

The investigation Effect of Financial Leverage and Environment Risk on Performance firms of Listed Companies in Tehran Stock Exchange

Saber Akbarian

Malekan Branch, Islamic Azad University, Malekan, Iran

Abstract: The aim of this research is to study the investigation Effect of Financial Leverage and Environment Risk on Performance firms of Listed Companies in Tehran Stock Exchange. The variables is in the paper Performance firms (free cash flow per share and return of equity) dependent variable, and financial leverage and environment risk (market risk and economic risk) independent variables. this research is applied and the statistic population is firm listed in Tehran Stock Exchange. By using the omission sampling method, 95 firms listed in Tehran Stock Exchange, has been selected during the years 2005to 2011. The panel data and multiple regression has been used to test research hypothesis. The findings of this study show model1 that there is a negative relation between financial leverage and free cash flow per share and between variables market risk and economic risk with free cash flow per share positive significant and conversely model2 show that there is a between variables financial leverage, market risk and economic risk with return of equity relation positive significant.

Key words: financial leverage, environment risk, Performance firms.

INTRODUCTION

In todays world, successful business organizations will compete in track was able to review a strategic plan and determine exactly the other hand, have identified goals and individual employees as well as this that encourage your goals on track organization to regulate growth. Strategic management researchers have been proponents of the theory that provide support to the relationship between the environment, structure, and performance. Several management researchers of the likes of Dill (1958), Chandler (1962), Lawrence & Lorsch (1967), Jurkovich (1974), Miles & Snow (1978), Porter (1980, 1985), Bourgeois (1980, 1981), Hambrick (1981, 1983), Dess & Davis (1984), Dess and Beard (1984), Mintzberg (1988), Miller (1986), Hamel & Prahalad (1991), Kotha & Valdamani (1995), and others have directly or indirectly made attempts to theorize the effects of single or multiple constructs, vis-a-vis the firm environment, strategy, and structure on firm performance. These efforts have led to the incremental development of the strategic management literature that stress on the relationships between the constructs mentioned above. The developments in the management literature have had a significant impact on hospitality research, especially in the late eighties and early nineties. These developments were focused around the concept of strategic planning and stressed more on the environmental school of thought, which laid emphasis on the role of the environment in formulating and implementing strategies that have an impact on firm performance. Some of the research work done in the late eighties was aimed at testing the model of Porter (1980, 1985) and Miles and Snow (1978) in terms of the effects of competitive strategy on firm performance. The focus of the studies undertaken by researchers such as Dev (1988), Tse (1988), West (1988), Crawford-Welch (1990), Murthy (1994), and Jogaratnam (1996) was on testing the relationships between two or more of the constructs, vis-a-vis the environment, firm strategy, structure, and performance in the hospitality setting. Other efforts of the likes of Schmelzer (1992) delved into firm structure and tried to explain the components of organizational structure that have an effect on strategy and performance of firms. here is need for researchers to use corporate finance theory to test the coalignment model as the underpinnings of strategy research is based on the fundamentals of economics and finance that emerge from concepts on theory of the firm. Business entities, whether manufacturing or service based, thrive because of the value they add to their existing resources, which lead to stakeholder satisfaction. The process of value addition has been explained by strategy researchers through the use of industrial economics, population ecology, transaction cost economics, as well as the resource-based view, game theory and other domains of strategy theory. Whereas these domains are developed from fundamentals in economic theory, the concepts within these domains have been defined using the theories developed over several years of applied research in management and strategy. To the extent that management researchers have developed these concepts that have contributed to the evolution and growth of the management literature, they have moved away from the concepts in corporate finance to explain theories in strategy and management. Although, management researchers have used among other theories agency cost and resource based view of the firm to explain the concepts that form an integral part of theories in corporate finance, the key underpinnings of corporate finance used to explain strategies of firms have been sparse (Barton & Gordon, 1987).

