



SUSTAINABLE GROWTH AND FIRM RISK FROM THE SIGNALING PERSPECTIVE

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ABSTRACT

This study attempts to examine the relevance of sustainable growth and its influence on firm' financial and business risks and Compare the relative information content of them. Based on sampling, 85 firms from Tehran Stock Exchange (TSE) were selected and examined during 2003 to 2010. The Statistical tests findings showed that there is a significant relation between the firm' real and sustainable growth difference and their financial risk, but there is no significant relation between the firm' real and sustainable growths difference and their business risk.

Keywords: Sustainable growth, financial risk, business risk, Signaling theory.

INTRODUCTION

One needs financial data to take a decision. Accounting data is one of the information sources. The role played by financial information and its usefulness are mentioned in the frame work fundamentals of financial reporting. Iran financial accounting standards and accounting standards compilation boards have emphasized on the necessity of providing financial information to influence the decision makers. Firm growth and risk are of accounting information and are considered as the factors to foresee and more importantly to guide the investments and decisions. The most important worry for most firms and executive managers is the condition appropriate to grow. Experimental studies have shown that few young firms (In ratio to the old ones) have been able to move towards more growth and sale. Appropriate growth indicates a type of challenge to maintain equilibrium between actual capabilities enjoyment and searching for new ones. Organizational chiefs try to adapt above contradictive factors. They need organizational mechanical



structure to enjoy actual capabilities. The special contribution of the structure is standardization, decentralization and hierarchy. The structure is an obstacle to the organizational innovation and flexibility. By virtue of above cases the factors influencing investment decisions are important and in line with this the study was done. So in this study the real and sustainable growths influence on the financial and business risks is examined.

LITERATURE REVIEW

Sustainable Growth

Growth and its management create some problems for financial programming mostly because many managers consider growth as something to be maximized. They argue as follows: Along with growth the firm share in market and profit should increase, too. However, in financial view growth is not always an advantage [Amaral \(2008\)](#). [\(Higginz, 2012\)](#) divides growth into three groups namely sustainable growth, extreme growth and equilibrant growth. The sustainable growth rate is the maximum rate possible for the firm sales without sources amortization; in other words, sustainable growth indicates the rate able to grow in the firm capital structure and depends on financial policies and operations of the company. Sustainable growth begins when the company begins to lose cash money to develop its products and stabilize itself in the market. Directly sustainable growth is the official form of the proverb, "Money begets money". Sale increase requires more assets to be spent and related price should be paid. Accumulated profit with new loans leads to limited liquidity. If the firm finances not by new share issue, the liquidity limits define a ceiling growth without pressuring firm sources. This is sustainable growth rate. This process grows rapidly and is profitable in this step, but it grows so rapidly that it needs financing from out of the organization regularly. Rapid growth may pressure considerably the company sources. If the management is not aware of it and does not try to control it, it may lead to bankruptcy. It is a bitter truth that the firms growing rapidly become bankrupt more than ones growing slowly while the studies findings show smaller companies grow more rapidly than the bigger and older ones; thus, the smaller ones are subject to more risk [\(Amaral, 2008\)](#). It is much to be regretted that the firms which grow very rapidly by their favorable production in the market lead to low growth because of unintelligent financial managers. On the other hand, the companies which grow very slowly and at the same time, ignore financial considerations, if they can not understand the financial concept of their slow growth, they are potential subjects for intelligent opportunists to possess them. When the growth rate favorable to the firm exceeds the sustainable growth or inversely, it becomes less than the sustainable growth, one important result is a growth which does not increase necessarily. In some firms it may be necessary to limit the growth to maintain the financial power of the firm; even perhaps it had better the money used in a useless financial growth to be returned to the capital owners [\(Higginz, 2012\)](#); however, it is a very important discussion because the operational managers are to guide the growth.



Sometimes the real growth rate is more than the sustainable one so the question is proposed that, “ How should the managers do? ” The first step is to define how long does the condition last ? Having reached maturity or not if the company growth rate tends to decline, the problem is the transition and probably it is solve by borrowing in future. So in future when the real growth rate is less than the sustainable one the firm changes from borrower to the amounts producer and repays its loans.

But the following strategies together may solve the problems concerning long term growth rate: news shares sale, financial leverage rate increase, profit payment proportion decrease, price increase, integrating firms liquidity surplus, eliminating marginal activities or outsourcing one or all productions.

