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Investigation of the impact of women's representation and participation on board of directors on tax avoidance in listed companies on the Tehran Stock Exchange (TSE)

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Abstract: *The present study aims to investigate the impact of women's representation and participation on board of directors on tax avoidance in listed companies on the Tehran Stock Exchange (TSE). For this purpose, one hypothesis was developed to investigate this issue and the data related to 97 companies listed on the Tehran Stock Exchange for the period of 2010 to 2015 were analysed. The regression model of research was examined using data compilation method with the approach of combined effects. The obtained results show that the presence and participation of women on board of directors has a negative and significant effect on tax avoidance.*

Keywords: *women's representation and participation on board of directors, tax avoidance*

INTRODUCTION

One of the sources of government is the tax collection from companies. Theoretical foundations and empirical evidence show that companies make efforts to reduce or postpone their income tax. Tax avoidance, tax evasion, earnings management etc. are some tools that companies may use to reduce their tax, depending on their situation, if necessary. Tax avoidance is defined as efforts made in order to reduce taxation (Hanlon & Heitzman, 2010). Tax evasion is a violation of law; but tax avoidance is in fact a kind of use of legal gaps in tax laws in order to reduce taxes. Therefore, since tax avoidance is apparently a legal activity, it seems that this is more in sight than tax evasion. Tax avoidance can be used for tax benefits in a certain range and mainly, there are no limiting laws in the domain of controlling tax avoidance (Khani et al. 2013).

According to the existing evidence, it appears that many companies are involved in tax avoidance and that's why it is very important to determine factors influencing tax avoidance in companies. Therefore, the objective of the present study is to investigate whether the tendency of companies to avoid tax is associated with gender diversity (women's representation and participation on board of directors). Recent studies in the United States show a positive relationship between the presence of women in board of directors and supervisory board and the quality of benefit (Adams & Ferreira, 2009; Serindi et al, 2011). Also Berea et al. (2010) found that companies with women on board of directors have a higher profit quality. Therefore, empirical evidence shows that women's representation on board of directors in certain respects (e.g. control over financial reporting) can have positive effects on the improvement of board of directors. So it is expected that the women's representation on board of directors improve financial performance and company value and consequently, it can reduce tax avoidance in companies.

2. Theoretical foundations and a review on research background

The concept of tax avoidance

Both tax avoidance and tax evasion lead to a reduction in tax revenue; but conceptually, these are two completely different things. Conceptual distinction of tax avoidance and tax evasion is mainly due to the legitimacy and legal basis of one opposite the lack of legitimacy and the lack of legal basis of the other. Tax evasion means breaking the privacy of law. When the taxpayer doesn't report taxable income or

evades tax obligations through different ways such as reports of a lower income, overstated report of deductions, false declaration, in fact he commits an illegal act that can lead to civil punishment or criminal penalties. Therefore, a person who escapes from taxation is worried about the discovery of his illegal activities. But tax avoidance is done in the framework of law and it leads to the reduction of tax obligations by the law or the full use of the legal niceties. Therefore, from the perspective of criminology, it is not indictable (Akbarpour Roshan, 2012).

Tax evasion means illegal arrangements for hiding or ignoring tax liability and it may be done in the following ways (Sandemo, 2004):

- Lack of mentioning of taxable income or transactions in declarations
- Reporting more deductible expenses
- Refrainment from filing declarations for transactions
- Reduction of the tax debt through false declarations

Tax avoidance is defined as the use of various legal ways by taxpayer in order to reduce the amount of taxes. Thus, tax avoidance is legal whereas tax evasion is considered as an unlawful and illegal behaviour.

Women's representation and participation in board of directors and tax avoidance

Tax avoidance by companies is considered as an integral part of the company's capital management strategies (Desai & Pharmapala, 2006; Rego, 2003; Slemrod, 2001). Tax avoidance includes structures or transactions to use the vacuum in tax laws and regulations (Lisowsky, 2010; Wilson, 2009) or differences in tax laws between authorities and jurisdictions (Pharmapala & Hines, 2009; Atwood et al. 2012) that reduce significantly the amount of taxes paid by companies. For this reason, recognition of factors affecting the tax avoidance is of great importance. One of the most important factors affecting tax avoidance is the Narcissism of leaders.

