



## Impact of Presence of Women in the Board on the Weakness of Internal Control

**Sahar Sepasi**

Associate Professor, Faculty of Management & Economics, Tarbiat Modares University, Tehran, Iran.  
(Corresponding author)  
sepasi@modares.ac.ir

**Mahya Rezayat**

MSc Accounting, Tarbiat Modares University, Tehran, Iran.

### ABSTRACT

The board of directors is the head of the supervisor and controller in the organization's system. Since the emergence of widespread changes in the business environment has led organizations to take advantage of diverse specializations and skills, changing the composition of the board and the diversity of vision and perceptual skills in their composition has doubled.

One of the indicators of diversity in the composition of the board of directors is the ratio of the presence of women in the composition of the board of directors. In this paper, the relationship between the presence of women in the board of directors and the weakness of internal control is examined. The required information from the financial statements and the report of the board of directors of 64 companies listed in Tehran Stock Exchange during the period 2012 to 2015 has been collected. To test the research hypothesis, logistic regression has been used Eviews software. The results of the research show that the presence of women in the board has a negative effect on the weakness of internal control. With the increasing presence of women in the board of directors, the company's internal control system is less vulnerable.

### Keywords:

Gender, Board of Directors, Women, Internal Control.



## 1. Introduction

Following the disclosure of widespread fraud in a number of large and reputable companies in the world, such as Enron and Worldcoms, the importance of internal procedures and controls has increased. The Sarbanes-Oxley law has therefore made senior corporate executives responsible for designing and implementing an internal control system. Managers of institutions and organizations pay close attention to internal control systems because managers know well that in the absence of an effective internal control system to realize the core mission of the company, maintaining profitability and minimizing unexpected events is very difficult. The control system is a tool that enables them to be more confident in the figures and accounting information and to base their numbers and information on their decisions, and also assures them that the proper financial and administrative systems and procedures within His institution is fully implemented.

Internal controls were considered as one of the most effective tools for responding to this demand. Effective internal controls are an important means of ensuring the preservation of investors' resources and effective and efficient guidance of economic units. The existence of effective internal controls, on the one hand, ensures the interests of investors are preserved and, in other words, are considered as a regulatory tool and, on the other hand, as an important management tool for managing participation in operational efficiency and operational effectiveness As well as studying their intended purposes. In accordance with the 404 Sarbanes-Auccile Act of 2002, the auditor should give his opinion on the effectiveness of the internal control over financial reporting (ICFR).internal controls that govern financial reporting are company policies and methods designed to ensure that the company has provided trusted financial statements. If auditor finds inadequate and incorrect internal control of the company, declares it to be a weakness. Researchers have identified factors that have an impact on auditors' opinions and are considered to be a weakness. Given the literature available, smaller and younger firms, financially disadvantaged companies, and more complex companies are more likely to have weaknesses in internal controls.IN addition, certain aspects of the corporate governance of a company, including institutional ownership, auditor selection and the

independence of the audit committee, may cause weaknesses in internal control.

Board of directors is the head of the organization's supervisory and controlling system. Therefore, some of the visible features of the board members may be related to the quality of internal control.IN this study, we focus on the gender of the board members, because there is a significant difference in the behavioral characteristics of men and women. For example, recent studies in the economy show that men tend to be more competitive than women (Niedel & Westerland, 2007). Men are also self-reliant in investment decisions (Barber and Edin, 2001), women are less risk averse (Beckman and Munkoff, 2008; Baluchi et al., 2010). Also, they are more inclined to discuss hard issues, and they are less optimistic and financially more conservative, better controlled, less opportunistic. It can be expected that in companies where women are on board, they are less likely to suffer from internal control weaknesses.

In the context of the company's board of directors, Adams and Ferreira (2009) provided reasonable evidence that the presence of female members of the board would improve the control. They found that the members of the board of directors are more likely to serve on the supervisory committee, and the company's turnover is more sensitive to the stock performance of companies with members of the board of directors. Finally, there is considerable evidence that gender diversity in the board is debatable (Clark, 2005).

This research has been conducted with the motivation to increase women on the board. However, there is concern that companies may add women to the board only to reduce criticism. This research attempts to explore the impact of female managers on the weaknesses of internal control over financial statements.

In the following, theoretical foundations and research background, hypotheses, methodology and research findings are presented. The final section is dedicated to the conclusion and submission of research suggestions.

## 2. Literature Review

### 2.1. Internal control over financial reporting

Internal controls are one of the many mechanisms that business units use to control the representation

problem. (Durantz et al., 2009) Companies have an incentive to report internal control, and studies have shown that internal control reduces the cost of representing. . These findings are based on the assumption that the provision of additional information for employers (shareholders) on the behavior of the agent (management) of information asymmetry and investor risk reduces and this leads to a reduction in the cost of capital. (Maurice, 2009).

The first goal of the internal control system of the organization is to provide reasonable assurance to the executive management that the goals for the operations and programs have been achieved. Internal auditors seeks to evaluate operational inefficiencies and design controls, and determine the extent to which managers can reasonably be expected to achieve the organization's goals. To achieve most of the important goals, the use of internal controls is inevitable. For this reason, the demand for a better and better internal control system and its performance report is constantly increasing. . More precisely, it can be concluded that internal control is a useful tool for solving many potential problems (Baltasi & Yilmaz, 2006).

