptcy which would lower the value of the company. So optimal capital structure is found when there is a balance between tax savings and minimization of the cost of bankruptcy.

Dynamic Trade Off

If the optimal leverage or target leverage vary over time, the condition is called "dynamic trade-off theory". Many studies on capital structure ignores agency problems between debtholder/equityholder which could reduce incentives to achieve the target debt ratio or increasing financial distress in the target debt ratio. These studies also ignore the possibility of economic shock that made the company move away from the target debt ratio, it could have been caused by a target debt ratio changes over time. If the target debt ratio is changing all the time, the estimated speed of adjustment may be biased, which is complicated to analyze how fast it moves to achieve its target capital structure. In order to capture the issue can be developed dynamic capital structure model. Actual capital structure at a time may not equal to the targeted capital structure. This targeted capital structure estimated and specified. Andre Getzmann, Sebastian Lang, Klaus Spremann. (2010.4)

explains that dynamic capital structure theory implies that the optimal target capital structure of companies adjusts over time and is a function of changing exogenous and endogenous factors. Eugene Nivorozhkin (2000:7), explains that in the dynamic perspective the effects of various factors result in heterogeneous leverage targets for the firms and different abilities to reach these targets

Research with dynamic models different with static models because the dynamic model include parameters speed of adjustment. Dynamic tradeoff theory of capital structure is characterized as an activity to balance at the optimal level of leverage. Tax benefits compared to the cost of financial distress and agency costs at optimal leverage of the company. The existence of transaction costs impede full adjustment to the target. Adjustments should the debt leverage ratio which the marginal benefit equal to marginal cost. Leary and Robert (2005), states that characteristics of transaction costs affect the management efforts to achieve the target.

2.2. The Determinants Of The Target Capital Structure In Dynamic Model Approach

In a dynamic perspective, there is the influence of various factors on the target leverage, and the company's ability to achieve the target varies. At various companies, on a temporary basis the company's capital structure will likely be a deviation from the target capital structure, because of the adjustment cost. Heshmiati Almas (2001) explains that there is a difference between corporate leverage and optimal leverage optimal levels so there may be deviations between optimal leverage and the observed. Dynamic tradeoff theory implies a target of capital structure adjusting all the time and it is a function of exogenous and endogenous factors change. There are many kinds of potential variables that determine the optimal capital structure. The variables shown in previous studies significantly affects capital structure, are:

Non-debt tax shield (NDTS)

DeAngelo and Masulis (1980) observed that non-debt tax shield is the substitution of debt tax shield. The existence of non-debt tax shield is the tax deduction for the cost of depreciation of fixed assets. The larger non-debt tax shield, then there is a temporary fund could be used to finance the company. So the greater non-debt tax debt shield will encourage the use of the smaller debt or have a negative influence of non-debt tax shield to leverage.

Tangibility (TANG)

Companies that have large tangible assets, greater ability of the firms to use debt to finance the company,

because tangible assets can be used as collateral for the debt and reduce the agency costs of debt (Jensen and Meckling, 1976; Myers, 1977). The research in developing countries (Rajan and Zingales, 1995; Titman and Wessel, 1988) confirmed the positive influence of tangible assets and leverage. Huang and Song (2002) in China proves that tangibility has negative relationship with leverage, arguing that the effect depends on the type of debt. Empirical studies on developing countries show varying results. The higher tangible assets the higher the long-term debt, but not for total debt. At companies that lack long-term debt, but there are many short-term debt might generate tangibility have a negative effect on the target leverage (Eugene Nivorozhkin., 2003). Fakher Buferna et.al (2008) effect of tangibility on leverage is negative and not significant between tangibility with short-term debt and long-term debt for public companies, this is because public companies are not using the assets as collateral to obtain loans. This is because the Libyan government is the majority owner of a public company, so that government is as a collateral of the company, rather than fixed assets.

Growth

Titman and Wessel (1988) state agency costs between shareholders and debt holders is higher in companies on growing industries, so there is a negative relationship between growth and leverage. Rajan and Zingales (1995) argues that companies that have the underinvestment problem, and the company expects high growth will be using the equity to fund it. The results Fakher Buferna et.al. (2008) shows the effect of growth on leverage is negative, it shows that both public and private companies do not use debt to finance its investment. This finding implies that the firm has sufficient internal funds will not use leverage, or further this implies that growth companies tend to be more risky, so the company would prefer to use a smaller debt.

Size

Titman and Wessels (1988) states that the size and leverage have a positive effect, especially for large companies to have characteristics of bankruptcy costs are small, and tend to be diversified to allow companies to use higher debt capacity. Rajan and Zingales (1995) found a positive relationship between firm size and total long term debt ratio and debt ratio. The bigger Size of the company the greater ability of companies to get loans. Hamaifer et al, (1994) explains that large companies can have a bigger debt than small firms. Bevan and Danbolt (2002) also argue that large firms tend to use more debt, because of the belief of "too big to fail". Large companies also have access to capital markets more easily. Fakher Buferna et.al. (2008) on private and public companies in Libya, there is strong evidence that supports the static tradeoff theory that large companies

with high rates of profit tend to use a larger debt, because the companies can borrow more and take advantage of tax savings due to debt.

