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Life cycle and external fund : perspective of trade-off theory and pecking order theory

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Abstract

The research is to examine the effect life cycle firm's on external financing (debt) and also this research is conducted to see whether in Indonesia embrace trade-off theory and pecking order theory. This research uses secondary data taken from the financial statment and annual report of manufacturing companies period 2012-2020. Based on the purposive sampling method there were 64 data for 8 years so that it had 512 samples, but have data outlier, so that 464 samples used to get results that are free from multicollinearity problems. This study uses linear regression analysis with categorical data. The results, it shows that: 1) the introduction stage has no significant effect on debt, 2) the growth stage has a significant effect on debt, 3) the mature stage has a significant effect on debt, 4) the stagnant stage has no significant effect on debt 5) the decline stage has a significant effect on debt.

Key words: Life cycle; debt; trade-off theory; pecking order theory

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INTRODUCTION

Company as an economic entity cannot be separated from financing issues. Financing plays an important role both in development and growth of the company. Financing can be classified into 2 types, internal financing, and external financing. In conducting financing, beside of utilizing intern financing such as retained earnings, company has ability to utilize the external fund resources such as bank loans (debt) and stock issuance held by company (Utami, 2011). Internal financing comes from retained earnings and in the other side, external financing comes from stock issuance, bonds issuance, and bank loans (Myerset al, 2006; Utami 2011).

Stock issuance can cause a lot of cost as an effect of the asymmetry information; thus the company are more likely to use (loans) debt as a source of external financing (Utami,2011). Myers and Majluf (19884) emphasizes when the external financing is required, company would rather to choose debt than the other form of external financing source. External financing which is often related to development of the company can be known to be dependent on each company condition. Company condition will be reflected on different stages/cycles, not all condition requires external financing. In the other case, Sunder and Myers (1999) state and deliver evidence that the company adapt to loans target as debt. It is necessary to be aware of condition of each on company development stage in order to avoid fraud in making decision regarding to external financing. The stage of company development is often called as company life cycle (Dickinson,2011). Anthony and Ramesh, (1992) deliver statement that the most appropriate company development strategy is to take awareness of the stages of company life cycle.

Life cycle of company consist of varies of phase and can be identified as the effect of the fundamental factor changes, that is occurred from the strategy activities conducted by company. Therefore, life cycle of company is the combination between the result of strategy and business resource allocation comprehensively that reflect derivative company factors.

At fundamental core, this research provides the empirical evidence regarding to the leverage of life cycle of company to external financing such as debt based on trade-off theory and pecking order theory for manufacturing company in Indonesia. The researcher will conduct investigation regarding what kinds of effect from life cycle company to each stages, introduction, mature, stagnant, and decline that effect to debt.

Fundamental Theory and Hypothesis

Pecking order theory perspective shows the company make financial-decision in hierarchy from internal financial to external financial (Harjito,2011). The sequence of financing from retained earning, to debt, and the last equity issuance which indicates the source of financial with the lowest cost (Myers and Majluf, 1984). Pecking order theory means the company finding out the retained earning at first , in addition debt which is only utilized as financing in urgent condition (Frank and Goyal, 2008).

In financing the activity of operational and investment, a company may not have certain fund in each period of time, in order to realizing the plan and target company may receive fund from the owner's capital, in case the equity from the owner's capital able to cover up each company activity, company may not need addition fund from external (Rudianto, 2009:292). However, when the capital are not able to cover up all the operational and investing activity, it is allowed for the company to use another finance fund outside the company or external financing.

There is one theory that support external financing, which can be known as trade off theory. In trade-off theory perspective (Modigliani and Miller, 1963), the main point of capital structure company decision is debt which also means debt is main point in financing stage. Furthermore, Modigliani and Miller state that using external financing is better than using internal financing.

