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Research Article

EXAMINING THE EFFECT OF ENVIRONMENT RISK ON TOBIN Q OF ACCEPTED COMPANIES IN TEHRAN STOCK EXCHANGE

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ABSTRACT
This paper examines the effect of environment risk Tobin Q of accepted companies in Tehran Stock Exchange. This study is applied, regarding the purpose and is casual considering methodology. Statistical population of the study includes all accepted companies in Tehran Stock Exchange from 2008-2012. Using systematic random sampling, sample size of 79 was achieved. To gather data, library method and to test hypotheses, multivariable regression was used. Based on the findings, among 3 (economic, business, and market) variables of environment risk, economic and business risk don't affect company value; and business risk has a negative effect on company value.

Keywords: *Environment Risk, Tobin Q, Company Value*

INTRODUCTION
It is evident that each organization experiences different risks, regarding the nature of its work. In changing conditions of today, the success of every organization depends on its dominance over risks and their management. Risk management attracts more attention when the company faces the possibility of incurring losses and uncertainty. This management type includes a wide area including financial, business, operational, strategic, and risky events' domains. Every managerial decision-making or innovation can be risky. Organizations can bear risks in their routine tasks which is called operational risk (Anderson, 2009). Risk in financial market has a key role. So, it must be identified and measured. A plan is needed for removing unnecessary risks or managing risks with probable profit. Thus, risks are not necessarily negative; sometimes, there may be some opportunities along with any risk. Thus, removing all risks may remove their probable opportunities (Raei, 2011). Nowadays, the most important duty of mangers is increasing stockholders' wealth. But, how can their performances become measured for reaching such goals reasonably?
According to mentioned points, this study tries to answer the question that "What is the effect of environment risk on Tobin Q of accepted companies in Tehran Stock Exchange?"

Background
In a study titled "investigating the relationship between business risk and company performance", Wiliace and Christian (2006) studied 64 American companies in 7 years. They selected Tobin Q and return ratio as the criteria of performance measurement in the companies. They found a negative correlation between business risk and company performance.
Elson et al. (2007) studied the effect of environment risk, company strategy, and capital structure on company performance. Their statistical population included 84 companies, studied from 1995-2000. Based on results, environment risk, company strategy, and capital structure affect company performance.
Person et al. (2012) investigated the effect of risk on company performance in a sample of 162 companies from 2001-2009. According to their findings, risk has a negative effect on company performance. It shows that increasing risk decreases company performance.

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Dadashzade et al. (2013) studied the effect of environment risk, company strategy, and capital structure on the return and value created for the stockholders of accepted companies in Tehran Stock Exchange. Their statistical population consisted of 50 active companies studied from 2007-2011. Based on the findings, environment risk and company strategy affect company performance; but, the effect of capital structure on company performance was not confirmed.

Hypothesis
H1. Environment risk affects company value.
H1a. Economic risk affects Tobin Q.
H1b. Business risk affects Tobin Q.
H1c. Market risk affects Tobin Q.

METHODOLOGY

This study is casual, using descriptive methods for applied goals. Statistical population consists of accepted companies of Tehran Stock Exchange, studied from 2008-2012. To select sample, systematic random sampling was used. Companies with the following conditions were selected as the sample:

- Companies should be accepted in Tehran Stock Exchange before 2002 and after that.
- Information of accepted companies in the sample is available during study period.
- Investment, holdings, leasing, and insurance companies are excluded from the sample.
- Fiscal year of selected companies ends at last month of winter.
- Selected companies in the sample during study period are not loss- yielding.
- Selected companies in the sample don't include Act 141 of Business Law.

Considering above conditions, sample size of 79 was achieved.

Variables

Independent variable

1. Environment risk (ENVR)

To measure ENVR, the following criteria were used:

1.1. Economic risk (ER)

Economic risk considers volatility of macroeconomic environment which is calculated in the following form:

Sale growth $^{=}$ $\alpha + \beta$ of GDP

1.2. Business risk (BR)

The lack of enough certainty towards sale and operational earning amount of the company which accepts capitals in the future is called business risk. Its rate depends on the industry and activity type of the company and its fixed operational costs. Business risk is calculated as follows:
Operational cash follow of under-study company = $\alpha + \beta$ of operational cash flow mean of under-study company

1.3. Market risk (MR)

Market risk is calculated as follows:
Market price per share mean of each under-study company = $\alpha + \beta$ of market price per share of all under-study companies

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Dependent variable
1. Tobin Q

Tobin Q ratio is calculated as follows:

$$Tobin\ \ Q = \frac{\text{equity market value} + \text{debt book value}}{\text{assets book value}}$$

2. Company size (SIZE)
In this study, company size is measured through the logarithm of market value of company assets.

Descriptive findings
Table 1 shows descriptive findings of research variables.

Table 1: Descriptive findings of research variables

Variables	Mean	sd	Min	Max
Economic risk	0.7479	25.94301	-485	192
Business risk	0.9997	3.92815	-10.01	37.52
Market risk	0.9894	3.72763	-1.036	62.17
Tobin Q	1.9671	0.76246	0.26	3.82
Company size	7.9007	0.46813	6.60	9.25

According to Table 1, standard deviations of economic risk and REVA are 25.94301 and 0.07059, respectively. Thus, economic risk has maximum distribution among other variables.

Hypothesis test
H1 test
Results of H1 test are shown in Table 2. H1 model is as follows:
$Q = \alpha + \beta_1 \Sigma\ (ENVR) + \beta_2\ (SIZE) + \epsilon_i$

Table 2: Results of H1 test

Alternative hypotheses		H1a	H2a,	H3a
determination coefficient		0.394	0.414	.0394
Modified determination coefficient		0.391	0.411	0.392
d-w		1.659	1.744	1.663
ANOVA	F	152.990	166.183	152.973
	Sig	0.000	0.000	0.000
SIZE	β	1.022	1.044	1.024
	Sig	0.000	0.000	0.000
test t	β	0.000	-0.028	-0.005
	Sig	0.862	0.000	0.474
(α)		-6.105	-6.254	-6.120

Since significance value of variance analysis for H1 in Table 2 is below 5%, regression model is significant. Since Dourbin-Watson value is 1.5-2.5, there is no self-correlation between errors. Based on the results, significance values of variance analysis (0.862, 0.000, 0.474) for H1a, H1b, H1c economic risk and market risk don't have any effect on company value; while, business risk has a negative and significant effect on company value; Thus, environment risk doesn't affect company value. As a control variable, company size with significant value below 5% affects company value.

About the lack of effect of economic risk and market risk on company value, it can be said that investors and stockholders didn't pay attention to extant risks and their effects and mostly regarded prices of stock market and their probable return or companies didn't disclose risk information and market information didn't include all extant information. When operational cash flow is high, operational earnings increases which enhances company value as well. This necessitates accepting higher risk. But, the reason of discrepancy of this finding with the results of this study can be attributed to other factors out of control of studied companies in the sample. Results of this study agree with the findings of Wiliace et al. (2006) and Dadashzade et al. (2013); but, they disagree with Long et al. (1994), Chatus et al. (2002), and Ahmadpour et al. (2008).

Suggestions from the study

Based on the findings of this study, the following suggestions can be offered:

1. Regarding the negative correlation between environment risk factors (i.e. business risk) and company value, Iran's government and Tehran Stock Exchange are offered to provide proper conditions for investors' investment with low risk.
2. Managers can evaluate environment risk using models; they can plan more properly and recognize companies' positions to prevent from their losses and worsening conditions.

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