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The Investigation the Relationship between Short- and Long-Term Debts in Capital Structure on Performance of Listed Companies in Tehran Stock Exchange

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Abstract
In this study, the relationship between short-term and long-term debt in the capital structure on the performance of companies listed on the Tehran Stock Exchange during the period 1397-1391 has been investigated. To conduct this research, 185 companies listed on the Tehran Stock Exchange during the mentioned period were surveyed. Integrated / hybrid regression analysis in EViews 6 software was used to test the research hypotheses. The independent (explanatory) variables used in this study are the ratio of short-term debt to total debt, the ratio of long-term debt to total debt, and the ratio of total debt to total assets. The dependent variable of this research is the company's performance based on the rate of return on equity. Also, in this study, the control variables of company size, sales growth, asset growth and company efficiency have been used. The present study has 3 hypotheses to determine the effect of the ratio of short-term debt to total debt, the ratio of long-term debt to total debt and the ratio of total debt to total assets. Findings show that at the level of companies as a whole, short-term and long-term debt has no effect on company performance.

Keywords: Short-term debt, long-term debt, performance of listed companies.

Introduction
Debt is one of the main components of the capital structure of most companies that plays an important role in financing them [1-2]. Although its figures vary from company to company, one of the reasons for the growing willingness to use debt is the existence of tax savings and the use of financial leverage that increases the return on assets. Emerging markets today pay attention to the capital parameter and effective methods to increase the performance, maintain and create value of the company in competitive markets [3-4]. Successful companies that by identifying the factors affecting the capital structure, the desired and optimal capital structure, the required funds Financed from the right sources so that the cost of the company's capital is minimized and the wealth of the shareholders is maximized [5]. According to traditional view and theory, the cost of the company's capital and enterprise with an appropriate combination of debt and stock in the structure Modiliani and Miller's theory is based on the assumptions of a fully competitive market, the presence or absence of taxes and expenses related to the settlement of debts and transactions in the capital market, who believe that in the presence of different tax collisions with different types of securities, The maximum amount of debt due to the advantage and tax savings with La is used in the capital structure of companies [6-8].There are many factors that determine the risk and

stock returns of a company. One of these factors is the capital structure of the company [9-11]. Since debts such as short-term, permanent, temporary and long-term debts are an important source of corporate financing, this study focuses on the amount of short-term and long-term debt in the capital structure of companies and examines the relationship between debt and performance. Companies listed on the Tehran Stock Exchange [12-15].

Result: Research Hypotheses This research has 2 main hypotheses as follows:

1: There is a significant relationship between short-term debt and corporate performance.

2: There is a significant relationship between long-term debt and corporate performance.

The main purpose of this study is to investigate the relationship between short-term and long-term debt in the capital structure and performance of companies listed on the Tehran Stock Exchange. Therefore, this research is a quasi-experimental post-event research in the field of positive accounting research that will be done using multivariate regression method and econometric models. This type of research method is used to conduct research that seeks to investigate the cause or causes of certain relationships that have occurred in the past and have been completed. This type of research method has a relatively high credibility because it seeks to achieve a causal or causal relationship between research factors. In this type of research, it is not possible for the researcher to manipulate the variables or to create "artificial" or laboratory conditions by him, due to several reasons. This research is in the category of correlational research in terms of implementation method. Research hypotheses are tested based on combined data. Statistical analysis is performed using EViews 6 software. In this research, the library method is used to collect data and information. In the library section, the theoretical foundations of the research are collected from specialized Persian and English books and magazines, and the research data is collected by collecting data from sample companies by referring to financial statements, explanatory notes, annual stock exchange reports and using software. New will be done. The statistical population of the present study is the companies listed on the Tehran Stock Exchange and its time zone from 2003 to 2012. Companies with the following conditions have been selected as a sample:

1. In order to observe comparability, their financial period should end at the end of March. 2 .Do not stop operating or change the financial year during the period under review.

2 .The financial information required by the companies is available during the financial period under review.

The sampling method in this research is the systematic screening or elimination method, in which companies that meet the requirements of the statistical community are selected and the rest of the listed companies are not examined. Based on the above criteria, 185 companies were identified. Then, all the information required for this research was collected from the databases of Tehran Stock Exchange, New Entry software and stock exchange publications.

The dependent variable of this research includes the performance of the company, the dependent variable of the research which is obtained through the rate of return on equity (division of net profit over the book value of equity) at the end of the fiscal year. Control variables include control variables of the present study as other factors affecting the company's performance as follows. The firm size of this variable is obtained through the natural logarithm of assets at the end of the fiscal year .