Profitability (PROF)

Titman and Wessel (1988) found that firms with a higher level of profit in the past tended to use higher debt levels. This evidence has been shown by Donaldson (1960) and Myers (1984) are more supportive of the pecking order theory implies that equity is obtained from internal company cheaper than equity obtained from the external, but if managers can exploit the tax savings as predicted tradeoff theory, firms will tend to be the opposite of using a larger debt. Most research indicates a negative effect between profitability and leverage (Titman and Wessels, 1988; Rajan and Zingales, 1995; Matjaz Crnigoj & Dusan Mramor, (2006). Matjaz Crnigoj & Dusan Mramor (2006) said that influence of profitability on leverage is negative, this is not a surprise because of the control of employees, expansion of information asymmetry, the existence of a large transaction cost of external equity, and also because of the impact of the tax savings from interest payments is not so significant effect.

Trade Creditors to Sales (TCS)

Nivorozhkin Eugene (2003), using the ratio of accounts receivable and sales or trade credit to sales ratio to measure the trade creditor. The Company will be easier to access financial markets, usually offer more trade credit, so there is a positive influence to leverage the company's trade creditors.

Trade Debt to Sales (TDS)

Nivorozhkin Eugene (2003) using the ratio of trade debt and sales or trade credit to sales ratio to measure the trade debt to sales (TDS). In the industrial companies, is expected to strengthen not perfect market on the credit market, so there is a positive influence between TDS and leverage enterprise

Tax

Tax payments will be reduced by the payment of interest, consequently revenue debt holders and shareholders will be greater in companies that use a larger debt. Bigger using debt, will be greater the tax savings, and greater the value of the company. So higher tax rate greater use of debt (Hans Loof, 2003). Kinga Mazur (2007) using measurements of the ratio of tax revenue to gross profit.

Liquidity

Kinga Mazur (2007) using measurements of the ratio

of current assets with short-term debt for Liquidity. According to the pecking order hypothesis, firms prefer using internal financing compared with external financing. Availability of internal financing besides liquidity is also measured by profitability. Based on pecking order the theory, liquidity has a negative effect on capital structure. Some studies show a negative effect of liquidity on capital structure (Titman and Wessel, 1988; Rajan and Zingales, 1995). Kerry Pattenden (2006), firms will use debt when free cash flow is low, so there is a negative relationship between debt and free cash flow. While based on the tradeoff theory, liquidity has a positive effect with leverage, because the greater the cash will increase the use of debt. Greater use of debt to discipline managers in using its free cash flow, and do not use for purposes that are not important. Based on theory and previous research, optimal leverage or target leverage vary over time and is a function of exogenous and endogenous factors then the hypothesis is: **H1: Companies in Indonesia following the dynamic capital structure.**

2.3. Speed Adjustment On The Optimal Capital Structure

The Company will allow leverage ratio varies in a range, and they will choose to rebalance when the benefits exceed the costs of adjustment. Adjustments should be at debt leverage ratio which the marginal benefit equal to marginal cost. Leary and Robert (2005), states that transaction costs affect the characteristics of management efforts to achieve the target. Fama and French (2002) noted that the company's debt ratio is slowly adjusting to the target. This suggests companies take a long time to achieve an average leveragenya in the long run. In the study Almas Heshmati (2001), the issue is to identify and try to identify the factors that determine the optimal capital structure and the speed of adjustment. The study was conducted at the micro and small enterprises in Sweden. The results showed a difference between the observed capital structure with targeted, and adjustment to achieve the target is very slow. Dang (2006) on the company in the UK showed the speed of adjustment of between 52 - 57.50% within one year. Fama and French (2002) concluded in their study of adjustment levels between 7-10% for companies that pay dividends in the United States, and between 15-18% for companies that do not pay dividends. Flannery and Rangan (2006) who examined the company in the United States also stated that the magnitude of the speed of adjustment is affected by the econometric techniques used, but the average is 30%. Based on theory and previous research, the hypothesis that can be drawn: **H2: The speed of adjustment to achieve the optimal capital structure of companies in Indonesia is relatively slow and takes a long time**

2.4. Factors Determining the speed of adjustment

Banerjee, Heshmati and Wihlborg (2000) showed in his study with dynamic adjustment model and using panel data to examine the capital structure. The main findings are that the company has a capital structure that are not on the level targeted, will adjust slowly toward the targeted level. Speed of adjustment is a function of observable factors that cause adjustment cost. There are several factors that overlap with the factors that determine the optimal leverage. These factors include:

Current Liabilities

Hseung Kim et.al (2006) states that companies that have short-term debt leverage level will adjust more easily and faster than the long-term debt, short-term debt can easily reach the paid-off, depending on whether the company is under the optimal leverage or above, so that there are positive effects of current liabilities with the speed of adjustment of the company.

