CAPITAL STRUCTURE, CORPORATE PERFORMANCE, AND LIFE CYCLE: EVIDENCE FROM INDONESIA

Eko Suyono*, Subba Reddy Yarram**, Riswan Riswan*

*Faculty of Economics and Business, Jenderal Soedirman University, Indonesia
**UNE Business School, University of New England, Australia

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Abstract

This study aims to investigate firstly, the influences of company life cycle (i.e., pioneer, growth, mature, and decline) and set of control variables (i.e, tax level, interest rate, institutional ownership, and managerial ownership) on capital structure; secondly, the influence of capital structure on company performance; and thirdly, the moderating role of each stage of the company life cycle on the relationship between capital structure and company performance. Implementing quantitative approach by using OLS Regression Analysis and Moderated Regression Analysis (MRA) on a set of the sample that consists of 157 Indonesian non-financial listed firms for 2010-2015 periods (942 firm years), findings show that company life cycle has a significant influence on capital structure. While for control variables, tax level and institutional ownership have a positive influence on the capital structure, wherein interest rate and managerial ownership have a negative effect on capital structure. Moreover, capital structure ratio influences positively on company performance. Finding also documents that pioneer and growth stages have a moderating role in strengthening the influence of capital structure on company performance, while mature and decline stages have a moderating role in weakening the influence of capital structure on company performance. This study provides important implications for corporations and business practitioners with regard to the best choice in the composition of capital structure which is able to improve company performance. On the best of our knowledge, it is the first study testing the moderating role of company life cycle on the relationship between capital structure and company performance.

Keywords: Capital Structure, Company Performance, Life Cycle, Pioneer, Growth, Maturity and Decline

1. INTRODUCTION

The debate on capital structure continues to be an important issue in corporate finance particularly in the wake of the recent Global Financial Crisis (GFC). A major issue in corporate finance is how firms should determine their financing options to maintain going concern and achieve goals. The relative importance of corporate financing sources and the capital structure depend on company life cycle. The capital structure reflects the company's policy in determining the type of securities that would be issued. Optimal capital structure refers to the mix of debt and equity where the value of a firm is maximized and the cost of capital is minimized (Modigliani and Miller, 1958). Earlier research on life cycle distinguished between pioneer, growth, mature, and decline stages of the company lifecycle such of those in Agrawal and Gup (1996), Wokukwu (2000), and Arifin (2009), while Miller and Friesen (1984) categorized company life cycle into birth, growth, maturity, revival and decline.

There are some theories related to capital structure such as trade-off and pecking order. The trade-off theory postulates that firms choose leverage by balancing benefits and costs of using debt, such as tax saving effect (Miller and Modigliani, 1961). Tax saving effect occurs when the more use of debt reduces company profit due to the rise of interest expense that should be paid that ultimately reduces the tax expense. Pecking order model, on the other hand, suggests that due to adverse selection costs, firms put preference of funding on internal financing rather than external. Moreover, firms prefer on debt than equity when external financing raises (Myers and Majluf, 1984).

Previous studies with regard to the relationship between company life cycle and capital structure produced mix findings. Freilinghaus et al. (2005) found that the relationship between company life cycle and capital structure is non-linear. The debt capacity of the firms and the needs of financing are varied for each stage of the firm life cycle. This is consistent with pecking order theory stating that on the pioneer and growth stages the company usually does not have enough cash flow due to the huge amount of cash out in supporting the early business activities. Thus, it requires external sources of financing such as debt due to the company may not want to issue seasoned equity that may result in a negative announcement effect. In the mature stage, a firm has enough retained earning and should pay the debt that leads to the lower levels of debt. In the decline stage, the company should make several innovations to strengthen its operations. Therefore, the capital structure pattern may be vary depending on the stage of company life cycle. Wokukwu (2000) found that in the pioneer and growth stages the portion of the external debt is higher than internal sources of capital, meanwhile, the link between company performance and the capital structure has different patterns depending on each stage of the company life cycle.

Utami and Inanga (2012) argued that firms with great information asymmetry problems, particularly for young-growth firms, are better to follow pecking order theory in making financing choices by prioritizing internal sources of funding. In-line with the trade-off theory, the company with growth opportunities, the use of debt is limited as in the case of bankruptcy, the value of growth opportunities will be close to zero (Myers, 1984; Harris and Raviv, 1990). Firms with fewer growth prospects should use debt because it has a disciplinary role (Jensen, 1986) and the free cash flow may be reduced by having more debt.

Previous studies, particularly in the emerging market context did not explain the differences in the influence of company life cycle on capital structure. This study attempts to address this problem by elaborating the moderating role of company life cycle on the relationship between capital structure and corporate performance. Thus, the objectives of this study are: firstly, to analyse the influences of life cycle and sets of control variables on capital structure; secondly, to analyse the influence of capital structure on company performance; and thirdly, to capture the moderating role of life cycle on the relationship between capital structure and company performance.

This paper is organized into five sections. Section 1 is the Introduction. Section 2 provides the literature review and hypotheses development. Section 3 explains on the research methodology. Section 4 discusses the research findings and Section 5 highlights the conclusion.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Related Theories

The famous capital structure irrelevant proposition of Modigliani and Miller (1958) is a cornerstone of the theory of corporate finance. Since then, many theories, such as trade-off theory, pecking order theory, and signaling theory, have been proposed as alternatives to explain the capital structure.

Trade-off theory explains the relationship between benefits and costs arising from the debt. In the presence of taxes, and without transaction costs and with no bankruptcy cost, debt is preferred over equity given the tax benefits associated with debt. When we relax the assumptions of no transaction costs and introduce bankruptcy, debt has both benefits and costs. Myers and Majluf (1984) proposed pecking order theory by arguing that company prefers internal fund rather than external, and among the external sources, prefer debt rather than equity. In another word, the company chooses the source of financing from the least of risk, namely, retained earnings, debt, and stock issuance sequentially.

