

## Investigating the impact of board of directors' characteristics in choosing the accumulated profit and loss method for financing the company (evidence from Tehran Stock Exchange)

Abdul Ali Shahani<sup>1</sup>, Hassan Ahmadi<sup>2</sup>, Gholamreza Jamali<sup>3</sup>

<sup>1</sup> . M.Sc. in Financial Management, Department of Financial Management, Kherad Institute of Higher Education, Bushehr, Iran (Corresponding Author\*) [abdolalishahani1400@gmail.com](mailto:abdolalishahani1400@gmail.com)

<sup>2</sup> . Department of Financial Management, Kherad Institute of Higher Education, Bushehr, Iran  
[ahmadihassan80@yahoo.com](mailto:ahmadihassan80@yahoo.com)

<sup>3</sup> .Associate Professor, Department of Industrial Management, Persian Gulf University, Bushehr, Iran

**Received 2022 April 02; Revised 2022 May 20; Accepted 2022 June 18.**

---

### Abstract

In this research, the effect of the characteristics of the board of directors in choosing the accumulated profit and loss method for financing the company (evidence from the Tehran Stock Exchange) was investigated. The statistical population in this research includes all active companies in Tehran Bahadur Stock Exchange. The method of the present research is of the field type according to the practical purpose and in terms of data collection, and according to the data analysis, it is descriptive and exploratory. For this purpose, a statistical sample of 146 companies was selected from the Tehran Stock Exchange for a period of 8 years (2011 to 2018). The research findings showed that the estimated coefficient of the independence of the board of directors and the financing of the company through accumulated profit and loss is at the error level of 0.05; Because the p-value calculated for the coefficient of this research variable is less than 0.05; Therefore, it can be said that there is a significant relationship between the independence of the board of directors and financing through the accumulated profits and losses of the companies admitted to the Tehran Stock Exchange.

**Keywords:** characteristics of the board of directors, financing, profit, loss, Tehran Stock Exchange

---

### 1.Introduction and statement of the problem

Accumulated profit and loss is one of the types of permanent financial statements for economic entities, even very small companies. Accumulated profit and loss is an account statement with a permanent nature of the creditor, which can become a creditor or a debtor after performing the calculations, and this category will also depend on the activities carried out during the financial year.

Due to the growing need of production, industrial units, etc. to finance their projects and the inability of banks to cover all these financing needs, there is an urgent need to design new financial instruments. With these explanations, the Murabaha contract is a sales contract through which the seller informs the customer of the finished price of the goods, including the purchase price, transportation costs, maintenance and other related costs, then by adding the amount or he sells to him a percentage as profit, the sale of Murabahah can be concluded in the form of cash or credit, and usually, the interest rate of the loan is higher. Based on this contract, securities are designed under the name of Murabahah securities, which, like other legal and economic acts, have their own nature. The existence of the board of directors, which is one of the most important governance mechanisms, has always been one of the important subjects of studies in various fields (law, economics, finance, etc.). In this context, the performance of this control body has been the center of discussions and many suggestions have been made to modify its composition and characteristics, including size, existence of independent members, participation of women, duality, etc.

Usually, the board of directors is on par with the CEO. The CEO is the highest executive officer of the company and has full power in selecting the executive directors. Therefore, due to the implied relationship between the board members and

the CEO, the managers may not be able to perform their supervisory duties effectively. In addition, managers may abuse their position through control over salary and benefits plans and job security. Unlike the mandated managers, the non-mandatory managers are independent from the company's management, and for this reason, they are more effective in fulfilling their supervisory role. Hence, from a theoretical point of view, when the independent board of directors is composed of a high proportion of non-executive members, the performance of the company is enhanced (Mutt and Donaldson, 1998). Therefore, this research is designed to provide an analytical framework on the choice of financing methods of the company and to provide the possibility of observing the multidimensional nature of the financing activity of the company and the characteristics of the board of directors to achieve this understanding. Another problem that made the researcher to do this research is the lack of sufficient research related to the research subject and the specific attitude towards the subject. Therefore, in this research, an attempt has been made to examine the effect of the characteristics of the board of directors in choosing the accumulated profit and loss method for financing the company (evidence from the Tehran Stock Exchange). Therefore, according to the above, the main problem of the present research is to answer this question: Do the characteristics of the board of directors have an effect on the selection of the accumulated profit and loss method for financing the company (evidence from the Tehran Stock Exchange)?