Growth

Growth is expected to have a positive effect with speed of adjustment, because the company grows it will be easier to change its capital structure by selecting several alternative sources of funding, and companies that do not grow changing its capital structure only can do the swapping debt with equity, which will push a signal effect negative in the presence of asymmetric information, and will lower the value of the company (Wolfgang Drobetz, 2006).

Size

Changes in capital structure affect fixed costs. The cost is relatively small in a big company, so that large companies can immediately correct the deviation of capital structure targets. And more on large companies have a lot of analysts that make publication of company information, which implies better access to obtain debt and equity, and provide a cheaper cost impact associated with information asymmetry, with the publication of the company. The results Nivorozhkin Eugene (2003), shows the influence of different size companies to the speed of adjustment in the target mecapai leverage in two different countries. The role of banks in providing loans to small and large firms differently. Manufacturing companies in Indonesia, which has a relatively large Size, have better access to debt, so from here we can conclude the existence of a positive effect between size and speed of adjustment.

Profitability

Profitability is measured as the ratio of net income to total assets. According to Myers and Majluf (1984) in

Almas Heshmati (2001), the firm should use internal sources of funding compared with the external, more profitable company that the greater availability of internal sources of funding. Companies with the availability of internal sumberdana have the ability to more easily change its capital structure by selecting several alternative sources of funding, so there is a positive influence among the company's profitability with the speed of adjustment leverage.

Based on this theoretical review, it can be hypothesized:

H3A: Current Liabilities has positive and significant effect on the speed of adjustment in reaching the target leverage

H3b: Growth has positive and significant effect on the speed of adjustment in reaching the target leverage

H3C: Size has positive and significant effect on the speed of adjustment in reaching the target leverage

H3d: Profitability has positive and significant effect on the speed of adjustment in reaching the target leverage

3. METHODOLOGY

3.1. Research Design

Types of research used in this study is a verification research, which aims to explain the causal relationships between variables through hypothesis testing.

3.2. Population and Sample

This study uses the company's listing on the Indonesia Stock Exchange relating on capital structure decisions. The population in this study is a manufacturing company in Indonesia Stock Exchange. and companies are still listed on the Indonesia Stock Exchange between 2000 to 2008. Samples were taken with a "non-probability sampling", with purposive sampling method, especially with the type of "judgment sampling", the sample is taken by setting several criteria: The companies included in the manufacturing industry, is listed on the Indonesian Stock Exchange between 2000 and by 2008; company got external funding sources between the years 2000 to 2008. Data collected manufacturing companies manufacturing companies listing on the Indonesia Stock Exchange since 2000, there were 71 companies. The data required are company's balance sheet and income statement period of 2000 s / d 2008. This information was obtained from the information published by the Indonesia Stock Exchange.

3.3. Measurement of Variables

In order to examine the factors that determine the optimal leverage using leverage as dependent variable and the independent variables are NDTS, TANG,

GROWTH, SIZE, PROF, TCS, TDS, TAX, liq.
Measurements of each variable is:

Dependent Variable

Leverage

Leverage is the proportion of corporate debt. In accordance with Cornelli, Portes, and Schaffer (1996), Hussain and Nivorozhkin (1997), and Nivorozhkin (2002)). Leverage is the proportion of long-term debt to total assets.

Independent variables that determine the capital structure is:

Non-debt tax shield

Non-debt tax shield is the tax deduction for the cost of depreciation of fixed assets in year t . In this study the measurement of non-debt tax shield refers to the work Mark J. Flannery and Kristine Watson Hankins (2007) which measures the non-debt tax shield Depreciation and Amortization to Total assets.

Tangibility

TANG, is an ownership of tangible assets or fixed assets. This study refers to the Rajan and Zingales (1995); Mark J. Flannery and Kristine Watson Hankins (2007) using the ratio of fixed assets to total assets to measure tangibility

Growth

Growth is the percentage change in total assets this year with the previous year will drive the need for greater funding both internal and external funding. Growth measurements are used ΔTA is $(TAT - TAT-1)$

SIZE

This study uses measurements of net sales to measure SIZE (Cassar and Holmes, 2003).

PROF

PROF is the level of corporate profits. In this study the PROF1 is measured by the ratio of net income to total assets (ROA).

TCS (Trade Creditors to Sales)

TCS the Company will be easier to access financial markets, usually offer more trade credit. As used by Nivorozhkin Eugene (2003), trade credit to sales measured using the ratio of accounts receivable to sales.

TDS (Trade Debt To Sales)

TDS, the company's industrial, commercial debt is expected to strengthen not perfect market sempuna in the credit markets, and in accordance with Nivorozhkin Eugene (2003) using the ratio of accounts payable to sales to measure the trade debt to sales (TDS).

TAX

TAX, a tax that is paid by the company. In this study measured the amount of tax paid to income before taxes (Tax/EBT), wherein the amount of taxes is the difference between EBT and EAT.