Firm Risk

The factors forming the risk which changes the shares price in the market may be grouped as follows: political risk, business risk, interest rate risk, inflation risk, financial risk, liquidity risk and foreign exchange risk. Considering continuous changes in the environmental and economic systems different risks influence financial structure of different institutes every day. Different institutes including the industrial, producing, service, financial and monetary ones and even governments in their own operation extant encounter with special risks. In this study financial and business risks are focused and are defined as follows:

Financial risk: Financial risk indicates the usage of shareholders’ debt and rights together to financing the firm assets and the ratio of their long term debt to their total rights was used, too.

Business risk: It is the firm incapability to continue competition, to keep the growth rate or long or short term stable profitability. In such condition the company dividable profit decreases and this influences unfavorably the output and the yearly output changeability (Bowman, 1979).

Theoretical Framework

(Shin and Stols, 2000) have examined the firm value, risk and the firm growth opportunities. They showed that as the indicator of a firm business value proportion to its book value the QTobin increases when the systematic company capital risk increases and at the same time, unsystematic capital risk decreases. Besides, the final capital risk increases in the firm has relation with the ‘Q’ decrease. They showed that the negative relation between final risk change and ‘Q’ change over time is stable and strong for total sample, but this issue is not executed for the greatest firms. (Demirguc and Maksimovic, 2002) examined the differences in financial and legal systems and how the company finance out of the firm paid for the cashesfirm growth. They showed that somehow the financing out of firm increases because thefirms established in the countries with good operation have lower profit and the governmental subsidies do not increase the firms proportion focusing on financing from out in industrial sector.



In (Eskew, 1979) did the study 'Capability To Foresee Risk Criteria. He used the ratio of accounting variables to profit distribution, growth, lever, liquidity, size and changeability and accounting beta. The findings indicated that of above variables the profit growth, size and changeability have significant correlation with the systematic risk.

In his study (Brimble, 2003) examined the accounting role in estimating systematic risk. The accounting variables include profit growth, size and changes, proportion payment and financial and operational risks. The findings supported that above accounting variables secure more than 57 percent of systematic risk changes.

(Shahidi *et al.*, 1994) studied the relation between systematic risk and growth. First they supposed that the investors who avoid risk in a period expect the value maximization and defined growth as the growth rate in the dividable profit. Theoretically they proved that systematic risk has positive relation with growth. Also having examined 651 firms they found some experimental evidences indicating some relation between systematic risk and operational profit.

(Elgers and Murray, 1982) studied the relation between accounting variables (Growth, financial lever and size) and systematic risk. The findings showed that there is a significant relation between growth, financial lever, size and systematic risk.

In an article (Bowman, 1979) examined the theoretic relation between risk and firm growth and lever and profit changes. The findings showed that theoretically there is a relation between risk and firm lever and company growth variables and profit changes may not have any relation with risk. Bowman defined growth variable as two forms: 1–Growth as the investment in the; projects with expected output more than actual output of the firm. 2–Growth as some opportunities for investment in the projects led to additional output and he stated the relation between growth variable and risk by such definitions.

(Fewings, 1975) examined the influence of firm growth on ordinary shares risk. He defined growth as the growth in the firm profit and shares profit and theoretically examined the subject. His findings showed that the ordinary shares risk is positive function of the firm profit growth rate and shares profit.

Hypotheses Development

By virtue of the goals and also the issue to be tested in this study following hypotheses are proposed:

H1: *Considering the difference between real and sustainable growths there is a significant relation between the firm' financial risk.*



H2: *Considering the difference between real and sustainable growths there is a significant relation between the firm's business risk.*

On this basis the hypotheses are tested as follows:

The sustainable growth is estimated as follows in order to test the hypotheses:

$(g^*) = \text{Change in equity} / \text{Beginning of period equity}$

Then real growth (g) is estimated as follows in order to test H1:

$g = \text{End of period equity} - \text{Beginning of period equity} / \text{Beginning of period equity}$

Then we arrange the gained data from little to big into five groups of 17 items and name the groups as code 1, code 2, code 3, code 4 and code 5.

Having done above steps we measure the financial risk by following formula:

$\Delta \text{EBIT}\%$ (one year operational profit - Zero year operational profit / Zero year operational profit) is measured then $\Delta \text{EPS}\%$ (one year profit - Zero year profit / Zero year profit) is measured and finally $\Delta \text{EBIT}\%$ is divided by $\Delta \text{EPS}\%$ to have financial risk.