## 2. Theoretical foundations

Funding is one of the topics that is raised in the discussion of starting any new investment. Financial capital is the capital that banks have and industrial owners use. The issue of financing, especially in developing countries, is of double importance; Developing countries need a lot of financial resources in order to progress in various economic fields. In these countries, some projects can be done with internal financing, but in important and infrastructure projects needed by the country, which cannot be provided by the government, such as oil, gas, petrochemical projects, and many other industries for development Having infrastructures from foreign resources is very serious. (Chen, 2008)

Most companies use some form of debt in their capital structure. Debt structure is one of the important indicators that determine the success of the company and it causes the sustainable growth of the company (Madan, 2007). Therefore, the decisions related to the debt structure are vital for the commercial survival of the company (Ahmed Sheikh and Wong, 2011). However, choosing a debt structure is not easy and making a wrong decision will lead the company to crisis and bankruptcy. The literature study shows that the relationship between debt structure and company value has been studied in many researches (Abor, 2007). Also, ownership and debt structure (Caspedes, 2010; Bobkin and Arko, 2009; Su, 2010) have been investigated in previous researches.

Koch and Khajeh Hosseini (2021), in a research study the moderating role of board of directors' characteristics on the relationship between ownership concentration and company performance in listed companies. The results show that the size of the board of directors does not have a significant effect on the relationship between ownership concentration and company performance, and the independence of the board of directors does not have a significant effect on the relationship between ownership concentration and company performance.

In a research, George Farinha (2018) investigated the relationship between the characteristics of the board of directors and the type of report of the independent auditors of the companies admitted to the Portuguese Stock Exchange (except for investment companies and football clubs) using the information of 46 companies in a comparative manner during the years 2012 to 2014. He showed that among the various features of the board of directors, only non-executive ratio of board members, asset return rate, ownership ratio, natural logarithm of assets at the end of the year and operating profit in the current year have a positive and significant relationship with the auditor's acceptable opinion. Also, the increase in the ratio of the market value to the book value of equity and the fact that the audit of the company has been done by the four major international audit institutions (and so on) has a negative and significant relationship with the type of acceptable report of independent auditors.

## 3. Research methodology

This research aims to investigate the effect of the characteristics of the board of directors in choosing the accumulated profit and loss method for financing the company (evidence from the Tehran Stock Exchange), it is a descriptive research with an applied nature that is carried out using a quantitative method, and the researcher uses the results in relation to It

uses the features of the board of directors and the financing of the company to solve the problem in a specific society (Iran); According to the time of data collection, it is cross-sectional, because the researcher collects data in a limited period of time, and according to the method of data collection or the nature and method of the descriptive research, it is a correlation type, because the effect of one variable on other variables is investigated. to be

#### 4. Society and statistical sample

The statistical population of this research is the companies admitted to the Tehran Stock Exchange. The statistical sample also includes companies that have the following criteria and are selected by systematic exclusion:

1. To increase comparability, the financial year of the selected company should end at the end of March;
2. In the period from 2010 to 2017, he did not change his activity or fiscal year;
3. Do not belong to financial institutions, investment and banks;
4. The information required by the companies is available in the period under review and there is no transaction break of more than six months in the mentioned period.

In this research, sample selection was done by taking into account the determined limits, the steps of sample selection are as follows.

Table 1. Final sample selection steps

Number of companies	Final sample selection steps
338	All companies listed on the stock exchange over 2011-2018
71	Companies including banks, insurance companies, financial intermediaries, investment companies, credit companies and holding companies
76	Companies ended the fiscal year other than March 20 <sup>th</sup>
46	Companies with incomplete data
146	Final sample

#### 5. Data Collection tools

Regarding the data collection tool for conducting library studies, a survey was used. To study the documents, use the data summary table. Financial information was collected from the website of Tehran Stock Exchange Technology Management Company and Rahvard software, refined by Excel software, and modeled and analyzed using Eviuse software.

