



# Examination of the impact of ownership structure and financial information quality on cost of debt of the listed companies in Tehran stock exchange

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**Abstract:** The goal of the study is to investigate the impact of ownership structure and financial information quality on cost of debt of the listed companies in Tehran stock exchange. The locative domain of the research is all listed companies in Tehran stock exchange, and time domain is during 2009 to 2013. In this study, ownership structure and financial information quality, and cost of debt are regarded as independent and dependent variables of the study, respectively. According to systematic omission method, 392 listed firms in Tehran stock exchange were selected as screened statistical population, and 79 firms were selected as the statistical population based on De Morgan table. The current investigation is a kind of descriptive-correlation researches, is quantitative research in terms of data nature, and is practical research based on the goal of the study. The results suggested that ownership structure has significant impact on cost of debt of the listed companies in Tehran stock exchange. As well, financial information quality significantly impacts cost of debt of those firms.

**Keywords:** Ownership structure; financial information quality; Cost of debt.

## 1. Introduction

Ownership structure originates from a set of decisions reflecting the impact of shareholders and transferable activity in stock market. In other words, ownership structure is a firm reflecting decisions made by current and potential shareholders (Meshki et al, 2009). Three factors of organizational culture, ownership concentration and ownership structure impacts firms' financial information quality. Among them, ownership structure has the least impact on information quality, but the most important role is moderating effect which deals with the relationship between organizational culture and financial information quality, and the relationship between ownership concentration and financial information quality. More private the corporate ownership structure, ownership concentration leads to increased financial information quality, while in firms with less private ownership, this relationship is adverse (Etemadi et al, 2009). The relationship between ownership structure and financial information quality plays an important role in evaluating cost of debt. Darbali & Ayesheh (2014) found that cost of debts of firms influenced by related factors to board of director and firm size. one of the methods of value creating is decreasing the cost of financing in firms. It seems that, therefore, corporate governance quality on cost of debt of firms can be efficient. Using data of 500 firms, Anderson (2014) concluded that financing cost conversely depends on non-duty members, board size, non-duty members of audit committee, and size and number of board sessions. Effectiveness and efficiency of the imposed care to managers originates from board of directors, and from major institutional shareholders. Increasing the cares may cause better control of managers' voluntary power and their opportunistic in wealth transfer to the detriment of creditors which finally leads to decreased risk of creditors and cost of debts (Bajraj & Sangapta, 2013).

## 2. Research background

ASlan & Kumar (1) examined the relationship between ownership structure and firms' cost of debts. They aimed to investigate the impact of ownership concentration on firms' cost of debt. According to the performed studies, the results show that ownership control concentration leads to increased debt's agency costs.

In their investigation, Juan & Ema (2) examined the relationship between ownership structure and cost of debt. Ownership structure originates from a set of decisions which reflecting the influence of shareholders

and transferable activity in stock market. In other words, ownership structure reflects decisions made by current and potential shareholders.

Chen & Zhu (3) investigated the relationship between financial information quality and cost of debts. The role of accounting system is to provide useful data for users of financial statements enabling them to make a prediction. Demand for high quality financial information is varying. Regarding the research hypothesis, the results suggest that financial information quality leads to decreased cost of debt.

In their research on the impact of ownership structure and financial information quality in cost of debt, Darbali & Ayesheh (2014) examined the relationship between the variables in the listed companies in Tehran stock exchange. According to the analyses about 28 listed companies in Tunisia stock exchange, the results showed that firms' cost of debts influenced by the related factors to board of directors and firm size, and the relationship between financial information quality and ownership structure plays a considerable role in evaluating cost of debts.

Brad et al, (4) investigated the relationship between ownership structure and debt cost. This research aims to study how private ownership affect firms' cost of debt. Regarding the performed researches, the results show that there is a significant relationship between ownership structure and firms' cost of debt. Firms with private ownership experience higher cost of debt than state ownership.

Baud et al, (2015) examined the relationship between financial information quality and cost of debt. The studied population is all listed companies in Belgium stock exchange. Time domain of the research is during 1997 to 2010. To measure financial information quality, accruals quality has been used. The result show that financial information quality has negative and significant relationship between cots of debt. The obtained results from the current research is economically significant.

### 3. Research methodology

#### 1.3. Hypotheses

- Ownership structure significantly impacts cost of debt of the listed companies in Tehran stock exchange.
- Financial information quality significantly impacts cost of debt of the listed companies in Tehran stock exchange.

#### 2.3. Operational definitions of the variables

##### 1.2.3. Financial information quality (Independent variable)

Like this research, many studies have used accruals quality criteria for measuring accounting information quality:

$$\frac{TCA_{j,t}}{Assets_{j,t}} = \varphi_{0,j} + \varphi_{1,j} \frac{CFO_{j,t-1}}{Assets_{j,t}} + \varphi_{2,j} \frac{CFO_{j,t}}{Assets_{j,t}} + \varphi_{3,j} \frac{CFO_{j,t+1}}{Assets_{j,t}} + v_{j,t}$$

The current variables in this model is as follow based on the omission of the indices of firm and time:

TCA: Current accruals

CFO: Operational cash flow

ASSETS: Sum of total assets (Kharazmi et al, 2010).

