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Relationship between Gender Diversity and Financial Ratios in the Board of Directors of Companies Listed in Tehran Stock Exchange

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ABSTRACT

Diversity in the composition of the Board and the participation of women is one of important non-financial issues affecting firm performance. Diversity can be in terms of racial or gender composition. This paper examines the gender diversity factor. It examines whether firms with female managers have outperformed firms without female managers?

Thus, data from 111 companies listed in the Tehran Stock Exchange during 2007-2010 were used. Using the multiple regression method, the relationship between gender diversity and earnings per share, return on assets, profit margin, return on equity, and stock returns was investigated. The results indicate that in the desired statistical population, gender diversity is only effective on stock returns and has a significant relationship with it.

KEYWORDS: gender diversity, earnings per share, return on assets, profit margin, return on equity, return on equity

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Introduction:

One of the development characteristics of each country is women's situation and their participation type. Therefore, one of the major issues in recent decades is the proper use of female labor in government companies and agencies, particularly the management of these centers. Despite women and ethnic groups deserve equal opportunity to serve on the Board and top management positions, companies, organizations and individuals openly oppose them (Catalyst, 2007). Parallel with greater access to scarce resources of knowledge, wealth, power and prestige, social mobility of women has increased. Lensky says: In the law, there are no barriers and restrictions for women even they have rights. However, due to informal factors such as customs, customary, and traditional beliefs or prejudices, women have been excluded from top jobs.

1. Theoretical Foundations and Literature

Gender diversity is a part of the broader concept of the Board diversity (Milliken & Martins, 1996). The concept of the Board diversity suggests that the Board should reflect the structure of society and should show the gender, ethnicity and professional records in an appropriate way. The Board also is eager to have the right combination to examine issues from different aspects (Milliken & Martins, 1996; Biggins, 1999).

Diversity management means establishing a heterogeneous workforce to use their potential in a fair workplace in which no person or group has superiority over others. Change management includes the process of creating and maintaining an environment in which normally everyone is allowed to realize his/her full potential to achieve organizational goals (Brian D" Netto and Amrik S. Sohal, 1999).

Recently, diversity has attracted the attention of many researchers. The studied subjects include reasons for low participation of women in the Boards (Burke, 1997; Singh and Viennese Kamb, 2004), the prediction of intra-organizational and extra-organizational forces affecting the female members of the Board (Burke, 2000),managers' experience and knowledge of the role of female members of the Board (Burke& Mattis, 2000; Hughes and Salberg, 2006; Jamali, Safieddine & Daouk, 2007).

Previous studies have pointed out that female members of the Boardmay have some management skills higher than men such as familiarity with legal issues, human resources, communications and public relations, marketing and operation of the production line. (Zelechowski & Bilimoria, 2004) Recent studies have point to the positive roles of women in the Boardon the firm performance (Smith, Smith & Warner, 2006; Batiola, 2008). Letendre (2004) presented the notion of "value diversity" and stated that female members of the Board cause diversity in the views of the Board and more interesting conversations.

Women may express different dimensions and values in relation to their views (Batiola, 2008). Even when gender diversity leads to disagreement, Letendre (2004) believes that this disagreement is valuable because it leads to better decisions and more dynamic Boards.

2. Literature Review

Many studies have been done on the relationship of women and firm performance, some of which have argued that there is a positive relationship and some others have argued that there is a negative or non-significant relationship.

In their study titled "Women's Role in the Board of Directors and Firm Performance" on American companies, Renée B. Adamsa, c*, Daniel Ferreirab, c, d (2008) concluded that the

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comparison of percentage of women and ethnic minority groups in the committees of the Board and evaluating firm performance is much more sensitive than the impact of the Board diversity on the firm performance because these committees are more likely to affect the firm performance. In their article titled "Women in the Board of Directors and Firm Performance", by studying 90 Dutch companies, Mijntje Lu¨ckerath-Rovers (2011) found that companies with female directors outperform those without women on their Board.

The empirical research of Salim Darmadi (2011) on the Board diversity and firm performance, which is a case study in Indonesia, concluded that there is a negative correlation between gender diversity and financial performance. It also shows that young people in the Board are consistent with the improved financial performance.

Claude Francoeur et al. (2007) in their paper entitled "Effect of Gender Diversity on the Firm Management and Top Management" using Fama and French framework, concluded that the participation of women as CEO does not make any difference in the firm performance. But when women are more engaged as employees, firm performance in complex environments shows abnormal returns.

3. Research Hypotheses:

First hypothesis: There is a significant relationship between gender diversity in the Board and return on assets.

Second hypothesis: There is a significant relationship between gender diversity in the Board and return on equity.

Third hypothesis: There is a significant relationship between gender diversity in the Board and profit margin.

Fourth hypothesis: There is a significant relationship between gender diversity in the Board and earnings per share.

Fifth hypothesis: There is a significant relationship between gender diversity in the Board and stock returns.

4. Research Method:

4-1 Data Collection Method:

The data collection method was exclusion. Thus, all companies within the population that had the following conditions were considered as the sample members, otherwise they were excluded:

1. The company has no changes in the financial year and activities from 2007 to 2010.
2. The required financial information is available, especially notes with financial statements.
3. They are not investment, holding, banking, brokerage, and leasing companies.
4. The company has not had trading halts in the study period.

Thus, 111 companies were selected among total listed companies.

