Survey of capital structure of companies within the life cycle model with an emphasis on accumulated interest variable

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Abstract: One of the most important issues in the field of financing is companies' assurance of financing investments in the company's life cycle and increasing returns. This Important issue is addressed in the current study. Due to information asymmetry, companies will have different characteristics during their life cycle to meet and achieve the mission and the goal of creating the company. The method of data analysis is correlation and multi regression test. The results show that the relationship between capital structure and debt net in the companies that are in the maturity and decline is stronger than the relationship between capital structure and debt net in companies that are in the growth phase. Also the relationship between capital structure and issued equity in companies that are in the growth Stage is stronger than the relationship between capital structure and issued equity in companies that are in maturity and decline Stage. Finally the relationship between capital structure and retained earnings in companies that are in maturity and decline phase is stronger that the relationship between capital structure and retained earnings in companies that are in the growth Stage.

Keywords: capital structure life cycle, debt net, issued equity earnings

INTRODUCTION

This study was conducted to investigate the relationship between capital structure policies and the lifecycle of listed companies in Tehran Stock Exchange.

Several researchers in their studies have mentioned that there are four stages for company's life cycle including start-up or Emerging stage, grow-up or growth stage, maturity or stability stage and the decline or stagnation stage. In this study, following the study conducted by [1] companies are divided into two groups: companies in the growth stage and companies in the maturity stage. Companies in the maturity stage have lower information asymmetry compared to companies in the growth stage as companies in the maturity stage are older than companies in the growth stage and are closely analyzed and evaluated by analysts and investors and are well known in the market, therefore they should have lower information asymmetry.

According to the prediction of theories, companies with greater information asymmetry problems to take financing decisions must follow hierarchy theory carefully.

Generally, the main difference between companies in the maturity stage with companies in the growth stage is not due to that companies in the maturity stage are larger, but because these companies are older, more stable, with more earnings and lower growth opportunities. In general, companies in the growth stage attempt to issue short-term bonds to reduce the information asymmetry. Companies with fewer opportunities for investment and growth use loans and financial facilities for monitoring role. This study focuses on hierarchy theory proposed by [2]. This theory is based on information asymmetry between companies' managers and investors. In this study it is expected that information asymmetry between companies in the growth stage will be lower than companies in the maturity stage. Hence, it is expected that companies in the growth stage follow hierarchy theory more accurately than companies in the maturity stage.

Antoniou A *et al* [3] examined the use of activity-based costing system at different stages of the life cycle and concluded that due to changes in information needs of managers, the use of activity-based costing system is different at different stages of the life cycle. The use of activity-based costing system is higher in maturity and resuscitation stages than in the growth stage.

Black [7] investigated the relationship between earnings and cash flows and Company's value at different stages of life cycle. In start-up and decline

stages, cash Flows are more relevant than earnings and in the maturity stage the reverse holds true. [4] examined the comparison of explanatory power of measures based on cash flows and measures based on accruals for explaining the company's value at different stages of life cycle and concluded that the explanatory power of measures based on cash flows is higher in the growth stage and the explanatory power of measures based on accruals is more in maturity and decline stages.

METHODOLOGY

This research is descriptive- correlation and practical, because it is done by purpose of using these results in capital market.

RESEARCH MODEL

In this research, variables of retained earnings, debt net and issued equity are dependent variables budget deficit is independent variable and company size is control variable.

To investigate research hypothesis we show the relationship between research variables according to hierarchical theory within conceptual model.

To investigate the research question and given that the study that [1] investigated this question in Malaysia, the following models are proposed.

$$\text{Net Debt issue: } a + b_1 \times deficit + b^2 \times size + e \qquad \textbf{model 1}$$
$$\text{Net Equity Issue: } a + b_1 \times deficit + b^2 \times size + e \qquad \textbf{model 2}$$
$$\text{Net Retained Earning: } a + b_1 \times deficit + b^2 \times size + e \qquad \textbf{model 3}$$

As the Table-1 shows, there is a significant relationship between capital structure and company size (p- value $<5\%$) with the retained earnings. The coefficient of variables shows that the relationship between company size and retained earnings is greater capital structure.