#### 6. Information analysis method

The data analysis of this research was done using SPSS version 23 and Eviuz statistical software, which was used in the descriptive statistics section for the research variables in terms of mean, standard deviation, kurtosis and skewness. Also, in the inferential statistics section, t-test for independent groups and multivariate regression were used to analyze the data.

According to the conceptual model and the relationships between the variables, the statistical models of the current research are as follows:

#### Hypothesis model

$$ERFR_{i,t} = \alpha_0 + \beta_1 BIND_{i,t} + \beta_2 BSIZE_{i,t} + \beta_3 BKNO_{i,t} + \beta_4 BMET_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 LEV_{i,t} + \varepsilon_{i,t}$$

## 7. Model estimation

## 7-1. Descriptive statistics of research variables

In this section, data analysis has been done using central indices such as mean and median and dispersion indices of standard deviation, skewness and kurtosis as follows.

Table 2. Descriptive statistics of research variables

variable	mean	median	maximum	minimum	standard deviation	skewness	kurtosis
Debt-based financing	0.163	0.607	30.259	-49.935	6.777	-15.497	30.707
Independence of the board	0.581	0.600	1.000	0.200	0.175	-0.103	3.147
Size of the board	0.034	5.000	7.000	3.000	0.274	6.201	49.819
Knowledge of the board	0.573	1.000	1.000	0.000	0.494	-0.295	1.087
Number of the board meetings	11.028	12.000	50.000	0.000	7.427	-0.011	3.228
Financial leverage	0.569	0.564	0.948	0.012	0.188	-0.383	2.632
Size of the company	14.220	14.062	19.773	10.166	1.551	0.796	4.253

## 7-2. F test (Limer) to choose a combined or integrated method

The present research has been estimated using the combined data method in 146 companies admitted to the Tehran Stock Exchange. Before estimating the model using composite data, it is necessary to decide on the appropriate method of using such data in estimation. First, it should be determined that there is a need to consider the panel data structure (differences or company-specific effects) or that it is possible to pool data from different companies and use it in used to estimate the model. In single-equation estimates, the F test statistic (Limer) is used to make the final decision.

H0: Homogeneity of cross-sections (pool data)

H1: Heterogeneity of cross-sections (panel data)

Based on the results of this test, a decision is made about rejecting or accepting the hypothesis of the equality of company-specific fixed effects and finally about choosing the classical method or the panel data method. If the probability of Limer's F test is less than 5%, panel data will be used, otherwise, pooled data will be used. Table (3) shows the results of F test of the model.

Table 3. The results of F Limer test

Model	Type of test	Type of model	P-Value	Freedom degree	Statistics value
First model	F Limer test	panel	0/000	144.577	F= 18.571

Source: The study calculations

According to the form of the above table, because Prob is smaller than 0.05, the hypothesis H0 that the data is pooled is rejected; Therefore, according to Lemer's test, the data is a panel, now the Hausman test should be performed.

## 7-3. Hausman's test for choosing between fixed effects and random effects models

After it is determined that there is heterogeneity in the sections and individual differences can be taken into account, in order to determine which method (fixed effects or random effects) is more suitable for estimation (fixed or random detection of the difference of cross-sectional units) The Hausman test is used. In the Hausman test, the null hypothesis means that there is no relationship between the disturbance component related to the width from the origin and the explanatory variables and they are independent of each other, while the opposite hypothesis means that there is a relationship between the disturbance component and the explanatory variables. We face the problem of distortion and incompatibility.

Random effects  $S\alpha = \alpha$  H0:

Fixed effects  $S\alpha \neq \alpha$  H1:

The results of the Hausman test for the research model are as described in table number (4):

Table 4. Hausman test results

Model	Type of test	Type of model	P-Value	Freedom degree	Statistics value
First model	Hausman test	fixed effects	0.0009	3	$\chi^2 = 16/418$

Source: The study calculations

According to the results of the Hausman test for the research model, considering that the probability value is less than 0.05 at the 5% confidence level, the null hypothesis is rejected. The rejection of the null hypothesis (H0) shows that the random effects method is inconsistent and the fixed effects method should be used.