3 .Sales growth: This variable is equal to the percentage change in the company's sales compared to the previous year .3 .Asset growth: This variable is equal to the percentage change in the company's assets compared to the previous year .Company efficiency: This variable is obtained through the amount of asset turnover, i.e. the division of the company's sales into the total assets of the company at the end of the financial year. In this research, among the existing methods of data analysis, the "combined / integrated data" method is used. This technique, which combines time series and cross-sectional data, is widely used by researchers today. This method is used for cases where problems cannot be investigated in a time or intermittent series or when the amount of data is small. The integration of time series and cross-sectional data and the necessity of using it is mostly due to increasing the number of observations, increasing the degree of freedom, reducing the heterogeneity of variance and reducing the linearity between the variables. In this study, to test the research hypotheses, i.e. the effect of short-term debt, long-term debt and total debt on the performance of companies listed on the Tehran Stock Exchange, respectively, from combined regression analysis at the company level to the following form is used.

$$PER_{it} = \beta_0 + \beta_1 STD_{it} + \beta_2 SIZE_{it} + \beta_3 SG_{it} + \beta_4 AG_{it} + \beta_5 EFF_{it} + \varepsilon_{it}$$

$$PER_{it} = \beta_0 + \beta_1 LTD_{it} + \beta_2 SIZE_{it} + \beta_3 SG_{it} + \beta_4 AG_{it} + \beta_5 EFF_{it} + \varepsilon_{it}$$

$$PER_{it} = \beta_0 + \beta_1 TD_{it} + \beta_2 SIZE_{it} + \beta_3 SG_{it} + \beta_4 AG_{it} + \beta_5 EFF_{it} + \varepsilon_{it}$$

in this regard:

PER_{it} its Company performance at the end of financial period t for company

STD_{it} it the amount of short-term debt at the end of financial period t for company

LTD_{it} it the amount of long-term debt at the end of financial period t for company

TD_{it} it the amount of total liabilities at the end of financial period t for company

$SIZE_{it}$ its company size i at the end of financial period

SG_{it} its Company's sales growth at the end of financial period

AG_{it} its asset growth of company i at the end of financial period

EFF_{it} its Company i performance at the end of financial period

ε_{it} it the remnant of company i at the end of financial period

Levin, Lin and Chou tests were used to determine the reliability of research variables. The results of this test indicate that the research variables were at a stable level, because the P-value for the test was less than 5%. Reliability means the mean and variance of variables over time and the covariance of variables has been constant between different years.

Table 1. Reliability test of research variables

Variables	Statistics of Levin, Lin and Chou	Probability of statistics of Levin, Lin and Chou
Company Performance	-21.34	0.0000
Short-term debt	-66.19	0.0000
LONG-TERM DEBT	-66.18	0.0000
Total liabilities	-16.16	0.0000
Company size	-12.60	0.0000
sales growth	-26.41	0.0000
Asset Growth	-31.07	0.0000
efficiency	-14.80	0.0000

The coefficient of variation (division of standard deviation on average) of independent variables during the research period in Table 2 shows that among the mentioned variables, the variable of short-term debt ratio compared to long-term debt ratio and total debts with low coefficient of variation and dispersion It has been wetter and as a result has been more stable. This indicates that the surveyed companies in terms of long-term debt ratio during the research period, were significantly different from each other, but in terms of short-term debt ratio, were not significantly different and had relative stability. The results also show that the independent variables have a lower coefficient of variation and dispersion compared to the dependent variable (company performance) and as a result have more stability in the mentioned period. This shows that in addition to the amount of debt in the capital structure, the performance of the company should be influenced by other factors, some of which have been used in this study as control variables. It should be noted that the companies surveyed, on average, the ratio of short-term and long-term debt equal to 86% and 14% of total debt, profitability of 0.32 based on equity returns and sales growth. And had assets of 0.18. The results of Jarkobra statistic indicate that the dependent variable of company performance is normal during the research period. The normality of the dependent variable is one of the presuppositions of ordinary least squares regression models.

Testing research hypotheses

There is a significant relationship between short-term debt and corporate performance. The probability value of F-Limer statistic in Table 3 is less than the significance level of 5% and therefore, to test the above hypothesis at the level of all companies, the use of integrated data method is excluded.

Table 3. Selection of consolidated data versus composite data

$$PER_{it} = \beta_0 + \beta_1 STD_{it} + \beta_2 SIZE_{it} + \beta_3 SG_{it} + \beta_4 AG_{it} + \beta_5 EFF_{it} + \varepsilon_{it}$$

Type of test	Value of test statistics	Degrees of freedom	Probability of test statistics
F-Limer	4.73	184, 1660	0.0000

The probability of Hassmann statistic is less than the significance level of 5%; Therefore, there is not enough reason to reject the pattern of fixed effects and to test the first hypothesis of the research, the pattern of fixed effects should be used.