LIQ,

LIQ, The pecking order hypothesis, firms prefer using internal financing compared with external financing. Availability of internal financing besides liquidity is also measured by profitability. In accordance with Kinga Mazur (2007) by using measurements of the ratio of current assets to short-term debt (Current Asset/Current Liabilities).

In order to examine the factors that determine the speed of adjustment in the optimal leverage, bound variable used is the speed of adjustment with the explanatory variable CL, GROWTH, SIZE, and PROF. Measurement of growth and size as existing on the factors that determine capital structure. Further explanation of variable speed of adjustment and the variables that influence is as follows:

Speed of adjustment (δ) is the speed of adjustment to optimal leverage, the formulation is:

$$L_{it} - L_{it-1} = \delta \alpha (L_{it}^* - L_{it-1})$$

Independent variables that determine the speed of adjustment is:

Current Liabilities,

Kim Hseung et.al (2006) found that firms with short-term debt leverage level adjust more easily and quickly achieve the optimal leverage compared to the long-term debt. Current Liabilities are measured using the ratio of short-term debt to total debt.

Growth

Growth is the percentage change in total assets this year with the previous year will drive the need for greater financing both internal and external financing. In this study using the $\Delta SALES$ is GROWTH ($SALES_t - SALES_{t-1}$).

Size

SIZE, referring to Kinga Mazur (2007) using two kinds of measurements of size is total net revenue from sales and total assets. In this study the measurement of size using the total net income from the sale.

Profitability

PROF, is the level of corporate profits. In this study measurement of PROF is net income to total assets (ROA).

3.4. Data Analysis Methods

Dynamic approach distinguishes leverage that observed with the leverage of targeted or optimal leverage. If adjustments need to use external financing costs, the company probably will not fully adjust to the optimal capital structure, but will adjust the most. Testing whether there is a speed of adjustment done by calculating the speed of adjustment based on the partial adjustment model, with the formulation:

$$L_{it} - L_{it-1} = \delta_{it} (L^*_{it} - L_{it-1}) \text{ Atau } Lit = (1 - \delta_{it})L_{it-1} + \delta_{it}L^*_{it}$$

Testing of the factors that determine the speed of adjustment is to perform regression between the variable speed of adjustment with the explanatory variables that include CL, GROWTH, SIZE, and PROF. Models were analyzed using least squares approach using the GLS (Cross Section Weights) autoregressive 1 (Damodar Gujarati, 775).

3.5. Empirical Model

To test whether the company's capital structure in Indonesia is a dynamic Under ideal conditions, at equilibrium or the long term, leverage should be similar to that observed optimal leverage, Hans Loof (2003), namely:

$$L_{it} = L^*_{it} \quad \dots \quad (1)$$

In the dynamic setting implies that the actual change in leverage from the previous period should be similar to the changes necessary to achieve the optimal leverage at time t. If we expand this idea, the formula becomes:

$$L_{it} - L_{it-1} = L^*_{it} - L_{it-1} \quad (2)$$

Meanwhile, L^* is:

$$L^*_{it} = \beta_0 + \beta_1 NDTS_{it} + \beta_2 TANG_{it} + \beta_3 GROWTH_{it} + \beta_4 SIZE_{it} + \beta_5 PROF_{it} + \beta_6 TCS_{it} + \beta_7 TDS_{it} + \beta_8 TAX_{it} + \beta_9 LIQ_{it} + \varepsilon_{it} \quad (3)$$

However, if adjustments to use external financing need costs, the company probably will not fully adjust to the optimal capital structure, but will adjust in part, by using the partial-adjustment process, which considers the

response lag to reach the optimum, which is presented in the formulation:

$$L_{it} - L_{it-1} = \delta_{it} (L^*_{it} - L_{it-1}) \quad (4)$$

Atau

$$Lit = (1 - \delta_{it})L_{it-1} + \delta_{it}L^*_{it} \quad (5)$$

By entering δ_{it} , is the adjustment factor that indicates the desired adjustment between two periods or at the rate of convergence of Lit on the optimal value of L^*_{it} . If equation (3) substituted in equation (5), the equation becomes:

$$Lit = \beta_0 + \beta_1 NDTS_{it} + \beta_2 TANG_{it} + \beta_3 GROWTH_{it} + \beta_4 SIZE_{it} + \beta_5 PROF_{it} + \beta_6 INCVAR_{it} + (1 - \delta_{it})L_{it-1} + \varepsilon_{it} \quad (6)$$