Effective internal controls ensure that the business unit can achieve its goals. To achieve this, it must be ensured that internal control reports are reliable. This includes effective compliance with the company's laws and regulations and policies and commitments (Hasas Yeganeh, 2006).

Most management decisions are based on the accounting system based on financial information, the existence of a strong internal control system provides management with the ability to rely on accounting information that is the basis for such decisions Also, strong internal control over the way auditors conduct is also influential. As much internal controls are strong, the risk of distortion is diminished, and consequently the audit risk is reduced. Some standards indicate that an auditor's assessment of inherent risk may affect the auditor's perception of the controller's control structure and, as a result, an auditor's assessment of the risk of control (Hajji, 2010).

In 1941, the Securities and Exchange Commission (SEC) required auditors to consider internal control during an audit (SEC, 1941). However, Section 404 of the Sarbanes-Oxley Act of 2002 (SOX) obliged auditors to comment on the effectiveness of the internal control over financial reporting (ICFR). The purpose of the internal control report is to issue a

warning to the shareholders that the accounting system of the company may provide incorrect financial information (PCAOB, 2007). The internal control over financial reporting is important because companies report financial reporting as a disclosure tool to provide information sharing to shareholders such as investors and creditors, from which to assess investment risk and decision making on resource allocation, As well as the evaluation of senior management's performance (Beer et al., 2010).

Section 404 of the Saran's Axle Act has increased the importance of ensuring the high quality of internal controls and the importance of exchanging information on the weakness of controls in the capital market.

According to Section 404 of Sarbanes Aksley, management should provide a report on the effectiveness of internal controls for financial reporting and the independent auditor should also submit a report containing statements about the effectiveness of internal controls for financial reporting. If the auditor and the management conclude that there is a significant weakness, there are suggestions from the auditor that indicate the nature of weaknesses with the importance of internal controls.

Accounting scholars have identified some of the weaknesses of internal controls. Evidence suggests that the weakness of internal control has weakened the quality of financial reporting (Ashbaugh-Skieff et al., 2008), Investment is less efficient (Cheng et al., 2013), and business becomes more difficult (Skieff et al. 2013). According to the results, identifying the factors that lead to weak internal controls is very important.

## **2.2. The presence of women in the board**

Since women always account for less than or equal to half of the members of society, it is expected that this potentially powerful force, with its actual participation in diverse economic, political, social and cultural activities, will bring the wheels of society Along with men, they moved But in the course of history, opportunities and facilities for women have not been distributed in a way that can easily be matched by men on the scene of the community and, indeed, without any sexual limitation, will play their worthy roles.

There is a significant difference in the behavioral characteristics of women and men. Nigel and Westland (2007) showed that men tend to compete more than women. Similarly, there is remarkable evidence that

women are more likely to be in financial decision-making than men (Beckman and Mankov, 2008). Barber and Odean (2001) found that men account for 45% more women than women, but gain lower returns because men are self-reliant and proud. Huang and Kissen (2013) reported that female executives tend to have lower debt than men, with wider ranges of income forecasts. Adams and Ferreira (2009) showed that women's board members have a better record of male managers and that female members of the board are more likely to join supervisory committees such as the audit committee or rewards committee. Finally, the two researchers found that when more members of the board were women, corporate turnover was more sensitive to stock performance. In sum, evidence in their research suggests that women have more effective control. The difference between men and women shows that the growing trend of female managers in the board of directors will have a significant impact on corporate decision-making processes (Catalyst, 2004; Rose, 2007).

Ray (2005) observed that on a more diverse board, it is more likely that managers (i) critically examine the views of others for different perspectives (ii) consider interactions and discuss disputes through discussion. In addition, he believes that there is less false confidence in a more diverse board of directors. Female executives differ in their decision-making styles, which they may require from different men more senior management information (Billimuria 2000).

Evidence suggests that the presence of women leads to a higher quality of accruals (Servei et al., 2011). Reducing the number of accounts is reduced (Abubt et al., 2012). Members of the board of directors use higher-quality disclosure as a monitoring mechanism to supervise senior management (Seringhi, 2011). Further evidence can be found in Flower and colleagues research (2013), which shows that the Board of Directors has a positive correlation with more accurate prediction of the gender analyst and has a negative relationship with predictive dispersion.

### 2.3. Background

Bluta (2017) using the theory of social role and feminist ethics, argued that the gender diversity of the board of directors and the number of women on the board had an impact on corporate social performance. The statistical sample consists of 126 companies over

a period of 5 years. This study showed that gender diversity significantly affects the company's social performance.

Sepasi and Abdoli (2016) examined the effects of the presence of women in the board of directors on the company's value and financial performance. In this research, using a multivariate regression model, the effect of women on the board is estimated on the company's value and financial performance of the company. There was no direct evidence that the presence of a female delegate on the board directly affects the value of the company. However, indirect effects have been found, so that women in the board of directors have a positive impact on financial performance (measured by asset yields and sales), which generally indicates that women in the board, the board affects financial performance (which in turn is related to the value of the company) and thereby affects the value of the company.