##### 2.2.3. Ownership structure (Independent variable)

The percentage of hold stock by firms' institutional shareholders (Naeimi, 2005).

##### 3.2.3. Cost of debt (Dependent variable)

Sum of annual financing cost (interest cost) to total debts (Ehsani et al, 2013).

##### 4.2.3. Firm size (Control variable)

Natural logarithm of book value of total assets (Saeidi et al, 2013).

##### 5.2.3. Financial leverage (Control variable)

Total debt to total assets ratio (Yeganeh, 2005).

##### 6.2.3. Firm age (Control variable)

The number of listing years in Tehran stock exchange (Elhami et al, 2008).

#### 3.3. Regression model

**1.3.3. The first hypothesis of the regression model**

$$\text{cost of debt}_{it} = a_0 + a_1 \text{ownership structure}_{it} + a_2 \text{Size}_{it} + a_3 \text{Leverage}_{it} + a_4 \text{Age}_{it} + \epsilon_{it}$$

**2.3.3. The second hypothesis of the regression model**

$$\text{cost of debt}_{it} = a_0 + a_1 \text{quality of financial information}_{it} + a_2 \text{Size}_{it} + a_3 \text{Leverage}_{it} + a_4 \text{Age}_{it} + \epsilon_{it}$$

Cost of debt<sub>it</sub>: Sum of annual financing cost (interest cost) to total debts.

Ownership structure<sub>it</sub>: The percentage of hold stock by firms' institutional shareholders.

Quality of financial information<sub>it</sub>: Accruals quality criteria is used for measuring accounting information quality.

Size<sub>it</sub>: Natural logarithm of book value of total assets.

Leverage<sub>it</sub>: Total debt to total assets ratio.

Age<sub>it</sub>: The number of listing years in Tehran stock exchange.

**4.3. Statistical population and sample**

Classified and audited financial data of the listed companies in Tehran stock exchange would be used in this research to test the research's hypotheses. The firms should have the following conditions:

1. Its fiscal year should end in 19/3 on each year.
2. They should have not changed their fiscal year during to 2009 to 2013.
3. The necessary financial data should be available to extract the required data.
4. They should be listed in Tehran stock exchange before 2009.
5. They should not be part of financial banks and institutions (Investment, financial mediation, holding and leasing firms); because their financial information disclosure and corporate governance structure is varying.

392 listed companies in Tehran stock exchange were selected based on systematic omission method as screened statistical population, and 79 firms were selected as the statistical population based on De Morgan table.

**5.3. Data analysis method**

Data analysis is used in this research is used regarding to the subject, variables, hypotheses and research method through EVIEWS 7 software in order to test hypotheses and significance between variables, and EXCEL for calculations. Jarque-Bra test is used to examine the normality of the research variables. In current investigation, significance test and significance of coefficient test are performed here. As well, heteroskedasticity, F-Limer test and Hausman test are applied as presupposition test.

**4. Results**

**1.4. Examination of heteroskedasticity**

Table 1.1: Heteroskedasticity

Description	Statistics amount	Probability
F-statistic	1.258147	0.081
Obs*R-squared	3.602151	0.081

\*5% error level

Regarding table 1-1, f-statistics is not significant in 5% error level, homogeneity of variance is confirmed and heteroskedasticity of error terms is rejected.

**2.4. Significance test of fixed effects method**

Table 2.1: F-Limer and Hausman test

F-Limer test			
Description	Statistics amount	Freedom degree	Probability
Cross-section F	2.181475	78	*0.011
Cross-section Chi-square	139.032214	78	*0.036
Hausman test			
Description	Statistics amount	Freedom degree	Probability
Cross-section F	4.161258	29	*0.025

\*5% error level

Regarding the results of both table (F and Hausman), the obtained probability were less than 5% in each tests, so fixed effects method should be used in the related regression model.

**4-4: Lin-Levin test**

Table 3.1: Test of cumulative unit root test on variables by Lin-Levin

Variables	Statistics	Probability
Financial information quality	2.619	*0.0052
Ownership structure	5.026	*0.0026
Cost of debt	3.487	*0.0035
Firm size	-6.925	*0.0006
Financial leverage	-6.925	*0.0017
Firm age	3.017	*0.0042

\* 5% error level

According to the table 3.1, the examination of calculated statistics and their acceptance probability indicates that H0 is rejected and all variables of the study are durable.

