Company growth rate and variables of changes in retained earnings, changes in short-term debt and changes in long-term debt in pharmaceutical industry

Reza Ahmadi[1], Jamal Barzegari Khanagha (corresponding author)[2], Ali Reza Nasser Sadrabadi[3]

[1]department of Accounting, Yazd science and Research Branch, Islamic Azad University, Yazd, Iran.
[2]Department of Accounting, Faculty of Economic, Management and Accounting, Yazd University, Yazd, Iran.
[3]Department of Accounting, Yazd Branch, Islamic Azad University, Yazd, Iran

Abstract: Firm growth has become one of the most important themes in business and finance literature. Several arguments have been made to explain the significance of growth due to its role as a precondition for firm survival, innovation and technological change. An increase in firm growth might increase demand from it towards other sectors, which could enhance economic activity and as a result lead to growth at the macro level. This study examines the impact of financial structures on the growth in Tehran Stock Exchange. The objective of this paper is to explore whether firms' growth can be associated with patterns of financial acquisition and whether these patterns influence firms' growth differently when the source is either internal or external. In This study hypotheses were formulated and tested with panel data consisting of 186 firms from 2006 to 2011 period, this is a descriptive-regression research of field branch. The theory discussions are collected via library method and the data collected from stock exchange and report of companies. The empirical results reveal that external financial sources – short-term debt – significantly influence firm growth and this variable and growth are positively related. However Results in the total sample were weak but it was more significant in different industries; the results showed that in the pharmaceutical industries, short-term and long-term debts dad strongest relationship with growth, and conversely in Cement and ceramics industries retained profit was more important. The findings also indicate that size and age influence firm growth.

Introduction

The importance of investment for the economical-social growth and development is so much that it is considered as a key leverage to reach development, but we should bear in mind that as much as paying attention to this category by entering a positive progression leads to economic growth and prosperity, turning a blind eye to it and heedlessness can end in an economic recession and plunging into a regression or back motion and cycle. Thus, it should be mentioned that economic growth and a rise in the common good or common touch in the long run without any attention to the investment and the existing determining factors in the investment environment and atmosphere which are influencing the investment is impossible (Abzari et al.,2007).In this situation, the financing methods and company development are among the main discourse subjects in the area of investment which the present research in parallel with this subject goes to consider and **scrutinize t**he relationship between financing methods and the growth and development in the amount of participation in Tehran stock market and the cement industry, car industry, medicine industry, tile industry and petrochemical (chemical) industry.

Review of literature

Zhang and Cai (2005), in their research titled "Dynamism of the capital structure and share turnover", by using a sample from among public sector companies of the United states companies, from 1972 to 2003 such as Fuma &French Enterprise, declared the leverage as a purpose for each company and then calculated the amount of standard deviation from this purpose. The obtained results had no compatibility with the prediction of balanced models; since deviation from the ratio of purpose should be interpreted as a bad news; while as the share was divided into diverse groups based on deviation from the purpose; no specific pattern of yield was observed in them. They came to this conclusion that mainly between the changes in the financial leverage and the share yield, there is a negative correlation; In other words, companies which enjoy more amounts of changes in their leverage ratio have less share yield. This negative correlation for companies which have a higher leverage rate is more intense than others and in these companies the role of long-term debts is by far more than short-term debts. In this research the periodical type of analysis is used.

Sina'ii et al.(2011), in a research titled as "The influence of development opportunities on the relationship between capital structure, the shared profit and the valuable ownership structure of the company, got into the consideration of the influence of development opportunities on the relationship between capital structure, shared profit, and the valuable ownership structure of the companies accepted in Tehran stock market during the span of 2002 to 2008 of Persian calendar. Before analyzing the data obtained from testing the reliability of the variables, Chow-Hausman test were used in order to determine a proper model for estimating the parameters and the influence of independent variables on dependent variables. Then, by means of mixed data and the model for fixed effects, the research hypotheses were being tested. The results of the research illustrated that there is a meaningful relationship between the capital structure or lever and the shared profit with the value of the company; and in case of any existence of growth and development opportunities, this relationship will be negative and meaningful; but without these development opportunities, the relevant relationship will be positive and meaningful. Also, the obtained results illustrated that there is a linear and meaningful relationship between the structure of ownership and the value of the company and the growth opportunities have a meaningful influence on this relationship.

