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Advancing Gender Equality in Banking: The Role of Female Directors and Board Monitoring in Driving Financial Performance

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Abstract

The purpose of this study is to examine the effect that female directors (FD) have on a banks' financial performance (FP). Additionally, it looks at whether board monitoring (BMT) mediates this relationship. To address this gap, we examine a path model that shows board monitoring as a mediator in the relationship between female directors and bank financial performance using data from the banking sector of Pakistan spanning the years 2014–2022. Panel regression analysis, GMM, and the Hayes Process Macro model 4 are used in this study to investigate the suggested relationships. The findings show that improved bank financial performance is positively correlated with both female directors and board monitoring. Furthermore, as proposed, the association between female directors and banks' financial performance was partially mediated by board monitoring. The results show that female directors have a positive effect on banks' financial performance because of their independent, critical, and proactive approach to board monitoring. The results of the research contribute by offering new explanations for the relationships between the financial performance of banks, board monitoring, and female directors. This study also demonstrates to managers the value of having a diverse and gender-inclusive board and the positive impact that strong board monitoring has on bank financial performance.

Keywords: *Financial Performance, Female Directors, Board Monitoring, Banking Sector*

JEL Classification: G34, G21, G28

1. Introduction

The banking industry plays a major role in the economy and is necessary to advance development and progress. Banks mobilize consumer and company savings and direct them toward profitable ventures like lending to people and corporations. Credit from banks helps finance investments, provide jobs, and boost economic activity for both consumers and businesses. Banks serve as a middleman between savers and borrowers by aggregating deposits and then lending them to borrowers. This aids in bridging the financial gap between those who have extra money and those who do not. Banks are continually creating new financial services and products, such as mobile banking and online payment methods, which serve to improve client convenience and efficiency.

The corporate board composition has taken on an important role in better governance. The diversity of the boardroom is one of the board characteristics that have generated a great deal of interest. Board gender diversity (BGD) has earned a vital consideration in the research to raise the membership of female directors in the corporate boards of emerging countries (García-López, Pacheco-Olivares, & Hamoudi, 2024; Husnain, Sarfraz, & Khan, 2021). The directors in the boardroom of the organization are a key body, accountable for strategic and financial decision-making like capital structure changes, mergers and acquisitions, compensation decisions, and manager appointments (Wang, 2020). The corporate board with female executives has shown an important part in decision-making in favor of the shareholders of the

organization (Arora, 2022). For instance, in Fortune 100 companies, female board representation rose dramatically from 16.9% to 25% (Deloitte, 2019). Norway has a higher presence of females in boardrooms with 36.1 percent, Finland has 26.8 percent, and Sweden has 27 percent respectively (Husnain et al., 2021). Pakistan, like other countries, also showed its commitment to enforcing organizations to include not less than one female director in the boardroom (Act, 2017).

Female directors have distinctive characteristics like cleverness (Shafique, Idress, & Yousaf, 2014), and intellectual ability (Carter, D'Souza, Simkins, & Simpson, 2007), which help to increase firm value and financial performance. Researchers contend that female directors play a significant part in well-organized monitoring and control (Benkraiem, Hamrouni, Lakhal, & Toumi, 2017; Ghazali & Bilal, 2017), reducing accounting manipulation (Adams & Ferreira, 2009; Faccio, Marchica, & Mura, 2016), and efficient decision-making (Green & Homroy, 2018), to increase firm FP. Female directors in boardrooms have more attendance as compared to their male counterparts (Husnain et al., 2021), and their presence has shown a significant rise in the attendance ratio of male directors (Nguyen, Locke, & Reddy, 2015).

Risk management is another aspect where female directors prove to be better than their male counterparts as they are more careful and alert in handling risks and hence have better financial performance (Maji & Saha, 2024; Saha, 2023). The agency theory advances that having female directors brings diversity in the board to help in arriving at diverse decisions, therefore enhancing the board's effectiveness (Abidin, Lokman, & Rahim, 2024). Female directors can help to balance the stakeholders ' needs and can help businesses make less risky decisions (Muhammad, Migliori, & Mohsni, 2023). Such contributions can increase financial performance by reducing agency costs, encouraging managerial compliance with shareholder objectives (El-Khatib & Joy, 2021), and increase board monitoring (Yu Liu, Wei, & Xie, 2014). In turn, female directors helped boards, in general, to fulfill their roles effectively to enhance firms' financial performance. Empirical data from several prior researches has demonstrated that the participation of female directors in board-level managerial decision-making can improve board effectiveness and, consequently, firm performance (Maji & Saha, 2024; Saha, 2023; Tariq, Chen, Tariq, & Torkkeli, 2024).