Signaling theory assumes the existence of information asymmetry between managers and shareholders. Managers give a signal to the investors through their actions relating to dividend payouts and capital structure (Ross, 1977).

The extant literature explains several factors affecting the capital structure, such as interest rate, tax level, institutional ownership, and managerial ownership. Fisher (1930) explained that capital market will create an interest rate that could be used as a basis for investment or consumption decision making by creditor or debtor. The rapid changes of interest rate after certain leverage level is usually triggered by creditor worrying about the possibility of company bankruptcy. Thus, plenty of the changes of interest rate cause the creditors feel reluctant to give an additional loan (debt). Therefore, the interest rate has a negative relation with the capital structure (Weston and Copeland, 1996).

Trade-off theory explains that the capital structure is a consequence of the optimum use of debt achieved when the benefit use of debt is similar to the cost of debt, where the payment of tax level is deductible in the company tax calculation. Therefore, the higher the tax the higher the leverage or capital structure. Brennan and Schwartz (1978) observed the effect of company tax income on the capital structure and found that the rising of debt will increase the tax saving. Then, tax saving will finish when the company is bankrupt. These empirical findings conclude that the tax effect will increase the debt on the optimum level (Miller, 1988). The trade-off theory concludes that optimum capital structure will be achieved on the maximum firm value with the tax balance, bankruptcy cost, and interest rate (Modigliani and Miller, 1963; Myers, 1984).

Agency theory argues that the presence of institutional ownership supports the more optimum control mechanism on managers' activities that ultimately improves company performance (Bathala et al., 1994). Therefore, the presence of institutional ownership tends to have a negative effect on the capital structure and a positive influence on the company performance (Arifin, 2009). While with regard to the managerial ownership, Jensen dan Meckling (1976) explained that managerial ownership will put the managers' interest in-line with the stockholders' interest. Therefore, managerial ownership tends to have a negative

relation with the capital structure and has a positive relationship with the company performance (Arifin, 2009).

Moreover, several previous studies found a negative association between capital structure and company performance, such as Ebrati et al (2013), Khan (2012), Velnampy and Niresh (2012), Amara and Aziz (2014), Maina and Kondongo (2013), and Mwangi et al (2014).

2.2. Hypotheses Development

2.2.1. Company lyfe cycle and capital structure

Existing literature such as Aghrawal and Gup (1996) and Wokukwu (2000) classifies the company life cycle into four stages, namely pioneer, growth, mature and decline. On the pioneer stage, the company focuses on seeking new business opportunities, thus it needs a larger amount of fund to support the business expansions. It is expected that firm in pioneer stage requires a larger amount of debt leading on the positive relation between capital structure and life cycle. While on the growth stage, the company still seeks new business opportunities including new business expansions, wherein the company's profit is more stable. Therefore, the company still needs external fundings to support some investment activities. Generally, as explained by Wokukwu (2000), the average growth sales is around 10%-49%, so this stage has a positive relation with the capital structure. Then, on the mature stage, the company's profits and sales reach the highest level. In this stage, the company starts to use cash flow to pay its debts, so the debt ratio is declining. Usually, the average growth of sales is around 0% to 9.9% (Wokukwu, 2000), thus, on this stage, a negative relation is expected with the capital structure. Moreover, on the decline stage, the company has a larger amount of fund due to lack of any new investment activities. The growth of sales is negative, thus the decline stage has a negative effect on the capital structure.

Wokukwu (2000) explained that in the pioneer and growth stages, the company uses external funds to support its operations. Moreover, the company's financial behavior on these stages is consistent with Jensen and Meckling (1976) who argued that internal funds are very important for a company in its early stage, where it really depends on the external fund, such as debt.

Myers (1984) argued that agency cost predicts the entrepreneur's behavior and firms financial growth with debt when facing limited internal funding. Furthermore, Meyer and Kuh (1957) suggested that on the first stage, the company needs the high cost to invest and maintain its growth. On this stage, leverage is positively related to company's performance. The rise and fall of leverage in the capital structure are caused by the changes in exogeneous factors followed by the shifting of the stock price. Controlling the growth stage, managers should evaluate the balance between the equity holders and creditors.

On the third stage, the growth remains positive but declining. It is the first stage recognising that the growth is declining. On this stage, company tends to strengthen its position with huge amount of cash flows. However, Harris and Raviv (1990) argued that the huge amount of cash flows without good prospect of investment creates a source of consumption, inefficient expenditures, and other unproductive activities. Moreover, Voulgaris et al. (2002) observed the determinant factors of capital structure on 75 large manufacturing companies in Germany for 1988 to 1996 periods consisting profitability, asset utility, growth, company size, asset structure, inventory turn over, and liquidity. The results show that asset utility and growth have a positive relation with leverage, meanwhile, profitability has a negative link with leverage.

Lauterbach and Vaninsky (1999) explained that company performance is limited by size and stock price volatility. The company size has a positive relation with its performance. Jensen and Meckling (1976) contended that managerial stock ownership can reduce the conflict of interest between managers and shareholders. However, managerial ownership at some middle ranges may lead to managers entrenchment and this may lead to expropriation of investor wealth. At high levels of managerial ownership, the alignment effect may lead to reducing agency cost. Debt acts as a control mechanism to reduce managers' freedom in deploying free cash flow on negative net present value projects.

Arifin (2009) found that company life cycle influences on capital structure proxied by debt to equity ratio only in large firms, while it does not have a significant influence within small firms. Moreover, He found that capital structure decisions based on company life cycle influence on performance when the cumulative abnormal return (CAR) is used as a proxy and do not influence on performance when profitability is used as a proxy.

