Journal of Social Sciences and Management Studies ISSN: 2957-8795
https://doi.org/10.56556/jssms.v2i4.742

RESEARCH ARTICLE

Effect of Female board member on firm Performance: Evidence from Pakistan

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Received: 14 October, 2023, accepted: 27 December, 2023, Published: 30 December, 2023

Abstract
This study examines the impact of women on boards as corporate governance on corporate performance, with a focus on evidence from Pakistan. The study used a sample of 100 non-financial corporations listed on the Pakistan Stock Exchange, selected using a dedicated sampling methodology and covering the period from 2010 to 2019. The results of the survey shown that women board members have a significant impact on the company's performance, indicating that women have effective management skills in asset management and related activities. The literature unanimously supports the idea that the presence of women on boards of directors has a significant impact on company performance. The importance of this study lies in the fact that it explores the different dimensions of women on boards of directors as aspects of corporate governance, providing valuable insights into the decision-making process of investors. In particular, the study contributed to the literature by addressing gaps associated with emerging economies, particularly in Pakistan, as most existing research focuses on developing countries.

Keywords: Corporate Governance; Firm performance; Female Board Member

Introduction

Corporate governance is a method of governing a corporation's activities for the benefit of all stakeholders (not just shareholders), which ultimately leads to improved financial performance. It is the collection of procedures, practices, policies, laws, and institutions that influence how a corporation (or company) is directed, administered, or controlled. "Corporate governance refers to how a corporate body's affairs are or should be conducted in order to serve and protect the individual and collective interests of all stakeholders "(Bin Tariq & Butt, 2008). The failure of large companies like WorldCom and Enron has contributed to the increased interest in corporate governance. Countries have made disclosure levels and transparency mandatory in order to strengthen company governance practices. Financial organizations collapsed as a result of corruption, poor corporate governance, and a lack of transparency. Because of poor governance practices, shareholders' trust in both public and private corporations in the nation completely decreased. According to (Buchdadi, Ulupui, Dalimunthe, Pamungkas, & Fauziyyah, 2019).

The daily operation of the business should be conducted in a way that serves the interests of the shareholders, and this requires an effective system of corporate administration. It aids in maintaining control over the board of director's work. Since their main duty and obligation is to oversee management to ensure appropriate accountability to shareholders and other stakeholders, the board of directors plays a crucial role in the corporate governance system. Corporate governance improvement is one of the most important aspects of laying a solid foundation for a company's long-term success. Corporate governance, on the other hand, is a topic that has sparked a lot of discussion. To understand why these arguments are made, one should look at the essence of the debate (Ibrahim, Rehman & Raoof 2010). The SECP plays a role in setting listing requirements and overseeing the stock exchange. Pakistan's corporate landscape is dominated by state-owned enterprises, multinational corporations, and family-owned businesses. Corporate ownership is concentrated among large families who control listed companies through cross shareholding and pyramid structures. Unfortunately, many family-owned firms lack future growth strategies or innovative initiatives, often preferring the status quo and exhibiting stagnation in the market. The remaining parts of the study as structured as follows; the second part is composed of literature review, the third part present methodology, the fourth part present the results and the last part is composed of conclusion and recommendation.