Finally we compare the firms' financial risk between the five categorized groups. ANOVA Test is used to compare the financial risk between the five groups.

The real and sustainable growths are measured (Like H1) in order to test H2, then we find their difference and then arrange the data from little to big into five groups of 17 items and name the groups as code 1, code 2, code 3, code 4 and code 5.

Then we measure the business risk by following formula:

$\Delta \text{EBIT}\%$ (one year operational profit - Zero year operational profit / Zero year operational profit) is measured then $\Delta \text{S}\%$ (one year income - Zero year income / Zero year income) is measured and finally $\Delta \text{EBIT}\%$ is divided by $\Delta \text{S}\%$ to have business risk.

And finally compare the firms' business risk between the five groups. ANOVA Test is used to compare the business risk between the five groups.

The universe includes all the firms accepted in Tehran stock exchange. The Sample for this study including the firms accepted in Tehran stock exchange had following qualities:

- 1-Accepted in Tehran stock exchange before 2004.
- 2-Their fiscal year ends on 20, March every year and have no fiscal year change during the period under consideration.
- 3-Their data would be available by different software.
- 4-Related firms be active continuously during the study and have no stop in related periods.
- 5-The firms had not to change their fiscal year during related periods.
- 6-They had to present the financial data necessary for the study for 2003-2010 completely.
- 7-They should not be investor or financial intermediate firms.

Thus, 85 firms were selected in consideration of above limits.

DATA ANALYSIS

In this section first the descriptive statistics of the variables are stated and the data normality was tested by Kolmogorov–Smirnov Test and then related findings are stated.

The Descriptive Statistics of the Variables in this Study

All the descriptive statistics of the variables in this study are shown in Table 1.

Table-1

statistic	medium	standard deviation	mean	maximum	minimum
financial risk	0/511	3/641	0/650	19/010	-21/644
business risk	1/056	10/689	1/703	51/523	-63/276

The findings of the study hypotheses

First firms' financial risk variable normality was tested by Kolmogorov–Smirnov Test in order to test the H1; related findings are shown in Table 2.

Table-2. Examining financial risk variable distribution normality

variable title	'Z' statistic	significance
financial risk	6.073	0.000

As it can be seen the 'Z' statistic significance is less than 0.05 indicating abnormality of the firms' financial risk variable distribution. So by virtue of the abnormality of the firms' financial risk variable according to Kolmogorov–Smirnov Test findings shown in Table 2. Kruskal–Wallis (H Test) is used to test H1 upon actual data and analytical methods. As you see the significance value of Chi-square Test is less than 0.05 namely the statistical 'Zero hypotheses indicating equality of the financial risk variable mean in the presented categories per difference between the real and sustainable growths. So H1 indicating there is a significant relation between firms' financial risk in consideration of the difference between real and sustainable growths is accepted with 95 percent confidence level.

Table-3. Kruskal–Wallis (H Test)–H1

significance	freedom degree	Chi-square Test
0.331	2	2.210

firms' business risk variable normality was tested by Kolmogorov–Smirnov Test in order to test the H2; related findings are shown in Table 4.

Table-4. Examining business risk variable distribution normality

variable title	'Z' statistic	significance
business risk	6.233	0.000

As it can be seen the 'Z' statistic significance is less than 0.05 indicating abnormality of the business risk variable distribution.

So by virtue of the abnormality of the firms' business risk variable according to Kolmogorov–Smirnov Test findings shown in Table 4. Kruskal–Wallis (H Test) is used to test H2 upon actual data and analytical methods. As you see the significance value of Chi-square Test is more than 0.05 namely the statistical 'Zero hypotheses indicating equality of the business risk variable mean in the presented categories per difference between the real and sustainable growths is accepted. So H2 indicating there is a significant relation between firms' business risk in consideration of the difference between real and sustainable growths is not accepted.

Table-.5 Kruskal–Wallis (H Test)–H2

significance	freedom degree	Chi-square Test
0.361	4	4.348

CONCLUSION

As it was stated the study was to examine real and sustainable growths influence on financial and business risk. That is why two hypotheses were compiled to examine the influences of the difference between real and sustainable growths on financial and business risks. The Statistical tests findings showed that there is a significant relation between the firms' real and sustainable growth difference and their financial risk, but there is no significant relation between the firms' real and sustainable growths difference and their business risk.

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