There are three possibilities: δ_{it} adjustment coefficient is $(1 - \delta_{it})$ First, if $\delta_{it} = 1$, the adjustment is now made in one period and the observed leverage the company equal to the optimal leverage. Second, if $\delta_{it} < 1$, the adjustment is insufficient, and the leverage that will be observed under the optimal level. Third, if $\delta_{it} > 1$, the company's over-adjusting, and leverage are observed to be higher than optimal level, which is possible when a company borrows under investment projects in the future. Based on the formula of dynamic capital structure

$$Lit = (1 - \delta_{it})L_{it-1} + \delta_{it}L^*_{it}$$

The coefficient of adjustment of the debt ratio to the target debt ratio is $(1 - \delta_{it})$ within one year. So the time required to achieve the target debt ratio is:

$$1 / (1 - \delta) \times 1 \text{ year} \quad (7)$$

Factors that determine the speed of adjustment is: Speed of adjustment is influenced by firm characteristics:

$$\delta_i = G(Z_{it}, Z_i, Z_t)$$

Speed of adjustment dispesifikkan in the form:

$$\delta_i = \beta_0 + \beta_1 CL_i + \beta_2 GROWTH_i + \beta_3 SIZE_i + \beta_4 SIZ_{it} + \varepsilon_i \quad (8)$$

4. EMPIRICAL RESULTS

Companies that observed in this study are 71 companies, with a 9-year observation period so that the number of observations is 639. The descriptive statistics of a sample of firms in this study are listed in Table 4.1.

Table 4.1.
Statistic Descriptif

	Mean	Median	Maximum	Minimum	Std. Dev.
--	------	--------	---------	---------	-----------

LEV (total debt)	63.23	55.00	516.00	(201.00)	52.89
LEV (short term debt)	72.26	70.04	5,557.07	0.09	247.79
LEV (long term debt)	27.74	14.40	1,052.63	0.00	61.75
NDTS	4.33	3.15	120.28	(0.85)	8.83
TANG	40.66	37.12	165.32	0.01	21.68
GROWTH1	11.43	4.89	872.44	(95.59)	50.25
GROWTH2	25.12	11.85	5,339.48	(80.41)	214.77
SIZE1 (TA)	2,988,724.00	611,963.00	65,349,184.00	23,461.00	7,528,775.00
SIZE2 (Sales)	2,312,731.00	634,118.00	38,799,279.00	16,494.00	5,031,193.00
PROF1 (ROA)	2.85	2.28	468.44	(144.04)	26.06
PROF2 (ROE)	(2.10)	5.59	2,164.37	(1,768.16)	178.07
TCS	17.81	13.81	341.21	0.27	22.57
TDS	10.99	7.95	389.47	0.09	17.71
TAX	22.00	30.11	3,342.31	(4,718.27)	310.58
LIQ	319.96	168.05	11,261.12	5.05	696.08

4.1. The Factors Determining The Optimal Leverage

In order to determine the targeted leverage on the research was conducted using fixed effect cross section autoregression weight, and showed the following results:

Table 4.2.
The Analysis of Factors Affecting The Optimal Leverage

Dependent Variable: LEV3?				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
NDTS	-0.047925	0.006274	-7.638646	0.0000***
TANG	0.014389	0.006718	2.141816	0.0327***
GROWTH1	-0.011609	0.004283	-2.710832	0.0069***
SIZE2	2.28E-07	4.78E-08	4.764781	0.0000***
PROF1	-0.056177	0.008251	-6.808257	0.0000***
TCS	-0.017874	0.003442	-5.192400	0.0000***
TDS	0.013808	0.006964	1.982819	0.0479***
TAX	0.001887	0.001091	1.729776	0.0843**
LIQ	0.000601	0.000190	3.170567	0.0016***
R-squared	0.882367			
Adjusted R-squared	0.863044			
Durbin-Watson stat	1.921826			
S.E. of regression	50.48192			
F-statistic	405.8901			

** signifikan pada 10%, *** signifikan pada 5%

Based on the analysis in Table 4.2. shows that the model of factors that affect leverage are:

$$LEV_{it}^* = \beta_0 + \beta_1 NDTS_{it} + \beta_2 TANG_{it} + \beta_3 GROWTH1_{it} + \beta_4 SIZE2_{it} + \beta_5 PROF1_{it} + \beta_6 TCS_{it} + \beta_7 TDS_{it} + \beta_8 TAX_{it} + \beta_9 LIQ_{it} + \varepsilon_{it}$$

Based on the analysis of table 4.2. the equation shows that:

Effect of Non-debt tax shield (NDTS) (-) to leverage, is negative and significant. According to the

research conducted DeAngelo and Masulis (1980) and Almas Heshmiati (2002), the larger non-debt tax shield, there is a temporary fund could be used to finance the company. So the greater non-debt tax debt shield will encourage the use of smaller debt or have a negative influence of non-tax debt shield to leverage.

Effect of tangibility (TANG) (+) to Leverage.

Companies that have large tangible assets, the greater the ability of firms to use debt to finance the company, because tangible assets can be used as collateral for the debt and reduce the agency costs of debt (Jensen and Meckling, 1976; Myers, 1977).

Growth Effect to Leverage (-)

Based on the theory of agency, agency costs of debt increase related to the conflict between debt holders and shareholders (Jensen & Meckling, 1976). Managers have the motivation to invest in a risky business, because if the investment fails, the lender will charge the shareholder. Titman and Wessel (1988) state agency costs between shareholders and debt holders is higher in companies in growing industries, so there is a negative relationship between growth and leverage. Consistent with Titman and Wessel (1988) and research of Fakhter Buferna et.al. (2008) shows the effect of growth on leverage is negative, it shows that both public and private companies do not use debt to finance its investment. This finding implies that the firm has sufficient internal funds to finance its investment, or further this implies that growth companies tend to be more risky, so the company would prefer to use a smaller debt.