Literature Review

After the financial crisis of 2008, which resulted in the collapse of numerous financial institutions and the virtual bankruptcy of several sectors, there has been a surge of interest in corporate governance from researchers, academicians, and governments, including global organizations. As Cheffins (2011) has pointed out, the concept of corporate governance came to prominence in the United States in the 1970s. The importance of corporate governance increased significantly after the collapse of Enron and Arthur Andersen in the United States, as well as similar incidents in the United Kingdom, such as the Marconi case. As a result, international organizations around the world are increasingly concerned about the challenges posed by governance issues. The International Monetary Fund has asked that the debt reduction scheme include governance changes (Khanchel, 2007). In 1999, the Organization for Economic Co-operation and Development (OECD) introduced its influential principles of corporate governance. Its objective is to assist member and non-member countries in the evaluation and strengthening of their legal, institutional and regulatory frameworks, in order to improve corporate governance standards (Néstor and Thompson, 2001). In empirical studies, female board members are frequently examined. The presence of female board members reflects the board's diversity (Donaldson, 1990). In addition, (Smith, 2006) looked at three different reasons why females on boards are important. To begin with, female board members typically have a better understanding of a market than male board members. As a result, this knowledge will help the board make better decisions. Second, including women on the board of directors can improve the company's reputation in the community, which can have a positive impact on the company's overall performance. In addition, appointing women to the board of director’s helps other board members better understand the business environment. In addition, this study shows that the presence of women on boards of directors can have a positive impact on the professional development of junior female employees within a company. Therefore, the impact of women on boards of directors on a company's performance is evident through direct and indirect contributions.

When women are appointed to a company's board of directors, different perspectives emerge when discussing board members' viewpoints (Goyal, Sergi, & Esposito, 2019). Previous research into the participation of women on boards of directors has yielded mixed results (Ionascu, Ionascu,Sacarin,&Minu,2018). For example, studies (Wang,Zhang, & Zhang,2020) and (Ionascuetal.,2018) discovered a positive correlation and a significant effect on women's participation on boards of directors. Meanwhile, research (Post & Byron,2015) found no evidence of a positive and significant link between women on boards of directors and company performance. In the United States, (Adams & Ferreira, 2009) did not find a positive correlation or a significant influence on company performance when women served on the board of directors. Different results could be due to differences in organisational structure, applicable regulations, and regulations in different countries (Diri ,2017).

According to Aldamen & Duncanin (December 2006) Women directors provide three things that males are less likely to do: They extend board discussions in order to better reflect the interests of a diverse range of stakeholders, including workers, consumers, and the general public. They can be more persistent than men in seeking solutions to tough problems (perhaps because as one male CEO put it,"guy shave a gender imperative to appear as though they understand everything"). Furthermore, they tend to take a more collaborative approach to leadership, which promotes communication among directors as well as between the board and management. Decisions However, reaping the benefits of these contributions is contingent on having the appropriate number of women. Solo female board members may feel lonely and alienated. When they are effective, it is not because they are the only woman, but because they are. Adding a second woman to a board can help minimize feelings of isolation, but it does not necessarily result in change and may generate new challenges. Two women may be viewed as a different group and must be cautious not to appear to be colluding. Furthermore, they maybe indistinguishable from one another. "I raised a question at a board meeting that led the board to take some crucial action," one lady stated. Later, the chairman complimented the other female board member for addressing the issue. No one spoke forward to correct him."

Empirical studies frequently focus on female board members. The female board individuals mirror an enhanced trait of the board (Dutta và Bose, 2006). Furthermore, (Smith, 2006) looked at three different reasons to acknowledge the significance of female board members. In the first place, female board persons usually have a better understanding of a market in assessment with male persons. As a result, the board's decisions will benefit from this comprehension. Second, female board persons will get improved pictures the sight of the local area for a firm and this will add emphatically to company's appearance. Thirdly, if female board members are appointed, they will have a better understanding of the business environment. Additionally, this schoolwork found that junior female employees' career development can be positively impacted by female board members. Subsequently, a company's exhibition is improved straightforwardly and in a roundabout way with the presence of female board individuals.