Over time, a specific question regarding diversity in the boardroom has surfaced: Why do businesses try to increase the variety of representation in the boardroom? According to existing literature, a corporation's corporate board is the primary internal entity responsible for overseeing and supervising management to deter them from engaging in opportunistic or unethical behavior (E. Fama & M. Jensen, 1983). Recent corporate crises, like the one involving Lehman Brothers, have increased scrutiny of the composition and actions of boards of directors (Terjesen, Couto, & Francisco, 2016). Despite the increased interest of academics and practitioners in investigating this association in their study and activities, little emphasis has been received on examining female directors' influence on the bank's FP with the mediation effect of bank monitoring in Pakistan.

Thus, it fills the existing gap in literature by offering empirical evidence on the role of FD in banks' FP and underlines the significance of gender diversity in corporate management. It also contributes to this discussion by establishing that board monitoring operationalized through board meetings helps improve this relationship. Drawing data from Pakistani banks for 2014 to 2022, the study contributes to the literature on governance in emerging economies, proposing how gender diversities and board monitoring affect firm financial performance. The following are the study's contributions: first, the study's findings support and expand on previous studies on the topic in developing nations, demonstrating that a bank's FP is positively impacted by the presence of more FD in corporate boardrooms. Second, this study empirically contributes novel insight to the literature on the association between having women on boards and banks' FP by investigating the mediating role of board monitoring in line with the rise in board meetings shows the level of sincere effort made by diversified boards for enhanced monitoring. Finally, this study backs

the changes made by the government, which recommends making the nomination of FD to organizations boardroom compulsory. The creation of a gender-diverse board has enhanced organizational decision-making, which has ultimately improved the bank's FP. Thus, our findings support the favorable impact of female presence on boards in Pakistan's banking sector through the mediating effect of board monitoring.

The remainder of the paper is organized as follows. Section 2, examines the literature on the connection between FD and banks' FP through board monitoring's mediating role. In part 3, the methodological section is covered. Sections 4 talks about the conclusion and policy recommondatios.

2. Literature Review

FP can be described as the empirical measurement and evaluation of the standing of a business (Muhammad et al., 2024). FP measures the returns arising from a firm's operations and weighs the effectiveness of the firm's financial goals (Hraeja, 2021). Research has revealed that share of management is one of the factors that may define the organizations' FP (Besar, Saffa'Najwa, Ali, & Ghani, 2017; W. Tariq, Sandhu, Sandhu, Saeed, & Sandhu, 2017). Corporate boards are being redesigned by businesses all around the world to diversify their decision-making group (Kumar & Zattoni, 2016). The percentage of FD on an organization's board determines how diverse the board is in terms of gender. Three main theories contend that boards with higher gender diversity increase boardroom efficiency and FP such as resource dependency, social role, and agency theory (Terjesen et al., 2016). Agency theory shows a favorable link between boardroom gender diversity on FP (García-López et al., 2024; Kılıç & Kuzey, 2016).

Female directors bring a fresh viewpoint on complicated issues to reduce informational asymmetry and strategy formulation (Francoeur, Labelle, & Sinclair-Desgagné, 2008), ask more questions as compared to male counterparts (Bilimoria & Wheeler, 2000), discussion more on matters (Ingley & Van Der Walt, 2005), shows collaboration skills and leadership (Eagly & Johnson, 1990), and hold more moral values in the organizations (Pan & Sparks, 2012). Boardroom with female directors has more influence on the decisions, particularly board has one female director (Fondas & Sassalos, 2000), or a board with three female directors (Konrad & Kramer, 2006; Torchia, Calabrò, & Huse, 2011). The agency theory supports gender diversity in boardrooms to increase independence in the corporate board to protect the shareholders' interest through effective monitoring that increases firm performance (E. F. Fama & M. C. Jensen, 1983a; García-López et al., 2024; Rahman & Zahid, 2021). The agency theory concludes that boardrooms, being a vital tool of internal control, have an important role in handling agency conflict (Rahman & Zahid, 2021). To end this agency conflict, board gender diversity reduces agency conflicts by adding female participation in the corporate board.