Policy makers know the ways to deal with budget deficit by reforming tax rate and frustrating companies to avoid paying too much tax. In fact, some researchers and regulators like Hall and Jorgenson (1967) are concerned about the risk of increased rates of tax and researchers seek effective ways to prevent tax avoidance and investigate temporary factors of such activities. Many of these studies focus on specific features of companies (profitability, bonus of contracts after tax, foreign operations, asymmetry of companies' information and expenditure on research and development) or the ownership structure (e.g. family property etc.) and these studies can help us to understand tax decisions of companies. However, that may be difficult for policy makers to manipulate some of these factors at the corporate level to reach a vast market effect for controlling tax avoidance (Savo & Chi, 2015). Given the importance of this subject and considering that the presence of women on board of directors can be effective on the rate of tax avoidance, the argument is that executive managers can be effective on tax avoidance and tax evasion in two ways. The first way is indirect and done through the position of director in the organization. Indirect method is based on the concept of high-end theory and suggests that the selection of organizations is partly from the company's senior managers' personality traits. The second way is that senior managers can influence tax policies of companies through direct involvement in the tax management of the company. According to this argument, evidence shows that executive managers play increasingly an active role in the formulation and evaluation of tax avoidance in companies. By supporting the subject that executive managers can influence tax avoidance, however, researchers are not able to document any special features about executive managers that result in this relation. Thus, Diring (2010) has made efforts in quantitative researches for identifying special mechanisms and this is due to the fact that executive managers affect exclusively tax avoidance. For example, Chiz (2010) finds out that managers with the tendency to avoid tax manipulate amounts relating to stock. Chen et al. (2010) found that tax evasion has negative effects on information and reporting environment of the enterprise. This issue makes managers able to manipulate the company's performance criteria in order to achieve their personal interests. Bushman and Smid (2001) state that the uncertainty arising from the activities of tax evasion could exacerbate conflicts between managers and shareholders. In addition, Kwaster (2014) stated that in companies with managers with more ability to maximize efficient and effective use of resources of the company, these managers avoid more taxes, while Law & Miz (2014) show that the respect of managers to law reduce significantly tax avoidance. In earlier researches concerning gender diversity on board of directors by Betz et al. (1989), they concluded that female managers take less risk concerning corporate reports and financial issues in comparison with male directors. Peni and Vähämaa (2010) found that

companies with female executive managers adopt a more conservative and risk-averse financial reporting style comparing with companies with male executive managers. Generally, for female managers, Carter et al. (2003) show that they are more likely to use independent thinking that is effective and vital for board of directors in comparison with male managers. Daily et al. (2000) observed that comparing with board of male directors (all members are male), women bring different perspectives and viewpoint to boardroom and facilitate a more informed decision-making and this fact increases the level of transparency at board level. McLeod-Hemingway (2007) concluded that women probably participate positively in overall performance and negotiations of board of directors by increasing the degree of confidence from the board to the various stakeholders. Adams and Ferreira (2009) investigated the relationship between women's representation and participation on board of directors, corporate governance and company's performance. They found that gender diversity on board of directors in US companies leads to a wider supervision. Gender diversity on board of directors is positively associated with the effectiveness of the board. Greater participation of women on board of directors through a more effective supervision probably reduces tax avoidance comparing with a board without gender diversity. Also Srinidhi et al. (2011) investigate whether US companies with gender diversity on board of directors show higher incomes. They found that boards with gender diversity are more likely to be "washed over" in deep discussions and resolving difficult problems, comparing with companies with male board of directors. They found that supervisory jurisdiction of the board through the discussions are more informed, communications are better and generally board of directors is enhanced when there is the participation of women. Gul et al. (2011) investigate whether boards of directors with gender diversity in US companies have made them more transparent and have encouraged them to include more specific information concerning stock prices. They claim that gender diversity can enhance the quality of discussions of board of directors and improve the company's ability to provide a more accurate supervision on transactions, disclosure, reporting and worries about the effect of decision making. In terms of tax, Baldry (1987) shows that women are probably more successful than men in tax decisions. Ruegger & King (1992) found that in most cases, gender diversity is significant in change of attitudes in tax ethics. Fallan (1999) investigated differences in attitudes to tax system based on gender differences and found that a level of tax knowledge influences differences in attitudes.