Previous evidence confirms the significant impact of boards on the financial risk assumed by banks (McNulty, Florackis, & Ormrod, 2013). The role of a woman director goes beyond ethical considerations that affect business performance (Poletti-Hughes & Briano-Turrent, 2019); (Zalata, Ntim, Aboud, & Gyapong, 2022). (Muller-Kahle & Lewellyn, 2011) and (Lewellyn & Muller-Kahle, 2012) argue that board structure and CEOs' psychological processes influence disproportionate risk-taking decisions in subprime lending. Results from the psychological writing and tentative economics show that women are generally risk-averse, which is evident in their investment decisions. (Charness, Gnezy, & Kuhn, 2012); (Gulamhussen & Santa, 2015) Risk aversion is more pronounced in the face of financial risks because they place greater emphasis on adverse factors in decision-making (Olsen & Cox, 2001). A large body of empirical evidence from behavioral finance confirms women's increased risk hatred when make economic and investment decisions (Barber & Odean, 2001); (Halko, Kaustia and Alanko, 2012. Keltner et al. (2003) argue that the relatively low power of female directors has led them to focus on the negative characteristics of risky behavior rather than aligning risk decisions with shareholder preferences. (Kamas & Preston, 2012) characteristic the consequences to differences in trust that affect women's competitiveness relative to men. In addition, (Rudman, 1998) develops self-confidence and describes the effect of female modesty, in which women tend to underestimate their own accomplishments and lack confidence in their abilities in the workplace. Miller and Úbeda (2012) argue that women are extra perceptive to decision-making environments. (Croson & Gneezy, 2009) concluded that gender differences in self-confidence, emotional responses to dangerous situations, and perception of uncertain situations are the main factors influencing gender differences in risk-taking. This association is expressed by the following hypothesis.H1. There is a negative association between female directorship and bank risk taking.

In developing countries, there are often no or very few women on boards (symbolism) (Mahadeo and Soobaroyen, 2012); (Par. N. Abdullah, Ismail, & Nachum, 2016). Theoretically, from the perspective of resource dependency theory, women on the board of directors can assure stakeholders of the diversity of the company; increase its legitimacy; and the connection with the external environment (Lu ̈ckerat). In addition, proponents of agency theory argue that women directors can play an important role in reducing agency costs because they can bring new perspectives to the board and make complex decisions (Carter, Simkins, & Simpson, 2003). Empirical evidence on the impact of women on company boards is mixed financial performance. For example, (Mahadeo, Soobaroyen, & Hanuman, 2012), Luckerath-Rovers (2013), (Ntim, 2015), and (S. Murphy). N. Abdullah et al., 2016) found a positive correlation between the proportion of women on boards and business performance. Conversely, (Ahern & Dittmar, 2012) found a negative correlation, while (Marimuthu & Kolandaisamy, 2009) found no correlation between the proportion of women in the performance of sand and gravel companies. The CMHA Guidelines (2002) recommend that the process of appointing directors should take into account gender equality. Based on the theory of resource dependence, women on the board of directors can strengthen the legitimacy of the company and provide more connections to the external environment (Carter et al., 2003). Therefore, the following assumptions are proposed.H1. Women on boards improve Tanzanian listed firms' financial performance.

Hypothesis H1**:** "Female board of director positively contribute to firm performance"

Research Methodology

Study Period and Sample Selection

The study focused on the population of non-financial companies listed on the Pakistan Stock Exchange (PSX). At the heart of this study is a carefully selected sample of 100 companies between 2010 and 2019 using targeted sampling techniques. In order to collect the essential data for analysis, an integrated approach is used, using annual reports, balance sheet analysis and information directly from the company's website. This rigorous approach ensures a thorough review of the selected company, allowing for a thorough exploration of the impact of corporate governance practices on the company's performance in a given context.

Statistical Tools for Data Analysis

We use various statistical tools, such as SPSS and MS Excel, to process the collected data for statistical analysis.

Data Analysis

Descriptive Statistics

The descriptive statistics are presented in Table 1. The average value of Tobin's Q is 1.396, indicating that the market value of the selected non-financial corporations exceeded the book value on average over the entire

sampling period. This suggests that investor sentiment is positive, indicating confidence in the firm's ability to use its capital efficiently (Lewellen and Badrinath, 1997). In addition, the return on equity averages 14.5%, which means that, on average, these companies are profitable over the specified period, which can contribute to a higher Tobin Q.
The FBM (Female Board Members) were almost 13% which can play a vital role in firm performance.

