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How fast do Indonesian firms in achieving targeted capital structure?

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Abstract

Achieving the optimal capital structure are to ensure funds are always available to finance firm's operations, minimize the cost of capital, to decide on how much to borrow, who or where, when, for how long or in what currency. The mixture of different sources of financing that firm chooses, will affect the value of firms and risk-return to shareholders as debt and equity has its own characteristics. This study expects to give better assessment on how fast is the speed adjustment to achieve the targeted capital structure in Indonesia public listed firm from the period of 2006-2016 using the Generalized Method of Moments (GMM) approach. In this study, the estimated coefficient of the lagged leverage (0.6134) implies that the firm is under-adjust due the coefficient below the target requirement which is less than one and greater than zero. This means that the firms maintain 61.34% of the debt that they have last year and change by 38.66% toward its target leverage. Result depicts that the estimated coefficient of the lagged dependent variables is significant at 1% level. This significant result indicates the existence of target capital structure and firms do make adjustment to long run targets (optimal debt ratio).

Keywords: *speed adjustment; target capital structure; GMM.*

A. INTRODUCTION

Every decision made in a firm has financial implication and the decision that involves in financing their operation is called capital structure. Capital structure can be defined as a mixture of sources of asset in a firm which consists of debt and equity.

The making of capital structure decision is a fundamental issue in corporate finance. As a result, further studies need to be done on how firms choose their capital structure in financing their operation and how the choice affects the value of the firms.

The Modigliani and Miller (1958) results give the basis for meaningful studies of capital structure theory. They introduce the theory of a perfect capital market where the value of firms is independent of its capital structure, thus, debt and equity will substitute each other perfectly. However, there are three factors of market imperfection that may contribute to optimal capital structure decisions, which are, transaction cost, asymmetries information, agency costs and taxes.

The capital structure theory has evolved and being expanded through time, thus it has been acknowledged that capital structure is indeed important and could influence firm's cost of capital as well as the value of the firm. Many empirical evidences of capital structure are being conducted (Myers and Majluf, 1984; Jalilvand and Harris, 1984; De Miguel and Pindado, 2001; Fan et al., 2007). The literature of this study on capital structure has been focusing on five main theories which are Traditional View, Irrelevance Proposition, Trade-Off Theory, Pecking Order Theory and Agency Cost Theory.

Achieving the optimal capital structure is to ensure that funds are always available to finance firm's operations. Optimal capital structure helps to minimize the cost of capital and helps managers to efficiently manage firm's financial standings. Furthermore, the mixture of different sources of financing a firm chooses will affect the value of firms and the risk-return to shareholders as debt and equity has their own characteristics.

Therefore, the setting up of the composition of debt and equity is necessarily important for a firm to come out with the optimal capital structure decision (Jalilvand and Harris, 1984; Ozkan, 2001). Besides that, there are various factors that need to be considered as these factors might influence a firm's capital structure. La Porta et el. (2000) point out that developing countries that legal system based on common law offer outside investors (debt and equity) better protection than those on civil law. Furthermore, the study on the existence of target capital structure and finding out whether the company is at their optimal capital structure is also importance. These would give better assessment to the management in making decision that will not deteriorate the firm's value. Thus, this study attempts to examine how fast is the speed adjustment to achieve the targeted capital structure in Indonesia public listed firm

B. LITERATURE REVIEW

Theories of capital structure have been extensively enriching the literature and, in this chapter, it will be explained in a short review. In this section, the study will emphasize on the literature review in terms of the capital structure theory, the existence of capital structure and the general principles of the determinant of capital structure. Also, the study will look at some macro-economic factors that may affect firm's financing behaviour.

Capital structure theory began with the Modigliani and Miller theory and countless theoretical and empirical studies arise afterward. Modigliani and Miller (1958) seminal work on capital structure is based upon several strict assumptions. They argue that the choice between debt and equity will not affect firm value, thus it is irrelevance to the value of firm. The assumptions include no corporate and personal tax, no transaction costs, the equality of borrowing and lending rates, no bankruptcy cost, no agency cost, and no asymmetric information in the market.

In 1963, M&M readjust their previous studies, by lifting the assumption of worlds without taxes. A new development of the irrelevance theory states that leverage has the benefit to lower the tax payments (tax deductible). The firm's value can be increased gradually by using debt. Their study points out that by depending entirely on debt, tax deductibility of interest payment will make capital structure optimal.

The development of capital structure starts when Jensen and Meckling (1976) look at it from the agency theory perspective. Despites being no tax, optimal capital structure can be achieved by setting off the agency cost of debt and the benefit of debt. The benefit of using debt comes from the prevention of manager's squandering behaviour (free cash flow hypothesis) which does not maximize the firm value, while the cost of debt comes from the conflict among debt holders and shareholders.