The second guiding theory is the resource dependence theory, this theory discusses female directors providing valued relationships and resources to the corporate board of the organizations (Najaf, Chin, Chin, Najaf, & Thuraisingham, 2024; Terjesen et al., 2016). Haynes and Hillman (2010) give a perspective on combining the two theories agency and resource dependence to spread the previous spectrum. A corporate board with gender diversity can significantly contribute to the organization more knowledge and resources (Akram & Haq, 2022). The third guiding theory is the social role theory which suggests that female directors are extra energetic and compassionate in different cultures than their male counterparts (Boukattaya & Omri, 2021; Phillips, Stefanidis, & Shoaf, 2024). The leading intention of this investigation is to check the female director's influence on the bank's FP and it further checks the mediation effect of board monitoring. This research is contributed in a number of areas. First, it is focused on the listed banks (2014-2022) in Pakistan, to provide an overall look at the banking sector of Pakistan. Second, the study is

addressed from the perspective of the emerging economy of Pakistan, which will help to compare with developed economies.

2.1 Board Gender Diversity and Bank's FP

BGD is recognized as the most researched area of corporate board attributes (Maji & Saha, 2024; Tariq, Chen, et al., 2024; Terjesen, Sealy, & Singh, 2009). Yonghong Liu, Lei, and Buttner (2020) describe reasons why board gender diversity increases organization FP. First, gender diversity helps organizations to decrease grouping, which rises in male-dominated corporate boards. Second, female directors on corporate boards are normally recognized as industrious and can communicate with others. They have higher degrees, which increase the quality of corporate board decisions, which leads to increased FP. Third; diverse female director's social networks provide more opportunities and valuable resources that help organizations increase performance.

The relationship between FD and company performance has been the subject of several studies in the literature, including those from Japan (Wang, Ma, Xue, & Zhang, 2024), India (Maji & Saha, 2024), China (Dong, Shahzad, & Awais, 2024), Germany (Joecks, Pull, & Scharfenkamp, 2024), and Pakistan (Tariq, Chen, et al., 2024). Most of the research provides positive findings on the appearance of female directors in the boardroom and FP (Almarayeh, 2023; García-López et al., 2024; Ghazali & Bilal, 2017; Khan, Sarfraz, & Husnain, 2021; Yu Liu et al., 2014; Nguyen et al., 2015; W. Tariq, Y. Chen, et al., 2024). As per the agency framework, earlier research shows that significant managerial abilities of female directors enhance organizational operational activities, which shows a positive effect on organizational firm performance (Green & Homroy, 2018; Moreno-Gómez, Lafuente, & Vaillant, 2018; Wahid, 2019). Female directors also have an advantage in better understanding the recent and upcoming trends of the market which helps organizations explore new ideas that increase sales and FP (Bilimoria & Wheeler, 2000; Fensore (2020), Nielsen & Huse, 2010). Yu Liu et al. (2014) found that female director has a strong favorable influence on the (ROA) return on asset and (ROE) return on equity.

On the contrary, some researches show that female directors engage in unnecessary monitoring that wastes organizational resources, time, and energy (Boivie, Bednar, Aguilera, & Andrus, 2016; Smith, Smith, & Verner, 2006). Therefore, some studies find no linkages between the existence of diversified boards and financial outcomes (Ciftci, Tatoglu, Wood, Demirbag, & Zaim, 2019), and also few studies report negative linkages between the existence of diversified boards and financial outcomes (Adams & Ferreira, 2009). The main reason behind the negative findings of relationships is the small samples of organizations (Martinez-Jimenez, Hernández-Ortiz, & Fernández, 2020). Thus, this research measures the linkages between FD and banks' FP in the context of the Pakistan banks. Based on this following hypothesis are developed:

H_1: Higher number of female directors is likely to have a favorable impact on the bank's FP.

2.2 Mediation Effect of Board Monitoring

We highlight the female director's board monitoring efforts to reduce agency conflicts in an organization. The leadership and administration style of FD increase board monitoring to lessen agency costs, conduct impartial monitoring, professional auditing, better transparency to investors, better stock price information, and enhance corporate board monitoring and independence (Baby Maria & Hussain, 2024; Bukair & Rahman, 2015; Faiz, Sarwar, Tariq, & Memon, 2024; Ghaleb, Qaderi, & Al-Qadasi, 2024; Gul, Srinidhi, & Ng, 2011; Malik, Raziq, Sarwar, & Tariq, 2024; Srinidhi, Gul, & Tsui, 2011; Tariq, Sumbal, Dabic, Raziq, & Torkkeli, 2024; Tariq, Ashfaq, Tariq, & Ali, 2024). The corporate board including female directors has better monitoring and can make reliable and accurate decisions for the benefit of the organization. According to agency theory, female directors strengthen the board's monitoring to safeguard

the interests of stakeholders (Rahman, Zahid, Jan, Al-Faryan, & Hussainey, 2024). The theory holds that by increasing the caliber of companies' financial and non-financial information reporting, female directors who are more critical and independent reduce information asymmetry (Fama & Jensen, 1983b; Rahman, Khan, & Zahid, 2021). As women are inherently more circumspect and moral, having more female directors fosters better boardroom oversight that serves the interests of shareholders (Adams & Ferreira, 2009).

