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Leverage Effects on the Performance and Benefits of Leverage Represented by Product Market Competition (Empirical Evidence from Tehran Stock Exchange)

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Abstract

Possible problems related to debt and insufficient investment to leverage stakeholder reaction, the negative effect of leverage on the day's performance. While a number of studies have claimed that leverages the opportunities for hunting competition in product markets provides centralized, so the effect on the function of leverage, provided the degree of competition in product markets. News that the evidence there of leverage and product market competition (Fosu, 2013). In this context, explaining the relationships debt, competitiveness and performance, this study was conducted, the research hypotheses based on data gathered from 155 companies listed on Tehran Stock Exchange during the years 1388 to 1392 and tested using regression analysis it placed. Coefficients based on the fitted regression equation significance test results, according to the first hypothesis suggests that direct and significant relationship between capital structure and performance of the company is established. Results for the second model using panel data and generalized least squares method estimates show that the correlation between the product of the variable capital structure and product market competition and performance are not established. Thus, the second hypothesis that "the benefits of leverage represented by product market competition, significant relationship", could not be confirmed and the competition in the industry, the relationship between capital structure and performance efficiency.

Introduction

Industrial revolution and continuity in nineteenth-century Europe, the creation of the great factories and companies, because of the construction of national rail networks can simply establishing the capital in a manner that will need money to do one or more of the financial possibilities of the investor and the Government of the time was beyond even. Thus, using two major achievements and benefits of the Industrial Revolution; organizing and collaboration, the first joint-stock company was formed. The responsibility of the owners of their shares, limited to the amount of their investment. The new format, the perfect solution for providing risk capital and commercial distribution. Since then, in most cases, the power and authority to decide on joint stock companies, often in the hands of managers with external interest groups, particularly shareholders, conflict of interest. This separation of ownership from management conflicts of interest that result, since the past has attracted the attention of many. Many studies have been done on identifying the problems arising from the separation of ownership from management and researchers have studied the roots of conflicts between managers and shareholders. In order to adjust conflicts of interest, criteria for evaluating their performance and provide a basis for determining incentive payments to them based on the results of this evaluation have been developed and used. Initial searches to achieve the performance measures to the use of numbers and accounting information in this field. Many performance measures based on accounting models, particularly the reported accounting profit or earnings per share. Over time, managers in order to maintain compensation levels and improve it, to manage earnings through accounting numbers became distorted. This has caused that, despite some companies have good financial position in terms of numbers of accounting and accounting models are based performance appraisal criteria, including the lack of liquidity faced by the financial crisis.

Shareholder composition or the structure of the capital (leverage) from corporate governance to the important topics that affect the motivation of managers and thus can influence the effectiveness of any significant company. In the past, economists assume that all groups operate as a joint stock company Brayyk common goal. But over the past three decades, many cases of conflict of interest between groups and how companies deal with these contradictions raised by economists. These are generally called "agency theory" is expressed. Representing the balance between the cost of debt and equity, Ltd disciplinary effect of debt and debt reflect the positive effect of financial leverage on performance. In order to describe the relationships debt, competitiveness and performance, this study tries to answer the question Hapaskh be: (1) whether the lever has a positive impact on the company's performance? (2) Leverage Yamzayay represent a significant relationship with competition in the market?

Theoretical Foundations

Ways of financing a company determines that the value of the equity capital of the company how the borrowed capital is broken; Thus, the combination of debt and equity capital structure to consider, leverage shows how far companies to finance through debt (Astfraz) instead of the capital increase is based. Leverage ratio, means for determining the amount of debt a company can increase the probability of failure of its obligations and financial crisis, But on the positive side of debt financing is one of the many tax advantages associated to a company, For an acceptable cost tax liabilities that reduce the amount of corporation tax (Noravesh and religion Deilami, 1383).

In addition, financial leverage in the selection of the company's capital structure affect the Company's operating activities These activities in turn affect the company's performance (Jermias, 2008)

Although much research has been done on the relationship between leverage and firm performance, conflicting evidence is obtained. Some scholars have stated, lever negative effects. For example, increased the effect of increasing debt creditors through debt contracts are now. These effects will limit choice and makes operational managers, executives can effectively manage the company. On the other hand, debt managers will increase risk aversion and thus their willingness to invest in risky projects and reduced profitability. Another group of researchers have stated, leverage positive impact on performance, since it reduces the debt contracts opportunistic behavior of managers. In other words, managers are committed debt principal and interest in accordance with the contracts through cash flows to pay off your debts, so the company to be run more efficiently (Jermias, 2008)

In a competitive market, competing firms without lever or with low leverage by an increase in production and price competition will intensify; But if companies with high leverage to match the competition to continue borrowing may face bankruptcy and financial Tngnhay. This effect is more of a market in a competitive market is an oligopoly or Anhsarkaml expression. So the theory of hierarchical or asymmetric information, negative relationship between capital structure and market structure predicts (Lousuth,(2008). In general it can be said that the method of financing of the company on the company's behavior in the market for the product and the company's motivation for the competition and also the behaviour of other market participants and thus influences on competitive performance (Compello,2003).