**5.4. The prime hypothesis test**

Table 4.1: The regression test of the first hypothesis

Variable	Estimated coefficients	Estimation of deviation	t-statistics	Significance level
Fixed	0.518	0.102	5.078	*0.012
Ownership structure	0.326	0.075	4.346	*0.026
Firm size	2.061	0.341	6.043	*0.005
Financial leverage	0.417	0.126	3.309	*0.036
Firm age	-0.883	0.205	-4.307	*0.024

\* 5% error level

Table 5.1. Description and significance ability of whole model

ANOVA		DW	R <sup>2</sup>	R
Sig	F			
**0.000	50.629	2.003	0.342	0.357

\*\* 1% error level

Regarding the table 5.1, since Durbin-Watson statistic test value is determined among 1.5 to 2.5, there is no correlation between errors and regression can be used. The adjusted coefficient of determination is 0.342; indicating 34.2% of all dependent variables depend on the independent and control variable. Regarding significance level of F-test (50.629) in error level less than 0.01, it can be concluded that the regression model is a suitable model and the independent variable are able to describe cost of debts changes. As well, estimated impact factor of ownership structure on cost of debt is 0.326, suggesting ownership structure has positive and direct impact on firms' cost of debt. Also, according to significance level of t-statistics of ownership structure on firms' cost of debts (0.026), and due to it is less than 5% error level, it can be said that H0 is rejected with 95% confidence level. It can be stated that ownership structure significantly impacts cost of debts of the listed companies in Tehran stock exchange.

$$\text{cost of debt}_{it} = 0.518 + 0.326 \text{ ownership structure}_{it} + 2.061 \text{ Size}_{it} + 0.417 \text{ Leverage}_{it} - 0.883 \text{ Age}_{it} + \epsilon_{it}$$

**6.4. The secondary hypothesis test**

Table 6.1: The regression test of the second hypothesis

Variable	Estimated coefficients	Estimation of deviation	t-statistics	Significance level
Fixed	0.169	0.024	7.041	*0.000
Financial information quality	-0.505	0.126	-4.007	*0.035
Firm size	2.114	0.403	5.245	*0.026
Financial leverage	0.219	0.067	3.268	*0.042
Firm age	-0.672	0.142	-4.732	*0.031

\* 5% error level

Table 7.1. Description and significance ability of whole model

ANOVA		DW	R <sup>2</sup>	R
Sig	F			
**0.000	53.748	1.696	0.275	0.286

\*\* 1% error level

Regarding the table 6.1, since Durbin-Watson statistic test value is determined among 1.5 to 2.5, there is no correlation between errors and regression can be used. The adjusted coefficient of determination is 0.275; indicating 0.275% of all dependent variables depend on the independent and control variable. Regarding significance level of F-test (53.748) in error level less than 0.01, it can be concluded that the regression model is a suitable model and the independent variable are able to describe cost of debts changes. As well, estimated impact factor of financial information quality on cost of debt is -0.505, suggesting financial information quality has negative and adverse impact on firms' cost of debt. Also, according to significance level of t-statistics of financial information quality on firms' cost of debts (0.035), and due to it is less than 5% error level, it can be said that H<sub>0</sub> is rejected with 95% confidence level. It can be stated that financial information quality significantly impacts cost of debts of the listed companies in Tehran stock exchange.

$$\text{cost of debt}_{it} = 0.169 - 0.505 \text{ quality of financial information}_{it} + 2.114 \text{Size}_{it} + 0.219 \text{Leverage}_{it} - 0.672 \text{Age}_{it} + \epsilon_{it}$$

## 5. Conclusion and recommendation

The results of the first hypothesis showed that ownership structure significantly impact cost of debts of the listed companies in Tehran stock exchange. The second hypothesis demonstrated that financial information quality significantly impacts cost of debts of the listed companies in Tehran stock exchange. According to the obtained results, Brad et al, (4) showed that there is a significant relationship between ownership structure and firms' cost of debts. Darbali & Ayesheh (2014) examined the impact of ownership structure and financial information quality on cost of debt. The results showed that the relationship between financial information quality and ownership structure plays an important role in evaluating cost of debt. Juan & Ema (2) showed that firms with state ownership have less cost of debt. ASlan & Kumar (1) examined the relationship between ownership structure and firms' cost of debts. In contrast, there is no research on inconformity with the result of current research. Therefore, it can be concluded that:

1. The role of accounting system is to provide useful data for users of financial statements enabling them to make a prediction. Demand for higher quality of financial information is different in each country, regarding various corporate governance models. Hence, it can be recommended to firms' managers to pay much more attention to the subject of financial and accounting information disclosure in order to pay less the cost of debts.
2. Ownership structure originates from a set of decisions reflecting the impact of shareholders and transferable activity in stock market. In other words, ownership structure is a firm reflecting decisions made by current and potential shareholders. Therefore, potential and real investors, and shareholders should care the quality level of the provided data in firms during investment in order to more efficiency.

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