There is a significant and direct relationship between capital structure and company size with the issued equity and the relationship between capital structure and the retained earnings is medium in companies that are in the growth phase.

The eighth sub- hypothesis test

The eighth sub- hypothesis test examines the relationship between capital structure and retained earning that are in maturity phase. Result of regression is given in table-2:

As the Table-2 shows there is a significant relationship between capital structure and company size (p- value $<5\%$) with retained earnings. The coefficient of variables shows that the relationship between capital structure and retained earnings is greater than company size.

There is a direct and significant relationship between capital structure and company size with equity and this relationship between capital structure and retained earnings is strong in companies of maturity phase.

The ninth hypothesis test

In this research, the ninth sub- hypothesis test examines the relationship between capital structure and

retained earnings of companies that are in decline phase. The Result of multivariable regression is given on table -3:

As the Table-2 shows, there is a significant relationship between capital structure and company size (p- value $<5\%$) with retained earnings. The coefficient of variables shows that the relationship between capital structure and retained earnings is greater than company size.

There is a significant and direct relationship between capital structure and company size with the issued equity and earnings is strong in companies that are in decline phase.

Considering that F statistic value of fitted regression model is significant and due to the coefficient of determination these. Variables explain 60.2 of changes of the retained earnings.

Over all the results show that the hierarchical theory shows financial models of mature companies and decline phase better than growing companies in Tehran stock exchange.

The results of this research are consistent with the results [5, 6] research, because in these researches, they concluded that companies of maturity and decline phase follow hierarchical theory to provide financial deficit. The results of this study are inconsistent with the results of [1] research. Because they concluded that the companies at the growth phase follow hierarchical theory and financial model companies of mature and decline phase is uncertain.

Table -1: Result of multivariable regression of capital structure and retained earnings (growth Stage)

Significant	t	Factor	Variable name	Symbol	variable Type
–	–	–	Retained Earnings	Y	Dependent variable
0.020	1.900	1.56	Alfa	α	Constant
0.0021	1.473	*0.600	Capital Structure	X1	Independent variable
0.000	1.79	*0.845	Company Size		Dependent variable
_	_	2.001	DW		
0.001	_	42.123	F		
_		0.843	The correlation coefficient		R
_		0.696	The coefficient of determination		R Square
_		0.695	Adjusted coefficient of determination		Adjusted R Square

Significant level is equal to %5

Table -2: Result of multivariable regression of capital structure and retained earnings (maturity Stage)

Significant	t	Factor	Variable name	Symbol	variable Type
–	–	–	Retained Earnings	Y	Dependent variable
0.001	1.64	1.94	Alfa	α	Constant
0.002	1.68	*0.779	Capital Structure	X1	Independent variable
0.001	2.003	0.746	Company Size		Dependent variable
_	_	2.11	DW		
0.00	_	4.98	F		
_	_	0.812	The correlation coefficient		R
_	_	0.660	The coefficient of determination		R Square
_	_	0.659	Adjusted coefficient of determination		Adjusted R Square

Significant level is equal to %5

Table -3: Results of multivariable regression of capital structure and retained earnings (decline Stage)

Significant	t	Factor	Variable name	Symbol	variable Type
–	–	–	Retained Earnings	Y	Dependent variable
0.000	1.012	1.72	Alfa	α	Constant
0.001	1.49	0.603	Capital Structure	X1	Independent variable
0.000	1.11	0.593	Company Size		Dependent variable
_		2.19	DW		
0.000	_	7.57	F		
_		0.776	The correlation coefficient		R
_		0.602	The coefficient of determination		R Square
_		0.601	Adjusted coefficient of determination		Adjusted R Square

Significant level is %5

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