Background research

The results (Sajjadi et al., 1390) showed that the proportion of short-term debt to total assets ratio of total debt to total assets at the rate of return on assets, there is a significant negative relationship. In other words, under normal circumstances capital structure has little effect or no effect on the performance of companies not listed on the Stock Exchange.

The results (Baghbani et al., 1392) show that the changed operational performance in terms of leverage and financial leverage the company's operating performance variable return on assets for which there was a significant negative relationship. Meanwhile the financial leverage ratio of capital expenditure to finance significant negative relationship was documented.

In a study (Naderi honari and Hosseinzade, 1391) on the impact of financial leverage on economic performance have reached the conclusion that the financial and economic performance of the company's leverage ratios there is a significant relationship.

(Chevalire, 1995) in their study showed that if the market leverage of competition are also increasing the financial leverage has led to an increase in the price of the product. He says that now more leveraged than companies less leverage higher prices for their product.

(Compello, 2003) the leverage effect on relative growth in market sales will see. He found that in recessions, companies in industries that have relatively low leverage, leverage a negative impact on sales growth compared to the industry that this is not true in boom times. His research results show that the leverage effect of the product on the market is highly dependent on the severity of agency problems.

(Ruland and Zhou, 2005) found that leverages the performance of companies that have dispersed ownership increases, especially small companies with dispersed ownership.

Research Method

Type of study, its methodology provides a way for (Ahmadi and Nahai, 1386). After determining the subject of research and planning is need to devise the appropriate research methods. However, the choice of method depends on the objectives, the nature of the subject and its executive facilities. Thus, when it conducted an investigation to decide on the method and the nature of the subject, objectives and scope are determined (Naderi and Saif NARAGHI, 1380). Given that the effects of capital structure and competitiveness in the industry on the financial performance of companies more complete and better visibility to executives and activists in the capital market for decision-making and optimal allocation of resources and cause infinite economic growth, in this study, the relationship between profit and the type of management audit in the company of a comment accepted in Tehran stock exchange has reviewed the data. The aim of this research aspects, type applied research to Shmarmyrvd, because the results can instead be placed in the decisions of managers and investors used. The dimensions of the inference about hypothesis, the group is correlational research, because research is to explore the relationships between variables, correlation, regression techniques will be used in this way, the argument is inductive. Also, since through the test data to reach a conclusion, this study will be positive mothers theories.

Research Hypothesis:

One of the goals of the financial report, information is provided for investors, credit providers and other current and potential users of decision making in investment and credit decisions, and other utility. Hence the effects of capital structure and competitiveness in the industry on the company's financial performance can be a new perspective of the issues related to investing and the stock exchange will disclose. While the results of this research can be in line with the correct economic decisions, the following groups are to be used:

1.external users, including investors for a reasonable investment decisions;

2. internal users, including administrators; and

3. Financial analysts and capital markets.

It can also be given the priority in recent years for the economy and the development of resistance in terms of indigenous knowledge, research results can also in this regard to the evaluation and analysis of the country's stock market and better localization of Western knowledge.

Thus, the main research hypotheses were formulated:

(1) Leverage a positive impact on company performance.

(2) the representation leverage the benefits of competition in the product market have a significant relationship.

Community and Sample Statistics

The population of this research, all companies listed on the Tehran Stock Exchange during the years 1388 to 1392. In this study, a sample of the population through systematic removal method is chosen. As a result, according to the conditions listed, 155 companies were selected as sample.

Methods and Instruments for gathering information

In order to collect information on explaining the research literature, the library method and documentary studies used Nzrbray data processing and to achieve the research hypothesis, the software suite examining the financial statements of listed companies Drbvrs result of new securities diagnosed and visit Tehran Tehran Stock Exchange , Used.

The data collection tool in this research, databases, data from the Tehran Stock Exchange, dissertations, essays domestic and foreign Internet resources and is valid.