Table 5. Results of variance heterogeneity test of research model

Pagan-Cook & Weisberg Method			
Model	Statistics	Probability of statistics	result
First model	183.95	000.0	heteroscedasticity

Given that the P-value listed in Table (4) of the models was less than the significance level of 5%, the models had heteroscedasticity; The generalized least squares (GLS) method was used to solve this problem.

Considering that the P-Value listed in Table (5) of the models is less than the significance level of 5%, the models have variance heterogeneity, to solve this problem, the generalized least squares (GLS) method is used. to be

## 8. Research hypothesis test results

Research hypothesis

[H<sub>0</sub>]: The characteristics of the board of directors do not have a significant effect on the choice of the company's financing method through accumulated dividends.

: [H<sub>1</sub>] The characteristics of the board of directors have a significant effect on the choice of the company's financing method through accumulated dividends.

The model related to the research hypothesis:

$$ERFR_{i,t} = \alpha_0 + \beta_1 BIND_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 BKNO_{i,t} + \beta_4 BMET_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 LEV_{i,t} + \epsilon_{i,t}$$

The estimation results of the model to check the second hypothesis are as follows:

Table 6. Summary of statistical results of the first model research test

dependent (debt financing of the company)	Coifficients	Standard deviation	Statistics t	Significance level
C (y-intercept)	-0.004	0.008	-0.555	0.578
Size of the board	0/006	0.003	1.962	0.050
Independence of the board	0/269	0.126	2.132	0.033
Knowledge of the board	0/109	0.055	1.963	0.049
Number of the board meetings	8.409	1.077	7.805	0.000
Size of the company	0/099	0.118	0.835	0.403
Financial leverage	-3/085	0.349	-8.839	0.000
AR(1)	-0/140	0.046	-3.048	0.002
Fisher statistic (significance level)	2.264 (0/000)	Durbin-Watson statistic		2.180
coefficient of determination ( $R^2$ )	0/683	Adjusted Coefficient Of Determination		0.658

Source: The study calculations

Before testing the research hypothesis based on the obtained results, it is necessary to ensure the correctness of the results. For this purpose, F test was used to check the significance of the whole model. According to the probability of calculated F statistic (0.000), it can be claimed that the fitted regression model is significant.

According to the coefficient of determination of the fitted model, it can be claimed that about 68% of the changes in the dependent variable of the model (the financing of the company through accumulated debt) are explained by the independent variables.

The estimated coefficient of the independence of the board of directors variable in Table (6) shows a significant relationship between the independence of the board of directors and the financing of the company through accumulated profits and losses at the error level of 0.05; Because the p-value calculated for the coefficient of this research variable is less than 0.05; Therefore, it can be said that there is a significant relationship between the independence of the board of directors and financing through the accumulated dividends of the companies admitted to the Tehran Stock Exchange.

The estimated coefficient of the board size variable in Table (6) shows a significant relationship between the size of the board of directors and the financing of the company through accumulated interest at the error level of 0.05; Because the p-value calculated for the coefficient of this research variable is less than 0.05; Therefore, it can be said that there is a significant relationship between the size of the board of directors and financing through the accumulated profits and losses of the companies admitted to the Tehran Stock Exchange.

The estimated coefficient of the knowledge variable of the board of directors in Table (6) shows a significant relationship between the knowledge of the board of directors and financing through the accumulated profits and losses of the company at the error level of 0.05; Because the p-value calculated for the coefficient of this research variable is less than 0.05; Therefore, it can be said that there is a significant relationship between the knowledge of the board of directors and the financing of the company through the accumulated profits of the companies admitted to the Tehran Stock Exchange.

The variable estimated coefficient of the number of board meetings in Table (6) shows a significant relationship between the number of board meetings and financing through the accumulated profit and loss of the company at the error level of 0.05; Because the p-value calculated for the coefficient of this research variable is less than 0.05; Therefore, it can be said that there is a significant relationship between the number of meetings of the board of directors and the financing of the company through the accumulated profits of the companies admitted to the Tehran Stock Exchange.

The estimated coefficient of the financial leverage variable in Table (6) shows a significant relationship between financial leverage and financing through the company's accumulated profits and losses at the error level of 0.05; Because the p-value calculated for the coefficient of this research variable is less than 0.05; Therefore, it can be said that there is a significant relationship between financial leverage and financing of the company through the accumulated dividends of the companies admitted to the Tehran Stock Exchange.