Size Effect of Leverage (+)

results of the analysis in this study are consistent with Titman and Wessels (1988) and Rajan and Zingales (1995) states that the SIZE and leverage has a positive effect, especially for large companies that have small bankruptcy costs characteristics, and tend diversify and allowing companies to use a higher debt capacity. The larger SIZE of the company, the greater the ability of companies to get loans. Hamaifer et al, (1994) also pointed out that large companies can have a bigger debt than small firms. Bevan and Danbolt (2002) also argue that large firms tend mengguankan more debt, because of the belief "too big to fail". Large Company also have access to capital markets more easily. Fakhter Buferna et.al. (2008) also proved that large companies with high profit rates tend to use a larger debt, because the companies can borrow more and take advantage of tax savings due to debt.

Profitability Effect (-) to Leverage.

The results are consistent with Titman and Wessel (1988) found, that firms with a level of profit in the past tended to use higher debt levels. This evidence has been shown by Donaldson (1960) and Myers (1984) are more support of the pecking order theory implies that equity is obtained from internal company cheaper than equity obtained

from external. The study of the determinants of debt ratio, by John K. Wald (1999) also found that most profitable companies will tend to borrow less. Most research indicates a negative effect between profitability and leverage (Titman and Wessels, 1988; Rajan and Zingales, 1995; Matjaz Crnigoj & Dusan Mramor, 2006).

Trade Creditors to Sales (TCS) Effect to Leverage (-). The analysis revealed significant negative effects of the profitability of companies to leverage. In accordance with Nivorozhkin Eugene (2003), the company will be easier to access financial markets, usually offer more trade credit, so there is a negative influence of trade creditors with the leverage of the company.

Trade Debt to Sales (TDS) Effect to leverage (+). Nivorozhkin Eugene (2003), using the ratio of trade debt to sales or trade credit to sales ratio to measure the trade debt to sales (TDS). The results also support findings Nivorozhkin Eugene (2003). analysis results show there are positive and significant effect between the profitability of the company with leverage.

Corporate taxes influence, (+) to Leverage, the analysis shows there are positive and significant between the profitability of the company with leverage. This study supports the research of Hans Loof (2003) and Kinga Mazur (2007). The bigger the debt, the greater the tax savings, and the greater the value of the company.

Effect of Liquidity on Leverage (+), the analysis shows there are positive and significant effect between the liquidity of companies with leverage. The results of this study support the tradeoff theory. Greater use of debt that will discipline the managers in the use of free cash flows, and do not use for purposes that are not important.

4.2. Company Tbk in Indonesia is following the Dynamic Capital Structure

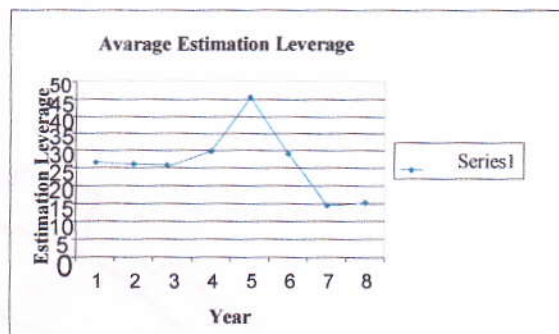
In the "dynamic trade-off theory" optimal leverage or target leverage vary over time. In the present study considered the possibility of economic shock that made the company move away from the target debt ratio, it could have been caused by a target debt ratio that changes over time. Actual capital structure at a time may not equal to the targeted capital structure. Capital structure or leverage these targeted dispesifikkan and estimated.

As shown in table 4.2. showed that the optimal leverage changes significantly influenced by a number of factors that NDTS, TANG, GROWTH1, SIZE2, PROF1, TCS, TDS, TAX, liq, and based on Figure 4.1 that the target company's capital structure that reflects the company adjusts to fluctuate over time and is a function of exogenous and endogenous factors (Andre Getzmann, Sebastian Lang, Klaus Spremann, 2010;4). This suggests

that the capital structure of companies in Indonesia following the dynamic structure.

Figure 4.1.
Fluktuasi Rata Leverage Estimasi

4.3. Speed of Adjustment



Several studies have shown that the deviation between the observed structure with an optimal capital structure. Level of optimal capital structure is varied so that there is a deviation between the optimal capital structure and the observed, because of the cost of adjustment. Refers to the study Almas Heshmati (2001), analyse deviation between the observed leverage to optimal leverage. The issue raised is to identify the optimal level of leverage that varies so that there is a deviation between optimal leverage and the observed, specify the speed of adjustment towards the optimal level of leverage.