Sepasi and Abdoli (2016) examined the gender impact of senior executives on conditional conservatism. This research examines the interpersonal relationship between senior executives of the company (at the level of the board of directors and management) and conditional worker protection. The required information from the financial statements of 136 companies listed in the Tehran Stock Exchange was collected during the years 2006 to 2013. To test the hypothesis of the research, multivariate regression has been used using combination data. The results of the research show that in companies with a member of the board of directors or female manager, in comparison with companies with senior male executives, conditional protective bookkeeping is higher; in other words, women detect bad news in reported earnings faster.

Gorkes and Biabani (2014) examined the relationship between the presence of female managers in the board of directors and the performance of companies admitted to the Tehran Stock Exchange. They examined 114 companies using Cochran sampling from 2007 to 2011. Findings of the research indicate that the presence of female managers on the board has a positive and significant relationship with return on equity and equity returns, and there is no significant relationship with Q Tobin's ratio and sales.

Balcem et al. (2012) conducted a research on equity incentives and internal control weaknesses. They looked at how the effect of financial incentives

for stock ownership prompts executives to maintain strong internal control in the company. The results of this study indicate that most internal control weaknesses at the company level are strongly limited by incentives provided by shareholders, but these weaknesses are more relevant to the motivations of managers.

Ferdinand et al. (2011) examined whether gender diversity in the board of directors affects the value of stock prices. They showed that companies with gender diversity in the board of directors provide more specific information than corporate governance, quality of profit and institutional ownership. Gender diversity in the board as an alternative mechanism for poor management companies. The researchers found that there was a positive and significant relationship between the board's gender diversity and the value of stock prices.

Nicholas et al. (2003) examined the relationship between the board's gender diversity and firm's financial performance. They reviewed the data on financial performance (return on equity and equity) and the percentage of women in the board of directors from 1993 to 1998. Using correlation analysis and regression analysis, gender diversity of the board has a positive relationship with the financial performance indicators of the company.

Zarei (2002) investigated a descriptive analytical study of weaknesses in internal controls of Iranian joint stock companies, with a minimum of 10 years of activity from the standpoint of an independent auditor. The results of the research indicate weaknesses with the importance of internal controls in a part of the companies under review.

Such failures can lead to inefficiencies, unplanned, embezzlement, collusion, and other structural and functional problems for companies. Accordingly, it is imperative that corporate executives urgently take action to review and formulate proper internal control structures in order to achieve organizational goals.

### 3. Methodology

Gender diversity the board has a unique impact on internal control weaknesses. Women have less opportunistic behavior than men. Kaplan et al. (2009) found that women are more likely to report fraud. To a degree, weak internal controls give senior management the chance to have opportunistic behavior (Epps & Gutter, 2010). We expect a company with a gender

diversity board to have stronger internal controls. . Second, women are more risk averse than men (Barber and Odean, 2001), weak internal controls have a negative relationship with market responses (Benish et al., 2008), and their companies and managers may be at risk of investment and risk of credit risk More (Cheng et al, 2013). We expect female managers to pay more attention to internal control quality in order to prevent the negative effect of weakness and internal control disruption on their personal credentials. Finally, past literature has shown that female managers are better controllers. Adams and Freerah (2009) found that female managers are more likely to join supervisory committees such as the audit committee and have better records of attendance. . Women do not want to ask hard questions. While men want to show that they understand everything (Conrad et al., 2008). Hence, female executives may be more likely to find clues for potential problems than men. Female managers talk more about issues that are unpleasant for male managers.

**Hypothesis:** There is a negative relationship between the presence of women on the board and the likelihood of weakness in internal control.

This research is in terms of the purpose of an applied research. On the other hand, based on how data is collected, it is a descriptive research type. The present research studies the relationships between variables and seeks to prove the existence of this relationship in the current situation based on historical data. Therefore, it can be categorized as causal event. Collected data was calculated using Excel software and then the desired variables were calculated. Statistical calculations and estimates were made using Eviews software.

All companies accepted in Tehran Stock Exchange during the period 2012 to 2015. To select a sample, among all the companies listed in the Tehran Stock Exchange, the companies that have the following conditions were selected for the test:

- 1) The financial information of the company is available for the research period
- 2) Their fiscal year ends at the end of March.
- 3) The investment company is not financial intermediary or insurance.
- 4) Did not change the course during the period under review.

- 5) Companies that have at least one weakness in internal control during the period under review.

Therefore, after applying the above limitations and following the sampling of the total company accepted in the stock exchange, 64 companies were selected as the statistical sample.