Considering above explanations, we develop the first hypothesis as:

Hypothesis 1: Company life cycle has a significant influence on the capital structure.

2.2.2. Capital structure and company performance

Capital structure theories explain how the changes of capital structure influence on company performance. The optimum capital structure is a condition when the composition of debt and equity maximizes the company performance and minimizes the cost of debt (Modigliani and Miller, 1958). Ang et al. (2000) found an evidence that the increase of debt rises the company performance.

Agency costs hypothesis states that high leverage or low equity/asset ratio reduces the agency costs of outside equity and increases firm value by constraining or encouraging managers to act more in the best interest of shareholders (Berger and Patti, 2006). Greater financial leverage may affect managers and reduce agency costs through the threat of liquidation, which causes personal losses on managers, in terms of salaries, reputation, perquisites, and so-forth (Williamson, 1988), and through pressure by generating cash flow to pay interest expenses (Jensen, 1986). Higher leverage can mitigate conflicts between shareholders and managers with regard to the choice of investment (Myers, 1984), the amount of risk to undertake (Jensen and Meckling, 1976; Williamson, 1988), the conditions under which the firm is liquidated (Harris and Raviv, 1990), and dividend policy (Stulz, 1990).

Extant literature documents mix findings with regard to the influence of capital structure on company performance. Majmudar and Chhibber (1999) found a negative relationship between the levels of debt in the capital structure and performance for a sample of Indian firms. Ebrati et al. (2013) found that capital structure is negatively related with EPS and ROA while it has positive significant relation with ROE, MBVR and Tobin's q. Saeed et al. (2013) found that short-term debt and total debt to capital ratios have strong positive relation while the long-term debt to capital ratio has a negative relation with performance of banking industry in Pakistan. Skopljak (2012) found a significant and quadratic relationship between capital structure and performance of banks in Australia. Those findings support theory of agency that capital structure has a significant relation with firm performance. Moreover, Khan (2012) found that short term and long term debt to total asset have significant negative relation with firm performance measured by return on equity, return on asset and Tobin's q. Antwi et al. (2012) documented that both the components of the capital structure are positively and significantly related with firm value but the use of long-term debt maximizes firm value more than the equity. Velnampy and Niresh (2012) found that capital structure measurements used in the study are negatively correlated with profitability measures but only debt to equity ratio is positively linked to the ratio of return on equity. Amara and Aziz (2014) found a negative relation of capital structure ratios with performance while among these, only debt to equity ratio has a significant influence on company performance.

Another study by Abor (2005) found significant positively interrelated between SDA and ROE and shows that firms which earn a lot use more short-term debt to finance their business. Moreover, Javed and Akhtar (2012) documented a positive relationship between financial leverage, financial performance, and growth and size of the companies. Mwangi et al. (2014) found that financial leverage had a statistically significant negative association with performance as measured by return on assets (ROA) and return on equity (ROE).

Considering above discussions where the findings of previous studies conclude the conflicting results on the relationship between capital structure and corporate performance, this study tries to address the inconsistency between the findings and related theories on capital structure by using different proxies of capital structure, that is ratio of long term debt to long term debt and equity. Thus the second hypothesis is:

Hypothesis 2: Capital structure has a positive significant influence on company performance

2.2.3. Moderating role of company life cycle on the relationship between capital structure and company performance

Meyer and Kuh (1957) argued that the company in its first stage uses more external funds rather than internal funds. It is because on the early stage the company still has less or event without revenue and operating losses from its operation. While on another side it requires huge investments including the purchase of tools and facilities to support its early business activities by strengthening the market position, advertising, etc., leading to the use of huge amount of external funding sources, such as debt. On this stage, the use of debt has an important role in supporting business activities, thus the company performance will be depending on the increase of debt. In another word, on the pioneer stage, the use of debt benefits the company performance where the company is depending on external sources of funds. Therefore, the next hypothesis is developed as follows:

Hypothesis 3a: Pioneer stage sthrengthens the influence of capital structure on company performance

On the growth stage, the company continues to seek several new business opportunities and expansions, so the company still needs new external debt to support its activities. The increase of debt triggers the increase of capital structure, therefore on the growth stage, the capital structure tends to influence positively on company performance. Based on this argument, we formulate the hypothesis as follows:

Hypothesis 3b: Growth stage strengthens the influence of capital structure on company performance.

On the mature stage, the capital structure decreases to the minimum level, due to the company starts to pay its obligation to the creditors, meanwhile, the company performance is on the optimum achievement. At this stage, the company has better cash flow from its operation, so that the company does not really depend on external sources of fund to support its operation. In other word, the company no longer needs debt from external parties due to it has sufficient internal sources of fund from the net income of its operation. Therefore, it could be concluded that on the mature stage, the use of debt is not a good option when the company has sufficient internal sources of fund. Thus, it is better to optimize the use of internal funds rather than external funds such as debt. Based on this argument, we formulate the hypothesis as follows:

Hypothesis 3c: The mature stage weakens the influence of capital structure on company performance.

On the decline stage, the company performance is declining. After a long time without investment activities, managers re-think to open new investment in order to re-structure the business. This condition triggers the rise of capital structure, even though the company performance declining. As a result of the presence of debt when the company performance is declining, will not increase the company performance. Based on this condition, we formulate the hypothesis as follows:

Hypothesis 3d: The decline stage weakens the influence of capital structre on company performance.

3. RESEARCH METHODOLOGY

3.1. Sample of The Study

This study uses purposive sampling with the criteria as follows:

- The nonfinancial companies listed on The Indonesian Stock Exchange during 2010-2015 periods. Those periods are used as a basis to classify the company life cycle into pioneer, growth,

mature, and decline based on average sales growth in the last five years as explained in Table 1 below. For example, to determine the life cycle in 2010, it is calculated with the average sales growth from 2006-2010, and by using the same way, the company life cycle for 2011 to 2015 could be determined.