Miller (1977) extends M&M work, suggesting that it is important to include personal tax (not only corporate) into factors that influence optimal capital structure. He extends the analysis by incorporating three different tax rates: the corporate tax rates, the personal tax rates on equity income (dividend or capital gains) and regular personal tax on interest income. In his findings, Miller explains how leverage could influence firm value.

Another breakthrough in the capital structure literature, Ross (1977), introduces the signaling theory. Manager uses the firm's capital structure as a signaling device to inform investors on the future performance of the company. Higher debt level sends positive signal to the investors. The firm's value will rise with leverage as positive signal and increases the market's perception of value.

De Angelo and Masulis (1980) note that there is an optimal capital structure coming from offsetting the presence of deductions from taxable income (non-debt tax shields) which reduces the expected gain from leverage. Higher non-debt tax shield leads to less debt. Regardless of these offsetting factors, tax system remains important in determining capital structure choices.

The capital structure literature adds more theory, when Myers (1984) introduces the pecking order theory. Based on asymmetric information theories, manager has better information than the investor does. Investor infers that manager tends to raise equity when share price is over-valued and/or the share price at a lower price (at discount). This circumstance might force firms to reject positive NPV projects. The manager can avoid this

problem by accumulating cash and marketable securities and firms should not issue equity at a lower price, therefore firms would not pass the positive investment opportunities. Myers (1984) also states that a firm prefers using internal fund to finance its' investment rather than external source. The rationale behind this is to issue safe securities first before risky ones. Static trade-off model cannot justify on an inverse relationship between leverage and profitability, but pecking order can. However, this theory implies that firms do not have target debt ratio in determining their capital structure.

Many studies have been conducted on the pecking order theory. For instance, Titman and Wessels (1988) findings support the pecking order theory that more profitable firms tend to use less debt. Rajan and Zingales (1995) also support this theory, profitability has an inverse relationship with debt of international data firms in G-7 countries. Other studies that also support this theory are by Fama and French (2002) where they point out that the more profitable the firm, the lower the leverage is. Furthermore, they also find that firms with more volatility of cash flow will have less leverage in their capital structure. Utami and Inanga (2010) findings support the pecking order theory and reveal that growth firms tend to employ external (debt) to internal financing compared to mature firms. They also state that growth firms should encounter more asymmetric information in the market.

Frank and Goyal (2009) examine seven most important factors that determine capital structure decisions which are median industry leverage, market to book ratio, collateral, profitability, dividend paying, size and expected inflation. They point out that pecking order theory cannot explain the sign prediction of these factors, but static tradeoff theory can.

Numerous studies have been done on the trade-off theory. Generally, the literature can be categorized as two groups: the static and dynamic trade-off models. These theories imply that there is optimal capital structure. However, from the static trade-off perspective, a firm is always at their optimal level. On the other hand, the dynamic tradeoff model state that firm is not always at the optimal point and needs to readjust toward its optimal. Heshmati (2001) points out that dynamic model has a better fit and higher explanatory power compared to static model. The study reveals that for micro and small firms in Swedish, capital structure adjusts slowly toward its targeted debt ratio.

Flannery and Rangan (2006) have increased the knowledge and contribution in the area of capital structure theory. Their paper explains the partial adjustment towards optimal capital structure. Firms do have an optimal capital structure and they also state that the firm actual debt ratio in time will converge to its target debt ratio. Other studies that have enriched capital structure literature are by Booth et al. (2001) and De Jong et al. (2008). They, employ not only firm specific factors but also country specific factors in the study to explain the corporate financing behaviour. They state that macroeconomic condition do have influence in capital structure decision.

From the literature, many studies have attempted to study capital structure behaviour of firms and tried to figure out the determinants of capital structure policy. However, there is still no conclusive finding that can explain the corporate financing behaviour accurately. The theory of capital structure that has been explained earlier will not stand alone to explain the observed data. However, it will be an important factor to test the empirical data to gain a better understanding of what factor determines capital structure. Since the issues of capital structure are still unclear, this study attempts to fill the gaps in the literature by giving a better understanding to the questions pertaining to capital structure decision.

The expected relationship between leverage and each explanatory variable depends upon the theory employed. One thing needs to be highlighted is none of the theories is able to explain all the relationships between the variables that has been studied over the years.

Based on previous studies (DeAngelo Masulis, 1980; Titman and Wessel, 1988; Harris and Raviv, 1991; Rajan & Zingales, 1995; Wiwattanakantang, 1999; Hovakimian et al., 2001; Fama and French, 2002; Frank and Goyal, 2009; Flannery and Rangan, 2006; Driffield and Pal, 2010; Ruslim, 2009; Budiyanti, 2010; Setyawan and Frensidy, 2012; and Saadah & Prijadi 2012), this study uses a set of firm specific variables as explanatory of leverage.

Past studies such as by Frank and Goyal (2003); Antoniou et al. (2008); De Jong et al. (2008); Deesomsak (2004); and Booth et al. (2001) include country specific in their estimation

to study the financing behaviour of the firms. As evidenced from past literature, country specific factors such as stock market development, economic growth, interest rates and country governance factor are incorporated in trying to understand the firm's financing behaviour in the study.