#### Model and research variables

Logical regression has been used to test whether the presence of women on the board reduces the internal control weakness.

$$\Pr(\text{WEAK}_{it} = 1) = \alpha_0 + \alpha_1 \text{FEM}_{it} + \alpha_2 \text{MERGER}_{it} + \alpha_3 \text{SG}_{it} + \alpha_4 \text{INVT}_{it} + \alpha_5 \text{SIZE}_{it} + \alpha_6 \text{LOSS}_{it} + \alpha_7 \text{RESTATE}_{it-1} + \alpha_8 \text{BIG4}_{it} + \alpha_9 \text{MIDTIER}_{it} + \alpha_{10} \text{BDSIZE}_{it} + \alpha_{11} \text{ACSIZE}_{it} + \alpha_{12} \text{ACE}_{it} + \alpha_{13} \text{INSTOWN}_{it} + \alpha_{14} \text{AFEE}_{it} + \varepsilon_{it}$$

Table 1 contains the exact definitions of variables. The index *i* and *t* represent the company and the fiscal year. The dependent variable is a weak weakness, if the auditor exposes a weakness to the internal control of the financial statement for company *i* in year *t*, it is equal to one, and otherwise it is zero.

**Table 1: Definitions of research variables**

| variable defining   | variable | Type of variable       |
|---|----------|------------------------|
| If all members of the independent audit committee have at least one member with financial expertise, it is equal to 1, otherwise it is 0. | ACE      | Control variable       |
| The natural logarithm of audit fees   | AFEE     | Control variable       |
| Number of directors on board  | BDSIZE   | Control variable       |
| If the auditor is a member of one of the grade A audit firms, according to the Stock Exchange, the value of 1 is otherwise equal to 0.    | BIG4     | Control variable       |
| If the board includes at least one female member, it is equal to 1, otherwise 0   | FEM_DUM  | independent variable   |
| If the board includes at least one female member and does not belong to the audit committee, it is equal to 1, otherwise 0                | FEM_DUM2 | independent variable   |
| Percentage of board members who are women.  | FEM_PCT  | independent variable   |
| The percentage of board members who are women and not members of the audit committee.   | FEM_PCT2 | independent variable   |
| Percentage of shares owned by institutional investors   | INSTOWN  | Control variable       |
| Goods inventory (INVT) divided by total assets (AT).  | INVT     | Control variable       |
| If the company's net income report (NI) is equal to 1, otherwise 0  | LOSS     | Control variable       |
| If the company buys a year (AQS) is equal to 1, otherwise 0   | MERGER   | Control variable       |
| If the company is audited by an average auditor, it is equal to 1, otherwise 0  | MIDTIER  | Control variable       |
| If the company has submitted a renewal, it is equal to 1, otherwise 0.  | RESTATE  | Control variable       |
| Return on assets, Net profit divided by total assets  | ROA      | Control variable       |
| Percentage change in annual sales growth  | SG       | Control variable       |
| Natural logarithm of total customer assets (AT).  | SIZE     | Control variable       |
| If the auditor issues a weakness in internal control in the fiscal year <i>t</i> , it will equal 1, otherwise 0.                          | WEAK     | The dependent variable |

Source: Research findings

## 4. Results

Information about the proportion of female members of the board of directors and the weakness of the internal control of the companies examined are given in Table 2.

In Table 3, central indicators such as mean and median and dispersion indices such as standard deviation, elongation and skewness are calculated for different variables. The large average of the middle shows the existence of large points in the data, since

the average is affected by these values. In these cases, the data is distributed to the right, and in the opposite case, and in some cases, the left hand is tight.

If the values of the average and the middle variables are close, the distribution of variables is symmetric. This property is important because symmetry is one of the norms of distribution. Therefore, the AFEE and INSTOWN variables are respectively average and middle (20/086, 20/085) and (0/799, 0/822) respectively. The value of the oscillation of the dependent variable is -1/744.

Negative skewness is when the mean of the middle and faces is smaller. Therefore, the majority of companies in case study have weaknesses in the internal control system.

Table 4 shows the results of Pearson correlation test for all variables in the research, in which values highlighting and significant at 95% level are highlighted.

As shown in Table 4, all the indicators related to the presence of women in the board of directors (FEM\_PCT, FEM\_DUM, FEM\_PCT2, FEM\_DUM2) and the weakness variable in the internal control system (WEAK) were significant in the 95% correlation with the inverse correlation with each other

It can be hoped that the presence of women in the board of directors of the companies can help resolve the weaknesses in their internal control. A remarkable

point to be drawn from Table 4 is that all the indicators related to the presence of women in the board of directors (FEM\_PCT, FEM\_DUM, FEM\_PCT2, FEM\_DUM2) and the company size variable (SIZE) also have a significant correlation Reverse. Panel analysis.

In panel analysis, the data are collected in a cross-sectional fashion That is, the data collected for different sections (here companies) over time. In the data thus collected, the independence of the observation is not maintained because each company has repeatedly observed observations that are interdependent (because they belong to one company).

In the panel analysis discussions, there are three types of fixed-effects models with fixed effects and random effects that are used to test the appropriate model.