Models and research variables

To test the hypotheses, the following model is used:

Model to test the hypothesis (1):

$$ROE_{i,t}= \alpha + \beta_1 CS_{i,t}+ \beta_2 HHI_{i,j,t} + \beta_3 SG_{i,t}+ \beta_4 Size_{i,t}+ \varepsilon_{i,t}$$

Model to test the hypothesis (2):

$$ROE_{i,t}= \alpha +\beta_1 CS_{i,t} +\beta_2 HHI_{i,j,t} +\beta_3 CS_{i,t}*HHI_{i,j,t} +\beta_4 SG_{i,t} + \beta_5 Size_{i,t} + \varepsilon_{i,t}$$

Independent variables:

The independent variables in this study include capital structure (CS) and product market competition (HHI).

To calculate the capital structure of the debt-to-equity ratio was used to calculate the Herfindahl-Hirschman index product market competition is used. Procedure (Beiner et al., 2011) Herfindahl-Hirschman Index to calculate the sum of squared market shares of all companies in a given industry is used. It shows an index formula.

Formula (1):

$$HHI_{jt} = \sum_{i=1}^{N_j} (Sales_{jit} / \sum_{i=1}^{N_j} Sales_{jit})^2$$

where:

HHI_{jt} : is as follows HHI Industry j At time t;

$Sales_{jit}$: Marker Sell Enterprises I in industry j At time t.

The Herfindahl-Hirschman higher values indicating greater concentration and less competition market.

Dependent variable:

The dependent variable performance (ROE) for the calculation of the return on equity (ratio of operating profit to equity) is used.

Control variables:

Also according to previous research, a number of control variables are used. So, after reviewing many studies of control variables, sales growth (SG), and size (Size) is used. (Arbabian and Safari Graily, 1388) and (Fosu, 2013) Sell Enterprises growth and size of the factors affecting the performance of the company are known. Sales minus sales growth this year following last year's sales divided by sales of the company's Qbl.bray calculate the size of the natural logarithm of the firm's assets.

research findings

Inferential statistics

Inferential statistics used in this study, such as Pearson correlation and multivariate regression, in order to explore the relationship between independent and dependent variables controlling the influence of other variables. Meanwhile Azqabl to ensure accountability of results, regression test defaults have been applied.

The previously reported results of multiple regression, correlation test variables will be provided. Then, after restatement of the hypothesis of the study, the correlation and regression analysis will be discussed.

The research hypothesis is as follows:

(1) Leverage a positive impact on company performance.

(2) the benefits of leverage represented by product market competition increases.

Correlation test

First, examine correlation of research variables. Independent variables Pearson correlation test, control and dependent, is presented in Table 1. As can be seen in Table 1-1, the Pearson correlation and direct correlation between capital structure and performance of the company is established. Of course continue to test hypotheses based on regression analysis will be used. It should also be noted that the statistical correlation between independent variables and control model is always less than 5.0, indicating that the model will not be autocorrelation time of trouble.

Table (1) Pearson

size of the company	Company growth	Product market competition	Capital Structure	company's performance	Variable
0.19** 0.000	0.344** 0.000	-0.034 0.391	0.201** 0.000	1	company's performance
0.14** 0.000	-0.085** 0.035	-0.026 0.516	1		Capital Structure
-0.061 0.13	0.09* 0.025	1			Product market competition
0.129*** 0.001	1				Company growth
1					size of the company

Regression testing

In each regression, we must make certain assumptions that in case of breach of any of their favorable properties of estimates of regression factors or hypothesis testing, is difficult. Continuing to test some of the most important assumptions will be discussed.

Disrupt the normal test component regression

Jarque-Bera test for normality of regression is disturbing elements.The results of these tests are presented in Table 2. This test is based on the significance level of less than 05/0, the distribution is not normal regression disturbing elements. When the sample size is large enough, usually insignificant deviation from normality assumption and its consequences are negligible. According to the Central Limit Theorem, we can see that even in the absence of the normal, appropriate test statistics are asymptotically distribution will follow. The lack of justification for this assumption is negligible (Abade, 1392).

Table (2) Jarque-Bera test

meaningful	Statistics Jarque-Bera	Variable
0.001	13.104	company's performance
0.000	1407.895	Capital Structure
0.000	935.297	Product market competition
0.000	32.887	Company growth
0.000	188.407	size of the company

The reliability of variables

Before analyzing research data, the reliability of variables to be monitored. The reliability of variables in the sense that the mean and variance and covariance of variables between the different variables over time has been fixed. As a result, the use of these variables in the model, causing regression is not false. For this purpose, the test such as Levin, Lin and Chu, we test, boys and Shane Dickey-Fuller test can be used. In order to do this analysis, we test, and Shane is used boys. The results of this test are presented in Table 1-4.