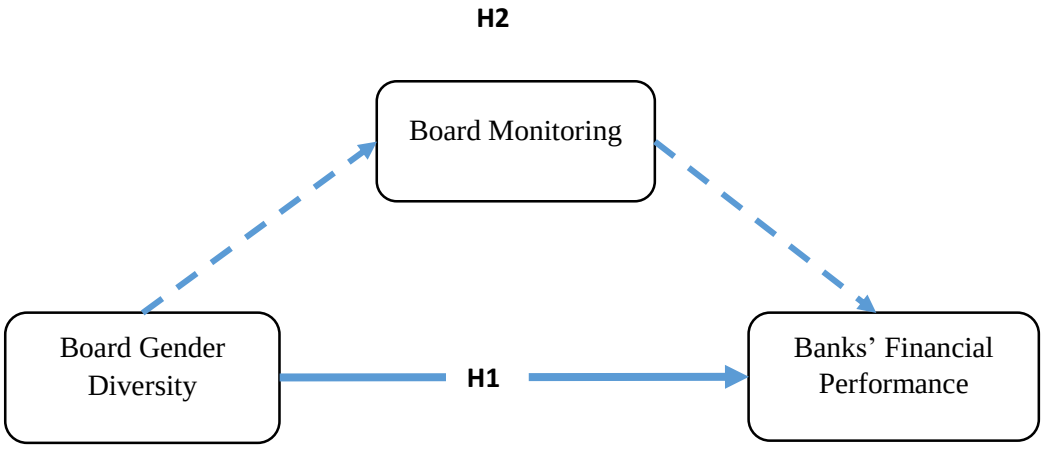
In this research, we argue that board gender diversity leads to more effective and organized board monitoring by meeting frequently, creating committees of the board, selecting quality auditors, and lessening information asymmetry that helps to increase financial value. The rise in board meetings shows the level of sincere effort made by diversified boards for enhanced monitoring. Gafoor, Mariappan, and Thiyagarajan (2018) established a positive relationship between the board of directors meeting and performance in the case of 36 Indian commercial banks. According to the research Eluyela et al. (2018), board meetings improved the performance of fifteen Nigerian commercial banks during the 2011 to 2016 period. Brick and Chidambaran (2010), explain that the peculiarity of board monitoring indicates the company's unsatisfactory performance in the previous year promising for better performance the following year. The board monitoring mediates between gender-diversified board and bank FP is reliable when compared to agency theory that reflects the boardroom is a "watchdog" (Ain, Yuan, Javaid, Usman, & Haris, 2020). Few researchers have found a positive mediation effects of board monitoring between board gender diversity and bank's FP (Ararat, Aksu, & Tansel Cetin, 2015; Rahman & Zahid, 2021), however, it has not been explored in the situation of an emerging country specifically Pakistan. On the basis of this we develop this hypothesis:

H_2: Board monitoring positively mediates the relationship between female directors and bank's FP.

3. Methodology and Data

3.1 Conceptual Framework

Figure 1: Conceptual Model



3.2 Sample and Data

Banks in Pakistan play crucial roles in money distribution and financial intermediation, and they are essential for directing money towards economic growth (Bhutta, AlHares, Shahab, & Tariq, 2022; Haque & Tariq, 2012; J. A. Khan, Khan, & Iqbal, 2022; W. Tariq et al., 2021). Pakistan's banking industry is essential to the country's economic growth (W. Tariq, Ali, Ibrahim, Asim, & Rehman, 2014). It mobilizes savings, finances both individuals and enterprises, and speeds up transactions. The sector's percentage of the GDP, which was almost 7.7% in 2020, reflects its impact on the economy. The banking industry in Pakistan has embraced innovation and technology, with many banks offering digital banking services and adopting new technologies such as AI and block chain (W. Tariq, Tariq, Bhutta, & Gohar, 2024). This has helped to enhance the competence of the sector and improve the customer experience. FP is a key concern for the banking sector, and understanding the factors that influence financial performance is of significant interest. The part that FD plays in this process, providing insights that could be useful for policymakers, investors, and practitioners. In order to conduct an empirical analysis of the association between female directors, board monitoring, and bank's financial performance, data from 2014 to 2022 from 18 Pakistan's commercial banks' was collected from annual financial statements. Government, private, and Islamic banks are all included in this study to provide more comprehensive and generalizable findings (Perera, Skully, & Wickramanayake, 2007; Tariq, Chen, et al., 2024; Tariq et al., 2021).