**Table 2: Female and female members with weak internal control**

| Fiscal year | Percentage of the Board of Directors | Companies with at least one member of the board of directors | Companies with weak internal control |
|-------------|--------------------------------------|--|--------------------------------------|
| 2012        | 1.89%                                | 7.40%  | 72.20%                               |
| 2013        | %1                                   | 5.55%  | 88.89%                               |
| 2014        | 1.85%                                | 9.21%  | 90.74%                               |
| 2015        | 2.96%                                | 11.24%   | %75.95                               |

**Table 3: Descriptive Statistics for Research Variables**

| Variable | average | middle | min   | max   | skewness | Elongation | The standard deviation |
|----------|---------|--------|-------|-------|----------|------------|------------------------|
| ACE      | 0.0925  | 0      | 0     | 1     | 2/811    | 8/9020     | 0/2905                 |
| AFEE     | 20.0858 | 20/085 | 9/82  | 23/06 | -5/0233  | 59/7539    | 0/9712                 |
| BDSIZE   | 4.9768  | 5      | 0     | 5     | -14/5946 | 214/0047   | 0/3402                 |
| BIG4     | 0.4444  | 0      | 0     | 1     | 0/2236   | 1/05       | 0/4980                 |
| MERGER   | 0.9862  | 1      | 0.01  | 1     | -8/3074  | 70/014     | 0/1161                 |
| FEM_DUM  | 0.0925  | 0      | 0     | 1     | 2/811    | 8/9020     | 0/2905                 |
| FEM_DUM2 | 0.0925  | 0      | 0     | 1     | 2/811    | 8/9020     | 0/2905                 |
| FEM_PCT  | 0.0203  | 0      | 0     | 0/6   | 4/2606   | 26/9967    | 0/0692                 |
| FEM_PCT2 | 0.0203  | 0      | 0     | 0/6   | 4/2606   | 26/9967    | 0/0692                 |
| INSTOWN  | 0.7999  | 0/82   | 0/1   | 1     | -1/4337  | 6/6050     | 0/1332                 |
| INVT     | 0.2461  | 0/2375 | 0     | 1/53  | 2/2399   | 16/7355    | 0/1696                 |
| LOSS     | 0.1759  | 0      | 0     | 1     | 1/7022   | 3/8976     | 0/3816                 |
| MIDTIER  | 0.4907  | 0      | 0     | 1     | 0/037    | 1/0013     | 0/5010                 |
| RESTATE  | 0.6759  | 1      | 0     | 1     | -0/7517  | 1/5651     | 0/4691                 |
| ROA      | 0.3657  | 0/07   | -0/33 | 57/08 | 14/5636  | 213/4016   | 3/8795                 |
| SG       | 0.2151  | 0/13   | -2/48 | 5/67  | 4/0842   | 31/9674    | 0/7101                 |
| SIZE     | 38.8350 | 27/455 | 0/26  | 2496  | 14/5865  | 213/848    | 167/9973               |
| WEAK     | 0.8287  | 1      | 0     | 1     | -1/7448  | 4/0445     | 0/3776                 |

**Table 4: Pearson Correlation Results**

|          | ACE     | AFEE    | BDSIZE  | BIGA    | BUY     | FEM_DUM | FEM_DUM2 | FEM_PCT | FEM_PCT2 |
|----------|---------|---------|---------|---------|---------|---------|----------|---------|----------|
| ACE      | 1       |         |         |         |         |         |          |         |          |
| AFEE     | 0/032   | 1       |         |         |         |         |          |         |          |
| BDSIZE   | 0/0217  | 0/0232  | 1       |         |         |         |          |         |          |
| BIGA     | 0/1     | 0/1489  | 0/0609  | 1       |         |         |          |         |          |
| BUY      | 0/0379  | 0/0664  | -0/008  | 0/0265  | 1       |         |          |         |          |
| FEM_DUM  | -0/1020 | -0/0999 | 0/0217  | -0/2214 | 0/0379  | 1       |          |         |          |
| FEM_DUM2 | -0/1020 | -0/0999 | 0/0217  | -0/2214 | 0/0379  | 0/9232  | 1        |         |          |
| FEM_PCT  | -0/0942 | -0/0840 | 0/0201  | -0/2098 | 0/035   | 0/9232  | 0/9232   | 1       |          |
| FEM_PCT2 | -0/0942 | -0/0840 | 0/0201  | -0/2098 | 0/035   | 0/9232  | 0/9232   | -0/0188 | 1        |
| INSTOWN  | 0/0420  | -0/0227 | -0/0893 | -0/0148 | -0/0923 | -0/0313 | -0/0313  | -0/0188 | -0/0188  |
| INVT     | -0/0362 | 0/1219  | 0/0852  | -0/1676 | 0/0094  | -0/1520 | -0/1520  | -0/1444 | -0/01444 |
| LOSS     | 0/0621  | -0/0063 | -0/1476 | 0/1005  | -0/0490 | -0/0217 | -0/0217  | 0/0397  | 0/0397   |
| MIDTIER  | -0/0579 | -0/1881 | -0/0694 | -0/8221 | -0/0417 | 0/2615  | 0/2615   | 0/2468  | 0/2468   |
| RESTATE  | -0/0518 | 0/0646  | 0/0984  | -0/1172 | -0/0821 | -0/0859 | -0/0859  | -0/0535 | -0/0535  |
| ROA      | -0/0157 | 0/0282  | 0/0043  | 0/0766  | 0/0031  | -0/0244 | -0/0244  | -0/0233 | -0/0233  |
| SG       | -0/0737 | -0/0724 | 0/0697  | -0/0281 | -0/1063 | -0/038  | -0/038   | -0/0638 | -0/0638  |
| SIZE     | -0/0199 | -0/0578 | 0/0062  | -0/0601 | 0/0094  | -0/0227 | -0/0227  | -0/021  | -0/0209  |
| WEAK     | -0/0243 | 0/0709  | 0/1500  | 0/1099  | -0/0539 | -0/2362 | -0/2362  | -0/1861 | -0/1861  |
|          | INSTOWN | INVT    | LOSS    | MIDTIER | RESTATE | ROA     | SG       | SIZE    | WEAK     |
| INVT     | 0/1017  | 1       |         |         |         |         |          |         |          |
| LOSS     | 0/0063  | 0/0013  | 1       |         |         |         |          |         |          |
| MIDTIER  | 0/0215  | 0/0683  | -0/0887 | 1       |         |         |          |         |          |
| RESTATE  | 0/109   | 0/164   | -0/0178 | 0/0465  | 1       |         |          |         |          |
| ROA      | 0/0748  | -0/0669 | -0/0482 | -0/0657 | -0/0961 | 1       |          |         |          |
| SG       | -0/0152 | -0/0687 | -0/2351 | 0/055   | 0/155   | -0/0045 | 1        |         |          |
| SIZE     | 0/0355  | -0/044  | -0/0306 | 0/0659  | 0/0498  | -0/0066 | 0/2221   | 1       |          |
| WEAK     | -0/0949 | -0/0783 | 0/0809  | -0/1436 | 0/0527  | 0/0288  | 0/083    | 0/0317  | 1        |