The above discussion suggests that female managers provide an effective monitoring and supervision of board issues in a similar way to foreign managers. In addition, female directors are more risk-averse and have higher ethical and moral standards, they show more independent thinking and they facilitate informed decision-making. And this fact increases transparency level on board of directors and promotes the degree of confidence. Therefore, it is reasonable to expect that women's participation on board of directors reduce significantly the probability of tax avoidance. So the purpose of this study is to investigate the effect of women's participation on board of directors on tax avoidance.

Some foreign and internal studies related to women's representation on board of directors and tax avoidance are as follows:

Armstrong et al. (2013) investigated the impact of corporate governance on tax avoidance. They found that the effect of corporate governance on tax avoidance is more present in two extremes or in other words, in the sequences of statistical tables. The remarkable and important point was that these researchers observed a positive relationship between the percentage of non-bound members and also, financial skills and board expertise at the upper end of the spectrum of tax avoidance function, but this relationship was not observed on the other end of the spectrum. Also they didn't find a significant relationship between corporate governance and tax avoidance on the mean or on the average of distribution function. They argued that corporate governance seeks to balance the tax avoidance and in companies with high tax avoidance, corporate governance tends to reduce tax avoidance and vice-versa. In fact, maybe that's why no significant relationship was observed in their study.

Chayz et al. (2014) investigated the impact of managerial overconfidence on tax avoidance in a research titled as "managerial overconfidence and tax avoidance". The obtained results showed that managerial overconfidence has a positive and significant impact on tax avoidance. Other result is that managerial overconfidence reduces 6.6% effective tax rate cash and adds 5.1% to differences between accounting income and taxable profit.

Hamm et al. (2015) investigated in their research, the impact of narcissism of executive managers on the quality of financial reporting. Their results showed that narcissism of executive managers has a negative and significant impact on the quality of financial reporting.

Hamm et al. (2015) investigated in their research, the impact of narcissism of executive managers on financial reporting. Their results showed that narcissism of executive managers has a positive and significant impact on the accrual-based earnings management and the real earnings management. They also showed that narcissism of executive managers has negative and significant impact on conditional conservatism.

Olson & Estekoberg (2016) investigated in their study, the effect of narcissistic executive managers on tax avoidance. For measuring tax avoidance, they used two factors of effective tax rate and office differences of tax. Their results showed that narcissistic executive managers have positive and significant impact on tax avoidance (effective tax rate and office differences of tax).

Brown (2016) investigated the impact of narcissistic executive managers and tax shelter (tax avoidance). The results showed that narcissism of executive managers has positive and significant impact on tax shelter.

Richardo & Sun et al. (2016) investigated the effect of women's representation and participation on board of directors on tax avoidance. Their results indicated that the presence of women on board of directors has negative and significant impact on tax avoidance.

Babajani & Abdi (2010) investigated the relationship between corporate governance and taxable profit of companies. This assessment has been done by investigating the relationship between some important factors of corporate governance including the percentage of non-board members on board of directors, the combined role of CEO (ambivalence in duties of CEO) and institutional investors. The obtained results indicate that there is no significant difference between the mean percent of taxable profit in the group of companies that have the corporate governance criteria and in the group of companies that do not meet the standards of corporate governance. However, in both group of companies, the difference between taxable profits was significant.

Khodamipour & Amininia (2013) conducted a study titled "investigation of the relationship between tax avoidance and the cost of debt and the impact of institutional ownership on this relationship". They showed that there is a negative relationship between tax avoidance and the cost of debt. This negative relationship shows that suitable tax effect resulting from tax avoidance can be used as the debt of the company. Therefore, tax avoidance can substitute for the use of debt. In addition, the results indicated that the level of institutional ownership has no significant impact on the relationship between tax avoidance and the cost of debt.

Haghighi & Mohammadi (2013) investigated the relationship between tax avoidance and disclosure quality and value of the company in listed companies on the Tehran Stock Exchange. The findings of this study showed that companies with high transparency have less potential conflicts of representation and more tax avoidance, comparing with companies with low transparency. The results of this investigation show that external people do not give great importance to corporate tax avoidance. Therefore, in companies that implement tax avoidance, acceptable transparency is of special importance.

Mehrani & Seyyedi (2014) conducted a study titled "The impact of taxes on income and the impact of conservative accounting on tax avoidance in listed companies on the Tehran Stock Exchange". They concluded that tax avoidance and conservatism are means to reduce taxes. By increasing tax avoidance, incentives for conservatism will reduce and vice-versa. In addition to that, the negative relationship between the average tax of three years of company and tax avoidance show that companies tend to be conservative.