At the time company prospects are not good, the management will issue new stock as a source of investment financing in order to reduce the responsibility of the old shareholders (sharing occurs with new shareholders), this will lead investors to be less interested in investing in companies that issue new stock and issuing stock becomes more costly if it is used as a source of funding for company investment (Utami, 2011). Issuance of new stock in a company incurs a lot of costs due to asymmetric information, thus companies tend to use loans in the form of debt as an external funding source (Utami, 2011). Reaffirmed by Myers and Majluf (1984) if external funds are required, then companies prefer debt to other external sources of funds.

In reality, only certain amount of company that use 100 percent of debt, this is caused by company limits debt usage to suppress cost related with bankruptcy (Brigham and Houston, 2011). Therefore, manager must take action and spread awareness the real condition in the company in making financial-decision especially in external financing such as debt. Regarding to debt, development of company depends on the real condition of company. In this case, the condition can be fluctuation of company's development since not all condition require external financing. In the company's development stage has variety of stage, or known as life cycle of company. It is essential to see the company's life cycle stage as guidance to utilize debt for better operational.

Ross, et al, (2010:561) state Ross, et al, (2010: 561) state that companies in the introduction stage will use debt sparingly, and in some cases do not use debt at all Thus, the following hypotheses can be proposed as follows:

H1: introduction stage has significant effect to debt

At the growth stage, the company start to provide market needs and its rapid growth. This growth is the result of providing market needs which is better than the competition and the business spirit of the company's founders (Hastuti, 2011). Growth stage means the company has willingness to provide market demands and the rapid growth rate. The company's concentration at this stage is to obtain rapid growth in sales levels and manage more resources in order to realize the profits and conditions of a company wide scale (Deshinta, 2012). In the study of Barton et al. (1989) and Kaaro (2001) found that sales growth has a significant effect on debt levels. Thus, the following hypotheses can be proposed:

H2: The growth stage has a significant effect on debt

In the mature stage, the company enters a stage where the managers are starting to become professional. However, the company's life is not long anymore and leads to the last stage in the company's life cycle. There are several companies that remain at this stage for a long period of time, but there are also that lead to bankruptcy (Hastuti, 2011). In the mature stage,
company experience the enhancement after experiencing rapid growth and increasing company's profit. In other words, the company no longer uses debt because it is at this stage because it already has high profits, so it can finance operational activities using internal funds. Thus, the following hypotheses can be proposed as follows:

H3: The mature stage has a significant effect on debt

At the stage after mature, there are companies that not entering the decline stage however remain in a stable position (stagnant). The company did not experience a drastic increase in sales and a decrease in profit. The low sales growth rate , the company do not prepare the massive capital expenditures and the profits earned by the company are no longer held for company development (Anthony and Ramesh 1992).

When the company is at a stagnant (stable) stage, which means it still has the probability to grow. The company's internal funds will not be sufficient to expand in developing the company so that it returns to the mature stage. So it is difficult to rely on the company's internal funds and existing profits are used only to maintain the company and cannot last long because increasingly fierce competition requires funds to re-support operational activities using external funds in the form of debt. Thus, the following hypotheses can be proposed as follows:

H4: The stagnant stage has a significant effect on debt

The last stage of the company's life cycle is decline stage. The company will discontinue its activities and the business are being left behind. All goals and target related to the company will be disappeared (Hastuti, 2011). The declining condition of the company is represented by a decrease in profitability due to external challenges, loss of market share, and lack of innovation by the company. Regarding innovation and strategy, the company has established various price discount for its products that conservative and avoid risk. In addition liquidate its subsidiaries (Deshinta, 2012).

When company in its declining stage condition , it indicates company suffer losses. Internal funds are unable to be used, which means that in a declining stage, the company requires external funds in the form of debt to restart developing the company so that there is no continuous declining stage that can lead to bankruptcy. Thus, the following hypotheses can be proposed as follows:

H5: The declining stage has a significant effect on debt

METHOD

Research sampling

Population of this research is manufacturing companies that are listed on Indonesia Stock Exchange for 2012-2020 period. Secondary data in this research are obtained from annual manufacturing company's financial statement listed on Indonesia Stock Exchange for eight years, from 2012-2020 period through official website www.idx.co.id

Data selection utilize purposive sampling method. Samples are obtained from 64 manufacturing company listed on Indonesia Stock Exchange for 8 years from 2012-2020, as a result there are 512 data collected. However, there are outlier data due to some data have contrast distinctions from the others (extreme) thus must be excluded from the research model. Data in outlier shows 6 companies as a result the total samples are used from 58 companies for 8 years is 464 data.