- The companies should have a positive balance of equity within 2010-2015 periods.
- The companies disclosed actively the financial reporting through The Indonesian Stock Exchange website.

Based on the criteria at above, this study ended up with 157 companies for 6 years (i.e., 942 company years) as a sample.

3.2. Variables Measurement

3.2.1. Company Life Cycle

This study uses the criteria for company life cycle developed by Wokukwu (2000), i.e., the average growth of sales for last 5 years, with the formula as follows:

$$A\Delta S_i = \left[\sum_{i=1}^{5} \frac{St_i - St_{i-1}}{St_{i-1}}\right] : 5 \qquad (1)$$

where:

- $A\Delta Si$ = Average sales growth on year ith where i = 1, 2, 3, 4, 5;
- St_i= Sales on the year ith where i = 1, 2, 3, 4, 5;
- St_{i-1} = Sales on the year ith – 1.

Agrawal and Gup (1996) and Wokukwu (2000) classify the company life cycle into four stages depending on its average 5 years sales growth as shown in Table 1.

Table 1. Category of life cycle

Average 5 years sales growth	*Category of Life Cycle*
≥ 50%	Pioneer
10% – 49.9%	Growth
0 % - 9.9%	Mature
< 0 %	Decline

3.2.2. Capital structure

Capital structure is measured by the composition of long-term debt (LTD) and equity (Weston & Copeland, 1996).

$$CS = \frac{LTD}{LTD + EQ} \qquad (2)$$

where:

- CS = Capital Structure;
- LTD = Long-term Debt;
- EQ = Equity.

3.2.2. Company Performance

This study uses Tobin's q as a proxy of company performance which represents the tangible and intangible resources on the company. Tobin and Brainard (1968) as cited by Lung and Stulz (1994) and Suyono (2011) calculates the Tobin's q as follows:

$$\text{Tobin's q} = \frac{EMV + LBV}{EBV + LBV} \qquad (3)$$

where:

- EMV = Equity market value;
- EBV = Equity book value;
- LBV = Liability book value.

3.2.3. Tax Level

Tax level is measured with the formula as follow (Brennan & Schwartz, 1978):

$$TL = \frac{TE}{TI} \qquad (4)$$

where:

- TL = tax level;
- TE = tax expense;
- TI = taxable income.

3.2.4. Interest rate

This variable shows the level of bankruptcy risk for the company (Weston & Copeland, 1996; Levy & Sarnat,1998; Brigham & Houstan, 1998). The interest rate data can be retrieved from the Bank of Indonesia statistical data, available at: http://www.bi.go.id.

3.2.5. Institutional ownership

Institutional ownership is a stock ownership by institutions, such as pension fund company, insurance company, mutual fund company, bank and investment companies, and so forth. Institutional ownership is the percentage of outstanding stock owned by institution devided by total outstanding stock (Bathala et al, 1994; Wahidahwati, 2001; Suyono, 2011).

3.2.6. Managerial ownership

Managerial ownership is the percentage of stock owned by managers devided by total outstanding stock (Bathala et al, 1994; Wahidahwati, 2001; Farooque et al, 2014).

3.3. The Design of Hypotheses Testing

The dependent variables in this study are capital structure and company performance. Meanwhile, the independent variables (including control variables) consist of the tax rate, interest rate, institutional ownership, managerial ownership, and company life cycle. Company life cycle is a dummy variable that is classified into 4 stages, i.e., pioneer, growth, mature, and decline. The dummy variable is scored with 1 if the attribute is available and 0 if otherwise. Gujarati and Porter (2009) argue that if qualitative has m categories, the number of dummy variables that be incorporated into regression equation are m-1. In this study, company life cycle has four categories, i.e., pioneer, growth, mature and decline. Therefore, a number of dummy variables are 4-1=3. So, we incorporate 3 dummy variables, namely: growth, mature, and decline which are symbolized by D1, D2, and D3 respectively. Meanwhile, the pioneer stage is the benchmark as measured by the intercept. All data were collected from The Indonesian Capital Market Directory (ICMD) and through the Indonesian Capital Market Website, i.e, www.idx.co.id during 2010-2015 periods.

3.3.1. Hypotheses Testing

This study develops three hypotheses. To test the first hypothesis, namely "company life cycle has a significant influence on the capital structure" it uses the model 1 with the following regression equation:

$$CS_i = \beta_0 + \beta_1 Tax_i + \beta_2 Interest_i + \beta_3 Inst_i + \beta_4 Man_i + \beta_5 D1_i + \beta_6 D2_i + \beta_7 D3_i + e \quad (5)$$

where :

- β_0 = intercept, representing the pioneer stage;
- CS_i = Capital structure for the company-i;
- Tax_i = Tax level for the company-i;
- $Interest_i$ = Interest rate for the company-i;
- $Inst_i$ = Institutional ownership for the company-i;
- Man_i = Managerial ownership for the company-i;
- D_1 = 1 if the company is in a growth stage and 0 if otherwise;
- D_2 = 1 if the company is in a mature stage and 0 if otherwise;
- D_3 = 1 if the company is in a decline stage and 0 if otherwise.

Then, to test the second hypothesis, it uses model 2 with the regression equation as follow:

$$Perform_i = \beta_0 + \beta_1 CSi + e \quad (6)$$

where :

- $Perform_i$ = company performance for the company-i.