The process of choosing the right model is as follows:  
 The first step: the effects are tested against the no-effect model (Limer or Chow test).

At this stage, the assumptions are as follow:

**H<sub>0</sub>**: The integrated model is suitable

**H<sub>1</sub>**: The model is suited to the effects

If the probability value for the test is less than 0.05, then the assumption zero is rejected at the 95% confidence level. a model with a fixed or random effect is appropriate; otherwise, the zero assumption is not rejected at the 95% confidence level, that is, the merged model is appropriate.

Second stage: A model with random effects versus a model with constant effects is tested (Hausman test). If the model used is a model with effects, then the next question is whether the model is suitable with fixed effects or model with random effects? To answer this

question, the model has been tested with random effects versus fixed-effect models using the Hausman test.

The assumption of zero and the opposite assumption in this test is as follows:

**H<sub>0</sub>**: The model is suitable for random effects

**H<sub>1</sub>**: A model with fixed effects is appropriate

If the probability value for the test is less than 0.05, then the assumption is zero at the 95% confidence level That is, a model with stable effects is appropriate. Otherwise, the zero assumption is not rejected at the 95% confidence level, that is, the model is suitable with random effects.

**Table 5: Chow test to select the Appropriate Model**

| Chow or Limer test |         |         |             | Result                |
|--------------------|---------|---------|-------------|-----------------------|
| Effect test        | Effect  | D.F.    | Probability |                       |
| Quantity F         | 0/902   | 40/841- | 0/759       | Model without effects |
| Quantity Qi        | 117/197 | 40      | 0/555       |                       |

The probability value of the chow test in the table above is greater than 0.05. This value is equal to 0.759, since this value is greater than 0.05. Therefore, the zero assumption is not rejected. Given that the model has no effect, then it is no longer necessary to carry out the Hausman test.

Therefore, based on the hybrid model, the results of the regression test of the research variables are investigated. Tables 6 and 7 show the results of the regression test of the research variables. In four cases, by selecting the variables of the percentage of members of the board of directors (FEM-PCT), the number of board members with a female member (FEM\_DUM), the percentage of non-member women's board members in the audit committee (FEM\_PCT2) and the board of at least one non-member woman in the audit committee (FEM\_DUM2) as an indicator. The number of women members of the board of

directors of companies has been compared in terms of four regression tests in pair. In the second case, all variables except for RESTATE, ROA, and SIZE are significant. However, the coefficient of determination of the tests of the first and second states is 11.1% and 13.1%, respectively, at 95% significance level.

The negative and important coefficients of the presence of women in the board of directors in both cases indicate a negative effect on the weakness of the internal control of the companies. As the presence of women in the board of directors of companies can be claimed, the control system internally, companies are less vulnerable.

In Table 7, the results of the regression test of the research variables in the third and fourth modes have shown that the observations indicate that there is no difference between the third and fourth state indicators with the first and second modes.