Research Variable

The endogenous variable in this study is debt which use the Debt to Asset Ratio (DAR). While the exogenous variable is the company's life cycle which consists of introduction, growth, mature, stagnant and decline by using a cash flow pattern by looking at the company's cash flow (Dickinson, 2011). This research also uses control variable of profitability and firm size. The analytical tools in this study use SPSS Version 21 and WarpPLS 6.0 programs.

RESULT AND DISCUSSION

Descriptive Statistic

The average of debt conducted by company is 0.47 with minimum value 0.04 and maximum value 1.44 and its standard of deviation 0.24. the average of introduction stage conducted by company is 0.15 with minimum value 0.00 and maximum value 1.00 and its standard of deviation 0.35. the average of growth stage conducted by company is 0.07 with minimum value 0.00 and maximum value 0.30 and its standard of deviation 0.12. The average of mature stage conducted by company is 0.23 with minimum value 0.00 and maximum value 0.48 and its standard of deviation 0.24. the average of stagnant stage conducted by company is 0.06 with minimum value 0.00 and maximum value 0.60 and its standard of deviation 0.18. the average decline stage conducted by company is 0.03 with minimum value 0.00 and maximum value 0.70 and its standard of deviation 0.14.

The average of profitability of company is 11.15 with minimum value -0.67 and maximum value 5141.58 and its standard of deviation 238.68. the average of size of company is 23.78 with minimum value is 12.10 and maximum value 30.19 and its standard of deviation 5.03.

Table 1.
Variable Descriptive Statistic
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Hutang	464	,04	1,44	,4721	,24551
Introduction	464	,00	1,00	,1466	,35404
Growth	464	,00	,30	,0668	,12524
Mature	464	,00	,48	,2355	,23880
Stagnant	464	,00	,60	,0584	,17836
Decline	464	,00	,70	,0286	,13866
ROA	464	-,67	5141,58	11,1524	238,68845
Size	464	12,10	30,19	23,7802	5,03169
Valid N (listwise)	464				

Model Conceptualization

Model conceptualization conducted in PLS-SEM can be viewed in Picture 1 as follows:

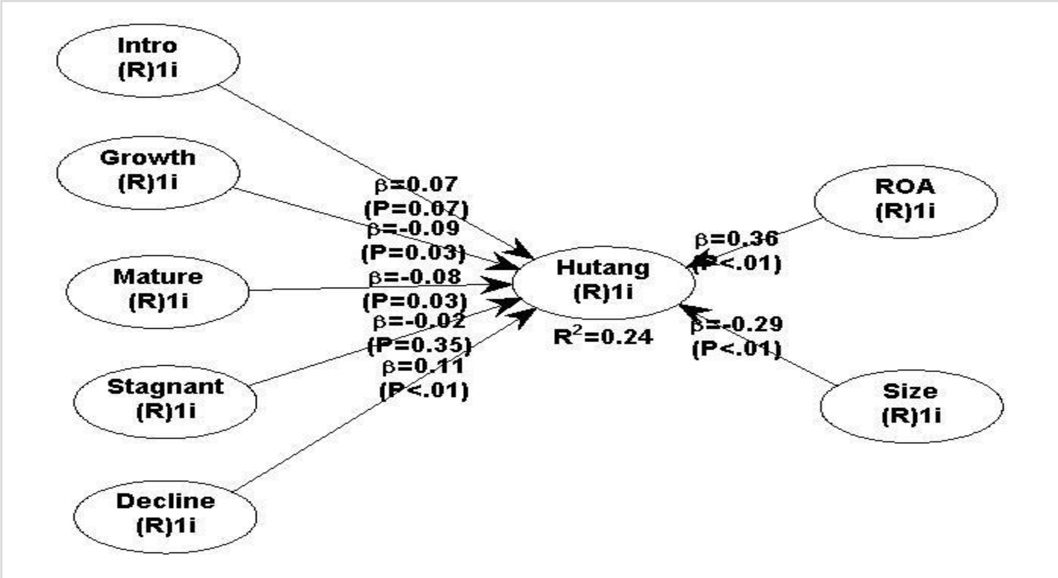

Figure 1.
Model Conceptualization
Model Evaluation

Fit model Evaluation conducted in PLS-SEM can be viewed in picture 2 as follows:

Model fit and quality indices

Average path coefficient (APC)=0.146, P<0.001
Average R-squared (ARS)=0.242, P<0.001
Average adjusted R-squared (AARS)=0.230, P<0.001
Average block VIF (AVIF)=1.397, acceptable if <= 5, ideally <= 3.3
Average full collinearity VIF (AFVIF)=1.818, acceptable if <= 5, ideally <= 3.3
Tenenhaus GoF (GoF)=0.492, small >= 0.1, medium >= 0.25, large >= 0.36
Sympson's paradox ratio (SPR)=1.000, acceptable if >= 0.7, ideally = 1
R-squared contribution ratio (RSCR)=1.000, acceptable if >= 0.9, ideally = 1
Statistical suppression ratio (SSR)=0.571, acceptable if >= 0.7
Nonlinear bivariate causality direction ratio (NLBCDR)=1.000, acceptable if >= 0.7

Path coefficient and P Values conducted in PLS-SEM SEM for fit model can be viewed in table 3 as follows:

Table 2.
Summary of Research Hypothesis Testing

Hypothesis Testing	Coefficient	P value
Introduction	0,068	0,071
Growth	-0,085	0,032
Mature	-0,085	0,033
Stagnant	-0,018	0,346
Decline	0,115	0,006
Return On Assets (ROA)	0,357	<0,001
Size	-0,293	<0,001
R-Square	0,242	
Adjusted R Square	0,230	

Endogenous variable : Debt
N = 464
*significant at 5%

R-squared on table 3 up below for endogenous variable of debt shows 0.24 which means 24% endogenous variable of debt can be explained, and the rest of it 76% can be explained by another variable that are not listed in this research.

Explanation

Result from table 3 shows the coefficient 0.068 with p 0.071 > 0.05 that indicates the company in introduction stage have no impact significantly to debt. It means the company in introduction stage not using debt as external financing. The result of this research don't show any consistency with the research conducted by Nidar and Utomo (2017), which shows that company in introduction stage have more substantial impact than the other stages. The result also shows inconsistency in research conducted by Ross et al, (2010:561), which shows that company in introduction stage and company in rapid expansion use debt to accelerate development.

In the introduction stage, company owns the capital or internal fund in the small amount and the gained profit can be said in the small amount thus the company will not use debt due to consideration of inability to pay its debt and company must spread awareness in using debt, since using the debt in high amount can cause great loss in case the company don't notice the detail. In specifically, loans allow to expose company to fail to pay if cash flow from operation can not adequate to pay its interest and the failure can cause losing of control to creditor and eventually liquidation. The result of this research is to support pecking order theory which state that company prioritize company internal funding which is company operational profit.

The results of the analysis in table 3 show the coefficient value -0.085 with a P value of 0.033

<0.05, which means that the mature stage has a negative and significant effect on debt. This also means that companies in the mature stage do not use debt as company financing. In general, companies in the mature stage can be said to be in a condition where the profits are high, thus the company's profits increase. The results of this research are inconsistent with research conducted by Nidar and Utomo (2017), which states that companies in the mature stage have less leverage than other stages, which means that companies in the mature stage do not use debt due to receiving high profits. However, this this research proves that if the company is in the mature stage, it still uses debt as external funding due to the benefits received by the company when using debt because it get cost a tax reduction (tax shield), thus the results of this research support the trade-off theory which states that companies prioritize the use of the company's external funds, namely debt.