Moreover, to test the third hypothesis, that is the moderating role for each stage of capital structure on the relation between capital structure and company performance, the following equation is developed:

$$Perform_i = \beta_0 + \beta_1 CSi + \beta_2 D1_i + \beta_3 D2_i + \beta_4 D3_i + \beta_5 D1_i * CSi + \beta_6 D2_i * CSi + \beta_7 D3_i * CSi \quad (7)$$

4. RESULTS AND DISCUSSION

4.1. Descriptive Statistics of the Variables

The results of analysis consist of descriptive statistics (i.e. mean, maximum, minimum, and deviation standard of the variables), classical assumptions test for multiple regression (i.e. normality, multicollinearity, heteroscedasticity, and autocorrelation), multiple regression, and regression for moderation.

Table 2 below provides information about the characteristics of the variables used in this study. It shows that the average value of CS is 39.71% ranging from 0.1% to 97.5%. Then, tax level and interest rate have mean values 23.68% and 12.45% respectively. It also documents a high institutional ownership (Inst) in Indonesian companies while relatively low managerial ownership (Man), with mean values, respectively, 68.29% and 4.49%. With regard to the company life cycle, the mean values are ranging from 3% to 23%. Finally, company performance shows a very high mean value, i.e., 112% ranging from 17.6% to 287%.

Table 2. The Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CS	942	.001	.976	.39711	.206618
Tax	942	.000	1.424	.23681	.120779
Interest	942	.104	.143	.12450	.011736
Man	942	.000	.940	.04491	.105784
Inst	942	.000	.999	.68299	.214291
d1	942	.000	1.000	.23461	.423978
d2	942	.000	1.000	.03397	.181249
d3	942	.000	1.000	.20913	.406903
Perform	942	.176	2.871	1.12191	.287328
csxd1	942	.000	.899	.09299	.198425
csxd2	942	.000	.843	.01437	.084127
csxd3	942	.000	.975	.07798	.179764
Valid N (listwise)	942				

4.2. Hypotheses Testing and Discussion

All data on this study comply with the classical assumption for multiple linear regression, i.e., normality, heteroscedasticity, multicollinearity, and autocorrelation[6].

4.2.1. The effects of company lyfe cycle on capital structure

Based on Table 3, the regression equation for model 1 is as follows:

$$CS_i = 0.474 + 0.020\ Tax_i - 0.909\ Interest_i - 0.034 Man_i + 0.060 Inst_i - 0.017 d_1 - 0.016 d_2 + 0.030 d_3 \quad (8)$$

Table 3. Regression result for model 1

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.474	.081		5.832	.000
	Tax	.020	.064	.012	2.316	.033
	Interest	-.909	.680	-.052	-2.337	.012
	Man	-.034	.066	-.017	-3.514	.007
	Inst	.060	.032	.062	2.872	.042
	d1	-.017	.017	-.013	-2.390	.007
	d2	-.016	.038	-.014	-2.428	.019
	d3	.030	.018	.060	3.734	.023

Note: a. Dependent Variable: cs

Table 3 shows the effect of company life cycle and other control variables on the capital structure.

[6] These results are not shown here for brevity and would be available from the authors if requested.

Company life cycle is a dummy variable consisting 4 stages, namely: pioneer, growth, mature, and decline. Because there are 4 dummy variables, this study excludes the pioneer stage and will be measured by the intercept (Gujarati and Porter, 2009). Moreover, Table 3 shows that the intercept (β_0), which represents the pioneer stage, has a regression coefficient of 0.474, it means that it influences the capital structure at 47.4% with the level of significant is 0.000 that is smaller than 0.05. It means that pioneer stage has a positive and significant influence on the capital structure.

Meanwhile, on the growth stage, the regression coefficient (proxied by D1) is -0.017. It means that the effect of company's life cycle at the growth stage (D_1) on the capital structure is -0.017 smaller than the pioneer stage as a benchmark. It could be concluded that the growth stage influences on the capital structure at 0.457 or 45.7% (0.474 – 0.017), at the level of significant 0.007 which is smaller than 0.05. In another word, the growth stage has a negative and significant influence on the capital structure.

With regard to the company's life cycle on the mature stage (D_2), it has a regression coefficient -0.016. It means that the effect of the mature stage on the capital structure is -0.0016 smaller than pioneer stage, i.e., the mature stage influences the capital structure at 0.458 or 45.8% (0.474 – 0.016), with the probability value 0.019 which is smaller than 0.05, meaning that the mature stage has a negative and significant influence on the capital structure.

Furthermore, the company's life cycle on the decline stage (D_3) has a regression coefficient at the amount of +0.030. It means that the regression coefficient of decline stage is 0.030 higher than the pioneer stage. It could be concluded that the decline stage influences on the capital structure at 0.504 or 50.4% (0.474 + 0.030) with the probability value 0.023 which is smaller than 0.05. In another word, the decline stage has a positive significant influences on the capital structure.

Based on all findings from table 3 at above, it could be concluded that the effect of company's life cycle on the capital structure is in the "high low high" pattern, namely: pioneer stage (intercept) 47.4%, growth stage (d_1) 45.7%, mature stage (d_2) 45.8%, and decline stage (d_3) 50.4%. This result is consistent with Wokukwu (2000) and Freilinghaus *et al.* (2005) who explained that the company's life cycle affects the capital structure in a high low high pattern. It is because the pioneer and growth stages have a high necessity on the capital structure, particularly from external debt due to the company is in its early stage of operation. Meanwhile, on the mature stage, capital structure declines due to the company should pay its external debts after it has sufficient cash flow from its business operation. Moreover, on the decline stage, the capital structure rises because the company re-thinks to make a new investment in order to re-structure the business. Therefore, it means that the first hypothesis which states that company's life cycle has a significant influence on its capital structure is supported.