The estimated coefficient of the company size variable in Table (6) does not indicate a significant relationship between the company size and financing through the accumulated profit and loss of the company at the error level of 0.05; Because the p-value calculated for the coefficient of this research variable is greater than 0.05; Therefore, it can be said that there is no significant relationship between company size and financing through accumulated profits and losses of companies listed on the Tehran Stock Exchange.

## 5. Conclusion and suggestions

In the hypothesis of the research, the influence of the characteristics of the board of directors on the choice of the financing method of the company through the accumulated profit and loss in the companies admitted to the Tehran Stock Exchange was investigated. The findings of the research showed that the significance level obtained for the independent variable (characteristics of the board of directors) at the determined confidence level has a significant relationship with the choice of the company's financing method through accumulated profit and loss. Because the significance level obtained for the independent variable (characteristics of the board) is lower than the determined error level. Also, the positivity of the estimated coefficient of the independent variable (characteristics of the board of directors) shows that there is a positive influence of the characteristics of the board of directors in the choice of the method of financing the company through accumulated dividends in the companies admitted to the Tehran Stock Exchange. The findings indicate similar to the first hypothesis indicating that the characteristics of the board of directors, including the independence of the board of directors, the size of the board of directors, the knowledge of the board of directors and the number of board meetings considered in this research, had a positive role in choosing the method of financing the company through accumulated interest. Retained earnings have always been one of the sources of long-term financing for companies. Usually, public companies allocate a significant percentage of the net profit (profit after tax) to the retained earnings account. Since a part of the annual profit is given to the shareholders and the other part is meant for the accumulated profit account, the board of directors can use the policies related to the distribution of profits as a financing method, which the findings of this research also confirm this issue. According to the hierarchy theory, companies go through a hierarchy in securing their required financial resources; That is, the managers prefer the provision of financial resources from the accumulated profit to the resources through the issuance of shares. Because the specific cost of capital related to the accumulated interest may be different from the specific cost of capital related to the issued bonds and shares, and this motivates the managers to choose the financing of the company through the accumulated interest. Managers are advised to choose retained earnings to provide the required financial resources, because retained earnings are less expensive than other financing methods.

1. Abor, J. (2005). The effect of capital structure on profitability: empirical analysis of listed firms in Ghana. *Journal of Risk Finance*, 6(5), 438-445
2. Abdi, Rasool, Zainali, Mehdi, Taghizadeh Khanqah, Vahid. (2016). The effect of managerial ownership on the relationship between free cash flows and investment inefficiency. *Financial accounting and audit research*.
3. Ahmed Sheikh, N., & Wang, Z. (2011). Determinants of capital structure: An empirical study of firms in manufacturing industry of Pakistan. *Managerial Finance*, 37(2), 117-133

4. Bokpin, G.A., & Arko, A. C. (2009). Ownership structure, corporate governance and capital structure decisions of firms: Empirical evidence from Ghana. *Studies in Economics and Finance*, 26(4), 246-256.
5. Cespedes, J., Gonzalez, M. & Molina, C.A. (2010). Ownership and capital structure in Latin America. *Journal of Business Research*, 63, 248-254.
6. Hajiha, Venus; Akhli, Hassan Ali. (2012). Investigating factors affecting the company's debt maturity structure: an empirical test of agency theory and leverage theory. *Quarterly Journal of Financial Accounting*, Year 10, No. 33, pp. 167-147
7. Kuch, Hossein and Khajeh Hosseini, Samira. (2021). Examining the moderating role of board of directors characteristics on the relationship between ownership concentration and company performance in listed companies, the second international conference on new challenges and solutions in industrial engineering and management. and accounting, Damghan.
8. Madan, K. (2007). An analysis of the debt-equity structure of leading hotel chains in India. *International Journal Of Contemporary Hospitality Management*, 19(5), 397-414
9. Su, L.D. (2010). Ownership structure, corporate diversification and capital structure:Evidence from China's publicly listed firms. *Management Decision*, 48(2), 314-339