Two statistical programs, SPSS and STATA, were utilized to measure the empirical models using various statistical techniques. First, due to unobserved factors, the panel regression model, fixed, and random effects model are employed to obtain unbiased findings (Suparman & Muzakir, 2023). Second, GMM was used in this study to examine endogeneity issues and test the results' robustness. Because both large and small banks are included in the dynamic panel dataset, endogeneity between explanatory and explained variables as well as unobserved fixed effects may occur. It effectively manages unobserved heterogeneity and nonlinear dependencies, which FE or RE models may not include, such as omitting lagged dependent variables (Blundell & Bond, 1998; W. Tariq et al., 2021). Third, the Hayes Process Macro Model 4 with the bootstrap approach was utilized to separate the direct and indirect effects to ensure the robustness of the mediation findings in SPSS (Hayes & Scharkow, 2013). It is different from the traditional method proposed by Baron & Kenny in that it does not use stepwise regression, thus minimizing Type I and II errors. This makes it ideal for time-sensitive relationships in mediatory panels and provides fine-grained information on mechanisms. Table 1 shows the variable details.

Table 1: Variables Detail

Type	**Variables**	**Proxy**	**Measurement**	**Reference**
Dependent	Bank's Financial Performance	FP	ROE & ROA	(Rahman, Zahid, & Al-Faryan, 2023)
Independent	Female Directors	FD	Female members ratio to board size	(Khatri, 2023; W. Tariq, Y. Chen, et al., 2024)
Mediator	Board Monitoring	BMT	Board meetings in the year	(Rahman & Zahid, 2021)
Control	Bank Size	BSZ	Natural logarithm of total assets	(W. Tariq et al., 2021)

3.3 Econometric Model

To measure the relationship, step by step mediation model equation is used, which was developed by (Baron & Kenny, 1986).

$$FP_{it} = \beta_0 + \beta_1 FD_{it} + \beta_2 BSZ_{it} + \beta_3 PVB_{it} + \beta_4 NIB_{it} + e_{it} \quad (1)$$

$$BMT_{it} = \beta_0 + \beta_1 FD_{it} + \beta_2 BSZ_{it} + \beta_3 PVB_{it} + \beta_4 NIB_{it} + e_{it} \quad (2)$$

$$FP_{it} = \beta_0 + \beta_1 FD_{it} + \beta_2 BMT_{it} + \beta_3 BSZ_{it} + \beta_4 PVB_{it} + \beta_5 NIB_{it} + e_{it} \quad (3)$$

GMM model equations for measurement of variables

$$FP_{i,t} = \beta_0 + \beta_1 FD_{i,\,t-1} + \sum_{K=1}^{K} \boldsymbol{\beta_K}\, \boldsymbol{X_{i,t}^K} + \sum_{T=1}^{T-1} \boldsymbol{\beta_T}\, \boldsymbol{D_T} + \mu_i + \varepsilon_{i,t} \quad (4)$$

$$BMT_{i,t} = \beta_0 + \beta_1 FD_{i,\,t-1} + \sum_{K=1}^{K} \boldsymbol{\beta_K}\, \boldsymbol{X_{i,t}^K} + \sum_{T=1}^{T-1} \boldsymbol{\beta_T}\, \boldsymbol{D_T} + \mu_i + \varepsilon_{i,t} \quad (5)$$

$$FP_{i,t} = \beta_0 + \beta_1 FD_{i,\,t-1} + \beta_2 BMT_{i,t} + \sum_{K=1}^{K} \boldsymbol{\beta_K}\, \boldsymbol{X_{i,t}^K} + \sum_{T=1}^{T-1} \boldsymbol{\beta_T}\, \boldsymbol{D_T} + \mu_i + \varepsilon_{i,t} \quad (6)$$

In this case, e is the error term, β stands for the parameters, t for the year, and i for the bank. To test hypotheses 1, equations 1 and 4 measure the direct effect of FD and FP. To test hypothesis 2, equations 2 to 3 and 5 to 6 measure the mediation effect of BMT between FD and FP.

3.4 Results

Table 2 provides descriptive statistics for the study. All correlation values are much below the 0.70 threshold (Belsley, Kuh, & Welsch, 2005), indicating a low likelihood of multicollinearity in the analysis. A mean score of 0.063 representing FD on the corporate boards affirms that women on average account for 6.3% of board directors, the findings are consistent, aligning with the findings of (Rahman & Zahid, 2021; W. Tariq, Y. Chen, et al., 2024). The mean value of BMT is 7.414, it means that the FD attended about 7.4 board meetings which confirms the findings of (Rahman & Zahid, 2021). Whereas, the Mean values of the ROE and the ROA are 0.108 and 0.008.