Table (3), we test, boys and Shane

meaningful	T-statistic	Variable
0.000	-13.354	company's performance
0.000	-14.227	Capital Structure
0.000	-18.59	Product market competition
0.000	-23.068	Company growth
0.000	-8.993	size of the company

According to Table 3, the amount is less than 5% significance level variables and so, all variables are stable in the period under review. Then, to identify appropriate methods for data analysis will be discussed.

Test research hypotheses

First, to determine the method of using the combined data, and its homogeneous or heterogeneous detection test F Limer Chow and statistics have been used. The statistical hypothesis testing as follows:

The null hypothesis: Pooled Data

Assume one: Panel data

Suppose H0 is invisible on the basis of personal effects and are based on Assume H1 personal effects remains invisible. Assuming H0 is accepted, it means that the model lacks the personal effects of non-visible, therefore, can be pooled regression models estimated Raaztryq, but assuming H1 is accepted, this would mean that the model are unobservable individual effects has it.

If the results of this test, based on the use of data for panel data, you need to estimate the model from a fixed effects model or random effects applied. To select one of these two models should Hausman test run.

The null hypothesis: random effects

Suppose one: fixed effects

Hausman null hypothesis that the suitability of the random effects model to estimate the panel data regression models.

First hypothesis test

As described above, in order to test the first hypothesis, the following model is used:

$$ROE_{i,t}= \alpha + \beta_1 CS_{i,t} + \beta_2 HHI_{i,j,t} + \beta_3 SG_{i,t} + \beta_4 Size_{i,t} + \varepsilon_{i,t}$$

where in:
ROE = performance;
CS = capital structure;
HHI = competition in the industry;
SG = growth; and
Size = size of the company.

Chow test (F Limer)

To estimate the model, the combined data to determine the method for detection of homogeneous or heterogeneous sections of the Chow test and F Limer statistics are used. The results are shown in Table 4.

Table (4) Chow test results

Chow test result	Significance level	F statistic	Null hypothesis
Assuming H0 Not rejected	0.865	0.682	Cross-sectional and time effects are not significant

According to what can be seen in Table 4, Chow test result shows that the probability of more than 5% is obtained for the F statistic, so to test this model, the data used for compilation.

The first model to estimate and analyze it

The test model using panel data model and generalized least squares estimation method is provided in Table 5.

Table (5) Results of first estimation of regression coefficients

Significance level	T-statistic	standard error	Coefficients	Variable
0.456	0.747	0.13	0.097	Constant
0.000	3.458	0.009	0.031	Capital Structure
0.021	-2.323	0.095	-0.222	Product market competition
0.000	6.14	0.071	0.437	Company growth
0.105	1.631	0.01	0.016	size of the company
0.374	The coefficient of determination	17.991		F statistic
0.354	Adjusted coefficient of determination			
2.258	Durbin Watson	0.000		The probability statistic F

According to the results in Table 5, because the t-statistic greater than the variable Sakhtarsrmayh 1/965 + is and its significance level is smaller than 0/05, direct and meaningful relationship between capital structure and performance of the company is established. Therefore, the first hypothesis stating that "leverages a positive impact on company performance", is confirmed.

As it is known, is between 1/5 and 2/5 Durbin-Watson statistic is 258/2. The statistical significance level is lower than 0/05 F is also zero, and that the model is significant. Another noteworthy point in Table 1-6, determining model that is equal to 0/374. Therefore, the coefficient of determination shows that about 37% of the company's performance can be explained by the independent variables and control.

Second hypothesis test

As described above, in order to test the second hypothesis, the following model is used:

$ROE_{i,t} = \alpha + \beta_1 CS_{i,t} + \beta_2 HHI_{i,j,t} + \beta_3 CS_{i,t} * HHI_{i,j,t} + \beta_4 SG_{i,t} + \beta_5 Size_{i,t} + \varepsilon_{i,t}$

where in
ROE = performance;
CS = capital structure;
HHI = competition in the industry;

SG = growth; and
Size = size of the company.

Chow test (F Limer)

To estimate the model, the combined data to determine the method for detection of homogeneous or heterogeneous sections of the Chow test and F Limer statistics are used. The results are shown in Table 6.