Past literature in capital structure has enhanced the overall understanding on how firms decide their investment financing (Modigliani and Miller, 1958; Jensen and Meckling, 1976; Myers, 1984; Ross, 1977; Baker and Wugler, 2002). However, not much in capital structure determinant and assessment on the existence of optimal capital structure in Indonesian public listed firms under varying macroeconomic conditions has been done. Therefore, this paper intends to fill that gap in the literature.

Most recent literature on capital structure has moved from static to dynamic approach. Using various dynamic approaches, past literature tries to capture the existence of capital structure and to capture the existence of its optimal capital structure. Past studies show that not only firm specific but also country specific factors have certain influence on firm's financing behaviour. The impact of firm-level determinant does vary, in terms of signs, magnitudes and significance level. Therefore, there is a meaningful purpose to conduct additional analysis on country-specific determinant. By employing the country specific as an additional consideration, it will enhance better understanding in firms financing behaviour.

Furthermore, the new development of the dynamic approach has enlightened the manager in terms of knowledge, awareness and understanding regarding the firms' actual standing of their capital structure, whether firms are at the optimum level or not thus necessary strategy and approach toward its financing can be done appropriately.

C. RESEARCH METHODS

1. Data

This study uses panel data. The source of data is from the Thomson Reuters-Datastream International Ltd. Using Datastream research sample, this study constructed samples of 4,070 observations for 11 years period data. Previous research also used the Datastream Database to acquire information relevant to each individual study (Deesomsak et al., 2004; Udomsirikul et al., 2011).

Deesomsak et al. (2009) point out that only firms with minimum of three consecutive observations are included in the sample. Due to this reason, data availability naturally will be unbalanced as there is missing data in the dataset.

The data used is for non-financial firms only. Bank, insurance company and finance company are being excluded for this study because these firms employ different rules practice and accounting categories. These financial firms have to follow a very strict legal requirement relating to their financing. The reason for omitting these firms is that their financial characteristics and the use of leverage differ significantly from the firms in other sectors (Hovakimian et al., 2001). For the purpose of this study, these firms are being omitted, thus, the final sample of the studies is 370 individual firms of public listed company in Indonesia. Looking at past literature, this practise is also employed by other researches as well (Rajan & Zingales, 1995; Wiwattanakantang, 1999; DeMiguel & Pindado, 2001; De Jong et al., 2008; Kayo & Kimura, 2011).

2. Dynamic Framework

This study uses the dynamic model in order to explain the firm's financing behaviour in the selected firms in Indonesia. The study employs the Partial Adjustment Model which is estimated by using Generalized Method of Moment (GMM) specified by Arellano and Bond (1991). We are using GMM as GMM estimators has been generally used in previous study in estimating the Partial Adjustment Model and also suitable for situation with "small I, large N" panel data (Roodman, 2006). The situation is appropriate for this study with few time period and many individual firms.

One of the objectives in this study is to examine how firms specific and country specific factors influence the choice of firm financing behaviour in the respective country. By using panel data, the estimated equation will be constructed in order to fulfil the objectives. Panel data are

appropriate to study the dynamic changes as well as study in a more sophisticated behavioural model. Moreover, panel data is used to investigate each individual firm which gives more reliable, informative and efficient results as to examine the issues compared to using cross-section and time series data observation. By combining both time series and cross-section observations, panel data can raise the degree of freedom and reduce the collinearity among independent variables, thus improves the efficiency of economic estimators (Gujarati and Porter, 2009). In short, panel data can enrich empirical analysis that cross-section and time series has limitation on. The above advantages take us to a stronger conclusion that panel data is more suitable to be employed in this study rather than cross-section and time series dataset.

This study employs the dynamic capital structure model, in particular the partial adjustment model and is estimated by GMM estimators. Four test statistics are reported to evaluate the appropriate estimated equation: (1) and (2) are first and second order autocorrelation of residuals, respectively; distributed as standard normal N(0,1), under the null hypothesis of no serial correlation. In order for GMM estimators to be consistent, the requirement that needs to be fulfilled is the absence of second order correlation and at the same time the existence of first order correlation is allowable for the model. GMM method of estimation allows for an MA (1) error structure and the heteroskedasticity of the disturbance across firm in the samples. Therefore, the importance of autocorrelation of error term is emphasized to higher-order serial correlation. The existence of second order correlation (AR2) will induce misspecification problem.

Third test is Wald tests of joint significance of the estimated coefficient, distributed as Chi-Square under the null of no relationship. The Wald test is to signify whether the model is doing a good prediction of the dependent variables, under the null hypothesis that is all coefficients on the determinants of the model are simultaneously equal to zero. If the null is rejected, it means that the estimator is doing well in the prediction.