**Table 6: Regression Test for First and Second Stat Variables**

| The Dependent Variable: WEAK     |                   |             |             |             |             |
|----------------------------------|-------------------|-------------|-------------|-------------|-------------|
| Variables                        | the mark Forecast | (1)         |             | (2)         |             |
|                                  |                   | Coefficient | probability | Coefficient | probability |
| FEM_PCT                          | -                 | -1/0426     | 0/0000      |             |             |
| FEM_DUM                          | -                 |             |             | -0/3155     | 0/0000      |
| AFEE                             | +                 | 0/0147      | 0/0005      | 0/0144      | 0/0006      |
| ACE                              | -                 | -0/0620     | 0/0064      | -0/0697     | 0/0019      |
| BDSIZE                           | +                 | 0/1658      | 0/0000      | 0/1711      | 0/0000      |
| BIGA                             | -                 | -0/0572     | 0/0155      | -0/0604     | 0/0098      |
| INSTOWN                          | -                 | -0/2280     | 0/0000      | -0/2293     | 0/0000      |
| INVT                             | -                 | -0/2695     | 0/0000      | -0/2909     | 0/0000      |
| LOSS                             | +                 | 0/1294      | 0/0000      | 0/1191      | 0/0000      |
| MIDTIER                          | -                 | -0/0966     | 0/0000      | -0/0868     | 0/0001      |
| RESTATE                          | +                 | 0/0322      | 0/0264      | 0/0233      | 0/1053      |
| ROA                              | +                 | 0/0027      | 0/1123      | 0/0024      | 0/1454      |
| SG                               | +                 | 0/0406      | 0/0000      | 0/0409      | 0/0000      |
| SIZE                             | +                 | 0/0000      | 0/4114      | 0/0000      | 0/5145      |
| The coefficient of determination |                   | 0/4998      |             | 0/5012      |             |
| observations                     |                   | 3024        |             | 3024        |             |
| Watson Camera                    |                   | 1/7680      |             | 1/784       |             |

**Table 7: Regression Test for Third and Fourth Stat Variables**

| The Dependent Variable: WEAK     |                   |             |             |             |             |
|----------------------------------|-------------------|-------------|-------------|-------------|-------------|
| Variables                        | the mark Forecast | (1)         |             | (2)         |             |
|                                  |                   | Coefficient | probability | Coefficient | probability |
| FEM_PCT2                         | -                 | -1/0427     | 0/0000      |             |             |
| FEM_DUM                          | -                 |             |             | -0/2224     | 0/0001      |
| AFEE                             | +                 | 0/0148      | 0/0005      | 0/0004      | 0/0006      |
| ACE                              | -                 | -0/0620     | 0/0026      | -0/0441     | 0/0006      |
| BDSIZE                           | +                 | 0/1658      | 020/0       | 0/0006      | 0/0000      |
| BIGA                             | -                 | -0/0572     | 0/0019      | -0/0500     | 0/0080      |
| INSTOWN                          | -                 | -0/2280     | 0010/       | -0/3132     | 0/0002      |
| INVT                             | -                 | 3-0/695     | 0/0000      | -0/4120     | 0/0009      |
| LOSS                             | +                 | 0/1294      | 0/0000      | 0/2260      | 0/0010      |
| MIDTIER                          | -                 | -0/0966     | 0/0000      | 0/0604      | 0/0001      |
| RESTATE                          | +                 | 0/0455      | 0/0014      | 0/0444      | 0/0256      |
| ROA                              | +                 | 0/0034      | 0/0012      | 0/0030      | 0/0527      |
| SG                               | +                 | 0/0426      | 0/0005      | 0/0603      | 0/0020      |
| SIZE                             | +                 | 0/0000      | 0/2112      | 0/0003      | 0/0063      |
| The coefficient of determination |                   | 0/5230      |             | 0/5362      |             |
| observations                     |                   | 3024        |             | 3024        |             |
| Watson Camera                    |                   | 1/9632      |             | 1/8526      |             |

## 5. Discussions and Conclusions

On the one hand, managers and institutes and organizations pay close attention to internal control, because in the absence of an effective internal control system, realization of the main mission of the company, maintaining profitability and minimizing unexpected events is very difficult and On the other hand, women make up more than half of the members of the community. It is expected that this potentially powerful force, with its actual participation in diverse economic, political, social and cultural activities, will move the wheels of society in sync with men and they will achieve more success. For this reason, the relationship between the presence of women in the board of directors and the weakness of internal control has been investigated in this research. The results of the data analysis are shown using the combined data regression method in companies where women are members of the board of directors, they have less internal control weakness than companies that are men only members of the board of directors. Because women have less opportunistic behavior than men, they are more risk averse than men (Barber & Odean, 2001), In order to prevent the negative effect of weakness and internal control disruption on their

personal credentials, they pay more attention to internal control quality.

According to the results of the research, it is suggested that attention should be paid to the quality of internal control when choosing board members

And since the presence of women in the board reduces the weakness of internal control paying more attention to women in choosing board members. Finally, while the development of our country has focused on women and empowerment, but it should be noted that these programs have been viewed by women as less than managerial. Therefore, it is suggested that in the developmental programs of the country, the category of management development with a gender perspective should be considered in order To create the necessary capacity for women to create managerial posts.