Table (6) Chow test results

Chow test result	Significance level	F statistic	Null hypothesis
Assuming H0 Not rejected	0.85	0.698	Cross-sectional and time effects are not significant

According to what can be seen in Table 6, Chow test result shows that the probability of more than 5% is obtained for the F statistic, so to test this model, the data will be used for compilation . The second model estimation and analysis of

The test model using panel data model and generalized least squares estimation method is provided in Table 7.

Table (7) The results of the second model coefficients

Significance level	T-statistic	standard error	Coefficients	Variable
0.349	0.94	0.131	0.123	Constant
0.224	1.221	0.018	0.022	Capital Structure
0.085	-1.734	0.186	-0.322	Product market competition
0.579	0.555	0.087	0.048	Variable obtained by multiplying
0.000	6.154	0.07	0.434	Company growth
0.117	1.577	0.009	0.015	size of the company
0.383	The coefficient of determination	14.831		F statistic
0.358	Adjusted coefficient of determination			
2.235	Durbin Watson	0.000		The probability statistic F

According to the results in Table 7, because the t-statistic Sakhtarsrmayh product range and product market competition less than 965/1 ± and its significance level greater than 05/0 is a significant correlation between the variable product and compete Sakhtarsrmayh product market and company performance are not established. Thus, the second hypothesis that "the benefits of leverage represented by product market competition increases," can not be confirmed and in fact, competition in the industry on the relationship between capital structure and performance efficiency.

As is evident, the statistic is that between the camera and 5.1 Watson 235.2 5.2. Meanwhile, there is also zero F statistics level that is lower than 5.0 and is a significant indication of the model. The other remarkable thing in table 1-8, the coefficient is equal to the model designation is 383.0. Therefore, the coefficient of determination shows that about 38 percent of the company's performance changes can be independent and control variables to explain.

Conclusion and Suggestion

The results obtained indicate that significant correlation between capital structure and performance of the company is established. Therefore, the first hypothesis stating that "leverages a positive impact on company performance", is confirmed. The second assumption test result using pooled data model and generalized least squares estimation method is provided. The results obtained show that the correlation between the product of the variable capital structure and product market competition and performance are not established. Thus, the second hypothesis that "the benefits of leverage represented by product market competition, significant relationship", could not be confirmed and in fact, competition in the industry on the relationship between capital structure and performance efficiency. However, the research conducted in the field or Thyqat close to these topics include: research (Sajjadi et al., 1390) showed that the proportion of short-term debt to total assets ratio of total debt to total assets at the rate of ROA, there is a significant negative relationship. In other words, under normal circumstances capital structure has little effect or no effect on the performance of companies not listed on the Stock Exchange. Findings (Setayesh and Kargar fard, 1390) showed that competition in the product market and capital structure is different in different industries. Moreover, in the case of the Herfindahl-Hirschman Index Q-Tobin and measured as an indicator of product market competition, a positive and significant relationship between product market competition and the company's capital structure existed which confirms the theory of hunting. But in the case of four-firm concentration index, evidence of a significant relationship between product market competition and capital structure was not found.

The results of this study confirm the nonlinear relationship and the type of degree, between Q-Tobin index and the capital structure as a result of the (Shahedani, et al., 1391) have confirmed. (Compello, 2006) concluded that normal levels leverage is associated with better performance, while higher levels of leverage resulted in a poor performance. His impact for companies in competitive markets than its counterpart in competitive markets, further evaluated. (Schoubben, and Van hulle, 2006) showed that leverages a positive impact on the company's stock and the negative impact on non-exchange companies. Also, (Ghosh, 2008) as well as the negative impact of leverage on corporate performance in the Hindi news and showed that this effect is greater in the presence of external debt. (Fosu, 2013) While acknowledging the positive impact of leverage on corporate performance, said the product market competition increases the leverage effect on the company's performance. Browse theoretical and empirical evidence presented in this section, revealing an interactive indicator of capital structure, competitiveness and performance of the company.

In this way, managers and decision makers of companies accepted on the Tehran stock exchange suggested up to major changes in the ownership of the subject serious attention.

In addition to the investors on the Tehran stock exchange is recommended as well as when performing investments as well as purchase and sale of shares, the company's capital structure and performance of necessary acts of attention.

Meanwhile, investors on the Tehran stock exchange has also recommended that due to the importance of capital structure and performance of the company in the strategic decisions of the company, pay more attention to the features of the lodge.

Furthermore, the Organization of the stock exchange and other capital market is stagnating, it is recommended to spread information about the importance and performance of the company's capital structure and its features, the attention of investors to this issue.

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