The above approach can be developed in a systematic manner through the use of theories that explain the value addition concepts in finance. For instance, environment risk, corporate strategy, capital structure, and firm performance are constructs that are used in both strategy and corporate finance domains. Although both these domains reflect similarities in the definition of constructs, there seems to be a difference in how the variables that represent these constructs are defined. It could be argued that the differences in how the variables are defined using the strategy and finance literatures are based on the theory itself that set these domains apart. However, it should be noted that both domains emphasize on the premise that firms which succeed are able to add value to their existing set of resources on the long-term through effective management of these resources. Different theories are emphasized upon in both these domains to prove the point, but the bottomline to the effective management of firms is the way resources are managed. This common ground that overlaps the two disciplines needs to be researched, which will throw light on the concepts and theories that overlap the two domains and will further help explain the interaction between the constructs, dimensions, and variables considered as key to firms' success. This study is one such step taken in that direction. For instance, the study on the effects of inflation rate on capital structure typically entails the use of one independent variable (inflation rate) pertaining to the environment construct, and its impact on the dependent variable, i.e. capital structure operationalized using ratios depicting the use of debt and equity (e.g. debt ratio, and debt to equity ratio) (e.g. Staking and Babbel, 1995). This is evident in studies that entail testing the relationship between environmental uncertainty and firm performance. The researcher defined environmental uncertainty as a function of a single variable (e.g. interest rates, inflation) instead of using multiple variables such as economic risk, market risk, and business risk. Although these dimensions have been defined in financial theory, the researchers have used a micro perspective of testing the effects of single variables on the dependent variables defined as part of the constructs such as capital structure or firm performance and/or other similar constructs. However, it should be pointed out that some studies have considered multiple independent variables but within a given dimension (for instance, diversification or liquidity) under the corporate strategy construct that were hypothesized to affect the dependent variable, i.e. the capital structure of the firm.

Research Background:

Concepts in strategic management and corporate finance emphasize the role of the environment in terms of its effects on the firm. These concepts stress on the firm's need to analyze the external environment to identify strategic opportunities and threats (Hamel & Prahalad, 1991; Bourgeois, 1981; Olsen, 1981; Ried & Olsen, 1981). The process of analyzing the external environment revolves around identifying the forces in the macroexternal environment to study their effects on the task environment and industry environment, which in turn affects the firm's environment (Olsen et al., 1998). The key to this process lies in identifying the opportunities and threats that emerge through the changes taking place in the firm's external environment (Hill & Jones, 1995; Olsen & DeNoble, 1981). This process of scanning the environment and identifying the opportunities and threats keeps the firm abreast of changes in the external environment, which further helps the firm formulate strategies that address those changes. Olsen et al. (1998) refer to this process as the alignment between the firm's external environment and the strategy choice. In strategic management literature, the risk impact of the environment is studied under the concepts of environment such as uncertainty, complexity, dynamism, and illiberality (e.g. Emery and Trist, 1965; Jurokovich, 1972; Child, 1972; Lawrence and Lorsch, 1967; Olsen, 1980; Dess and Davis, 1984; Dess and Beard, 1984, Olsen et al., 1998). In corporate finance, these concepts fall into the umbrella of risk, which can be classified into three types, i.e. economic risk, business risk, and market risk. Note that the risk definition in corporate finance is similar to the one in strategic management, in that the strategy of firms to tap opportunities and reduce threats is inherent in the types of risks that corporate finance theorists emphasize upon. These risks by themselves capture the effects of opportunities and threats that are conceptually explained by management theorists. Researchers in both strategic management and corporate finance domains have studied the impact of the environment risk on the firm. Strategy researchers have studied the impact of the environment on the firm and how the strategy formulation process is impacted by the concepts of the environment. These theorists define strategy formulation as a function of choosing the strategies that address the changes that take place in the firm's external environment. Hill & Jones (1995) suggest that firms need to compare strengths, weaknesses, opportunities, and threats with the objective of exploiting opportunities through existing or potential strengths and counter threats by correcting the firm's weaknesses. They further emphasize that the process of strategic choice involves identification of the corporate level, business level, and functional level strategies, with the overall objective of being able to adapt to the fast-changing competitive environment. These concepts apply to how corporate finance theorists have defined the approach of firms to manage risk to increase the real and perceived value of the firm. In corporate finance, this is defined under the concepts of risk and how it impacts the way resources are allocated. The difference between strategic management and finance lies in how the levels of management are defined. Whereas in corporate finance the strategy of firms and resource allocation is studied under corporate strategies and capital structure of the firm, in strategic management they are defined as corporate, business, and functional level strategies. The levels of

strategy, i.e. corporate level, business level, and functional level have been defined by management theorists in order to identify and conceptualize the differences in approach in managing firms across these levels of company hierarchy. Corporate level strategies focus on what businesses should the company invest in, in order to satisfy the interests of the stakeholders and to maximize the value of stockholders' investments. The focus here is on issues pertaining to firm growth and liquidity (e.g. Kim, Mauer, & Sherman, 1998), which influence stockholders' satisfaction. On the other hand, business level strategies entail ways in which a company would seek to attain competitive advantage through effective positioning. It should be noted that these positioning strategies of companies would vary depending on the industry setting (Hill & Jones, 1995). In corporate finance, although business level strategies are not defined as positioning strategies, the objectives of these strategies and their effects are considered within the diversification and liquidity concepts of corporate strategies. Management theorists have suggested that in order to achieve competitive advantage, the firm should achieve a fit between the environment, strategy, structure and controls (Jennings & Lumpkin, 1992). Effective strategy formulation and implementation lead to the attainment of performance objectives identified by the stakeholders of the firm. Whereas the concept of fit between the environment and strategy is important in order to achieve competitive success, Hamel & Prahalad (1991) suggested that strategic intent is the key to achieving success as compared to strategic fit, the paradigm that most management theorists followed until the late eighties. The authors suggest that strategic intent is about building new resources and competencies to tap future opportunities as opposed to the strategic fit perspective of achieving a fit between existing company resources and current environment opportunity. In corporate finance, the strategic intent perspective is studied under the concepts of how future risk impacts the firm and how firms should allocate resources to manage risk on the long-term. The alignment between environment risk, strategies, structure, and performance can therefore be validated by considering the lag effects of risk on resource allocation decisions. The allocation of resources studied under corporate strategies affect the capital structure of firms (Barton and Gordon, 1987, 1988; Lowe, Naughton, and Taylor, 1994). And firms that perform better are able to manage the above process, resource allocation and decisions related to the firm's capital structure, in a better way that lead to value addition (Barton and Gordon; 1987, 1988).