Mashayekhi & Alipanah (2015) conducted a study titled "The impact of corporate governance on tax avoidance and company value". They concluded that the improvement of the structure of corporate governance will increase the positive effect of tax avoidance activities on company value.

Sepassi & Fathi (2015) investigated in their study, the impact of corporate governance on reducing tax liability policies in listed companies on the Tehran Stock Exchange. The results obtained from their study indicate that responsible board of directors, changes of board of directors and the dual role of chairman of the board have no significant impact on reducing tax policies. Nevertheless, tax status and return on assets have respectively negative and positive relationship with reducing tax policies.

3. Hypotheses of research

In this part, in order to achieve the objectives of research and based on theoretical foundations and mentioned research background in previous parts, the hypothesis of research has been designed and developed as follows:

Hypothesis of research: There is a significant relationship between women's representation and participation on board of directors and the tendency of corporate managers to tax avoidance.

4. Research methodology

In terms of objective, this is an applied study and in terms of method, this is a correlational study. The method used for conducting this study is descriptive and retrospective (using data from the past) in the domain of positive accounting theory (PAT) and based on real information. For testing the hypotheses of research, sample companies were selected and the related data were collected. Then, the data were summarized and ordered using Excell spreadsheet software; data were subsequently analysed using E-views software. The confidence level used for testing hypotheses and assumptions of classical regression is 95%.

The statistical population of the present study consists of all companies listed on the Tehran Stock Exchange during the years 2010 to 2015. For sampling, systematic removal method was used. The following conditions have been applied for selecting samples:

The samples should not be selected from insurance, investment or leasing companies, banks, institutions or financial intermediaries.

The end of their fiscal year should be the end of the month of Esfand (March 20) and during the determined period, the fiscal years shouldn't have changed.

The information of companies with accessible necessary information of sales revenue, fixed assets, number of employees, staff and administrative costs and also general and sales cost will be investigated.

Finally, after the implementation of the above restrictions, 97 companies, in the form of 582 firm-year observations were selected for testing the hypotheses of research.

5. Model and variables of research

According to the theoretical framework and research background, the model for this research is multivariate regression. Therefore, model (1) that is shown below has been selected for testing hypotheses. It should be noted that in this study, for measuring tax avoidance, two factors including effective tax rate were used. So the model of research can be defined as follows:

Model (1) has been selected for testing the first hypothesis of research

$$ETR_{i,t} = \alpha_0 + \beta_1 PFEMBODNONE_{i,t} + \beta_2 ROA_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 LEV_{i,t} + \beta_5 MTB_{i,t} + \beta_6 INVINT_{i,t} + \varepsilon_{i,t}$$

Model variables are shown in table (1).

Table 1: Determination of model variables

Symbol	Investigated variable
PFEMODNONE	Women’s participation on board of directors
ETR	Effective tax rate
ROA	Return on assets
SIZE	Size of business unit
MTB	Growth opportunity
INVINT	The inventory of assets

Measurement of research variables:

Independent variable:

Women’s representation and participation on board of directors (PFEMODNONE): Dummy variable, if women are present on board of directors, it’s equal to 1 and otherwise, it’s equal to zero.

Dependent variable:

The dependent variable of this research is tax avoidance. For this purpose, the following criteria has been replaced for the measurement of tax avoidance:

According to extensive research by Dearing et al. (2008), for measuring tax avoidance, it is possible to use effective tax rate (ETR) that is calculated as follows:

$$ETR = \frac{\text{total tax expense}_{it}}{\text{pre tax incom}_{it}}$$

In the above, *total tax expense_{it}* shows total tax expense of the company I during the year t and *pre tax incom_{it}* shows the profit before tax of the company i. Lower amount of ETR shows that the company is involved in tax avoidance in a relatively high level. Companies involved in tax avoidance have the objective of obtaining cash benefits of taxes. Thus, it is expected that ETR will have a negative relationship with tax expectations, so the presence of women on board of directors have a positive relationship with ETR.

Control variables:

ROA: represents profitability index that is calculated by dividing operating profit on total assets. And it indicates the profit per Rial of the invested funds in the company.

SIZE: represents the size of the company I in the year t; this amount is calculated through the natural logarithm of sales proportion to book value of assets.

MTB: The proportion of market value of equity to its book value is used as growth opportunities index and future investment.