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4-2 Hypothesis Test:

To test the hypotheses, using the correlation coefficient test, we first determine the correlation between the independent variable and each dependent variable. Then, using the P-value for the desired significance level, we determine whether there is a relationship between the independent and dependent variables. Moreover, t-test is performed to determine the significance of the regression slope line. The F test is performed to determine the significance of the whole regression model. The R^2determination factor for the goodness of fit test and also the analysis of residuals and descriptive statistics are among statistical functions used in this study.

4-3 Operational Definition of Variables:

Independent variable:

Gender diversity in the Board: This variable represents the number of female members in the Board of companies.

Dependent variable:

1- Return on assets:

ROA = Net income before extraordinary items / assets

2- Return on equity:

ROE = Net income before extraordinary items / equity

3- Profit margin:

PM = Net income before extraordinary items / sales

4- Earnings per share:

EPS = Net profit / number of shares

5- Stock returns:

Common stock returns=

$$\frac{\text{Market value of the company at the end of the year} - \text{Market value of the company at the beginning of the year} + \text{Approved earnings of shares} - \text{Capital increase in cash and demands}}{\text{Market value of the company}}$$

5- Testing hypotheses and results

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We first performed descriptive statistics on all data. The results are shown in Table 5-1.

Table 5-1: Descriptive statistics of the data

ROA	ROE	PM	EPS	RET	FS	
0.12	0.38	0.17	.008	0.07	13.13	Average
0.10	0.34	0.13	.006	0.04	13.03	Median
0.09	0.25	0.13	.008	0.36	1.44	SD
-0.08	-0.60	-0.07	-0.01	-0.77	9.80	Min
0.43	1.18	0.59	0.04	0.90	18.58	Max

1. First hypothesis: There is a significant relationship between gender diversity in the Board and return on assets.

$ROA = \alpha + \beta_1 GD + \beta_2 FS + £_i$

In this model, ROA is return on assets, GD is gender diversity, FS is firm size and £is error.

Table 5-2: Correlation coefficients in the first hypothesis

Probability Value	Beta coefficient	Constant factor, independent variable and control variables	Dependent variable
0.002	0.133	Constant coefficient	Return on assets
0.735	-0.007	Gender diversity	
0.931	0.000	Firm size	

According to above table, gender diversity with a beta coefficient of -0.007 and a P-value of 0.735 has no significant relationship with ROA at the 5% error level. Thus, the first research hypothesis is rejected. In this hypothesis, firm size has no significant relationship with ROA.

2. Second hypothesis: There is a significant relationship between gender diversity in the Board and return on equity.

$ROA = \alpha + \beta_1 GD + \beta_2 FS + £_i$

In this model, ROA is return on assets, GD is gender diversity, FS is firm size and £is error.

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Table 5-3: Correlation coefficients in the second hypothesis

Probability Value	Beta coefficient	Constant factor, independent variable and control variables	Dependent variable
0.016	0.267	Constant coefficient	Return on assets
0.610	-0.029	Gender diversity	
0.274	0.009	Firm size	

According to above table, gender diversity with a beta coefficient of -0.029 and a P-value of 0.610 has no significant relationship with return on equity at the 5% error level. Thus, the second research hypothesis is rejected. In this hypothesis, firm size has no significant relationship with return on equity.

3. First hypothesis: There is a significant relationship between gender diversity in the Board and profit margin.

$ROA = \alpha + \beta_1 GD + \beta_2 FS + £_i$

In this model, ROA is return on assets, GD is gender diversity, FS is firm size and £is error.

Table 5-4: Correlation coefficients in the third hypothesis

Probability Value	Beta coefficient	Constant factor, independent variable and control variables	Dependent variable
0.298	0.064	Constant coefficient	Return on assets
0.724	-0.011	Gender diversity	
0.072	0.008	Firm size	

According to above table, gender diversity with a beta coefficient of -0.011and a P-value of 0.724 has no significant relationship with profit margin at the 5% error level. Thus, the third research hypothesis is rejected. In this hypothesis, firm size has no significant relationship with profit margin.

4. Fourth hypothesis: There is a significant relationship between gender diversity in the Board and earnings per share.

$ROA = \alpha + \beta_1 GD + \beta_2 FS + £_i$

In this model, ROA is return on assets, GD is gender diversity, FS is firm size and £is error.

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Table 5-5: Correlation coefficients in the fourth hypothesis

Probability Value	Beta coefficient	Constant factor, independent variable and control variables	Dependent variable
0.925	0.000	Constant coefficient	Return on assets
0.514	0.001	Gender diversity	
0.010	0.001	Firm size	

According to above table, gender diversity with a beta coefficient of -0.001 and a P-value of 0.514 has no significant relationship with earnings per share at the 5% error level. Thus, the fourth research hypothesis is rejected. In this hypothesis, firm size has no significant relationship with earnings per share.

5. Sixth hypothesis: There is a significant relationship between gender diversity in the Board and stock returns.

$ROA = \alpha + \beta_1 GD + \beta_2 FS + £_i$

In this model, ROA is return on assets, GD is gender diversity, FS is firm size and £is error.

Table 5-6: Correlation coefficients in the sixth hypothesis

Probability Value	Beta coefficient	Constant factor, independent variable and control variables	Dependent variable
0.221	0.194	Constant coefficient	Return on assets
0.002	0.255	Gender diversity	
0.379	-0.010	Firm size	

According to above table, gender diversity with a beta coefficient of -0.255and a P-value of 0.002 has no significant relationship with stock returns at the 5% error level. Thus, the sixth research hypothesis is rejected. In this hypothesis, firm size has no significant relationship with stock returns.

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