Research Methods:

In this paper, we investigate Effect of Financial Leverage and Environment Risk on Performance firms of Listed Companies in Tehran Stock Exchange during the period 2005-2011. The final sample, after considering any missing data, consists of 95 firms. First introduced the intended indicators for each variable is considered. That these variables include:

- *Environmental risks: includes ECONBETA: economic risk; MBETA market risk
- *Performance firms: includes RETONEQ: return of equity; FCFPERSHARE free cash flow per share
- *Financial Leverage: DEBTRAT debt

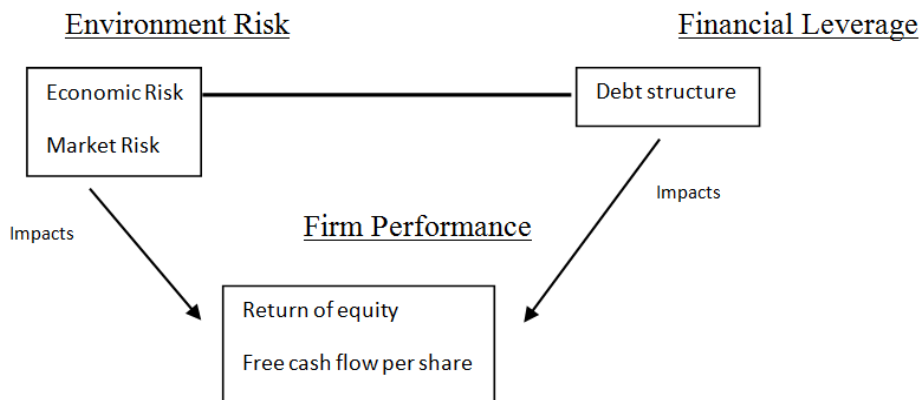


Fig. 1: The Proposed Theoretical Model.

Variable Definition:

$$\beta_E = \frac{\text{COV}(r_{GDP}, r_{sale})}{\sigma^2(r_{GDP})}$$

β_E = Economic risk

r_{GDP} = Gross Domestic Product Growth Rate

r_{sale} = Sale Annual Growth Rate

$$\beta_M = \frac{\text{COV}(P_{50}, P_{firm})}{\sigma^2(P_{50})}$$

β_M = Market Risk

P_{50} = Index price market stock for 50 firm active

P_{firm} = price market stock firm

$$FL = \frac{\text{Average debts}}{\text{book value assets}}$$

FL= Financial Leverage

$$RSE = \frac{\text{Net income}}{\text{book value stockholders equity}}$$

RSE= Rate Of Return Stockholders Equity

$$FCF = EBIT - Tax - (OperatingCapital_t - OperatingCapital_{t-1})$$

FCF= Free cash flow per share

Hypotheses:

This study has tested the following null hypotheses on relation between the financial leverage and environment risk on performance firms of listed companies:

H₁: There is significant relation between the financial leverage, economic risk and market risk on return of equity.

H_{1a}: There is significant relation between the financial leverage and return of equity.

H_{1b}: There is significant relation between the financial leverage and free cash flow per share.

H₂: There is significant relation between the financial leverage, economic risk and market risk on free cash flow per

H_{2a}: There is significant relation between the economic risk and market risk on return of equity.

H_{2b}: There is significant relation between the economic risk and market risk on free cash flow per share.

Specification of the Model:

Following multiple regression model has been used to test the theoretical relation between the financial leverage and environment risk on performance firms.

$$RATONEQ = a + b_1 FL + b_2 ECONBETA + b_3 MBETA + \varepsilon \tag{1}$$

$$FCFPERSHARE = a + b_1 FL + b_2 ECONBETA + b_3 MBETA + \varepsilon \tag{2}$$

Analysis of Regression Results:

Preliminary Analysis:

Multiple regression was run in EVIEWS to test the set hypotheses. Before running the regression, investigation into the multicollinearity problem was carried out. First of all, bivariate correlations among the independent variables were examined to find out the multicollinearity problem.