Table 2: Descriptive Statistics and Correlation Matrix

Variables	Mean	SD	1	2	3	4	5	6	7	8
1.FD	0.068	0.064								
2. BMT	7.414	3.391	0.334**							
3. BSZ	8.860	0.511	0.413**	0.437**						
4. ROE	0.108	0.162	0.474**	0.472**	0.530**					
5. ROA	0.008	0.010	0.542**	0.429**	0.465**	0.906**				
6. PVB	0.820	0.374	0.170*	-0.281	0.013*	0.009	0.083*			
7. PB	0.167	0.374	-0.198**	0.293**	-0.027	-0.028	-0.095	-0.958**		
8. NIB	0.759	0.417	0.193**	0.137**	0.083	-0.101	0.020	-0.188	0.25	
9. ISB	0.222	0.417	-0.202**	-0.123	-0.100	0.083	-0.028	0.250*	-0.23**	-0.94**

Note: FD, female director; BMT, board monitoring; ROA, return on asset; BSZ, bank size; PVB, private bank; ROE, return on equity; PB, public bank; NIB, non-Islamic bank; ISB, Islamic bank.
*The significance P-value levels are * at 10%, ** at 5%, and *** at 1%.*

Table 3: OLS, Fixed and Random Effect Model Results

IV	DV					
	ROE			**ROA**		
	Model 1			**Model 1**		
	OLS	Fixed Effect	Random Effect	OLS	Fixed Effect	Random Effect
FD	0.837 (0.000)***	0.704 (0.000)***	0.837 (0.000)***	0.053 (0.000)***	0.042 (0.000)****	0.053 (0.000)***
BSZ	0.148 (0.000)***	0.178 (0.000)***	0.148 (0.000)***	0.007 (0.000)***	0.009 (0.000)***	0.007 (0.000)***
PVB	-0.038 (0.268)	0.052 (0.716)	-0.038 (0.268)	0.000 (0.959)	0.003 (0.762)	0.000 (0.959)
NIB	-0.083 (0.006)***	-0.157 (0.214)	-0.083 (0.006)***	-0.002 (0.354)	-0.005 (0.478)	-0.002 (0.354)
F-test	117.14 (0.000)***	30.37 (0.000)***		94.75 (0.000)***	22.74 (0.000)***	
Wald $\chi 2$			117.14 (0.000)***			94.75 (0.000)***
Hausman		15.45 (0.004)***			22.63 (0.004)***	
R^2	0.4	0.34	0.4	0.36	0.31	0.36
Obs	162	162	162	162	162	162

*The significance P-value levels are * at 10%, ** at 5%, and *** at 1%.*

Table 4: OLS, Fixed and Random Effect Model Results

IV	DV								
	BMT			**ROE**			**ROA**		
	Model 2			**Model 3**			**Model 3**		
	OLS	**Fixed Effect**	**Random Effect**	**OLS**	**Fixed Effect**	**Random Effect**	**OLS**	**Fixed Effect**	**Random Effect**
FD	15.06 (0.000)***	18.36 (0.000)***	15.06 (0.000)***	0.638 (0.000)***	0.040 (0.026)**	0.638 (0.000)***	0.038 (0.000)***	0.023 (0.044)**	0.038 (0.000)***
BMT				0.012 (0.000)***	0.014 (0.000)***	0.012 (0.000)***	0.001 (0.000)***	0.001 (0.000)***	0.001 (0.000)***
BSZ	2.285 (0.000)***	2.098 (0.000)***	2.285 (0.000)***	0.123 (0.000)***	0.148 (0.000)***	0.123 (0.000)***	0.006 (0.000)***	0.006 (0.000)***	0.006 (0.000)***
PVB	-2.593 (0.002)***	-0.661 (0.836)	-2.593 (0.002)***	-0.004 (0.911)	0.062 (0.651)	- 0.004 (0.911)	0.002 (0.340)	0.003 (0.673)	0.002 (0.340)
NIB	0.255 (0.735)	1.286 (0.646)	0.255 (0.735)	-0.086 (0.006)***	-0.175 (0.145)	-0.086 (0.006)***	-0.002 (0.282)	-0.007 (0.330)	-0.002 (0.282)
F-test	72.23 (0.000)***	15.66 (0.000)***		140.11 (0.000)***	30.05 (0.000)***		123.51 (0.000)***	27.04 (0.000)***	
Wald $\chi 2$			72.23 (0.000)***			140.11 (0.000)***			123.51 (0.000)***
Hausman		4.69(0.321)			21.43(0.001)***			70.66(0.000)***	
R^2	0.34	0.25	0.4	0.43	0.37	0.43	0.37	0.3	0.37

The significance P-value levels are * at 10%, ** at 5%, and *** at 1%.