4.2.2. The effects of control variables on the capital structure

The regression coefficient of tax level is 0.020 with the level of significant 0.033 that is smaller than α (0.05). It means that the tax level has a positive significant influence on capital structure. Brennan and Schwartz (1978) explained that the tax saving due to the interest cost will stop when the company gets bankrupt. The additional of debt has two effects, i.e., (1) increasing the tax saving, and (2) reducing the profitability. Moreover, Miller (1988) explained that the tax will affect on debt rising until the optimum level. Again, Stiglitz and Weiss (1974) found that the optimum level of debt has a negative relation with the bankruptcy cost. Myers (1984) contended on the *trade-off theory* that the optimal capital structure will be achieved on the maximum firm value with the balance in tax, bankruptcy cost, and debt level. Warner (1977) argued that the bankruptcy cost is lower than the tax benefit in the existence of debt. Myers and Majluf (1984) found that tax has positive relation with debt.

The regression coefficient of the interest rate is -0.909 with the level of significant 0.012 that is smaller than α (0.05). It means that the interest rate has a negative significant influence on capital structure. This finding is in-line with previous studies which found that the interest rate has a negative relationship with the capital structure (Weston & Copeland, 1996; Levy & Sarnat, 1998). It is reasonable due to when the interest rate is high the company will hesitate to get a loan from the bank and prefer to seek other options for financing.

The regression coefficient of the managerial ownership is – 0.034 with the level of significant 0.007 which is smaller than α (0.05). It means that the managerial ownership affects negatively on the capital structure. This finding coincides with Wahidahwati (2001), Brailsford et al. (2002), and Arifin (2009). The managerial ownership will commensurate the managers to the external stockholder, thus managers will reduce the debt level linearly with the rising of managerial ownership. Managerial and institutional ownership affect the corporate funding policy through the debt or right issue (Bathala et al., 1994; Lauterbach & Vaninsky, 1999; and Arifin, 2009).

The regression coefficient of the institutional ownership is 0.060 with the level of significant 0.042 that is smaller than α (0.05). It means that the institutional ownership has a positive significant influence on the capital structure. This finding is consistent with Wahidahwati (2001), Brailsford et al. (2002) and Arifin (2009).

4.2.3. The effect of the capital structure on the company performance

Before examining the effect of capital structure on the company performance, this study tests the goodness of fit on this model. By using F-test, the result is presented in the Table 4.

Table 4. F-test /ANOVA

ANOVA[b]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.085	1	1.085	16.225	.000
	Residual	62.879	940	.067		
	Total	63.964	941			

Note: a. Predictors: (Constant), CS; b. Dependent Variable: PERFORM

Table 4 presents that the result of F statistics is 16.225 with a probability value of 0.000 which is lower than 0.05 indicating that the regression model can be used to predict the effect of capital structure on the company performance. It means that this model is fit. Then, this study explains the effect of capital structure on the company performance as on Table 5 below:

Table 5. The effect of capital structure on the company performance

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.053	.018		56.921	.000
	CS	.166	.041	.130	4.028	.000

Note: a. Dependent Variable: PERFORM

From Table 5 above, it could be concluded that the regression equation for the effect of capital structure on the company performance is as follow:

$$Perform_i = 1.053 + 0.166CS_i + \varepsilon \quad (9)$$

The finding from Table 5 above shows that the variable of capital structure has a regression coefficient (β1) 0.166, with probability value 0.000 which is smaller than α (0.05). It means that the capital structure which is measured by long-term debt to long-term debt and equity ratio has a positive significant influence on the company performance. This condition explains that when the company is able to manage the composition of debt and equity which creates the optimum capital structure, it improves company performance. This finding supports the famous capital structure irrelevant proposition by Modigliani and Miller (1958). Moreover, this finding also supports the concept of signaling theory as explained by Ross (1977) where the existence of debt becomes a signal by managers indicating that the company is in good financial performance so that it is trusted by creditors.

4.2.4. Moderating Role of Company Life Cycle on the Link between Capital Structure and Company Performance

Before examining the moderating role, this study tests the goodness of fit on this model. By using F-test, the result is presented in Table 6.

Table 6. F-test /ANOVA

ANOVA[b]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.900	7	.129	61.564	.000[a]
	Residual	76.787	934	.082		
	Total	77.687	941			

Note: a. Predictors: (Constant), csxd3, csxd2, csxd1, cs, d3, d1, d2; b. Dependent Variable: perform

From Table 6 above, the results of $F_{statistic}$ 61.564 with a probability value of 0.000 indicates that the model of the effect of capital structure on firm performance which is moderated by the company's life cycle is fit.

Table 7. Test of Moderating Effect for Model 2b.

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.097	.029		37.523	.000
	Cs	.066	.065	.047	3.017	.009
	d1	.113	.050	.166	2.273	.023
	d2	-.021	.128	-.013	-2.162	.011
	d3	-.054	.051	-.076	-2.057	.021
	csxd1	.230	.110	.159	2.094	.037
	csxd2	-.025	.278	-.007	3.089	.029
	csxd3	-.048	.117	-.030	-3.415	.026

Note: a. Dependent Variable: perform

Based on the results of Table 7 above, the regression equation is presented below:

$$Perform_i = 1.097+0.066CS_i+0.113D1_i-0.021D2_i - 0.054D3_i +0.230D1_i*Csi-0.025D2_i*CS_i - 0.048D3_i*CSi \quad (10)$$

The findings presented in Table 7 above mean that the regression coefficient of β_0 (constant) 1.097 which represents the effect of company's life cycle at the pioneer stage on the company performance with the probability value of 0.000 is positive and significant. While the regression coefficient of d_1 0.113 with probability value 0.023 representing the effect of growth stage on the company performance is also positive and significant. In another side, the coefficient of d_2 -0.021 with the probability value 0.011 explaining the effect of the mature stage on the company performance is negative significant. Similarly, the coefficient of d_3 -0.054 with the probability value 0.021 representing the effect of decline stage on the company performance is also negative and significant. It can be concluded that company life cycle affects significantly on company performance.