Equation $Lit = (1-\delta) Lit-1 + \delta it$. * it, take into account the speed of adjustment for the 71 companies and the time required to achieve an optimal capital structure is:

Table 4.3.
Speed Of Adjustment and Time Needed to Reach Leverage Optimal

Firm	(1- δ)	Adjustment Coefisien δ	Time Needed to Reach Leverage Optimal (tahun)
1	0.138077	0.861923	1.16
2	0.199914	0.800086	1.25
3	0.119953	0.880047	1.14
4	0.111683	0.888317	1.13
5	0.223474	0.776526	1.29
6	0.200237	0.799763	1.25
7	0.188521	0.811479	1.23
8	0.217951	0.782049	1.28
9	0.216116	0.783884	1.28
10	0.221594	0.778406	1.28
11	0.203382	0.796618	1.26
12	0.160839	0.839161	1.19
13	0.210892	0.789108	1.27
14	0.212218	0.787782	1.27
15	0.205421	0.794579	1.26
16	0.178328	0.821672	1.22

17	0.203106	0.796894	1.25
18	0.193968	0.806032	1.24
19	0.205358	0.794642	1.26
20	0.205635	0.794365	1.26
21	0.206182	0.793818	1.26
22	0.211176	0.788824	1.27
23	0.199037	0.800963	1.25
24	0.230029	0.769971	1.30
25	0.178433	0.821567	1.22
26	0.485872	0.514128	1.95
27	0.216452	0.783548	1.28
28	0.254452	0.745548	1.34
29	0.203085	0.796915	1.25
30	0.217458	0.782542	1.28
31	0.211777	0.788223	1.27
32	0.219036	0.780964	1.28
33	0.236216	0.763784	1.31
34	0.198802	0.801198	1.25
35	0.210691	0.789309	1.27
36	0.213191	0.786809	1.27
37	0.205053	0.794947	1.26
38	0.206855	0.793145	1.26
39	0.176391	0.823609	1.21
40	0.20328	0.79672	1.26
41	0.20687	0.79313	1.26
42	0.212293	0.787707	1.27
43	0.284316	0.715684	1.40
44	0.243238	0.756762	1.32
45	-0.15701	1.157012	0.86
46	0.19153	0.80847	1.24
47	0.208771	0.791229	1.26
48	0.210399	0.789601	1.27
49	0.23493	0.76507	1.31
50	0.232645	0.767355	1.30
51	0.234568	0.765432	1.31
52	0.199477	0.800523	1.25
53	0.20907	0.79093	1.26
54	0.204273	0.795727	1.26
55	0.195574	0.804426	1.24
56	0.20908	0.79092	1.26
57	0.265192	0.734808	1.36
58	-0.01003	1.01003	0.99
59	0.201167	0.798833	1.25
60	0.16839	0.83161	1.20
61	0.220096	0.779904	1.28
62	0.202437	0.797563	1.25
63	0.122227	0.877773	1.14
64	0.23844	0.76156	1.31
65	0.247654	0.752346	1.33
66	0.210149	0.789851	1.27
67	0.199987	0.800013	1.25
68	0.242806	0.757194	1.32
69	0.199462	0.800538	1.25
70	0.205019	0.794981	1.26
71	0.213056	0.786944	1.27
Rata-rata	0.80	1.26	

The adjustment of the company in achieving optimal leverage on average per year of 0.80 or 80% within one year or the average time required to achieve the optimal leverage is 1.26 years.

4.4. Factors Determining the Speed Of Adjustment
Banerjee, Heshmati and Wihlborg (2000); Fama and French (2002); Flannery and Rangan (2006) showed in a study using a model of dynamic adjustment. Speed of adjustment / Speed of adjustment is a function of observable factors. The analysis of factors that determine the speed of adjustment, are:

Table 4.5.
The Factors Determining Speed Of Adjustment

Dependent Variabel	SOA			
Variable	Coefficien t	Std. Error	t-Statistic	Prob.
C	0.803668	0.009340	86.04485	0.0000
CL	0.000187	0.000193	0.965960	0.3377
GROWTH	0.000298	0.000422	0.706516	0.4824
SIZE	9.91E-10	1.53E-09	0.647775	0.5194
PROF	-5.47E-09	2.43E-09	-2.253451	0.0277***
R-squared	0.105659			
F-statistic	1.512222			
Durbin-Watson stat	2.026215			

*** signifikan pada taraf 5% dan 10%

4.5. Discussion of Results Analysis

Hypothesis 1

Hypothesis 1 indicates that firms in Indonesia following the dynamic capital structure. Adjust the target company's capital structure over time and is a function of exogenous and endogenous factors change. As shown in table 4.2. showed that the optimal leverage, significantly influenced by a number of factors: NDTs, TANG, GROWTH1, SIZE2, PROF1, TCS, TDS, TAX, liq, and based on the optimal leverage figure 4.1 is fluctuating, indicating that firms adjust over time to exogenous factors and endogenous firm. The results of this analysis is consistent with Andre Getzmann, Sebastian Lang, Klaus Spremann (2010: 4) that the company follow a dynamic capital structure if the target company's capital structure adjust over time and is a function of exogenous and endogenous factors change. Based on this analysis, hypothesis 1 which states that companies in Indonesia following dynamic capital structure proven.