The fourth one is Hansen test or *J*-Statistics that indicates the validity of the over-identifying restrictions. The null hypothesis is that all instruments are valid. To proceed with the GMM estimator, the null hypothesis cannot be rejected.

3. Variables Proxies

The study used the following proxy based on previous literature. The measure of leverage and the explanatory variable and their proxies will be explained as follows. The dependent variable will be defined at the basis of Book Value which is Leverage estimated as Total Liabilities over Total Asset. The proxy of independent variables will be explained in **table 1**.

Table 1. The Proxy of Independent Variables

No	Explanatory Variable	Proxy
	Firm Specific	
1	Non-Debt Tax Shield	Annual Depreciation Expenses over Total Assets
2	Tangibility	Net Fixed Asset over Total Asset
3	Profitability	EBIT over Total Assets
4	Business Risk	Yearly Change on Firm EBIT
5	Firm Size	Natural Logarithm of Total Asset
6	Growth Opportunities	Market Value of Equity to Book Value of Equity
7	Liquidity	Current Assets over Current Liabilities
8	Share Price Performance	First Difference on Natural Logarithm of the Year End Share Price
	Country Specific	
9	Stock Market Development	Stock Market Capitalization over GDP
10	Economic Growth	Annual Percentage Changes in GDP
11	Interest Rates	Lending Rate
12	Country Governance Indicator	Averaged of Political stability and absence of violence, government effectiveness, regulatory quality, rule of law and control of corruption (Yearly basis).

4. GMM Estimators

After going all the stages of diagnostics testing, following are the summary of model that have satisfied the diagnostic tests. In the next section, author will analyze the regression coefficient of the determinants of target capital structure and explore their interpretation as well as the assertion of which capital structure theory well suited to explain the financing behaviour of the Indonesian firms. The GMM Estimators will be explained in Table 2.

Table 2. GMM Results

Independent Variable	Coefficient
Lev(-1)	0.613408***
	0.0000
NDTS	0.79998
	0.1876
TANGI	-0.234756***
	0.0000
PROFIT	-0.39433***
	0.0000
BUSRISK	0.001737***
	0.0007
SIZE	0.158416***
	0.0000
GRWTOPP	0.000000000003***
	0.0000
LIQUID	-0.01772
	0.1521
SPP	0.00000276**
	0.0397
STOCKMRKT	-0.007623***
	0.0071
LENDRATE	-0.01141
	0.2299
ECONGRW	0.02885
	0.0599
CNTRYGOV	-0.212925**
	0.0199
1st Order Cor.	-0.282607***
2nd Order Cor.	-0.108169***
Wald (joint)$\chi 2$	5,064.656
J-Statistic	28.16472

D. DISCUSSIONS

1. Lagged Leverage (Lev-1)

Result depicts that the estimated coefficient of the lagged dependent variables are significant at 1% level. This significant result indicates the existence of target capital structure and firms do make adjustment to long run targets (optimal debt ratio).

Moreover, the presence of lagged variables in the estimation equation allows the possibilities of delay of firm's response to merge into new conditions particularly the adjustment of dependent variables toward target capital structure. This can be justified by the existence of adjustment cost in the firms which limits immediate adjustment to target capital structure (Myers, 1984). Antoniou et al (2008) points out that a positive and below unity coefficient would indicate that firms do have a target leverage ratio and firms adjust their capital structure over time. On the other hand, a coefficient greater than one means that firms do not have any target in their capital structure.

In this study, the estimated coefficient of the lagged leverage (0.613408) implies that the firm is under-adjust due the coefficient below the target requirement which is less than one and greater than zero. This means that the firms maintain 61.34% of the debt that they have last year and change by 38.66% toward its target leverage.

2. Tangibility

Tangibility is used to measure the ability of a firm in reassuring the debtors regarding loan which is backed by collateral assets. Firms use asset as collateral when they raise debt (Titman and Wessels, 1988; and Harris and Raviv, 1991). Trade-off theory and agency cost theory suggest that higher asset ensures a higher level of security, in term of liquidating the asset when bankruptcy happens.

Conversely, Saadah and Prijadi (2012) explain that higher tangible asset implies higher non-debt tax shield. In line with De Angelo and Masulis (1980) the relationship between tangibility and leverage in their study reveal to be negative.

3. Profitability

The negative relationship between leverage and profitability is noted for Indonesia firms (p=0.01). That is, firms with higher profit tend to use less debt in their capital structure. The finding in this study confirms the study done by De Jong et al. (2008) in their cross-country studies. They observe the same inverse relationship among Indonesian firms. Yolanda and Soekarno (2012) state that Indonesian public-listed firms from the plantation sector is predominantly influenced by firm's size and profitability and their study shows that profitability is negatively correlated with leverage.