Table 1: Descriptive Statistic of Female Board Member and Firm Performance

Variables	Obs	Mean	Std. Dev.	Min	Max
TBQ	200	1.396	1.149	0.465	16.550
ROE	200	0.145	1.138	-32.646	10.635
FBM	200	0.133	0.243	0.000	1.000

Return on Equity ROE: It is measured as (NI/Total Equity)

TobinQ TBQ: It is calculated as follows: (Market value of equity+ BV (debt)/BV (Total assets)

FBM numbers of Female board of Members

Correlation analysis

Performing a correlation analysis is essential to evaluate the variables considered, and Table 1 summarizes the results of the study, including all the variables included in the study. The aim of this analysis is to examine the relationship between variables using Pearson's correlation coefficients. As shown in the table, the results show a statistically significant correlation for all variables. This suggests that there is no significant Multicollinearity among the independent variables, with all Pearson coefficients being less than 0.7 (Alin, 2010).

Table 2. Correlation Matrix of Corporate Governance Variables (Female Board Member)

	TBQ	ROE	BSIZ	FBM	CEOD	BWE	BEL	INDDRTR
TBQ	1							
ROE	0.12	1.00						
FBM	0.0267	0.2663	0.1093	1				

Model Specification

This research employs a specific econometric model for its analysis.

$$Y: \beta\alpha + \beta ƑBit + \varepsilon i \quad (1)$$

at this point Y is dependent variable, βα is constant, β is coefficient of clarifying variable (Corporate Governance Facet i.e. Female Board Member) ƑB it is explanatory variable and εi is error term.
Between 2010 and 2019, this study used return on equity (ROE) as a financial ratio to measure a company's performance. Various statistical tests are used to evaluate the variables and determine the best analysis model. The evidence included cooperative, fixed-effect, and random-effects models. Subsequently, conclusions were drawn based on the results of the Hausman test and the redundant fixed effect (PEF) test. The results show that the most appropriate model for the execution of econometric equations is the fixed-effects model. This decision ensures that the chosen model meets the statistical requirements and provides a solid framework for further analysis.

$$Y: \beta\alpha + \beta ƑBit + \varepsilon i \quad (2)$$

Analysis of redundant fixed-effect tests revealed a noteworthy result, as the F-statistic was found to be statistically significant for this period. This result suggests that the fixed-effect model is more suitable for our study than the common-effects model. Similarly, Hausman's test emphasizes this preference for fixed-effect models, as chi-square values are also statistically significant. The combined significance of the F-statistic and chi-square values led us to conclude that the most appropriate model for our study was a time-period fixed-effect model. This decision, based on the statistical significance observed in both tests, confirms the robustness and relevance of the fixed-effect model in our analytical framework.

Female Board Members and its Effect on firm performance

$$Y: \beta\alpha + \beta ƑB + f\,(\text{controlvariables}) + \varepsilon it \quad (3)$$

In the examination using redundant fixed-effect tests, the importance of the F-statistic during this period emphasizes the applicability of the fixed-effect model compared to the general-effects model. Similarly, the Hausman test highlights the importance of chi-square values, thus confirming the applicability of the fixed-effects model compared to the random-effects model. Given the importance of the F-statistic and chi-square values, our studies tend to use a fixed-effect model to divide the periods. This selection was guided by statistically significant results in both tests, affirming the relevance and applicability of the fixed-effect model on the specific parameters studied. Table 2 shows correlation, table 3 shows fixed effect model and table 4 shows fixed effect tests.