Hypothesis 2

Hypothesis 2 states that the speed of adjustment to achieve the optimal capital structure of companies in Indonesia is relatively slow and takes a long time. Based on the analysis presented in Table 4.3. the company adjustment in achieving optimal leverage on average of 0.80 or 80% within one year. The speed of Adjustment $\delta_i < 1$, this suggests that, adjustment is insufficient, and leverage the observed remained below optimal levels. Speed of Adjustment companies that refer $\delta_i > 1$, the company is showing over-adjusting, and leverage are observed higher than optimal level. The average time required to achieve the optimal leverage is 1.26 years. The results of this study indicate the adjustment takes more than one year, which means slow adjustment to achieve optimal leverage. This study supports Flannery and Rangan conducted (2006), Fama and French (2002) noted that the company's debt ratio is slowly adjusting to the target. This suggests companies take a long time to achieve an average leveragenya in the long run. Thus the second hypothesis which states that the speed of

adjustment to achieve the optimal capital structure of companies in Indonesia is relatively slow and takes a long time has been proven

Hypothesis 3

Hypothesis 3a, stating Current Liabilities and significant positive effect of the speed of adjustment to achieve the target leverage. Based on the analysis in Table 4.5. indicates that the variable current liabilities have a positive influence, but does not significantly affect to the speed of adjustment. The results of this study support the research of Kim et al (2006) indicates of the coefficient have a positive sign, but in this study showed no significant effect of Current liabilities to the speed of adjustment. Thus the hypothesis 3a which states that the effect of liabilities on speed of adjustment is positive and significant, proven by the sign.

Hypothesis 3b, stating that Growth2 has positive effects on speed of adjustment to achieve the target leverage. Based on the analysis in Table 4.5. shows a positive coefficient indicates that the variable Growth has positive effects, but did not significantly affect to the speed of adjustment. The results of this study support the sign of the study (Wolfgang Drobetz, 2006), that growth is expected to have positive relations with the speed of adjustment, as the company grows it will be easier to change its capital structure by selecting several alternative sources of funding. Thus the hypothesis 3b states that the effect of the speed of adjustment Growth2 is positive and significant, as evidenced by the sign.

Size Hypothesis 3c stated that the positive effect to the speed of adjustment. Based on the analysis in Table 4.5. shows a positive coefficient indicates that the variable Size has positive effects to speed of adjustment to achieve the target leverage, but did not significantly affect the speed of adjustment. The results of this study support the sign of the study Nivorozhkin Eugene (2003), the large companies have a lot of analysts who have company information published, which implies better access to obtain debt and equity, and provide a cheaper cost impacts associated with the asymmetry information, with the publication of the company. The hypothesis 3c which states that the effect of the speed of adjustment Size is positive and significant, as evidenced by the sign.

Hypothesis 3d states that profitability has positive effects to speed of adjustment to achieve the target leverage. Based on the analysis that the negative effect on profitability variable speed of adjustment to achieve the target leverage. Companies are more profitable the greater availability of internal financing. When a company has adequate internal financing and used to fund projects rather than to repay debt, this is why company that got greater profitability effect on making slow the speed of adjustment of the company. Thus the

hypothesis in this study which states that profitability has positive effects on speed of adjustment to achieve the target leverage. not proven to be a sign, indicated the negative influence of profitability and significant to the speed of adjustment.

5. CONCLUSIONS & RECOMENDATIONS

Based on the analysis in the previous chapter, it can be concluded that companies in Indonesia following the dynamic capital structure, the target company's capital structure adjust over time and Adjust the target company's capital structure over time and is a function of exogenous and endogenous factors change. Based on the results of the analysis show that the optimal leverage changes, are significantly influenced by several factors: NDTs, TANG, GROWTH, SIZE, PROF, TCS, TDS, TAX, LIQ. The analysis showed that the speed of adjustment to achieve the optimal capital structure of companies in Indonesia is relatively slow and takes a long time. Speed of adjustment is a function of observable factors. Effect of current liabilities (CL), growth (growth), firm size (SIZE), which showed a positive but not significant influence and profitability (PROF) showed a negative significant effect.

RECOMMENDATIONS:

Based on the conclusions, the company needs to take into account the non-debt tax shield, tangibility, growth, size, profitability, sales trade credit, trade debt sales, tax, and corporate liquidity in determining the optimal leverage, and the most decisive factor in the speed of adjustment to the optimal leverage is a the company's profitability. This study only takes an object of manufacturing companies, and the period under study is only for 9 years and limited the studied variable factor is firm characteristic factor of non-debt corporate tax shield, tangibility, growth, size, profitability, sales trade credit, trade debt sales, tax, and liquidity. Therefore, future research is still possible to be done by adding the firm object of research, and by adding variable exogeneous that haven't analyzed in this study.

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