To relate with the governing theory, the negative relationship supports the pecking order theory that internal finance is preferable to external financing. Therefore, profitable firms will use less debt as they have sufficient funds for their investment. If they do not have adequate internal financing then firms will turn to a lesser cost of financing which is debt and the last choice of financing will be issuing equity. This result is parallel with the pecking order theory and also being recorded by past literature such as Mahakud & Mukherjee (2011); Reinhard & Li (2010); Guney et al. (2009); De Jong et al (2008); Nishioka and Baba (2004); Fama and French (2002); Rajan & Zingales (1995); Harris and Raviv (1991); Titman and Wessels (1988); and Myers (1984). Past literature state that profitability is one of important determinants of capital structure because it reflects the amount of earnings that firms may possibly retain.

4. Business Risk

The positive relationship between leverage and business risk is noted for Indonesia firms (p=0.01). According to Castanias (1983), firms in lines of business that have high tendency of failure rates likely to have less debt portion in their capital structure. One of debt characteristics is that it entails the periodical payments. Risky firms is classified as firms having large amount of debts and poor ability in fulfilling the interest payment thus have high probability of default.

Looking from the perspective of agency theory, leverage is positively related to business risk. Jensen and Meckling (1976) point out that the conflict among shareholders and managers arises from the excess cash flow and this will affect the financing decision. A high risk projects will be in the line with high return as well and eventually results in excess free cash flow. Consequently, managers will invest sub-optimally that is not beneficial to the shareholders. Thus, debt acts as an instrument to control this unnecessary behaviour and to encourage the manager to be efficient. Studies by Booth et al. (2001) also show positive relationship between business risk and debt ratio.

5. Firms Size

As for the case of size, a positive relationship is noted between leverage and firms size (p=0.01). Size is an inverse proxy of firm's probability of bankruptcy. The view states that larger firm tends to have more stable cash flow and more diversified asset and also risk, thus the likelihood to fail is less often. The positive result is consistent with Budiyanti (2010) in her study suggesting that fundamental factors such as profitability, asset structure and firm size do have effects on financial leverage in the context of Indonesian firms. The study also shows a linear relationship between firm size and leverage. A positive relationship between leverage and size is also documented by Camara (2012); Mahakud & Mukherjee (2011); Reinhard & Li (2010); Guney et al. (2009); De Jong et al. (2002); Wiwattanakantang (1999); Harris and Raviv (1991); and Titman and Wessel (1988).

According to the trade-off theory, size is an indicator of borrowing abilities of the firms, therefore, larger firms have the capacity to borrow more and have the advantage to be more accessible in the credit market. This then increases the debt ratio and larger firms may take larger benefit of debt for its interest tax shield compared to smaller firms.

As from agency theory's perspective, larger firms tend to have less asymmetric information, and larger firms are expected to have better information about the firms, as a result more accessible to obtain financial resources from the lenders. Also, larger firms have

lower monitoring cost as larger firms have controlling system over management compared to smaller firms. Larger firms are argued to be having a lower cost associated with bankruptcy and reorganization as their nature is not likely to have difficulties in interest payment. For this reason, the cost of debt for larger firms will be smaller and therefore will encourage such firms to take on more debt in their capital structure.

6. Growth Opportunities

The positive relationship between leverage and growth opportunities is noted for Indonesia firms (p=0.01). Pandey (2002) reveals that high growth firms (considering sales growth as the proxy for growth opportunities) are often in need for fund to expand their fixed asset. From pecking order theory perspective, retained earnings may be insufficient to finance future growth opportunities. Therefore, leverage will increase with future growth opportunities as firms follow the financing hierarchy of pecking order theory. Past literature that are also supporting this argument are by Booth et al. (2001), Pandey (2001), and Mahakud & Mukherjee (2011).

7. Share Price Performance

Similar with profitability, this study finds a consistent and significant positive relationship between share price performance (SPP) and target leverage for Indonesian firms (p=0.01). An inverse relationship between leverage and SPP found in this study is in line with Welch (2004) and Hovakimian et al. (2001).

8. Stock Market Development

The negative relationship between leverage and stock market development is noted for Indonesia firms (p=0.01). Booth et al. (2001) describe a negative relationship between leverage and stock market development in their studies. They point out that as stock market becomes more developed, firms tend to allocate capital for investment in equity market rather than using debt as a source of financing. As stock market activity increases and equity market is becoming more developed, the firm debt level tends to be lower and equity funding becomes a viable option for corporate financing. Similarly, De Jong et al. (2008) find out an inverse relationship between leverage and stock market development.

9. Corporate Governance Indicator

The study finds negative relationship between leverage and country governance for Indonesia firms (p=0.01). The study uses the average of four indicator to measure the corporate governance which are Political stability and absence of violence, government effectiveness, regulatory quality, rule of law and control of corruption in yearly basis. These indicators are ranging from -0.5 to +2.5, with higher value represent better governance outcomes. In Indonesia case, the value is quite low and negative.

This negative relationship is in the line with Haron et al. (2014). There is lesser protection on borrower and lenders' legal rights in Indonesia. Consequently, Indonesian firms have to generate funds internally which is more expensive than external funding, thus decrease the firm's leverage.