Moreover, with regard to the influence of capital structure on the company performance at the pioneer stage, Table 7 at above shows the intercept which represents the pioneer stage has a regression coefficient of 1.097 with a probability value of 0.000. So, the moderating effect of company life cycle at the pioneer stage is positive and significant. It indicates that in the pioneer stage where the company is still in it early stage of its business operation, the existence of debt will benefit the company. It because in this stage, the company still has weak buiness network and market share in generating its profit, so the company is highly depending on external sources of fund. Thus, in the

pioneer stage the existence of debt increases company performance. This finding proves that the hypothesis 3a stating that the company life cycle at the pioneer stage strengthens the influence of capital structure on company performance is confirmed. This finding is in-line with Ang et al. (2000) and Hatfield et al. (1994) who argued that the capital structure will increase with the rising of monitoring by the bank in due to the rise of debt. Then, capital structure determination, particularly in debt policy has a positive relationship with the company performance (Berger & Patti, 2006).

Meanwhile, the influence of capital structure on the company performance at the growth stage shows that the coefficient of moderating regression of CSxD1 is 0.230 and probability value of 0.037. It means that this moderating effect is positive and significant. It occurs due to in the growth stage, the company still needs extra sources of fund to strengthen its business operation. Generally, the company needs extra fund to create a wider market share, to strengthen the business network, and so-forth in order to generate its profit. Therefore, the existence of an external source of the fund such as debt still benefits the company in improving its performance. Thus, this finding proves the hypothesis 3b stating that the company life cycle at the growth stage strengthens the influence of capital structure on the company performance is confirmed.

Then, related to the influence of capital structure on the company performance at the mature stage, the finding shows that the coefficient of moderating regression of CSxD2 -0.025 and probability value of 0.029 mean that this moderating effect is negative and significant. It because of in the mature stage, the company is able to achieve the maximum level of profit, so that the company has sufficient internal source of fund. Meanwhile, at the same time, the company should start to make a payment of its debt to the external parties. As a result, debt as a financing option at this stage is not preferable. It will be better for the company to maximize the cash generated from its profit to support business function rather than creating new debt. In another word, the use of debt as a component of capital structure weakens the company performance. This finding proves that the hypothesis 3c in which states that the company life cycle at the mature stage weakens the influence of capital structure on company performance is confirmed.

Ultimately, the finding of the influence of capital structure on the company performance at the decline stage shows the coefficient of moderating regression of CsxD3 -0.048 and probability value of 0.025. It means that this moderating effect is negative and significant because on this stage, the company suffers a setback in its business operation and the profit is declining so the use of debt will not benefit the company in improving its performance. It is better for the company to seek another option in improving its performance rather than creating a new debt, such as by business innovation, restructuring, and so-forth. This finding proves that the hypothesis 3d in which states that the company life cycle at the decline stage weakens the influence of capital structure on the company performance is supported.

5. CONCLUSIONS

Company life cycle – pioneer stage, growth stage, mature stage, and decline stage – has a significant influence on capital structure. On the pioneer and growth stages the portion of the debt is rising, while on the mature stage the portion of the debt is declining, and on the decline stage, the proportion of debt is re-rising. It is because of in the pioneer and growth stages, the company needs more funding to support its business activities. Meanwhile, in the mature stage, the company begins to pay its debts, and barely undertake any new investments. Moreover, on the decline stage, again the company needs debt to re-fund the business activities. Therefore, the influence of company life cycle on capital structure in the *U form*, that is high-low-high. This finding is consistent with Freilinghaus et al. (2005) and Hovakimian et al. (2001) who argue that at the pioneer stage the company uses more debt, while at the growth stage the company uses more equity, and at the mature stage the company uses debt on the minimum portion.

Capital structure proxied by long-term debt to long term debt and equity ratio has a positive significant influence on corporate performance. This finding proves the a*gency costs hypothesis* stating high leverage or a low equity/asset ratio reduces the agency costs of outside equity and increases firm value by constraining or encouraging managers to act more in the best interests of shareholders (Berger & Patti, 2006). Greater financial leverage may affect managers and reduce agency costs through the threat of liquidation, which causes personal losses to managers of salaries, reputation, perquisites, etc. (Williamson, 1988) and through pressure to generate cash flow to pay interest expenses (Jensen, 1986). Higher leverage can mitigate conflicts between shareholders and managers concerning the choice of investment (Myers, 1984), the amount of risk to undertake (e.g., Jensen & Meckling, 1976; Williamson, 1988), the conditions under which the firm is liquidated (e.g., Harris & Raviv, 1990), and dividend policy (e.g., Stulz, 1990). A testable prediction of this class of models is that increasing the leverage ratio should result in lower agency costs of outside equity and improved firm performance, all else held equal. However, when leverage becomes relatively high, further increases generate significant agency costs of outside debt – including higher expected costs of bankruptcy or financial distress – arising from conflicts between bondholders and shareholders.

This finding is consistent with previous studies which found a positive association between capital structure and corporate performance, such as : Ang et al. (2000), Saeed et al. (2013), Skopljak (2012), Antwi et al. (2012), Abor (2005), Javed and Akhtar (2012), and so-forth. In other side, this finding is not consistent with almost previous studies which found a negative association between capital structure and company performance, such as : Berger and Patti (2006), Ebrati et al (2013), Khan (2012), Velnampy and Niresh (2012), Amara and Aziz (2014), Ebaid (2009), Tian and Zeitun (2007),

Maina and Kondongo (2013), and Mwangi et al (2014).