Table 4. Selection of fixed effects pattern versus random effects pattern

$$PER_{it} = \beta_0 + \beta_1 STD_{it} + \beta_2 SIZE_{it} + \beta_3 SG_{it} + \beta_4 AG_{it} + \beta_5 EFF_{it} + \varepsilon_{it}$$

Type of test	The amount of Khido statistics	Degrees of freedom	Probability of test statistics
Hassmann	122.44	5	0.0000

The effect of short-term debt on corporate performance is positive (0.09) but not significant considering the probability of t-statistic (0.1636). This shows that short-term debt does not affect the performance of companies in terms of return on equity. In other words, the performance of listed companies is independent of the amount of short-term debt in the capital structure of companies and the amount of short-term debt does not significantly affect the return on equity.

Table 5. Regression model of the effect of short-term debt on firm performance

Variables	Regression coefficients	Statistical value t	Statistical probability t
Fixed value C	1.33	7.35	0.0000
Short-term debt	0.09	1.39	0.1636
Company size	-0.11	-8.09	0.0000
sales growth	0.12	4.64	0.0000
Asset Growth	0.30	9.79	0.0000
efficiency	0.29	7,95	0.0000

The coefficient of determination	Adjusted coefficient of determination	The amount of litter left	The probability of jarring remains	Statistical probability F	Camera Statistics-Watson
0.441	0.377	3.91	0.14	0.0000	1.713

The probability value of F-Limer statistic is less than the significance level of 5% and therefore, to test the above hypothesis at the level of all companies, the use of integrated data method is excluded.

Table 6. Selection of consolidated data versus composite data

$$PER_{it} = \beta_0 + \beta_1 LTD_{it} + \beta_2 SIZE_{it} + \beta_3 SG_{it} + \beta_4 AG_{it} + \beta_5 EFF_{it} + \varepsilon_{it}$$

Type of test	Value of test statistics	Degrees of freedom	Probability of test statistics
F-Limer	4.73	184, 1660	0.0000

The probability of Hassmann statistic is less than the significance level of 5%; Therefore, there is not enough reason to reject the pattern of fixed effects and to test the second hypothesis of the research, the pattern of fixed effects should be used.

Table 7. Selection of fixed effects pattern versus random effects pattern

$$PER_{it} = \beta_0 + \beta_1 LTD_{it} + \beta_2 SIZE_{it} + \beta_3 SG_{it} + \beta_4 AG_{it} + \beta_5 EFF_{it} + \varepsilon_{it}$$

Type of test	The amount of Khido statistics	Degrees of freedom	Probability of test statistics
Hassmann	122.44	5	0.0000

The results show that the effect of long-term debt on corporate performance is negative (-0.09) but is not significant considering the probability of t-statistic (0.1636). This shows that long-term debt also does not affect the performance of companies in terms of return on equity. In other words, the performance of listed companies is independent of the amount of long-term debt in the capital structure of companies and the amount of long-term debt does not significantly affect the return on equity. The results also show that the effect of firm size on performance is negative and significant and the effect of sales growth, asset growth and company efficiency on performance is positive and significant. This indicates that large listed companies have low performance based on equity returns. Meanwhile, sales growth, asset growth and company efficiency lead to increased performance of listed companies. The results of F statistic show that the model is significant in general and

has no autocorrelation problem according to Watson camera-statistic. Is. The values of regression residues of the mentioned model have a burst statistic equal to 3.91 and the probability of a buccal statistic equal to 0.14 which indicates that the regression residues are normal. Due to the insignificance of the effect of long-term debt on the performance of companies, the second research hypothesis is not confirmed at the company level.

Table 8. Regression model of the effect of long-term debt on corporate performance

Variables	Regression coefficients	Statistical value t	Statistical probability t
Fixed value C	1.43	7.86	0.0000
Short-term debt	-0.09	-1.39	0.1636
Company size	-0.11	-8.09	0.0000
sales growth	0.12	4.64	0.0000
Asset Growth	0.30	9.79	0.0000
efficiency	0.29	7.95	0.0000

The coefficient of determination	Adjusted coefficient of determination	The amount of litter left	The probability of jarring remains	Statistical probability F	Camera Statistics-Watson
0.441	0.377	3.91	0.14	0.0000	1.713

Conclusion: The results of the first hypothesis regarding the lack of effect of short-term debt on the performance of companies indicate that short-term debt on the Tehran Stock Exchange is not an effective factor in determining the performance of companies. The effect of company size on performance is negative and significant and the effect of sales growth, asset growth and company efficiency on performance is positive and significant. The results of the second hypothesis regarding the lack of effect of long-term debt on the performance of companies indicate that long-term debt in the Tehran Stock Exchange is not an effective factor in determining the performance of companies. This result is somewhat in line with the theory of excessive managerial optimism. The effect of company size on performance is negative and significant and the effect of sales growth, asset growth and company efficiency on performance is positive and significant. This indicates that large listed companies have low performance based on equity returns. The result is also in line with supporting the net operating profit theory. In other words, the degree of financial leverage alone cannot affect the market value or the average cost of capital of the company. The effect of company size on performance is also negative and significant and the effect of sales growth, asset growth and company efficiency on performance is positive and significant.

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