10. Short Run Regression Estimation

The short run estimation function can be presented as follows:

Leverage = 0.6134Lev(-1) - 0.2348Tangi -0.3943Profit + 0.0017Busrisk +0.1584Size + 0.0000GrwOpp +0.0000SPP - 0.0076StckMrkt -0.2129CntryGov + ε …….. (1)

The equation is able to explain 91.27% (R-squared) of changes in the dependent variable (leverage). This indicates that the partial adjustment model fits the data well.

11. Speed of Adjustment

The aim of this research as mention previously is to make an assessment whether the Indonesia firms has targeted and if so, this study ascertains how fast is the firm's adjustment speed moving toward its target.

In order to determine the speed of adjustment to target debt-equity ratio, the study used adjustment model: $Y_{it} - Y_{it-1} = \delta_{it} (Y^*_{it} - Y_{it-1})$. Where $(Y_{it} - Y_{it-1})$ is the total amount that the debt ratio must adjust to bring the firms back to its target ratio and δ_{it} represents the adjustment speed to target leverage starting from time t. The magnitude of speed of adjustment (δ_{it}) can be obtained from ($\delta_{it} = 1 - \lambda_0$) where λ_0 is the coefficient of estimated of the lag leverage variable in the dynamic model.

To know further about how fast is the speed adjustment in Indonesian firms, we can be converted it in term of number of years by simply be computed by ($1/\delta_{it}$) (Mukherjee & Mahakud 2010). The table below shows the result of the estimation of adjustment speed for Indonesian firms listed in Indonesia Stock Exchange (IDX).

Tabel 3. Speed of Adjustment

Lev(-1)	0.6134
Speed of Adjustment (δ_{it}=1−λ_0)	0.3866
Speed of Adjustment (*in years*)	2.5867

The speed of adjustment represents how fast firms adjust toward its target capital structure (Clark et al. 2009). The speed of adjustment is inversely proportional to transaction cost. Thus, the higher is the speed adjustment means that a lower transaction costs for firms in adjusting to targeted capital structure, and vice versa. When the speed adjustment is lower that means the longer the time is needed for firms, to converge into its optimal capital structure, in turn, will be resulting the firms are being in the disequilibrium stage longer and causing the disequilibrium cost to exist. In the condition of under-adjust circumstances, the firm will burdened by higher opportunity cost (the firms lose the advantage of maximum tax shield benefit), in contrast, when the actual leverage is higher than the optimal leverage (over-adjust), slow adjustment will cause the firm having financial distress longer.

For Indonesia firms as the speed adjustment is not closer to one (0.3867), the estimation results have reveal that the costs of being in disequilibrium (cost of off target) were not much higher that the costs of adjustments which is dependent on transaction cost.

This study shows the speed of adjustment of Indonesian non-financial firm's to be approximately 39% which means a firm that deviate away from its target capital structure will converge its leverage gap at a rate of 39% per annum. And the firms will converge into their optimal leverage ratio in 2.59 years. Clark et al. (2009) reveal that the faster is the speed of adjustment; the gap of target capital structure will be lessened and will be closer to the expected capital structure.

12. Long Run Optimal Leverage Estimation

Once we get the short run estimation function, we can obtain the long run estimation function by simply dividing $\delta\beta_0$ and $\delta\beta_k$ by δ (0.3866) and omitting the lagged Y term. (Gujarati 2003:674). Equation (2) will be used in this study for the dynamic capital structure equation modelling. The estimated equation between study variables (target leverage and explanatory variables) can be shown as follows:

Leverage = 1.5866Lev(-1) - 0.6073Tangi -1.02Profit + 0.0004Busrisk + 0.4097Size + 0.0000GrwOpp + 0.0000SPP - 0.02StckMrkt -0.5507CntryGov + ε …….. (2)

Above result illustrate that the estimated coefficient of long run parameter is higher that short run parameter. From this study clearly indicate that the underestimation of the short term estimated coefficient of the explanatory variables on the target leverage compare to long run coefficients.

E. CONCLUSION

1. Summary

This study discusses the empirical evidences recorded on the determinants of leverage decisions of firms in Indonesia, and the existence of optimal capital structure in Indonesian firms.

This paper is anticipated to give contribution and new insights into the understanding of the financing behaviour of firms especially in Indonesian firms. Both firm specific and country specific are being employed in this study by using dynamic model. The findings indicate there are nine significant variables that influence the firm's capital structure and some are consistent with the previous studies as mentioned earlier. Variables such as are tangibility, profitability, business risk, size of firms, opportunity growth, share price performance, stock market development, economic growth and country governance are found to have significant impact on target capital structure for Indonesia non-financial public listed companies.

By employing the dynamic framework, this study achieved its objectives. This framework allows this study to identify the determinants of capital structure, and to identify the existence of target capital structure.