Table 1: Summaries of basic Descriptive statistics

	RATONEQ?	FCFPERSHARE?	FL?	ECONBETA?	MBETA?	RATONEQ?
Mean	0.650666	5.526841	0.192109	0.233391	0.856291	0.083925
Median	0.663500	5.390000	0.157500	0.185000	0.712000	-0.006500
Maximum	2.083000	7.974000	4.192000	0.889000	19.98800	49.66100
Minimum	0.060000	4.358000	0.001000	0.003000	0.043000	-39.22700
Std. Dev.	0.217111	0.625137	0.222745	0.166936	1.074432	3.725309
Skewness	1.150410	1.158200	13.30797	1.235780	13.44751	2.940572
Kurtosis	9.946150	4.789090	237.6721	4.317064	231.9207	105.1838
Jarque-Bera	981.6175	157.0534	1022622.	143.7932	974013.7	192062.1
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

Table 2: The effect of the independent variables on the dependent using the total model - Panel Data Results.

Cross-section random effects test equation:

Dependent Variable: RATONEQ?

Method: Panel Least Squares

Sample: 2005 2011

Included observations: 7

Cross-sections included: 95

Total pool (balanced) observations: 665

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.882278	0.280259	3.148086	0.0018
FL?	0.001530	0.028748	4.053230	0.0076
ECONBETA?	0.160411	0.031048	5.166467	0.0000
BETAM?	0.026647	0.006735	3.956545	0.0001

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.749894	Mean dependent var	0.650666
Adjusted R-squared	0.682669	S.D. dependent var	0.217111
S.E. of regression	0.122303	Akaike info criterion	-1.177691
Sum squared resid	5.175489	Schwarz criterion	-0.304608
Log likelihood	353.0921	Hannan-Quinn criter.	-0.833259
F-statistic	11.15497	Durbin-Watson stat	1.751661
Prob(F-statistic)	0.000000		

Notes: Dependent variable: RATONEQ; Method: GLS (cross-section weights); White heteroskedasticity consistent standard errors and covariance

Table 3: The effect of the independent variables on the dependent using the total model - Panel Data Results.

Cross-section random effects test equation:

Dependent Variable: FCFPERSHARE?

Method: Panel Least Squares

Sample: 2005 2011

Included observations: 7

Cross-sections included: 95

Total pool (balanced) observations: 665

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	12.1321	238.4752	0.137148	0.0018
FL?	-2.956676	4.914336	-0.601643	0.0076
ECONBETA?	1601.304	453.4446	3.531422	0.0004
BETAM?	257.9649	263.1189	0.980412	0.0073

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.137360	Mean dependent var	-921.8810
Adjusted R-squared	0.126404	S.D. dependent var	3857.321
S.E. of regression	3806.056	Akaike info criterion	19.33933
Sum squared resid	8.91E+09	Schwarz criterion	19.39628
Log likelihood	-6016.202	Hannan-Quinn criter.	19.36146
F-statistic	3.409767	Durbin-Watson stat	2.118553
Prob(F-statistic)	0.001388		

*significant at .05 level using a two-tailed test.

According to TABLE2 AND TABLE3 independent variables of our model are statistically significant at 5 per cent. The F-statistic proves the high explanatory power of the estimated model and the high R² (adjusted) indicates that the estimated model explain the 65 per cent of the size in the dependent variable.

Conclusions:

The purpose of this paper is to empirically investigate Effect of Financial Leverage and Environment Risk on Performance firms of Listed Companies in Tehran Stock Exchange. Multiple regression analysis is used in the study in estimating the relationship between the leverage level and firm's performance. Using four of accounting-based measures of financial performance (i.e. return on equity (ROE), return on assets (ROA), market value of equity to the book value of equity (MBVR), Tobin's Q), and based on a sample of non-financial Iranian listed firms from 2006 to 2011. Analysis is conducted using MLR regression analysis, the study interprets accounting and market measures as a proxy for the performance, the analysis determines the impact of leverage level on each of these measures. Our results indicate that firm performance which is measured by (EPS & ROA) are negatively related to capital structure. These findings are not consistent with Champion (1999), Gosh et al. (2000), Hadlock and James (2002), Frank and Goyal (2003) and Berger and Bonaccors di Patti (2006) who revealed a positive relation between firm performance and capital structure, while are consistent to Rajan and Zingales (1995), Zeitun and Tian (2007) and Abor (2007) who indicate firm performance is negatively related to capital structure. Moreover the independent variables are extremely related with ROA based on the Adjusted R-square value (66.4%).

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