The results of the analysis in table 3 show the coefficient value of -0.018 with a p value of 0.346> 0.05, which means that the company at the stagnant stage has no significant effect on debt. This means that companies at a stagnant stage do not use debt as external financing. The results of the research indicate that the company does not use debt as additional funds from external, this can be occur due to maintenance of existing internal funds conducted by company in order to maintain the viability of the company, even though the company's development will be obstructed.

The company at the stagnant stage does not use debt due to some reasons, if the company uses debt, of course there is a risk that will be guaranteed by the company if the company's growth does not increase in profit. A larger proportion of debt can increase high profit growth, but on the other side, large debt will increase the possibility of bankruptcy for the company, especially if the debt causes the company's growth to be small or even negative. The results of this study support the pecking order theory which says that the company prioritizes the use of the company's internal costs, namely the company's operating profit.

The results of the analysis in table 3 show the coefficient value of 0.115 with a p value of 0.006 <0.05, which means that the decline stage variable has a significant effect on debt. This means, the company at the decline stage uses debt as external financing. The results of the research indicate that the company uses debt as additional funds from outside the company due to requirement external funds to be able to finance the company's development process. In addition, using corporate debt will receive profit from a tax reduction

This research proves that if the company is in the decline stage, it uses debt as external funding due to experiencing a decline in profits, the company has limited internal funds in carrying out the company's operational activities, thus by using external funds the company will get additional funds in order to finance the company's growth. Then, there are advantages that the company can obtain when using debt due to a tax deduction (tax shield).

The results of the analysis in table 3 the coefficient values for the profitability variable (ROA) and company size on the endogenous debt variable are 0.357 and -0.293 with p value <0.001 for ROA and 0.001 for size. The results of this research indicate that the two control variables have a significant effect on the endogenous variable, namely debt. Profitability (ROA) has a significant effect on debt as companies that have high profits, with term pay attention to the use of external funds in the form of debt in financing the company. The lower the level of profit obtained by the company, the company will use external funds to finance the company's operational activities to support good growth.

The size of the company (size) affects debt due to differences in company sizes that certainly have different financial issues. Companies that carry out innovation and expansion activities, if occur issue such limited internal funds, companies will use external funds as additional capital in developing and financing the company's operational activities. The results of this research indicate that the control variables in this research.

CONCLUSION

The introduction stage does not have any effect to debt, at this stage the company does not use debt as external financing as companies that are just starting a business often have small amounts of internal capital or funds, and the use of high amounts of debt will increase the interest expense which can leads to high risk and bankruptcy on the company.

The growth stage has a significant effect on debt. Thus, the growth stage of the company uses debt as additional funds from external companies, as companies in general, when the company is in the growth stage, obviously, it requires additional funds to finance operational activities.

The mature stage has a significant effect on debt. Thus, at the mature stage the company uses debt as additional funds from external companies. This is due to the company's profits when using debt because it gets a tax deduction (tax shield).

The stagnant stage has no significant effect on debt. Thus, the stagnation stage of the company does not use debt, this can be occurred due to maintenance of existing internal funds in order to maintain the viability of the company, even though the company's development will be obstructed. In addition, the company at a stagnant stage does not use debt due to some reasons, if the company uses debt, of course there are risks that will be guaranteed by the company if the company's growth does not increase in earning profits, and high funding in the form of debt to external parties is used. The company will cause the company to face the risk of inability to fulfill its obligations to pay debts to parties outside the company.

The decline stage has a significant effect on debt. Thus, at the decline stage, the company uses debt as additional funds from external companies. This is because when the company is experiencing a decline in profits, which means the company has limited internal funds in carrying out the company's operational activities, thus by using external funds the company will get additional funds in order to finance the company's growth. Then, there are advantages that the company gets when using debt due to tax deduction (tax shield).

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