6. Research findings

Descriptive statistics of data

As it can be seen in table (2), the results of descriptive statistics of variables have been shows.

Table 2: Descriptive statistics of research variables

Variable	Average	Mean	Maximum	Minimum	Standard deviation
<i>PFEMODNONE</i>	0.135	0.000	1.000	0.000	0.342

<i>ETR</i>	0.118	0.126	0.393	0.000	0.091
<i>ROA</i>	0.120	0.098	0.621	-0.255	0.128
<i>SIZE</i>	13.845	13.673	18.455	10.031	1.413
<i>MTB</i>	2.970	2.359	14.767	-5.721	2.706
<i>INVINT</i>	0.233	0.221	0.647	0.000	0.121

* Source: Research findings

Table (2) shows descriptive statistics related to research variables and indicates separately descriptive parameters for each variable. These parameters generally include information relevant to central indices such as maximum, minimum, average and mean and also information related to scattering parameters such as standard deviation. The most important central index is the average that shows the balance point and gravity center of distribution; this is an appropriate index for showing data center. For example, the average of the variable (SIZE) is equal to 13.845 and this amount shows that the majority of data related to this variable are concentrated around this point. Mean is another central index and shows the situation of statistical population. As it can be seen in table 2, the mean of the variable of effective tax rate (ETR) is equal to 0.126 and it shows that half of data are less than this amount and another half are more than it. In overall, scattering parameters determine the scattering level of data with each other or their scattering level comparing with the average. One of the most important scattering parameters is the standard deviation. The amount of this parameter for the variable of growth opportunities (MTB) is equal to 2.706 and for the variable of effective tax rate (ETR), the amount of this parameter is equal to 0.9; this amount shows that among the variables of research, MTB and ETR have respectively the most and the less scattering level. It should also be noted that all outliers of variables have been removed at the level of 1%, in order to avoid the effect of outliers on results.

Inferential statistics

Before fitting the models, it is necessary that F-Limer test be done in order to investigate the use of Panel data with fixed effects comparing with combined data method for these models. Obtained results of F-Limer test for these models are shown in table 3.

Table 3: The results of F-Limer test for research model

Investigated model	Statistic	Level of error	Accepted method
Model (1)	1.393	0.224	Integrated model

* Source: Research findings

As it can be seen in table 3, the results indicate non-rejection of H₀, as a result, data integration model is the preferred method. In the following, the results of the assessment of research models by panel data method are shown in table 4.

Table 4: Results obtained from the assessment of model (1) of research

Variable	Coefficient of variable	T statistic	Level of error
α_0	0.182	4.658	0.000
PFEMODNONE	0.0255	2.517	0.0121
ROA	0.258	9.241	0.000
SIZE	-0.008	-3.239	0.0013
MTB	0.0015	1.159	0.246
INVINT	0.0575	1.918	0.0556
Coefficient of determination	0.173		
Adjusted coefficient of determination	0.166		

Durbin-Watson statistic	1.501
F statistic	24.243
Probability of F statistic	0.000

*Source: Research findings

According to the results shown in table 4 and also the obtained F statistic (8.603) and its level of error (0.000), we can claim that generally, research model has a high significance. Also, according to the adjusted coefficient of determination for the model that is equal to 5.9, it can be concluded that in overall, independent and control variables of research can explain more than 5.9% of changes of dependent variable. Moreover, according to the amount of Durbin-Watson statistic that is equal to 1.551, it can be concluded that the first-order autocorrelation doesn't exist in the remaining of model.

Results of testing of hypotheses

Testing of the first hypothesis

The first hypothesis investigates the impact of women's representation and participation on board of directors on tax avoidance. According to the obtained results in table 4 by estimating model 1, the coefficient of women's presence on board of directors for the factor of tax avoidance (effective tax rate) is equal to 0.255 and given its level of error (0.121) that is less than 0.05, so the positive coefficient of women's participation on board of directors indicates that an increase of the number of women on board of directors will increase effective tax rate (A higher ETR shows a lower tax avoidance in companies). Therefore, it can be concluded that women's representation and participation of board of directors can reduce tax avoidance. So this hypothesis is approved in confidence level of 95%. The result of testing of this hypothesis is consistent with theoretical foundations of research and also in line with study results of Richardo & Sun (2016).