## References

- 1) Abbot, L. J., Parker, S., & Preslry. (2010). Female board presence and the likelihood of financial restatement. *Accounting Horizons*, 26(4), 607-629
- 2) Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance

- and performance. *Journal of Financial Economics*, 94(2), 291–309
- 3) Ashbaugh-Skaife, H., Collins, D. W., & Kinney, W. R., Jr. (2007). The discovery and reporting of internal control deficiencies prior to SOX-mandated audits. *Journal of Accounting and Economics*, 44(1–2), 166–192
  - 4) Balsam, S., Wei jiang., Bo Lu. (2012). Equity in centives ana Internal control weaknesses, November 15, No 48, pp.1-34
  - 5) Baltaci, Mustafa and Serder Yilmaz. (2006). Keeping an eye on sub- national governments: Internal control and audit at local levels, world bank institute, Washington,D.C, PP.1-35
  - 6) Barber, B. M., & Odean, T. (2001). Boys will be boys: Gender, overconfidence, and common stock investment. *The Quarterly Journal of Economics*, 116(1), 261–292
  - 7) Beckmann, D., & Menkhoff, L. (2008). Will women be women? Analyzing the gender difference among financial experts. *Kyklos*, 61(3), 364–384.
  - 8) Bellucci, A., Borisov, A., & Zazzaro, A. (2010). Does gender matter in bank–firm relationships? Evidence from small business lending. *Journal of Banking & Finance*, 34(12), 2968–2984
  - 9) Beneish, M. D., Billings, M. B., & Hodder, L. D. (2008). Internal Control Weaknesses and Information Uncertainty. *The Accounting Review*, 83(3), 665–703.
  - 10) Beyer, A., Cohen, D. A., Lys, T. Z., & Walther, B. R. (2010). The financial reporting environment: Review of the recent literature. *Journal of Accounting and Economics*, 50(2–3), 296–343
  - 11) Bilimoria, D. (2000). Building the business case for women corporate directors. In R. J. Burke, & M. C. Mattis (Eds.), *Women on corporate boards of directors: International challenges and opportunities* (pp. 25–40). Dordrecht, The Netherlands: Kluwer Academic Publishers.
  - 12) Boulouta, Ioanna. (2013). Hidden connections: The link Between Board Gender Diversity and corporate social performance. *Journal of Business Ethics*. 113(2). Pp.185-197
  - 13) Catalyst (2004). *The bottom line: Connecting corporate performance and gender diversity*. Research report sponsored by BMO Financial Group; Catalyst Publication Code D58 (ISBN # 0-89584-244-0).
  - 14) Cheng, M., Dhaliwal, D., & Zhang, Y. (2013). Does investment efficiency improve after the disclosure of material weaknesses in internal control over financial reporting?. *Journal of Accounting and Economics*, 56(1), 1–18..
  - 15) Clarke, C. J. (2005). The XX factor in the boardroom: Why women make better directors. *Directors Monthly*, August, 12–14.
  - 16) Ferdinand A.Gul., Bin Srinidhi, Anthony C.Ng. (2011). Does Board Gender Diversity improve the Informativeness of stock prices, *Journal of accounting and Economics?* 51(3): 314-338
  - 17) Garkaz, M. & Biabani, S.(2014). Impact of Women on Board on Performance, *Accounting and Auditing Science*, 3(12): 63-74.
  - 18) Harjoto, M. A., Laksmana, I., & Lee, R. (2015). The impact of demographic characteristics of CEOs and directors on audit fees and audit delay. *Managerial Auditing Journal*, 30(8/9), 963–997.
  - 19) Hasas Yeganeh, Y., Nataj, T. & Malekshah, Gh.H. (2006). Relation Between Internal Control Reporting and Investors’ Decision Making, *Accounting Studies*, 14: 1-44.
  - 20) Hejazi, R., Rahmani, A. & Bazrafshan A. (2015). Review of Internal Control on Financial Reporting with Audit Committee Emphasis, *Accounting and Auditing Science in Management*, 16: 63-74.
  - 21) Kaplan, S., Pany, K., Samuels, J., & Zhang, J. (2009). An examination of the association between gender and reporting intentions for fraudulent financial reporting. *Journal of Business Ethics*, 87(1), 15–30.
  - 22) Niederle, M., & Vesterlund, L. (2007). Do women shy away from competition? Do men compete too much?. *The Quarterly Journal of Economics*, 122(3), 1067–1101
  - 23) Ray, D. M. (2005). Corporate boards and corporate democracy. *Journal of Corporate Citizenship*, 2005(20), 93–105
  - 24) Rose, C. (2007). Does female board representation influence firm performance? The Danish evidence. *Corporate Governance: An International Review*, 15(2), 404–413.
  - 25) Sepasi, S. Abdoli, L. (2015). Impact of Gender on Conservatism. *Women Social Studies*, 14 (1):129-154
  - 26) Sepasi, S. Abdoli, L. (2015). Impact of women in Board on Companies’ Value and Financial

- Performance. *Financial Accounting and Auditing Studies*, 8 (29):39-58
- 27) Skaife, H. A., Veenman, D., & Wangerin, D. (2013). Internal control over financial reporting and managerial rent extraction: Evidence from the profitability of insider trading. *Journal of Accounting and Economics*, 55(1), 91–110.
- 28) Srinidhi, B., Gul, F. A., & Tsui, J. (2011). Female directors and earnings quality. *Contemporary Accounting Research*, 28(5), 1610–1644.
- 29) Zareii, H. (2002). Analytical Review of Weakness in Internal Control. *Accountant*, 147:19-22.