Table 5: GMM Results

	DV				
IV	**ROE**	**ROA**	**BMT**	**ROE**	**ROA**
	Model 4		**Model 5**	**Model 6**	
L.ROE	0.099 (0.113)			0.061 (0.323)	
L.ROA		0.070 (0.362)*			0.009 (0.903)
L.BMT			0.230 (0.012)***		
FD	0.835 (0.000)***	0.051 (0.001)***	19.74 (0.000)***	0.643 (0.007)***	0.035 (0.017)***
BMT				0.011 (0.015)***	0.001 (0.001)***
BSZ	0.250 (0.000)***	0.011 (0.000)***	2.557 (0.000)***	0.215 (0.000)***	0.008 (0.000)***
PVB	0.083 (0.514)	0.004 (0.589)	-0.648 (0.820)	0.090 (0.458)	0.005 (0.483)
NIB	-0.121 (0.293)	-0.006 (0.418)	-1.166 (0.652)	-0.125 (0.254)	-0.006 (0.378)
χ2-test	141.37 (0.000)***	80.41 (0.000)***	63.48 (0.000)***	165.76 (0.000)***	109.04 (0.000)***
Year Dummies	Yes	Yes	Yes	Yes	Yes
Obs	162	162	162	162	162

*The significance P-value levels are * at 10%, ** at 5%, and *** at 1%.*

Table 6: Mediation Results of ROE

	Path Coefficient		**Total Effect**	**Indirect Effect**	
	BMT	ROE	Estimates	Estimates	Bias-corrected 95% CI
FD	18.58 (0.000)***	0.901 (0.000)***			
BMT		0.017 (0.000)***			
R^2	0.34	0.58			
F-test	21.37 (0.000)***	39.71 (0.000)***			
FD → ROE			1.208 (0.000)***		
FD → BMT → ROE				0.307 (0.087)	0.146,0.491

*The significance P-value levels are * at 10%, ** at 5%, and *** at 1%.*

Table 7: Mediation Results of ROA

	Path Coefficient		**Total Effect**	**Indirect Effect**	
	BMT	ROA	Estimates	Estimates	Bias-corrected 95% CI
FD	18.58(0.000)***	0.069 (0.000)***			
BMT		0.001 (0.000)***			
R^2	0.34	0.6			
F-test	21.37 (0.000)***	44.82 (0.000)***			
FD → ROA			0.084 (0.000)***		
FD → BMT → ROA				0.015 (0.005)	0.006,0.025

*The significance P-value levels are * at 10%, ** at 5%, and *** at 1%.*

According to Hypothesis 1, bank financial performance (ROE & ROA) and FD have a favorable correlation. Table 3 outcomes, which display a significant influence of FD on FP 1% at ROE and ROA in model 1, validates hypothesis 1. Furthermore, the FE model is the preferred one, according to the p-value of the Hausman test. OLS, fixed, and random effect models at 1%, respectively, demonstrated that FD has a significant impact on BMT in table 4, supporting hypothesis 2. The random effect model is preferable in model 2, according to the Hausman test's non-significant p-value. Additionally, model 3's table 4 revealed that BMT partially mediates the connections between FD and FP, respectively; this finding supports hypothesis 2. Also, the FE model is recommended in model 3 according to the Hausman test's significant p-value.

3.5 Robustness GMM and Hayes Mediation Analysis

Additionally, this study employed GMM estimation approaches for robustness checks. Hypothesis 1 is validated by Table 5's results from Model 4, which show that FD significantly affects bank financial performance (ROE and ROA at 1%). In support of hypothesis 2, model 5 showed that FD has a significant impact on BMT in table 5. Furthermore, BMT partially mediates the links between FD and FP, respectively, according to model 6's table 5, which validates hypothesis 2. Tables 6 & 7 show the Hayes process model 4 mediation analysis results of dependent variable FP (ROE & ROA) respectively. The outcome demonstrates that there is a considerable impact of FD on FP. Hypothesis 1 is supported by ROE: table 6 at 1% and ROA: table 7 at 1%. This study's results showed that BMT directly affects FD at significant levels of ROE and ROA (1% in tables 6 and 7), and that BMT also significantly affects FP (1% in table 6 and 1% in table 7). Additionally, BMT significantly mediates the link between FD and FP at table 6 & 7, supporting hypotheses 2.