Conclusion

In the present study, the effect of women's representation and participation on board of directors on tax avoidance was investigated. For measuring tax avoidance, the factor of effective tax rate was used. For this purpose, one hypothesis was developed for investigating this issue and the data were analysed. The results of study suggest that women's representation and participation on board of directors has a negative and significant impact on tax avoidance. This means that the existence of gender diversity on boards of directors will lead to more extensive supervisions. This gender diversity on board of directors is positively associated with the effectiveness of board. A more participation of women on board of directors and a more effective supervision will reduce tax avoidance, probably with the same approach of foreign managers (Richardo & Sun, 2016). Also Gul et al. (2011) argue that gender diversity can enhance the quality of discussions during the meetings of board of directors, it can also promote company's ability to provide a more accurate supervision on transactions, disclosure and reporting and also more worries about the effect of decision-making. In terms of tax, Baldry (1987) shows that women are probably more successful than men in tax decisions. Ruegger and King (1992) found that in most cases, gender diversity is significant in changes of attitude towards tax ethics. Fallan (1999) investigated the differences in attitudes towards tax system based on gender differences and found that a level of tax knowledge influences differences in attitudes. In summary, it can be stated that female directors provide effective supervision and also supervision of issues of board of directors, with a similar approach to foreign managers. In addition, female directors are more risk-averse and have higher ethical and moral standards. They show a greater autonomy in thinking and facilitate aware decision-making; and this fact increases the transparency level in board of directors and promotes the confidence level. Therefore, it can be stated that the presence of women on board of directors prevents adverse administrative decisions by regulating the investment, preventing profit management and improving information environment. Evidence shows that companies with an effective presence and participation of women on board of directors have appropriate and strong corporate governance; these companies reduce agency problems and information asymmetry between managers and shareholders by bridging the information gap between them. Also the effective presence of women on board of directors is related to methods of voluntary

disclosure of financial information. Since the presence of women on board of directors reduces opportunistic behaviours of management to maximize the stock price in the short term such as earnings management or excessive investment, so this hypothesis exists that women's representation and participation on board of directors has a negative and significant impact on tax avoidance.

Practical suggestions

- It is recommended to investors of stock exchange to pay great attention to gender diversity on board of directors (presence of women on board) and tax avoidance. Given the impact of these factors on the transparency of information and control environment of the company, they help investors to be in a more secure environment and be exposed to a less risk.
- According to theoretical and empirical background and research findings, it is recommended to shareholders, investors, creditors, financial analysts and brokers to pay special attention to the presence of women on board of directors. It is also suggested to managers of companies to pay attention to the consequences of tax avoidance.
- Moreover, it is recommended to owners and managers who have an important role in decisions made in stock companies to pay great attention to the increase of information transparency in market. When the information transparency of companies increases, investors have greater confidence to these companies and take less risk. As a result, the company can meet its financial needs more easily through the stock market (A decrease in risk level will also reduce the cost of capital).
 - According to obtained results, it is recommended to lawmakers to adopt necessary measures to introduce mandatory quotas for women on board of directors, in order to promote the presence of women in higher organizational positions.

Some suggestions for future studies

- After the conduction of each study, a way opens towards a new direction and for continuing this way, doing more researches is required. Therefore, it is suggested to conduct the following studies:
- A comparison investigation on women's representation and participation on board of directors on tax avoidance in different industries
- Investigation of the effect of the presence of female directors on board of directors of stock companies with new criteria for evaluating the performance of the company
- Investigation of the effect of the presence of female directors on board of directors of stock companies on return on equity and stock prices

Limitations of the study

Mentioning the limitations of the study is for interpreting more carefully the study results. The most important limitations of the present study are as follows:

- One of the limitations of this study is the specific characteristic of quasi-experimental studies based on the lack of control over some effective factors on research results like the impact of variables such as economic factors, political conditions, the global economy etc. Some of this information were not accessible for the researcher and could have impact on the results of the study.
- Non-adjusted financial statement item because of inflation that could have impact on research results
- Excluding companies in the financial industry, insurance and banking reduces the generalizability of this study

- The number of companies with female directors in Iran is less than other countries. So by increasing women's representation and participation in listed companies on the Tehran Stock Exchange, it will be possible to have more accurate results.

- In addition to the low number of companies with women's representation on board of directors, their constant and long-term presence can also be another limitation of the present study. In other words, female directors had sectional participation (1 year) during the period of investigation; and in few companies, women were present more than one fiscal year.

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