Zeinali and Mohammad Shilan(2011), in a research got into considering the similarity of the structure of capitals in the medicine industries and also went into empirical considering and investigation of the relationship between the capital structure and the size of the company, the rate of capital turn over and the revenue of each share. Findings of this research illustrated that the companies 'existing in the industrial series of pharmaceuticals during the years of (2007-2009) of Persian calendar, have similar financial structure; Also, there is a meaningful relationship between the financial structure of the above-mentioned companies and their size. On the other hand, there is a meaningful relationship between their financial structure and the rate of turn-over in the investment and the revenue out of each share. Metan et al, (2010), during a research got into investigation and consideration of the influence of the

characteristics of a company or firm on its financial structure which specifies the companies accepted in Tehran stock market. The sample of this research included 132 active companies in Tehran stock market since 2002 to 2006 of Persian calendar and the method of regressive econometrics for tabular data was used. The results of this research illustrated that there is a negative and meaningful relationship between the structure of capital and the structure of assets, profiting, the expected growth, their immediate relationship, and the turnover of the assets and a positive and meaningful relationship between the structure of the company's capital with its size and the ratio of profit coverage. In this research, the ratio of total debts to the total assets is used as a leverage criterion.

Research Hypothesis

In the pharmaceutical industry, there is a meaningful relationship between the amount of growth in a company and the variables of changes in the retained earnings, variations in the short-term debt and variations in the long-term debt.

Research Method

The present research in terms of purpose is an applied and descriptive research in the field of correlation-regressive researches, which is based on the real data obtained from monetary statements of companies accepted in Tehran stock market and its results will be generated to the whole statistical universe through an inductive method. The means to collect the data is the text mining and the required data will be obtained from audited monetary statements of the companies accepted in Tehran stock market and Tadbir pardaz and Rahavard-e-Novin computer software between 1385 to 1390 of Persian calendar. In this research, concerning collecting data about the approval or rejection of the research hypothesis, field research methods are used and for collecting data about the research literature, library research method is used.

Hypothesis testing

The regression model used in this research is as follows:

$$Growth\ (it) = \alpha it + \beta 1 Age it + \beta 2 size it + \beta 3 CRF it + \beta 4 CSTD it + \beta 5 CLTD it + \varepsilon it$$

Descriptive statistics

This kind of statistics merely gets into describe the statistical universe and its aim is to measure the parameters of the statistical universe. If the calculation of rates and indices of the statistical universe is carried

out by means of enumeration of its whole elements, it is called descriptive statistics. (Mo'meni & Azar, 1377, p.8).The descriptive statistics of this research is presented in Table No.1.

Table 1. Descriptive statistics

	AGE	SIZE	CRF	CSTD	CLTD	GROWTH
Mean	3.436382	12.94834	252.8968	0.188998	0.544848	0.294833
Median	3.583519	12.78591	0.105647	0.138329	0.070293	0.137088
Maximum amount	4.094345	18.98675	224993.0	4.956344	54.69105	113.3897
Minimum amount	1.945910	8.702843	-121.9821	-0.863365	-1.000000	-0.912020
Standard deviation	0.450570	1.521647	7459.809	0.380384	2.697677	3.774833
Skewedness	-0.953962	0.935888	30.09788	2.952618	12.01887	29.60428
Kurtosis	3.097470	4.871392	907.2461	31.21048	205.6298	887.3536
Observations	910	910	910	910	910	910
Number of sections	185	185	185	185	185	185

The first premise test

The first premise says that among the growth rate in the company and the variables of variations in the accrued profit, variations in the short-term debt and variations in the long-term debt(by controlling the variables of size, lifetime[moderator variables]), in the tile industry there is a meaningful relationship . The regression model which is used in this hypothesis is as follows:

$$Growth_{it} = \alpha_{it} + \beta_1 Age_{it} + \beta_2 size_{it} + \beta_3 CRF_{it} + \beta_4 CSTD_{it} + \beta_5 CLTD_{it} + \epsilon$$

The statistical form of the above-mentioned hypothesis is illustrated as follows:

H_0: $\beta_3 = \beta_4 = \beta_5 = 0$
H1=at least one of the β's not be zero

The null hypothesis (H0) indicates that among variations in the sales growth and the variables of changes in the accrued profit (CRF), alterations in the short-term debt (CST), and alterations in the long-term debt (CLTD) with controlling variables of Age and size there is no meaningful relationship and H1 hypothesis indicates that between alterations in the growth rate and the independent variables there is a meaningful relationship. The results of tabular data testing in this industry are presented in table No.2:

Table 2: Regression model test in the tile industry

Estimation Method / Variables	Mixed method(OLS)		Fixed effects	
	β	P Value	β	P value
C	0.11	0.79	-11.05	0.00
Age	0.03-	0.42	0.014-	0.98
Size	0.00	0.84	0.90*	0.00
CRF	0.02*	0.01	0.005	0.77
CSTD	0.06	0.21	0.02-	0.76
CLTD	0.008	0.31	0.003	0.76
F model statistical value	1.63	0.17	2.32*	0.01
Determination coefficient	0.15		0.57	
Durbin-Watson	2.36		2.07	
F-Limer test	1.25(0.28)			

*) meaningfulness with %95 certainty
**) meaningfulness with %90 certainty

As it is illustrated in the results of table No.6, the regression model in the tile industry by a probability of %95 in the method of fixed effects is meaningful and this regression model in estimation through a mixed method by a %95 percentage probability wasn't meaningful. Since the amount of the statistical value of F-Limer is more than %5(the number inside the parenthesis), the hypothesis of equality in the sizes of

Y-axis is not rejected; so, the OLS method comes into their mind.

The results of pattern estimation through a mixed method indicates that alterations in the accumulated profit by a probability of %95 was meaningful and by paying attention to the positive coefficient of this variable we can learn about the relationship between this variable and the growth in the sales of the company. Other variables in terms of statistics by a probability of %95 are not meaningful.

The coefficient of determination for this regression model in the mixed method is %15 which is indicative of the distribution of %15 of the changes in the sales growth by the independent variables. Also, Durbin-Watson statistical value that itself illustrates the primary level correlation among dispersion particles is indicative of the lack of correlation itself.

Consideration of the research results

Inefficiency of the capital market in Iran that is influenced by the harsh risks such as the profit rate risk, sanctions risk, regulations risk, tax risks, etc. that influences the financing methods and the growth of the companies.

Recommendations of the research

Recommendations of this research are classified into two groups originating from the research results and the recommendations for the next results:

Recommendations originating from the research

The results of this research illustrates that the weak relationship among independent variables mentioned in the research and the growth of the company while our samples are from different industries and this connection if being taken into consideration in the industries separately can be justified more strongly.

The results illustrate that in the pharmaceutical and car industry short-term and long-term debts are of more significance than the accrued profit and alterations in the accrued profit are not so significant in terms of statistics. This goes while in the cement and tile industry the accrued profit and alterations in the accrued profit are of more significance and in the petrochemical industry the model was not meaningful statistically. So, it is recommended that in each industry based on its characteristics attention to the financing method being paid.

2/16/2015

Reference

1. Abzari, M; Dastgir, M & Gholi-Poor, AS. 2007. Review and analysis of financial firms listed in Tehran stock. Journal of Economic Brrsy¬Hay. Volume 4, No. 4, pp. 73 to 89.
2. Anvari Rostami, .a. 1998. Financial management and investment (portfolio analysis), planners publishing, printing, 189 pp.
3. Azar.Adel, Momeni, Mansour. 2006. Application of Statistics and Management, Vol. Tehran: the side.
4. DeAngelo, H.; L. DeAngelo; and D.J. Skinner. 2000. Special dividends and the evolution of dividend signaling. Journal of Financial Economics 57, no. 3: 309– 354.
5. Grossman, S. and Hart, O. Takeover Bids, the Free-Rider Problem and the Theory of the Corporation. Bell Journal of Economics, 1980 : 42-64.
6. Hart, O., and J. Moore. 1995. Debt and Seniority: an Analysis of the Role of Hard Claims in Constraining Management. American Economic Review, No. 85, pp. 567-585.
7. Jensen C Michael. 1986. Agency cost of free Cash Flow, corporate finance, and takeovers. American Economic Review. 76: 2: 323-329.
8. Jahankhani, AS. And Yazdani, n. 1995. Effect of industry, size, business risk and the company's operating leverage on the use of financial leverage in the companies listed in Tehran Stock Exchange, Journal of Management Studies, No. 17 and 18, pp. 169- 186.
9. Moradzadeh Fard, M. And poor Monfared, n. 2009. Relationship between cash flows from financing activities and stock returns. Journal of Financial Accounting and Auditing. Pp. 145 to 161.
10. Yasuda, T. 2005. Firm growth, size, age and behavior in Japanese manufacturing. Smal l Business Economics, 24(1), 1-15. http://dx.doi.org/10.1007/s11187-005-7568-y.
11. Yazdanfar, D. 2012. The Impact of Financing Pattern on Firm Growth: Evidence from Swedish Micro Firms. International Business Research, Vol. 5, No. 9.