3.6 Discussion

The study's results, which were reviewed in light of earlier research, lend credence to the idea that FDs make excellent supervisors due to their inventive and creative qualities as well as their superior knowledge of present and emerging market trends, which boosts financial performance (Brahma, Nwafor, & Boateng, 2021; Wahid, 2019). Organizations benefit from gender diversity because women are seen as more dedicated to the organization's harmony and principles, promoting resource and information sharing, and

democratic leadership (Juniarti & Jie, 2024; Nemilentseva, Tariq, Tariq, Aghajani, & Torkkeli, 2025). The acceptance of hypothesis 1, results also supports agency theory, which holds that having more FD in the boardroom helps businesses cut expenses, gain strategic advantages, and make better decisions, all of which boost financial performance (Ain, Yuan, Javaid, Usman, & Haris, 2021; Rahman & Zahid, 2021; Tariq, Y. Chen, et al., 2024). Gulamhussen and Santa (2015) discovered that 461 banks in OECD nations performed better when there were FD on the corporate board. Maji and Saha (2024) found that the overall proportion of FD had a favorable effect on 100 Indian companies' financial performance between 2014 and 2018. Omri and Alfaleh (2024) found that FD had a favorable effect on 2452 listed companies' financial performance from five European countries for the period 2018–2023.

Acceptance of hypothesis 2 shows that the association between FD and banks' FP is significantly mediated by board monitoring (Rahman & Zahid, 2021). The results show that FD has a positive effect on banks' FP because of their independent, critical, and proactive approach to board monitoring (Ararat et al., 2015). According to Joecks et al. (2024), the association between female directors and corporate financial performance on 110 German listed companies is positively mediated by board attendance. The results are consistent with agency theory, which favors gender diversity in the boardroom as a means of increasing management oversight and minimizing agency conflict while optimizing shareholder value (Ain et al., 2021; Rahman & Zahid, 2021).

4. Conclusions and Policy Recommendation

This research provides a number of theoretical contributions as it contributes to the existing knowledge by extending current knowledge on gender diversity and the effective governance mechanism which may yield a better FP. First, the research results prove the hypothesis that FD in bank boards have a positive impact on the bank's FP, corroborating the theoretical frameworks like the resource dependence theory, agency theory, and social role theory in relation to diversified leadership. Second, the mediating effect of BMT shows that diversity affects the banks' FP through governance mechanisms lending credence to agency theory. Third, this study uses annual data from Pakistani banks from 2014 to 2022 to examine gender diversity and governance in emerging economies, which have received less attention in the literature, in order to provide new empirical evidence to support previous hypotheses. Fourth, this research contributes to the global literature by showing how the banks with increased gender-diverse boards and board monitoring mechanism improve their financial performance thereby filling a more refined lens in future theories.

The research has a number of significant practical ramifications for banking managers and policymakers. First, the substantial and favorable impact that FD has on the bank's financial performance indicates that a diverse board of directors can be beneficial. More FD on boards should be encouraged by leadership and policymakers, not as a sign of feminist activism but rather as a sensible recommendation that would enhance financial performance. Second, the findings also indicate that board monitoring significantly mediates the impact of FD on the board through board meetings signifying that financial performance is enhanced in settings where the board is active and meets frequently. Enhancing board meeting schedules is therefore necessary to improve decision-making and supervision in the banking sector.

Using data over the period of 2014 to 2022 of Pakistani banks, this study adds to the existing literature on corporate governance and financial performance in emerging markets. It also accords with the United Nation's SDGs, notably gender equality. According to the study, FD enhances the banks' FP. The investigation also discovered a strong mediating role for board monitoring in the relationship between FD and banks' FP. Therefore, the banking industry is in a good position to become more resilient, adaptable, and prepared to handle the challenges posed by a financial landscape that is continuously changing. Raising the percentage of FD on boards should be a major priority for policymakers and upper management for the sake of diversity. The synergies between FD and board monitoring, as well as the distinct insights these women provide, might be advantageous for banks that have female directors.

There are certain limitations to this study; future studies could additionally examine moderating conditions or mediating moderating factors into consideration. The study primarily examines the mediating mechanism while looking at the suggested association. This study was carried out in the banking industry; to better generalize the research findings, other industries may also be the subject of future investigations. Future studies should compare quantitative measures of board monitoring with qualitative measures like the outputs from the board meeting, the engagement ratios, or the quality of the decisions made by the board. The study could be extended to involve other banks from different countries in other regions to enrich our understanding of the subject and the effects of gender diversity and board monitoring.

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Ethical Approval

Ethical approval has been obtained from the relevant forum(s) of the authors' affiliated department(s).

Data Availability Statement

The data supporting this study's findings are available from the corresponding author upon reasonable request.

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