To conclude, one capital structure cannot stand alone to explain the financing behaviour of firms and this study reported that capital structure determinants of Indonesia public listed firm's support several capital structure theories i.e. trade-off theory, agency theory, pecking order theory, market timing theory and signaling theory.

Based on the dynamic study that has been conducted, Indonesian firms do have target leverage in their capital structure but are not at the optimal capital structure. This study shows a rapid speed of adjustment of Indonesian non-financial firms which is approximately 39%.

Unfortunately, the company in Indonesia did not seem to engage to long term financing. These firms need to consider the long-term funding because it can increase the value of the firms. The long-term borrowing has a relatively stable interest cost, while firms with heavily short-term basis would likely could not meet their raising interest costs as the interest cost is widely fluctuated (Brigham and Ehrhardt, 2005). Therefore, the usage of long-term debt could lead to increase of the firm's value.

2. Suggestions

The study highlighted three future research recommendations. First, the sample of this study is taken from public listed companies in Indonesia. Firms that are non-public listed (such as SME's) also play an important role in the economy of a country. However, there is a limitation in collecting data from such firms as accounting report of the firm's activities are not recorded properly. Until this can be done, the empirical analysis may not be able to represent the true corporate financing behaviour taking place in Indonesia.

Secondly, the body of knowledge will benefit more if future research can carry out a comparison study between Indonesia and other developing countries in emerging markets. Its objective is to assess whether the magnitude of the determinant, signs and influences toward target capital structure is consistent and equally significant among those countries.

Furthermore, another appealing study will be obtained when the firm's sample is divided according to sectors which have different company's characteristics when employing their capital structure.

REFERENCES

Antoniou, A., Guney, Y. and Paudyal, K. (2008). The determinants of capital structure: capital market oriented vs. bank-oriented institutions. *Journal of Financial and Quantitative Analysis,* Vol. 43 No.1, p. 59-92.

Baker, M. and Wurgler, J. (2002). Market timing and capital structure. *Journal of Finance,* Vol. 57 No.1, p. 1-32.

Budiyanti, S, M. (2010). Pengaruh Investasi, Kepemilikan Manajerial, dan Leverage Operasi terhadap Hubungan Interdependensi antara Kebijakan Dividen dengan Kebijakan Leverage Keuangan. *Jurnal Akuntansi dan Manajemen,* Vol. 21 No.1

Brigham and Ehrhardt. (2005). *Financial Management International Student Edition.* Thomson South Western.

Booth, L. Aivazian, V. Demirguc-Kunt, A. & Maksimovic, V. (2001). Capital structures in developing countries. *Journal of Finance,* Vol. 56 No.1, p. 87-130.

Camara, O. (2012). Capital structure adjustment speed and macroeconomics conditions: U.S MNCs and DCs. *International Research Journal of Finance and Economics,* Issue 84.

Castanias, R. (1983). Bankruptcy risk and optimal capital structure. *Journal of Finance*, Vol. 38, p.1617-35.

De Angelo, H. and Masulis, R. (1980). Optimal capital structure under corporate andpersonal taxation. *Journal of Financial Economics,* Vol. 8, p.3-29.

De Jong, A., Kabir, R. and Nguyen, T.T. (2008). Capital structure around the world: The roles of firm-and country-specific determinants. *Journal of Banking and Finance,* Vol. 32, p. 1954-1969.

De Miguel, A. and Pindado, J. (2001). Determinants of the capital structure: New evidence from Spanish data. *Journal of Corporate Finance*, Vol. 7, p. 77–99.

Deesomsak, R. Paudyal, K. and Pescetto, G. (2004). The determinants of capital structure: evidence from the Asia Pacific region". *Journal of Multinational Financial Management*, Vol.14, p.387–405.

Deesomsak, R. Paudyal, K. Pescetto, G. (2009). Debt maturity structure and the 1997 Asian financial crisis. *Journal of Multinational Financial Management*, Vol. 19, p. 26–42.

Driffield, N. and Pal, S. (2010). Evolution of capital structure in east Asia-corporate inertia or endeavors?. *Journal of Royal Statistical Society,* Part 1, p.1-29.

Fama, E. F. and Kenneth R. F. (2002). Testing trade-off and pecking order predictions about dividends and debt. *The Review of Financial Studies,* Vol. 15 No.1, p.133.

Fan, J., Titman, S., and Twite, G. (2007). An international comparison of capital structure and debt maturity choices. Working Paper.

Flannery, M. J., and K. P. Rangan. (2006). Partial Adjustment toward Target Capital structures. *Journal of Financial Economics,* Vol. 79, p. 469-506.

Frank, M.Z. and Goyal, V.K. (2003). Testing the pecking order theory of capital structure. *Journal of Financial Economics,* Vol. 67 No. 2, p.217-248.

Frank, M.Z. and Goyal, V.K. (2009). Capital structure decisions: which factors are really important. *Financial Management*, Vol. 38 No. 1, p. 1-37.