The pioneer stage strengthens the influence of capital structure on the company performance. This finding is in-line with Meyer and Kuh (1957) who find that on the pioneer stage, the capital structure affects positively on the company performance. Moreover, the growth stage strengthens the effect of capital structure on the company performance. This finding is in accordance with Meyer and Kuh (1957) who found that on the growth stage, the capital structure affects positively on company performance. Then, the mature stage weakens the effect of capital structure on the company performance. This finding is in accordance with Freilinghaus et al. (2005) who argued that on the mature stage, capital structure declines to the minimum point. It is because, in the mature stage, the company is on the maximum condition of its performance with high revenue, thus the company focuses on the debt payment. Finally, the decline stage weakens the effect of capital structure on the company performance. This finding is in accordance with Adizes (1996) and Freilinghaus et al. (2005) who found that at the decline stage, the company is re-seeking the new debt to refresh and refund the business activities, thus the debt portion rises and the company performance declines. All these findings are in-line with Wokukwu (2000) who argued that the link between capital structure and the company performance with the optimum return on investment (ROI) will be different on each condition of company life cycle.

Based on the findings from this study, it is suggested to the investors and managers to give concern on funding activities by observing the stages of company life cycle. On the pioneer and growth stages, it is better to use debt as a source of financing, because of in the early stage, the company depends on external sources of financing to support its operation. Therefore, the use of debt increases the company performance. Meanwhile, on the mature and decline stages, it is better to use internal sources of financing due to the company has sufficient internal source of fund that should be used optimally. In another word, the use of debt when the company has sufficient source of fund is not a good option to improve the company performance.

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APPENDICES

Appendix 1. Total № of samples and the company life cycle condition based on average 5 years sales growth

Year	*Pioneer*	*Growth*	*Mature*	*Decline*	*Total*
2010	72	43	9	33	157
2011	78	39	3	37	157
2012	84	39	7	27	157
2013	86	32	4	35	157
2014	108	21	4	24	157
2015	75	34	4	44	157
Total	503	208	31	200	942

Source: Data from The Indonesian Capital Market Directory and The Indonesian Capital Market Website, i.e., www.idx.co.id for 2010-2015

Appendix 2. Average interest rate in Indonesian bank for the period 2010–2015

Year	*Interest Rate*
2010	14.3
2011	12.9
2012	12.4
2013	11.9
2014	10.4
2015	11.5
Average	11.82

Source: Data from The Bank of Indonesia (www.bi.go.id)

Appendix 3. Income Tax Level during 2010–2015 periods

Year	*Pioneer*	*Growth*	*Mature*	*Decline*
2010	0.133	0.074	0.017	0.059
2011	0.132	0.068	0.006	0.064
2012	0.144	0.067	0.012	0.049
2013	0.128	0.052	0.005	0.038
2014	0.072	0.009	0.001	0.008
2015	0.070	0.020	0.001	0.013
Average	0.113	0.048	0.007	0.039

Source: Data from The Indonesian Capital Market Directory and The Indonesian Capital Market Website, i.e., www.idx.co.id for 2010-2015

Appendix 4. Institutional ownership for the period 2010 -2015

Year	*Pioneer*	*Growth*	*Mature*	*Decline*	*Average*
2010	0.320	0.200	0.048	0.128	0.174
2011	0.350	0.171	0.015	0.164	0.175
2012	0.358	0.181	0.030	0.110	0.170
2013	0.375	0.123	0.013	0.171	0.171
2014	0.436	0.081	0.008	0.103	0.160
2015	0.310	0.143	0.017	0.143	0.168
Average	0.358	0.150	0.024	0.143	0.168

Source: Data from The Indonesian Capital Market Directory and The Indonesian Capital Market Website, i.e., www.idx.co.id for 2010-2015

Appendix 5. Managerial ownership for the period 2010–2015

Year	*Pioneer*	*Growth*	*Mature*	*Decline*	*Average*
2010	0.015	0.009	0.000	0.008	0.008
2011	0.011	0.013	0.000	0.006	0.008
2012	0.011	0.006	0.000	0.010	0.007
2013	0.016	0.005	0.000	0.004	0.006
2014	0.097	0.011	0.003	0.014	0.031
2015	0.071	0.025	0.004	0.036	0.034
Average	0.037	0.012	0.001	0.013	0.016

Source: Data from The Indonesian Capital Market Directory and The Indonesian Capital Market Website, i.e., www.idx.co.id for 2010-2015

Appendix 6. Capital structure for the period 2010–2015

Year	*Pioneer*	*Growth*	*Mature*	*Decline*	*Average*
2010	0.167	0.119	0.025	0.075	0.097
2011	0.201	0.101	0.004	0.084	0.098
2012	0.218	0.103	0.017	0.073	0.103
2013	0.221	0.088	0.010	0.078	0.099
2014	0.293	0.048	0.014	0.055	0.103
2015	0.197	0.083	0.012	0.110	0.103
Average	0.216	0.090	0.014	0.079	0.100

Source: Data from The Indonesian Capital Market Directory and The Indonesian Capital Market Website, i.e., www.idx.co.id for 2010-2015

Appendix 7. Financial Performance with Tobin's q for the period 2010–2015

Year	*Pioneer*	*Growth*	*Mature*	*Decline*	*Average*
2010	0.503	0.310	0.059	0.248	0.287
2011	0.568	0.282	0.021	0.266	0.285
2012	0.583	0.276	0.043	0.171	0.268
2013	0.643	0.229	0.022	0.263	0.289
2014	0.798	0.157	0.030	0.168	0.288
2015	0.544	0.252	0.030	0.324	0.288
Average	0.611	0.251	0.034	0.240	0.284

Source: Data from The Indonesian Capital Market Directory and The Indonesian Capital Market Website, i.e., www.idx.co.id for 2010-2015