Table 3. Redundant fixed effect model

Pool: BASIC

Test period fixed effects

Effects Test	Statistic	d.f.	Prob.
Period F	5.922377	(7,1985)	0.0000
Period Chi-square	41.339710	7	0.0000

Fixed Effects (Period)

Year	Difference	Actual Constant
2010	0.055928	0.125551
2011	-0.237447	-0.167824
2012	0.737469	0.807092
2013	-0.202239	-0.132616
2014	-0.301064	-0.231441
2015	0.234956	0.304579
2016	-0.273217	-0.203594

Effects Specification

R-squared	0.060174
Adjusted R-squared	0.053545
F-statistic	9.078022
Prob(F-statistic)	0.000000
Durbin-Watson stat	2.137848

Table 4. Fixed effect tests

Redundant Fixed Effects Tests			
Pool: BASIC			
Test period fixed effects			
Effects Test	Statistic	d.f.	Prob.
Period F	6.069569	(7,1985)	0.0000
Period Chi-square	42.356343	7	0.0000

Correlated Random Effects - Hausman Test			
Pool: BASIC			
Test period random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	42.486981	7	0.0000

Table 5: White period standard errors & covariance (d.f. corrected)

Dependent Variable FP Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.072832	0.02736	2.661978	0.0078
FP_?	1.115825	0.58167	1.918311	0.0552
FP_?*FBM_?	0.011669	0.005898	1.978311	0.048
FP _?*BETA_?	0.211676	0.081272	2.604533	0.0093
FP _?*GOWTH_?	-0.01666	0.008469	-1.95998	0.0501
FP _?*EPER_?	-0.013136	0.004567	-2.87637	0.0041
FP_?*SIZE_?	-0.07161	0.03665	-1.95385	0.0509

Fixed Effects (Period) Year	Difference	Actual Constant
2008	0.062126	0.134958
2009	-0.240734	-0.167902
2010	0.73102	0.803852
2011	-0.196061	-0.123229
2012	-0.326128	-0.253296
2013	0.260218	0.33305
2014	-0.274631	-0.201799
2015	-0.015809	0.057023

Effects Specification

R-squared	0.063908
Adjusted R-squared	0.057305
F-statistic	9.679787
Prob(F-statistic)	0.000000
Durbin-Watson stat	2.112825

Table 5 presents the results of the regression for the performance of the firm (FP) and women members of the boards of directors (FBM). The results showed that the relationship between women directors (FBM) and company performance (FP) was negative and very significant. This finding is consistent with the findings of other researchers, such as Zakarai (2014), Bhojraj, and Sengupta (2003). The results show that increasing the number of women on boards of directors is beneficial for the company. This is attributed to their diverse skills, their effective ability to monitor and control, and their ability to effectively supervise activities. In addition, they help control the risk of default associated with debt. From these results, we can conclude that the results support the H2 hypothesis and reject the null hypothesis, suggesting a positive correlation between the number of women directors (FBM) and their impact on company performance (FP). Essentially, as the number of women on boards increases, so does the company's performance.

Conclusion

This study examines the impact of corporate governance attributes, particularly board experience, on corporate performance, and is based on variables observed in Pakistan. The study focused on a sample of 100 non-financial companies listed on the Pakistan Stock Exchange between 2010 and 2019. The results of the study show that increasing the number of women on the board of directors is beneficial for the company. This is attributed to their diverse skills, their effective ability to monitor and control, and their ability to effectively supervise activities. In addition, women board members help control the risk of default associated with debt. Based on these results, it can be concluded that this study supports the H2 hypothesis and rejects the null hypothesis, establishing a positive correlation between the number of women directors (FBM) and their impact on company performance (FP). Essentially, an increase in the number of women board members (FBMs) corresponds to an improvement in the company's performance.

Declaration

Acknowledgment: The authors are thankful to the journal editor and anonymous reviewers for their useful comments that really improved the quality of this paper.

Funding: There is no funding received for this publication

Conflict of interest: The authors declare no conflict of interest

Authors contribution: Equal contribution

Data availability: Data used in the analysis is available upon request from the authors

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