Gujarati, P. (2009). *Basic Econometrics Fifth Edition.* McGraw Hill.

Guney, Y. and Ozkan, A. (2009). Dynamic capital structure decisions: Evidence from firms in an emerging economy. Publish in Turkey Economy.

Harris, M. and Raviv, A. (1991). The theory of capital structure. *Journal of Finance*, Vol. 46 No.1, 297-355.

Heshmati, A. (2001). The dynamics of Capital Structure: Evidence from Swedish Micro and Small Firms". Working Paper Series in Economics and Finance No. 440.

Hovakimian, A., Opler, T. and Titman, S. (2001). The debt equity choice. *Journal of Financial and Quantitative Analysis*, Vol. 36, p.1–24.

Jalilvand, A. and Harris, R.S. (1984.). Corporate behaviour in adjusting to capital structure and dividends targets: an econometric study. *Journal of Finance*, Vol. 39, p. 127-145.

Jensen, M. and Meckling, W. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, Vol. 3, p. 305–360.

Kayo E.K. and Kimura, H. (2011). Hierarchical determinants of capital structure. *Journal of Banking & Finance*, Vol. 35, p. 358–371.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., and Vishny, R. (2000). Investor protection and corporate governance. *Journal of Financial Economics*, Vol. 58, p. 3–27.

Mahakud, J. and Mukherjee, S. (2011). Determinants of Adjustment Speed to Target Capital Structure: Evidence from Indian Manufacturing Firms. *International Conference on Economics and Finance Research,* Vol 4: p. 67-72.

Modigliani, F. and Miller, M. (1958). The cost of capital, corporation finance, and the theory of investment. *American Economic Review,* Vol. 48, p. 261-297.

Myers, S.C. and Majluf, N.S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, Vol. 13, p. 187-221.

Nishioka, S. and Baba, N. (2004). Dynamic capital structure of Japanese firms: How far has the reduction of excess leverage progressed in Japan?. *Bank of Japan Working Paper Series*. No. 04-E-16.

Ozkan, A. (2001). Determinants of capital structure and adjustment to long run target: Evidence from UK company panel data. *Journal of Business Finance & Accounting,* Vol. 28 No. 1, p. 175–98.

Pandey, I. M. (2002). Capital Structure and The Firm Characteristics: Evidence from an emerging market". *Indian Institute of Management Ahmedabad IIMA Working Paper*.

Rajan, R.G. & Zingales, L. (1995). What do we know about capital structure? Some evidence from international data. *Journal of Finance*, Vol. 50, p. 1421-1460.

Rasiah, D. and Kim, P.K. (2011). A theoretical review on the use of static trade off theory, the pecking order theory and the agency cost theory of capital structure. *International Research journal of Finance and Economic*, Vol. 63, p. 150-159.

Razali, H. (2014). Capital structure inconclusiveness: Evidence from Malaysia, Thailand and Singapore. *International Journal of Managerial Finance*, Vol. 10 No. 1, p. 3-38.

Reinhard, L. And Li, S. (2010). A note on capital structure target adjustment –Indonesian evidence. *International Journal of Managerial Finance*. Vol. 6 no.3. pg. 245-259.

Ross, S.A. (1977). The determination of financial structure: The incentive-signaling approach. *Bell Journal of Economics,* Vol. 8, p. 23-40.

Ruslim. (2009). Pengujian Struktur Modal (Teori Pecking Order): Analisis Empiris Terhadap Saham di LQ-45. *Jurnal Bisnis dan Akuntansi*, Vol 11 No. 3.

Saadah and Prijadi. (2012). Capital Structure's Dynamic Response to Exogenous Variables: A Case of Listed Manufacturing Firms in Indonesia. *International Journal of Financial Research*, Vol. 3 No. 2.

Setyawan and Frensidy. (2012). Empirical Tests for Market Timing Theory of Capital Structure on the Indonesian Stock Exchange. *14th Malaysian Finance Association Conference*.

Shochrul R. A. et al. (2011). *Cara Cerdas Menguasai EViews*. Penerbit Salemba Empat.

Titman, S. and Wessels, R. (1988). The determinants of capital structure choice. *Journal of Finance*, Vol. 43: 1-19.

Udomsirikul, P., Jumreprnvong, S., and Jiraporn, P. (2011). Liquidity and capital structure. The case of Thailand. *Journal of Multinational Financial Management*, p.1-12

Utami, S. R., and Inanga, E. I. (2012). The Relationship between Capital Structure and the Life Cycle of Firms in the Manufacturing Sector of Indonesia. *International Research Journal of Finance and Economics,* ISSN 1450-2887 Issue 88.

Welch, I. (2004). Capital structure and stock returns. *Journal of Political Economy*, Vol. 112 No.1, p. 106–131.

Wiwattanakantang, Y. (1999). An empirical study on the determinants of the capital structure of Thai firms. *Pacific-Basin Finance Journal*, 7: 371-403.